India's Financial System

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October 27, 2007

Abstract

With recent growth rates among large countries second only to China's, India has experienced nothing short of an economic transformation since the liberalization process began in the early 1990's. In the last few years, with a soaring stock market, significant foreign portfolio inflows including the largest private equity inflows in Asia, and a rapidly developing derivatives market, the Indian financial system has been witnessing an exciting era of transformation. The banking sector has seen major changes with deregulation of interest rates and the emergence of strong domestic private players as well as foreign banks. At the same time, there is some evidence of credit constraints for India's SME firms that rely heavily on trade credit. Corporate governance norms in India have strengthened rapidly in the past few years. Family businesses, however, still dominate the landscape and investor protection, while excellent on paper, appears to be less effective owing to an overburdened legal system and corruption. In the last few years microfinance has contributed in a big way to financial inclusion and is now attracting venture capital and for-profit companies – both domestic and foreign.

[*]We are grateful to Manpreet Singh for his able research assistance for this paper. All remaining flaws are our responsibility. This paper will be forthcoming in the Nomura Occasional Series on Contemporary Capital Markets. We are grateful to the Tokyo Club Foundation for Global Studies for financial support.

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Conversion of Units: **1 Lakh = 0.1 Million; 1 Crore = 10 Million**

Current Exchange Rate: **1 USD = 40 INR**

List of Abbreviations

- **ARCs:** Asset Reconstruction Companies
- **BIFR:** Board for Industrial and Financial Reconstruction
- **BSE:** Bombay Stock Exchange
- **CDSL:** Central Depository Services Ltd.
- **DRAT:** Debt Recovery Appellate Tribunal
- **DRTs :** Debt Recovery Tribunals
- **ECB:** External Commercial Borrowings
- **LLSV:** Papers by La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert Vishny
- **MFIs:** Micro financial Institutions
- **NABARD:** National Bank for Agricultural and Rural Development
- **NPA:** Non Performing Assets
- **NPL:** Non Performing Loan
- **NSCCL:** National Securities Clearing Corporation Ltd.
- **NSDL:** National Securities Depository Ltd.
- **NSE:** National Stock Exchange
- **PLR:** Prime Lending Rate
- **RBI:** Reserve Bank of India
- **ROAs :** Return on Assets
- **ROE:** Return on Equity
- **SAT:** Securities Appellate Tribunal
- **SARFAESI Act:** Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act
- **SBI:** State Bank of India
- **SEBI:** Securities and Exchanges Board of India
- **SEC:** Securities and Exchanges Commission
- **SHGs:** Self-Help Groups
- **SIDBI:** Small Industries Development Bank of India
- **VCFs:** Venture Capital Funds
- **WDM:** Wholesale Debt Market

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1. Overview

One of the major economic developments of this decade has been the recent take-off of India, with growth rates averaging in excess of 8% for the last four years, a stock market that has risen over three-fold in as many years with a rising inflow of foreign investment. In 2006, total equity issuance reached $19.2bn in India, up 22 per cent. Merger and acquisition volume was a record $27.8bn, up 38 per cent, driven by a 371 per cent increase in outbound acquisitions exceeding for the first time inbound deal volumes. Debt issuance reached an all-time high of $13.7bn, up 28 per cent from a year earlier. Indian companies were also among the world's most active issuers of depositary receipts in the first half of 2006, accounting for one in three new issues globally, according to the Bank of New York.

The questions and challenges that India faces in the first decade of the new millennium are therefore fundamentally different from those that it has wrestled with for decades after independence. Liberalization and globalization have breathed new life into the foreign exchange markets while simultaneously besetting them with new challenges. Commodity trading, particularly trade in commodity futures, have practically started from scratch to attain scale and attention. The banking industry has moved from an era of rigid controls and government interference to a more market-governed system. New private banks have made their presence felt in a very strong way and several foreign banks have entered the country. Over the years, microfinance has emerged as an important element of the Indian financial system increasing its outreach and providing much-needed financial services to millions of poor Indian households.

1.1 The Indian Economy -- A Brief History

The second most populated country in the world (1.11 billion), India currently has the fourth largest economy in PPP terms, and is closing in at the heels of the third largest economy, Japan (Table 1.1). At independence from the British in 1947, India inherited one of the world’s poorest economies (the manufacturing sector accounted for only one

tenth of the national product), but also one with arguably the best formal financial markets in the developing world, with four functioning stock exchanges (the oldest one predating the Tokyo Stock Exchange) and clearly defined rules governing listing, trading and settlements; a well-developed equity culture if only among the urban rich; a banking system with clear lending norms and recovery procedures; and better corporate laws than most other erstwhile colonies. The 1956 Indian Companies Act, as well as other corporate laws and laws protecting the investors' rights, were built on this foundation.

After independence, a decades-long turn towards socialism put in place a regime and culture of licensing, protection and widespread red-tape breeding corruption. In 1990-91 India faced a severe balance of payments crisis ushering in an era of reforms comprising deregulation, liberalization of the external sector and partial privatization of some of the state sector enterprises. For about three decades after independence, India grew at an average rate of 3.5% (infamously labeled "the Hindu rate of growth") and then accelerated to an average of about 5.6% since the 1980's. The growth surge actually started in the mid-1970s except for a disastrous single year, 1979-80. As we have seen in Table 1.1, the annual GDP growth rate (based on inflation adjusted, constant prices) of 5.9% during 1990-2005 is the second highest among the world's largest economies, behind only China's 10.1%.

In 2004, 52% of India's GDP was generated in the services sector, while manufacturing (agriculture) produced 26% (22%) of GDP. In terms of employment, however, agriculture still accounts for about two-thirds of the half a billion labor force, indicating both poor productivity and widespread underemployment. Over 90% of the labor force works in the "unorganized sector."[1]

1.2 Indian Economy and Financial Markets since liberalization

The Domestic Economy

There is hardly a facet of economic life in India that has not been radically altered since the launch of economic reforms in the early 90's. The twin forces of globalization

[1] According to the official definition, the unorganized sector is comprised of: 1) all the enterprises except units registered under Section 2m(i) and 2m(ii) of the Factories Act, 1948, and Bidi and Cigar Workers (condition of employment) Act, 1966; and 2) all enterprises except those run by the government (central, state and local bodies) or Public Sector Enterprises.

and the deregulation have breathed a new life to private business and the long-protected industries in India are now faced with both the challenge of foreign competition as well as the opportunities of world markets. The growth rate has continued the higher trajectory started in 1980 and the GDP has nearly doubled in constant prices (see figure 1.1).

The end of the "Licence Raj" has removed major obstacles from the path of new investment and capacity creation. The effect is clearly visible in figure 1.2 that shows the ratio of capital formation in the private sector to that in the public sector for a decade preceding liberalization and for the period following it. The unmistakable ascent in the ratio following liberalization points to the unshackled private sector's march towards attaining the "commanding heights" of the economy. In terms of price stability, the average rate of inflation since liberalization has stayed close to the preceding half decade except in the last few years when inflation has declined to significantly lower levels (see figure 1.3)

Perhaps the biggest structural change in India's macro-economy, apart from the rise in the growth rate, is the steep decline in the interest rates. As figure 1.4 shows, interest rates have fallen to almost half in the period following the reforms, bringing down the corporate cost of capital significantly and increasing the competitiveness of Indian companies in the global marketplace.

The External Sector and the Outside World

Along with deregulation, globalization has played a key role in transforming the Indian economy in the past dozen years. A quick measure of the rise in India's integration with the world economy is a standard gauge of "openness" – the importance of foreign trade in the national income. Figure 1.5 shows the unmistakable rise in the share of imports and exports in India's GDP since 1990-91. In just over a decade since liberalization, the share of foreign trade in India's GDP had increased by over 50%. While imports increased steadily and continued to exceed exports, the rise in the latter has been almost proportional as well. The "export pessimism" that marked India's foreign trade policy truly appears to be a thing of the past.

While trade deficits have continued after liberalization, foreign investment in India, both portfolio flows as well as FDI, (and more recently in the form of external commercial borrowing (ECBs) by Indian firms) have been substantial. Figure 1.6 shows the flow of foreign investment to India and decomposes it into FDI and portfolio investment. Both kinds of flows have shown remarkable growth rates with comparable average levels over the years. However the portfolio flows have been much more volatile as compared to FDI flows. This raises the familiar concerns over "hot money" flows into the country with portfolio flows.

As for FDI, perhaps much of the potential still lays untapped. A recent study by Morgan Stanley holds "bureaucracy, poor infrastructure, rigid labor laws and an unfavorable tax structure" in India as responsible for this poor relative performance[2]. Nevertheless this difference should be viewed more as indicative of future growth opportunities in FDI inflows provided India properly carries out its second generation reforms and should not obscure India's significant achievement in attracting foreign investment in the years since liberalization.

As a result of substantial capital inflows, the foreign exchange reserves situation for India has improved beyond the wildest imagination of any pre-liberalization policymaker. Today the Reserve Bank has a foreign exchange reserve exceeding two hundred billion US dollars, a situation unthinkable at the beginning of liberalization when India barely had reserves to cover a few weeks of imports. Figure 1.7 shows the evolution of India's foreign exchange reserve position since liberalization.

The Indian rupee has largely stabilized against major world currencies, over the period. The economic reforms era began with a sharp devaluation of the rupee. As liberalization lifted controls on the rupee in the trade account, there were considerable concerns about its value. However, propped up largely by inflows of foreign investment the floating rupee stabilized in the late 90's and has appreciated somewhat against the US dollar in recent months. In fact, it is fair to say that the rupee is currently considerably undervalued against the dollar as its value is managed by the RBI. Figure 1.8 shows the variation in the external value of the rupee in the post-reforms period.

[2] Morgan Stanley (2004)

A lot has changed in the world beyond India's borders during these years. Japan, the second largest economy in the world, has experienced a deep and long recession over much of the period. The Asian Crisis, one of the most widespread of all financial and currency crises ever, devastated South-East Asia and Korea in 1997. Continental Europe has entered into a monetary union creating the Euro that now rivals the US dollar in importance as a world currency. Several economies like Russia, Argentina and Turkey have witnessed financial crises. The internet bubble took stock markets in the US and several other countries to dizzying heights before crashing back down. More recently, US sub-prime market woes have sparked global sell-offs.

India has appeared largely unscathed from the Asian crisis. Most observers attribute this insulation to the capital controls that continue in India. Nevertheless, Indian financial markets have progressively become more attuned to international market forces. The reaction of Indian markets to the recent sub-prime meltdown bears testimony to the level of financial integration between India and the rest of the world.

1.3 The Financial Sector

Despite the history of India's stock exchanges (4 at independence to 23 today) and the large number of listed firms (over 10,000), the size and role in terms of allocating resources of the markets are dominated by those of the banking sector, similar to many other emerging economies. The equity markets were not important as a source of funding for the non-state sector until as recently as the early 1980s. The ratio of India's market capitalization to GDP rose from about 3.5% in the early 1980's to over 59 % in 2005, which ranks 40th among 106 countries (Table 1.2) while the size of the (private) corporate bond market is small. On the other hand, from Table 1.2, total bank deposits (of over $527 billion dollars) are equivalent to 52 % of GDP in 2005, and constitute three-quarters of the country's total financial assets. The efficiency of the banking sector, measured by the concentration and overhead costs, is above the world average.

In a series of seminal papers beginning in the late 1990s, **L**a Porta, **L**opez de Silanes, **S**hleifer and **V**ishny (LLSV) have empirically demonstrated the effects that the investor protection embedded in the legal system of a country has on the development and nature of financial systems in the country. Broadly speaking, they posit that

common-law countries provide better investor protection than civil law countries leading to "better" financial and systemic outcomes for the former including a greater fraction of external finance, better developed financial markets and more dispersed shareholding in these countries as compared to the civil law countries. Consequently, the LLSV averages of financial system indicators across different legal system groups serve as a benchmark against which an individual country's financial system can be compared.

In Table 1.3 we compare India's financial system (2003 figures) to those of the LLSV-sample countries (LLSV, 1997a, 1998), using measures from Levine (2002). In terms of the size (bank private credit over GDP), India's banking sector is much smaller than the (value-weighted) average of LLSV sample countries, even though its efficiency (overhead cost as fraction of total banking assets) compares favorably to most countries. The size of India's stock market, measured by the total market capitalization as fraction of GDP, is actually slightly larger than that of the banking sector, although this figure is still below the LLSV average. However, in terms of the "floating supply" of the market, or the tradable fraction of the total market capitalization, India's stock market is only half of its banking sector.[3]

"Structure activity" and "Structure size" measure whether a financial system is dominated by the market or banks. India's activity (size) figure is below (above) even the average of English origin countries, suggesting that India has a market-dominated system; but this is mainly due to the small amount of bank private credit (relative to GDP) rather than the size of the stock market. In terms of relative efficiency ("Structure efficiency") of the market vs. banks, India's banks are much more efficient than the market (due to the low overhead cost), and this dominance of banks over market is stronger in India than for the average level of LLSV countries. Finally, in terms of the development of the financial system, including both banks and markets, we find that India's overall financial market size ("Finance activity" and "Finance size") is much smaller than the LLSV-sample average level. Overall, based on the above evidence, we can conclude that both India's stock market and banking sector are small relative to the

[3] We estimate that 45% of the total market capitalization of listed firms is actively traded in India, and hence a value traded/GDP ratio of 0.16. The float supply figure of 45% is based on our own calculation of free float adjustment factor of about 1,000 large firms listed on the BSE (small firms are less frequently traded than large firms).

size of its economy, and the financial system is dominated by an efficient (low overhead cost) but significantly under-utilized (in terms of lending to non-state sectors) banking sector.

However, the situation has changed considerably in recent years: Since the middle of 2003 through to the third quarter of 2007, Indian stock prices have appreciated rapidly. In fact, as shown in Figure 1, the rise of the Indian equity market in this period allowed investors to earn a higher return ("buy and hold return") from investing in the Bombay Stock Exchange, or BSE's SENSEX Index than from investing in the S&P 500 Index and other indices in the U.K., and Japan during the period. Only China did better. Many credit the continuing reforms and more or less steady growth as well as increasing foreign direct and portfolio investment in the country for this explosion in share values.[4]

Table 1.4 compares the two major Indian exchanges, the Bombay Stock Exchange (BSE), and the much more recent, National Stock Exchange, (NSE)) vis-à-vis other major exchanges in the world. At the end of 2005, BSE was the sixteenth largest stock market in the world in terms of market capitalization, while NSE ranked eighteenth. Table 1.4 also shows that trading in the BSE is one of the most concentrated among the largest exchanges in the world, with the top 5% of companies (in terms of market capitalization) accounting for over 72% of all trades, but the (share) turnover velocity of BSE (35.4% for the year) is much lower than that of exchanges with similar concentration ratios.[5] Figure 1.9 shows that Indian markets outperformed most major global markets handsomely during 1992-2006 period.

In 2004-05, non-government Indian companies raised $2.7 billion from the market through the issuance of common stocks, and $378 million by selling bonds/debentures (no preferred shares). Despite the size of new issues, India's financial markets, relative to the size of its economy and population, are much smaller than those

[4] According to the Reserve Bank of India's *Handbook of Indian Statistics*, both foreign direct investment and portfolio investment (in stocks and bonds) have been growing fast during the past 15 years, with the latter twice the size of the former. The cumulative foreign investment inflows equal 11.58% of GDP in 2005, as compared to 0.03% in 1990.

[5] Morck et al. (2000) find that stock prices are more synchronous in emerging countries than in developed countries. They contribute this phenomenon to poor minority investor protection and imperfect regulation of markets in emerging markets. While stock prices in India co-move less frequently than those in China (one of the worst in the world), they are much more synchronous than those in the developed markets such as the U.S.

in many other countries. Table 1.5 presents a comparison of external markets (stock and bonds) in India and different country groups (by legal origin) using measures from LLSV (1997a). Figure 1.10 plots the size and depth of a country's external markets vs. the degree of protection of investors based on the data used in Table 1.5. The horizontal axis measures overall investor protection (protection provided by the law, rule of law, and government corruption) in each country, while the vertical axis measures the (relative) size and efficiency of that country's external markets.[6] Most countries with the English common-law origin (French civil-law origin) lie in the top-right region (bottom-left region) of the graph. India is located in the south-eastern region of the graph with relatively strong legal protection (in particular, protection provided by law) but relatively small financial markets.

The Financial Sector

Along with the rest of the economy and perhaps even more than the rest, financial markets in India have witnessed a fundamental transformation in the years since liberalization. The going has not been smooth all along but the overall effects have been largely positive.

Over the decades, India's banking sector has grown steadily in size (in terms of total deposits) at an average annual growth rate of 18%. There are about 100 commercial banks in operation with 30 of them state owned, 30 private sector banks and the rest 40 foreign banks. Still dominated by state-owned banks (they account for over 80% of deposits and assets), the years since liberalization have seen the emergence of new private sector banks as well as the entry of several new foreign banks. This has resulted in a much lower concentration ratio in India than in other emerging economies (Demirgüç-Kunt and Levine 2001). Competition has clearly increased with the Herfindahl index (a measure of concentration) for advances and assets dropping by over 28% and about 20% respectively between 1991-1992 and 2000-2001 (Koeva 2003). Within a decade of its formation, a private bank, the ICICI Bank has become the second

[6] Following LLSV, the score on the horizontal axis is the sum of (overall) creditor rights, shareholder rights, rule of law, and government corruption. The score of the vertical axis indicates the distance of a country's overall external markets score (external cap/GNP, domestic firms/Pop, IPOs/Pop, Debt/GNP, and Log GNP) to the mean of all countries, with a positive (negative) figure indicating that this country's overall score is higher (lower) than the mean.

largest in India.

Compared to most Asian countries the Indian banking system has done better in managing its NPL problem. The "healthy" status of the Indian banking system is in part due to its high standards in selecting borrowers (in fact, many firms complained about the stringent standards and lack of sufficient funding), though there is some concern about "ever-greening" of loans to avoid being categorized as NPLs. In terms of profitability, Indian banks have also performed well compared to the banking sector in other Asian economies, as the returns to bank assets and equity in Table 1.6 convey.

Private banks are today increasingly displacing nationalized banks from their positions of pre-eminence. Though the nationalized State Bank of India (SBI) remains the largest bank in the country by far, new private banks like ICICI Bank, UTI Bank (recently renamed Axis Bank) and HDFC Bank have emerged as important players in the retail banking sector. Though spawned by government-backed financial institutions in each case, they are profit-driven professional enterprises.

The proportion of non-performing assets (NPAs) in the loan portfolios of the banks is one of the best indicators of the health of the banking sector, which, in turn, is central to the economic health of the nation. Figure 1.11 shows the distribution of NPAs in the different segments of the Indian banking sector for the last few years. Clearly the foreign banks have the healthiest portfolios and the nationalized banks the worst, but the downward trend across the board is indeed a positive feature. Also, while there is still room for improvement, the overall ratios are far from alarming particularly when compared to some other Asian countries.

While the banking sector has undergone several changes, equity markets have experienced tumultuous times as well. There is no doubt that the post-reforms era has witnessed considerably higher average stock market returns in general as compared to before. Figure 1.12 clearly shows the take-off in BSE National Index and BSE Market Capitalization beginning with the reforms.

Since the beginning of the reforms, "equity culture" has spread across the country to an extent more than ever before. This trend is clearly visible in figure 1.13 which shows the ratio of BSE market capitalization to the GDP. Although GDP itself has risen faster than before, the long-term growth in equity markets has been significantly higher.

The rise in stock prices (and the associated drop in cost of equity) has been accompanied by a boom in the amounts raised through new issues – both stocks as well as debentures – beginning with the reforms and continuing at a high level for over half a decade (figure 1.14).

The ride has not been smooth all along though. At least two major bubbles have rocked the Indian stock markets since liberalization. The first, coinciding with the initial reforms, raised questions about the reliability of the equity market institutions. A joint parliamentary committee investigation and major media attention notwithstanding another crisis hit the bourses in 1998 and yet again in 2001. Clearly several institutional problems have played an important role in these recurring crises and they are being fixed in a reactive rather than pro-active manner. Appropriate monitoring of the bourses remains a thorny issue and foul play, a feature that is far from absent even in developed countries, is, unfortunately, still common in India. Consequently, every steep rise in stock values today instills foreboding in some minds about a possible reversal. Nevertheless, institutions have doubtless improved and become more transparent over the period. The time-honored "badla" system of rolling settlements is now gone and derivatives have firmly established themselves on the Indian scene.

Indeed the introduction and rapid growth of equity derivatives have been one of the defining changes in the Indian financial sector since liberalization. Notwithstanding considerable resistance from traditional brokers in Indian exchanges, futures and options trading began in India at the turn of the century. Figure 1.15 shows the rapid growth in the turnover in the NSE derivatives market broken down into different instrument-types. Evidently futures – both on individual stocks as well as index futures – have been more popular than options, but the overall growth in less than half a decade has been phenomenal indeed. Tradable interest rate futures have made their appearance as well but their trading volume has been negligible and sporadic. Nevertheless, the fixed-income derivatives section has witnessed considerable growth as well with Interest Rate Swaps and Forward Rate Agreements being frequently used in inter-bank transactions as well as for hedging of corporate risks. Similarly currency swaps, forward contracts and currency options are being increasingly used by Indian companies to hedge currency risk.

Finally the market for corporate control has seen a surge of activity in India in recent years. Figures 1.16 shows the evolution of mergers and acquisitions involving Indian firms while table 1.7 lists the industries with maximum action. Foreign private equity has been a major player in this area with inflows of over $2.2 billion in 2006, the largest in any Asian country.

The next section makes an assessment of the legal and institutional aspects of investor protection in India. Section 3 provides the details of performance of capital markets in India. Section 4 provides the trends of FII flows in India. Section 5 looks at the performance aggregates of the banking sector. Section 6 provides corporate governance issues and recent findings. The last section highlights future research issues.

2. The Institutional Environment in India – An Assessment

2.1 Law, Institutions and Business Environment

The most striking fact about India's legal system is the difference between investor protection provided *by the law* as opposed to protection *in practice*. Table 2.1 compares India's scores relative to different legal-origin country groups examined in the law and finance literature (by LLSV and others), and other emerging markets along several dimensions of law and institutions. As discussed above, with the English common-law system, India has strong protection of investors on paper. For example, the scores on both creditor rights (with a score of 4/4 in LLSV (1998), based on the Company's Act of 1956, to 2/4 in DMS (2005), based on the Sick Industrial Companies Act of 1985) and shareholder rights (5/6) are the highest of any country in the world.

Corruption is a major systemic problem in many developing countries and is of particular importance for India. Studies by the World Bank (*World Development Report 2005*) have found that corruption was the number one constraint for firms in South Asia and that the two most corrupt public institutions identified by the respondents in India (as well as in most countries in South Asia) were the police and the judiciary. Based on *Transparency International*'s Corruption Perception Index, India has a score of 2.9 out of 10 in 2005 (a higher score means less corruption), which ranked 88 out of 140 countries (with the range being 1.5 to 9.7), and the ranking relative to other countries has not improved much over the past ten years.

Next, we have two measures for the quality of accounting systems. The disclosure requirements index (from 0 to 1, higher score means more disclosure; LLS 2006) measures the extent to which listed firms have to disclose their ownership structure, business operations and corporate governance mechanisms to legal authorities and the public. India's score of 0.92 is higher than the averages of all LLSV subgroups of countries, including the English origin countries, suggesting that Indian firms must disclose a large amount of information. However, this does not imply the quality of disclosure is also good. In terms of the degree of earnings management (higher score means more earnings management; Leuz, Nanda, and Wysocki 2003), India's score is

much higher than the average of English origin countries, and is only lower than the German origin countries, suggesting that investors have a difficult time in evaluating Indian companies based on publicly available reports. It seems that while Indian companies produce copious amounts of data, form triumphs over substance in disclosure and with an accounting system that allows considerable flexibility, there is enough room for companies to hide or disguise the truth.

The efficiency and effectiveness of the legal system is of primary importance for contract enforcement, and we have two measures. First, according to the legal formalism (DLLS 2003) index, India has a higher formalism index than the average of English origin countries, and is only lower than that of the French origin countries. The legality index, a composite measure of the effectiveness of a country's legal institutions, is based on the weighted average of five categories of the quality of legal institutions and government in the country (see Berkowitz, Pistor, and Richard 2003). Consistent with other measures, India's score is lower than the averages of all the subgroups of LLSV countries, suggesting that India's legal institutions are *less* effective than those of many countries, and that it will be more difficult for India to adopt and enforce new legal rules and regulations than other countries.

Finally, as for the business environment in India, a recent World Bank survey found that, among the top ten obstacles to Indian businesses, the three which the firms surveyed considered to be a "major" or "very severe" obstacle and exceeding the world average are corruption (the most important problem), availability of electricity, and labor regulations. Threat of nationalization or direct government intervention in business is no longer a major issue in India. With rampant tax evasion, the shadow economy in India is significant. It is estimated to be about 23% of GDP.[7] Creditor and investor rights were largely unprotected in practice, with banks having little bargaining power against willful defaulters. Large corporate houses often got away with default, or got poor projects financed through the state-owned banking sector, often by using connections with influential politicians and bureaucrats.

[7] This figure is 22.4% according to Schneider and Enste (2000), and 23.1% by Schneider (2002) (World Bank). Popular perception, however, would put it significantly larger, particularly given that the average figure of OECD countries themselves is about 12%.

Since the beginning of liberalization in 1991, two major improvements have taken place in the area of creditor rights protection – the establishment of the quasi-legal Debt Recovery Tribunals that have reduced delinquency and consequently lending rates (Visaria (2005)); and the passing of the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act in 2002 and the subsequent Enforcement of Security Interest and Recovery of Debts Laws (Amendment) Act in 2004. These laws have paved the way for the establishment of Asset Reconstruction Companies and allow banks and financial institutions to act decisively against defaulting borrowers. In recent years, recovery has shown significant improvement, presumably because, at least in part, of a well-performing economy (figure 2.1).

To summarize, despite strong protection provided by the law, legal protection is considerably weakened in practice due to an inefficient judicial system, characterized by overburdened courts, slow judicial process, and widespread corruption within the legal system and government. While the need for judicial and legal reforms has long been recognized, little legislative action has actually taken place so far (Debroy (2000)). Currently, the government is trying to emulate the success of China by following the Special Economic Zone approach rather than overhauling the entire legal system.

2.2 Financial/Business Laws and Regulations in India

Red tape and regulations still rank among the leading deterrents for business and foreign investment in India leading to its latest ranking of 116 out of 155 in the World Bank's Ease of Doing Business indicator in 2006 (World Bank, 2006). India features consistently in the second half of the sample for all aspects of business regulation (and is out of the top 100 for most aspects) except for investor protection.

To start a business in India entrepreneurs have close to twice the number of procedures to follow as in OECD countries, about three and a half times the time delay and close to *nine* times the cost (as a proportion of per capita income). Delays and costs of dealing with licenses in India is roughly in corresponding proportions with their respective OECD values. Very recently (second half of August 2007) , the Government of India has decided to improve this situation and has announced a drastic reduction in the number of

approvals and permits necessary to start new business. Whether and when this translates to actual practice is yet to be seen.

It is almost twice as hard to hire people in India as in OECD countries and almost three times as hard and costly to fire them. With have considerable variation in their labor laws across states, Besley and Burgess (2004) show that during the three and half decades before liberalization began in 1991, Indian states that followed more pro-worker policies experienced lower output, investment, employment and productivity in the registered or "formal" sector and higher urban poverty with an increase in informal sector output.

In the area of credit availability, India lags behind not because of creditors' rights (which is close to OECD standards) but because of the paucity of credit quality information through the use of public registry or coverage of private bureaus. However, India's excellent investor protection provisions in the law should be viewed together with her performance in contract enforcement where the number of procedures and time delays are about double that in OECD countries and the costs of contract enforcement over *four* times that in OECD countries.

As for securities markets regulation, using the framework of La Porta et al (2006) that focuses on disclosure and liability requirements as well as the quality of public enforcement of the regulations controlling securities markets, India scores 0.92 in the index of disclosure requirements third highest after the United States and Singapore. As for liability standard, India's score is the fifth highest, 0.66 while the sample mean is 0.47. In terms of the quality of public enforcement, i.e. the nature and powers of the supervisory authority, the Securities and Exchanges Board of India (SEBI), India scores 0.67, higher than the overall sample mean as well as the English-origin average of 0.52 and 0.62 respectively and ranks 14th in the sample.

In comparing the regulatory powers and performance of SEBI with those of the SEC (Securities and Exchanges Commission) in the USA, Bose (2005) concludes that while the scope of Indian securities laws are quite pervasive, there are significant problems in enforcing compliance, particularly in the areas like price manipulation and insider trading. Between 1999 and 2004, Bose finds that SEBI took action in 481 cases as opposed to 2,789 cases for the SEC even though the latter regulates a significantly more mature market. As a ratio of actions taken to the number of companies under their

respective jurisdictions, SEBI's figure comes out to be an unimpressive 0.09 while that of the SEC is 0.52. Also the ratio for action taken to investigations made is quite low for SEBI (e.g. 1 out of 24 cases of issue related manipulation in 1996-97, 7 out of 27 in the 5 year period 1999-2004). As for appeals before higher authorities – the Securities Appellate Tribunal (SAT) or the Finance Ministry – in 30 to 50% of cases, the decision goes against SEBI. Though SEBI has had some success prosecuting intermediaries, it has failed to convince the SAT in its proceedings against corporate insiders and major market players. Thus the quality of public enforcement of securities laws appears to be a problem in India.

The institution of Debt Recovery Tribunals (DRTs) in the early 90's and the passing of the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act in 2002 were aimed at remedying the slowness of the judicial process. The SARFAESI Act paves the way for the establishment of Asset Reconstruction Companies (ARCs) that can take the Non-Performing Assets (NPAs) off the balance sheets of banks and recover them. Operations of these ARCs would be restricted to asset reconstruction and securitization only. It also allows banks and financial institutions to directly seize assets of a defaulting borrower who defaults fails to respond within 60 days of a notice. Borrowers can appeal to DRTs only after the assets are seized and the Act allows the sale of seized assets. The SARFAESI Act itself, however, does not provide a final solution to the recovery problems. With the borrower's right to approach the DRT, the DRAT (Debt Recovery Appellate Tribunal) and, in some cases, even a High Court, a case can easily be dragged for three to four years during which time the sale of the seized asset cannot take place. It is perhaps too soon to evaluate its effects on reducing defaults but public sector banks have had some success recovering their loans by seizing and selling assets since the Act came into existence. The recovery rates of bad debts have registered a sharp rise in 2005-06, but it is difficult to separate the contribution of the booming economy to this from that of the improvement in corporate governance.

Another positive development in the area of disclosure has been the adoption of Accounting Standards (AS) 18 by the Institute of Chartered Accountants in India (ICAI) in 2001 which, among other things, makes reporting of "related party transactions" by

Indian companies mandatory. Related parties include holding and subsidiary companies, key management personnel and their direct relatives, “parties with control exist” which includes joint ventures and fellow subsidiaries; and other parties like promoters and employee trusts. Transactions include purchase/sale of goods and assets, borrowing, lending and leasing, hiring and agency arrangements, guarantee agreements, transfer of research and development and management contracts. This step has gone a long way in bringing transparency to the dealings of Indian companies, particularly the group-affiliates.

The area of the Ease of Doing Business index where India fares worst is undoubtedly that of closing a business. India has the dubious distinction of being among the countries where it takes the *longest time to go through bankruptcy in the world* (10 years on an average). Consequently recovery rates are very low too – below 13% as opposed to about 74% in OECD countries. Kang and Nayar (2004) point out that there is no single comprehensive and integrated policy on corporate bankruptcy in India in the lines of Chapter 11 or Chapter 7 US bankruptcy code. Overlapping jurisdictions of the High Courts, the Company Law Board, the Board for Industrial and Financial Reconstruction (BIFR) and the Debt Recovery Tribunals (DRTs) contribute to the costs and delays of bankruptcy. The Companies (Second Amendment) Act, 2002 seeks to address these problems by establishing a National Company Law Tribunal and stipulating a time-bound rehabilitation or liquidation process to within less than two years as well as bringing about other positive changes in the bankruptcy code.

2.3 Stock Exchanges in India

India currently has two major stock exchanges: the National Stock Exchange (NSE) established in 1994 and the Bombay Stock Exchange (BSE), the oldest stock exchange in Asia, established in 1875. Up to 1992, BSE was a monopoly, marked with inefficiencies, high costs of intermediation, and manipulative practices, so that external market users often found themselves disadvantaged. The economics reforms created four new institutions: the Securities and Exchanges Board of India (SEBI), the National Stock Exchange (NSE), the National Securities Clearing Corporation (NSCC), and the National Securities Depository (NSDL). The National Stock Exchange (NSE), a limited liability

company owned by public sector financial institutions, now accounts for about two-thirds of the stock exchange trading in India, and virtually all of its derivatives trading.

The National Securities Clearing Corporation (NSCC) is the legal counter-party to net obligations of each brokerage firm, and thereby eliminates counter-party risk and possibility of payments crises. It follows a rigorous 'risk containment' framework involving collateral and intra–day monitoring. The NSCC, duly assisted by the National Securities Depository (NSDL), has an excellent record of reliable settlement schedules since its inception in the mid-nineties.

The Securities and Exchanges Board of India (SEBI) has introduced a rigorous regulatory regime to ensure fairness, transparency and good practice. For example, for greater transparency, SEBI has mandated mandatory disclosure for all transactions where total quantity of shares is more than 0.5% of the equity of the company. Brokers disclose to the stock exchange, immediately after trade execution, the name of the client in addition to trade details; and the Stock exchange disseminates the information to the general public on the same day.

The new environment of transparency, fairness and efficient regulation led BSE, in 1996, to also become a transparent electronic limit order book market with an efficient trading system similar to the NSE. Equity and equity derivatives trading in India has sky-rocketed to record levels over the course of the last ten years.

In 2005, about 5000 companies were listed and traded on NSE and/or BSE. While the dollar value of trading on the Indian stock exchanges is much lower than the dollar value of trading in Europe or in the US, it is important to note that the number of equity trades on BSE/NSE is *ten* times greater than that of Euronext or London, and of the same order of magnitude as that of NASDAQ/NYSE. Similarly, the number of derivatives trades on NSE is several times greater than that of Euronext/ London, and of an order of magnitude comparable to US derivatives exchanges. The number of trades is an important indicator of the extent of investor interest and investor participation in equities and equity trading, and emphasizes the crucial importance of corporate governance practices in India

2.4 Enforcing Corporate Governance Laws

Enforcement of corporate laws remains the soft underbelly of the legal and corporate governance system in India. The World Bank's Reports on the Observance of Standards and Codes (ROSC) in its 2004 report on India (World Bank (2004)) found that while India observed or largely observed most of the principles, it could do better in areas like the contribution of nominee directors from financial institutions to monitoring and supervising management; the enforcement of certain laws and regulations like those pertaining to stock listing in major exchanges and insider trading as well as in dealing with violations of the Companies Act – the backbone of the corporate governance system in India. Some of the problems arise because of unsettled questions about jurisdiction issues and powers of the SEBI.

2.5 Indian Courts – an assessment

Djankov et al (2003) (DLLS) in their analysis of "formalism" in the judicial process around the world, gave India a score of 3.34 on its formalism index, higher than the English-origin average of 2.76 but slightly lower than the average for all countries, 3.53. Among the 42 English-origin countries in their sample, India has the 11th highest level of formalism. India has the 16th longest process of evicting a tenant (212 days) among English common law origin countries (average 199 days). For collection on a bounced check, however, India has the 16th *shortest* duration (106 days) among English common law origin countries (average 176 days). In both cases India's total duration of the process is significantly shorter than the overall mean duration of all the 109 countries considered (254 for eviction of tenant and 234 for collecting on bounced check). Thus, in spite of its formalism, Indian courts do not seem to perform that poorly (relatively speaking) on these two types of cases considered.

The DLLS assurance notwithstanding, case arrears and decade-long legal battles are commonplace in India. In spite of having around 10,000 courts (not counting tribunals and special courts), India has a serious shortfall of judicial service. While the USA has 107 judges per million citizens, Canada over 75, Britain over 50 and Australia over 41, for India the figure is slightly over 10 (Debroy (1999)). In April 2003, for instance, the Supreme Court of India had close to 25,000 cases pending before it (Parekh

2001). Hazra and Micevska (2004) report that there are about 20 million cases pending in lower courts and another 3.2 million cases in high courts. A termination dispute contested all the way can take up to 20 years for disposal. Writ petitions in high courts can take between 8 and 20 years for disposal. About 63% of pending civil cases are over a year old and 31% are over 3 years old. Automatic appeals, extensive litigation by the government, underdeveloped alternative mechanisms of dispute resolution like arbitration, the shortfall of judges all contribute to this unenviable state of affairs in Indian courts. Since the same courts try both civil and criminal matters and the latter gets priority, economic disputes suffer even greater delays.

2.6 The Small and Medium Enterprises (SME) sector in India

Allen et al (2006) conduct surveys to study the extent to which the formal legal environment directly supports and regulates businesses, particularly small and medium enterprises which form an increasingly important part of the Indian industry. This seems to indicate that the small firms sector operate in a system virtually governed through informal mechanisms based on trust, reciprocity and reputation with little recourse to the legal system and deals with widespread corruption.

Over 80% of the firms surveyed needed a license to start a business, and for about half of them obtaining it was a difficult process. Government officials were most often the problem solved usually through payment of bribes or friends of government officials to negotiate. Clearly, networks and connections are of crucial importance in negotiating the government bureaucracy.

As for conducting day-to-day business, legal concerns are far less important to them than the unwritten codes of the informal networks in which firms operate. In cases of default and breach of contract, the primary concern is loss of reputation, followed closely by loss of property, with the fear of legal consequences being the least important concern.

About half of the firms surveyed did *not* have a regular legal adviser and less than half of those that did had lawyers in that capacity. For mediation in a business dispute or to enforce a contract, the first choice was “mutual friends or business partners”. Only 20% of the respondents mentioned going to courts as the first option indicating that the

legal system, while not as effective as the informal mechanisms, is not altogether absent.

The informal system, however, is not perfect in resolving disputes and has its costs. About half of the respondents experienced a breach of contract or non-payment with a supplier or major customer in the past three years. Over a third of them renegotiated while over 40% did nothing but continued the business relationships with the offending parties.

In general, the business environment of the SME sector is marked by strong informal mechanisms like family ties, reputation and trust. Legal remedies though present, are far less important than the rules of the informal networks.

3. Capital Markets

Indian capital markets have been one of the best performing markets in the world in the last few years. Fuelled by strong economic growth and a large inflow of foreign institutional investors (FIIs) as well as the development of the domestic mutual funds industry, the Indian stock market indices have delivered truly explosive growth during the last 5 years rising over 3 times during the period. However, it would be a mistake to think that growth has happened only in valuation. During this period Indian capital markets have exhibited explosive growth in almost every respect.

While the two major Indian exchanges, the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE) ranked 16th and 17th respectively among exchanges around the world in terms of market capitalization. The former has close to 5,000 stocks listed, of which about half actually trade. In terms of concentration (i.e. the share of top 5% of stocks in total trading) they are not out of line with other major exchanges, though in terms of turnover velocity, BSE is the lowest among the top 20 exchanges. The relatively newly formed NSE has overtaken the more traditional BSE (which is older than the Tokyo Stock Exchange) and now has over 30% higher turnover in terms of value and almost 2.5 times BSE's turnover in terms of number of trades (see table 3.1). Table 3.2 depicts the evolution of liquidity in Indian capital markets in recent years. The regional stock exchanges in India, numbering 20, have recently been relatively speaking devoid of action. In March 2006, the BSE market capitalization accounted for about 86% of Indian GDP while that of the NSE accounted for about 80%. In terms of risk and return, while the Indian markets have been more volatile than those in industrialized nations, the returns have been largely commensurate (see table 3.3).

Table 3.4 shows the growth in the number of players in the different segments of the Indian capital markets since 1993. In the new century, a huge derivative market has been created from scratch, foreign institutional investors have almost doubled in number, venture capital funds have made their appearance and exhibited sound growth, and the number of portfolio managers has risen over three-fold. The entire industry has therefore gone through a major transformation during the period.

During 2005-06, Indian corporations mobilized over Rs. 1237 trillion ($ 30.93 trillion) from the markets (which accounted for close to 4% of the GDP at factor cost in

current prices) of which close to 78% was debt, all of which was privately placed (see Table 3.5). Of equity issues amounting to over Rs. 273 trillion ($ 6.825 trillion), about 40% were IPOs and the remainder seasoned offerings. Close to 25% of these latter were rights offerings. Qualitatively, these proportions have remained more or less stable over the years.

The liberalization and subsequent growth of the Mutual Funds industry, for decades monopolized by the state-owned Unit Trust of India (UTI), since the turn of the century has been one of major stories of Indian capital markets (see table 3.6). From the turn of the century, assets under management have more than tripled, in pace with and fuelling the rise of the markets.

The biggest development in the Indian capital markets in recent years is undoubtedly the introduction of derivatives – futures and options – both on indexes as well as individual stocks with turnovers growing 50 to 70 times in the past 5 years and the derivatives segments quickly becoming a crucial part of the Indian capital markets (see table 3.7).

The rapid growth in Indian capital markets, and the spread of "equity culture" has doubtlessly strained its infrastructure and regulatory resources. Nevertheless the securities market watchdog, the Securities and Exchanges Board of India (SEBI) has maintained a rate of around 95% in redressing investor grievances reported to it (see table 3.8), though investigations undertaken and convictions obtained have, on a proportional basis, trailed those of the Securities Exchange Commission (SEC) of the USA (Bose (2005)).

3.1 Institutional Features

The transactions in secondary markets like NSE and BSE go through clearing at clearing corporations (National Securities Clearing Corporation Limited (NSCCL) for NSE trades, for instance) where determination of funds and securities obligations of the trading members and settlement of the latter take place. All the securities are being traded and settled under T+2 rolling settlement. "Dematerialized", trading of securities, i.e. paper-less trading using electronic accounts, now accounts for virtually all equity transactions. This was introduced to reduce the menace of fake and stolen securities and

to enhance the settlement efficiency, with the first depository (National Security Depository Limited established for NSE in 1996. This ushered the era of paperless trading and settlement. Table 3.9 shows the progress of dematerialization at NSDL and the Central Depository Services (India) Limited (CDSL). Table 3.10 provides the delivery pattern of various stock exchanges in India.

As a measure of investor protection, exchanges in India (both the NSE and BSE) administer price bands and also maintain strict surveillance over market activities in illiquid and volatile stocks. Besides, NSCCL has put in place an on-line monitoring and surveillance system and monitors members on a real time basis. In addition, there is regulatory requirement by SEBI that 20% of the active trading members being inspected every year to verify their level of compliance with various rules.

3.2 Debt Market

The debt market in India has remained predominantly a wholesale market. During 2005-2006, the government and corporate sector collectively has mobilized Rs 2.6 trillion from the primary debt market. Of which, 69.6% were raised by government and the balance by the corporate sector. But in terms of turnover in the secondary market, government securities dominate. The secondary market for corporate bonds is practically non-existent (Refer Figure 3.1). At the end of March 2006, the total market capitalization of securities available for trading at the WDM segment stood at over Rs 15 trillion ($ 375 billion). Of this government securities and state loans together accounted for 83% of total market capitalization. (Refer Figure 3.2 and Table 3.11).

Government of India, public sector units and corporations together comprise as dominant issuer of debt markets in India. Local governments, mutual funds and international financial institution issue debt instruments as well but very infrequently. The Central Government mobilizes funds mainly through issue of dated securities and T-bills. Bonds are also issued by government sponsored institutions like the development financial institutions (DFIs) like IFCI and IDBI, banks and public sector units. Some, but not all, of the PSU bonds are tax-exempt. The corporate bond market comprise of commercial papers and bonds. In recent years, there has been an increase in issuance of

corporate bonds with embedded put and call options. The major part of debt is privately placed with tenors of 1-12 years.

Government securities include Fixed Coupon Bonds, Floating Rate Bonds, Zero Coupon Bonds, and T-Bills. The secondary market trades are negotiated between participants with SGL (Subsidiary General Ledger) accounts with RBI. The Negotiated Delivery System (NDS) of RBI provides electronic platform for negotiating trades. Trades are also executed on electronic platform of the Wholesale Debt Market (WDM) segment of NSE. Table 3.12 shows the growth of WDM segment of NSE. The average trade size in this market has hovered around Rs. 70 million ($ 1.75 million) and while turnover has risen significantly, the rise has not been uniform.

Central and State governments together have borrowed Rs 1.8 trillion ($ 45 billion) (gross) and repaid over Rs 680 billion ($ 17 billion) during 2005-06. Out of this over Rs 1.3 trillion ($ 32.5 billion) was raised by central government through dated securities. On a net basis, the government has borrowed over Rs 953 billion ($ 23.83 billion) through dated securities and only slightly over Rs 28 billion ($ 0.7 billion) through 364-day T-Bills. The net borrowings of State governments in 2005-06 amounted to slightly over Rs 154 billion ($ 3.85 billion).

The yield on primary issues of dated government securities during 2005-06 varied between 6.69 % and 7.98 % against the range of 4.49% to 8.24 % during 2004-05. The weighted average yield on government dated securities increased to 7.34% from 6.11% in 2004-05.

At about 2% of the GDP, the corporate bond market in India is small, marginal, and heterogeneous in comparison with corporate bond market in developed countries. While a corporate debt market in India has existed in India since 1950s, the bulk of the debt has been raised through private placements. In 2004-05, close to Rs 593 billion ($ 14.3 billion) was raised by the corporate sector through debt instruments, of which private placements accounted for around 93 %. In 2005-06, the entire amount of over Rs 794 billion ($ 19.85 billion) was raised by 99 issuers through 362 privately placed issues, with no public issues at all. Figure 3.3 shows the growth of private placement debt in India. Financial Institutions and banks dominate in private placements, issuing 75 % of the total private placement of debt (Refer Figure 3.4). Around 68.12 % of the resources

mobilized by private placement were distributed to Financial and Banking sector and 9.64 % to Power sector, while distribution to Telecommunications and Water resources together was less than 1 %. During 2005-06, the maturity profile of issues in private placements ranged between 12 months to 240 months.

To promote the corporate debt market, especially secondary market regulators have taken several steps. Corporate Debt instruments are traded both on BSE and on capital market and the WDM segments of the NSE. SEBI has already mandated that all bonds traded on the BSE and NSE be executed on the basis of price/order matching. So, the difference between trading of government securities and corporate debt market securities is that the latter are traded on the electronic limit order book like equities. Since June 2002, the CDSL and NSDL have admitted debt instruments such as debentures, bonds, CPs CDs, etc. Also, banks, financial institutions and primary dealers have been asked to hold bonds and debentures, privately placed or other wise, in electronic form. As on March 2006, over Rs 3.3 trillion ($ 82.5 billion) worth of bonds/debentures were available in paperless (electronic) form consisting of 652 issuers with 17,508 debentures/bonds and 379 issuers with 7,357 issues of commercial paper.

In terms of market participants, apart from investors and brokers, there were 17 Primary Dealers[8] at the end of March 2006. During 2005-06, banks (Indian and Foreign) accounted for 42% of the WDM turnover, while primary dealers accounted for 21% of the total turnover (Refer Figure 3.5). In recent years mutual funds have emerged as an important investor class in the debt market. They also raise funds through the debt market. Most mutual funds have specialized debt funds such as gilt funds and liquid funds. Foreign Institutional Investors (FIIs) are also permitted to invest in treasury and corporate bonds, but up to a limit. Provident and pension funds are large investors in debt market, predominantly in treasury and PSU bonds. They are, however, not very active traders owing largely to regulatory restrictions.

3.3 Derivatives Market

The derivatives segment in India is not very old. In the year 2000, NSE started its operation in derivatives contracts and introduced futures contracts on the Nifty index.

[8] Intermediaries in government securities.

The total exchange traded derivatives volume witnessed an increase (88.14%) to over Rs 48 trillion ($ 1.2 trillion) during 2005-06 as against Rs 25.6 trillion ($ 640 billion) during the preceding year. In terms of products, Stock and Index Futures contracts together account for 89 % of the total turnover in derivatives (see Figure 3.6). Over the period, however, the basket of instruments has widened with futures and option contracts on indices viz. CNX IT Index, and Bank index as well as options and futures on 122 single stocks. The popularity of single-stock futures distinguishes the Indian derivatives market. In 2005, the NSE of India ranked first (1^{st}) in the single stock future category with 68,911,754 contracts.

In India, though trades in derivatives contracts have been permitted in both the BSE and NSE, the latter has completely dominated the segment with over 99.9% of the turnover At any point of time, for equity derivatives, contracts with one month, two month and three months to expiry are available for trading. These contracts expire on the last Thursday of the respective expiry months. Interest rate Futures rate contracts are also available on Notional 10 year bonds (6% coupon), Notional 10 year zero coupon bonds and Notional 91 day T-Bills. These contracts are available for a period of one year maturity with three months continuous contracts and fixed quarterly contracts for the entire year.

Index futures/options naturally have to settle in cash. Previously futures and options on individual stocks could be settled through deliveries but currently they have mandatory cash settlement as well. In the case of futures, contracts usually have two types of settlements, MTM settlement which happen on a continuous basis at the end of each day and final settlement, which is on the last trading day of the futures contract. In contrast, options contracts have three types of settlements, daily premium settlement; interim exercise settlement in the case of option contracts on securities; and final settlement.

As a part of its comprehensive risk containment mechanism for futures and options, the NSCCL (National Securities Clearing Corporation Limited) has quite stringent capital adequacy requirements for membership in terms of. the initial margin requirement on contracts that are specified and which need to be met on a daily basis. It

also follows the VaR based margin requirement computed through the SPAN (Standardized Portfolio Analysis of Risk) model of the Chicago Mercantile Exchange.

4. Recent FII flows

In 2005-06 portfolio investments in India accounted for about 61.7% of total foreign investment in the country and at about 1.29% of GDP well exceeded the current account deficit (0.95% of GDP). Foreign Institutional Investors' (FIIs') investments accounted for about 97.5% of this. Ever since the opening of the Indian equity markets to foreigners, FII investments have steadily grown from about Rs. 2,600 crores ($ 650 million) in 1993 to over Rs.48,000 crores ($ 12 billion) in 2005. At the end of June 2006, the cumulative FII flows to India accounted for a little over 9% of the Bombay Stock Exchange market capitalization.

While it is generally held that portfolio flows benefit the economies of recipient countries, policy-makers worldwide have been more than a little uneasy about such investments. Often referred to as "hot money", they are known to stampede out at the slightest hint of trouble in the host country leaving an economic wreck in their wake, like Mexico in 1994. They have been blamed for exacerbating small economic problems in a country by making large and concerted withdrawals at the first sign of economic weakness. They have also been held responsible for spreading financial crises – causing 'contagion' in international financial markets.

International capital flows and capital controls have emerged as important policy issues in the Indian context as well. The danger of abrupt reversals and their destabilizing consequences on equity and foreign exchange markets are always a concern. Nevertheless, in recent years, the government has been making strong efforts to increase FII flows in India. Others (Rakshit (2006)) have argued that, far from being healthy for the economy, FII inflows have actually imposed certain burdens on the Indian economy. Understanding the determinants and effects of FII flows and devising appropriate regulation therefore constitute an important part of economic policy making in India.

4.1 A few stylized facts about FII flows to India

Over the last few years, research has brought to light a few important features of FII flows to India. The key question has been the relationship between FII flows and returns in the Indian markets shown in Figure 4.1. Clearly FII equity investments and the stock market performance in India have been very closely interlinked. Also both

variables experience a sharp break around April of 2003 after which they ramp up steeply. The association is unmistakable – the correlation of monthly net FII equity inflows and monthly Sensex returns is 0.49 since April 2003 and 0.30 in the overall sample.

FII flows are routinely depicted as a major driver of Indian stock market returns in the financial press. However, research seems to suggest they are more of an effect than a cause of stock market performance. Analyzing daily flow data during 1999, Chakrabarti (2001) concludes that in the post-Asian crisis period, stock market performance has been the sole driver of FII flows, though monthly data in the pre-Asian crisis period may suggest some reverse causality. This return-chasing behavior has been confirmed using daily data during 1999-2002 in Mukherjee et al (2002), which also finds that the sales of Indian securities by FIIs are affected by returns but not purchases. On the other hand, Gordon and Gupta (2003) analyze monthly data over the period 1993-2000 to conclude that FII flows are *negatively* related to lagged stock market returns, suggesting negative feedback trading. There are, however, issues about the appropriateness of using monthly data in this analysis (Rakshit (2006)). In any case, given that there is a structural break in the data around April 2003, careful analysis of more recent data would be instructive in understanding the nature of the relationship and causality, if any, between these two variables.

The largest single-month pull-out of FII funds happened in May 2006 when the FIIs withdrew over Rs. 8247 crores ($1.7 billion) followed by the first three weeks of August 2007 Rs. 5994 crores ($ 1.47 billion). These were also the months marked with major declines in the Sensex in the post reforms era.

As for other features, Chakrabarti (2001) finds no evidence of any informational disadvantage for foreign investors vis-à-vis their domestic counterparts. The Asian crisis marked a regime shift in determining FII flows. In the pre-crisis period, the co-movement of the Indian market with the American S&P 500 index seemed to inversely affect FII flows to India, but the effect disappeared in the post-crisis period. India's country risk rating did not seem to affect FII flows. Mukherjee et al (2002) have questioned the diversification motive behind FII flows to India and report autocorrelation or inertia in FII flows. Gordon and Gupta (2003) report that FII flows are sensitive to the

London Inter-bank Offer Rate (LIBOR) as well as India's macroeconomic fundamentals. Coondoo and Mukherjee (2004) argue that both the stock market as well as FII flows in India have high and related volatility. Finally, in their analysis of the effects of regulatory measures on FII flows, Bose and Coondoo (2004) find that liberalizing policy changes have had an expansionary effect on FII flows while restrictive measures aimed at giving regulators greater control over FII flows do not necessarily dampen them.

5. Banking Sector

With deposits of over half a trillion US dollars, the Indian banking sector accounts for close to three-quarters of the country's financial assets. Over the decades, this sector has grown steadily in size, measured in terms of total deposits, at a fairly uniform average annual growth rate of about 18%. In the years since liberalization, several significant changes have occurred in the structure and character of the banking sector – the most visible being perhaps the emergence of new private sector banks as well as the entry of several new foreign banks. The spirit of competition and the emphasis on profitability are also driving the public sector banks towards greater profit-orientation in a departure from the socialistic approach followed for decades. In general it seems that the emergence of the new private banks and the increased participation of foreign banks have increased professionalism in the banking sector. Competition has clearly increased with the Herfindahl index (a measure of concentration) for advances and assets dropping by over 28% and about 20% respectively between 1991-1992 and 2000-2001[9]. Over the period, SBI, the largest Indian bank, witnessed a decline in asset market share from 28% to 24% while its loan market share dropped from 27% to 22%. The deposit share, on the other hand, stayed pretty much the same at 23%. The asset, loan and deposit shares of the top 10 banks all fell from close to 70% to below 60%. Nevertheless, the public sector banks still enjoy a pre-eminent position in Indian banking today, accounting for over 80% of deposits and credit (see Figures 5.1 and 5.2). There is, however, a noticeable trend of private banks gradually eroding the market share of the public sector.

Performance and efficiency of commercial banks are key elements of the efficiency and efficacy of a country's financial sector. It is not surprising then, that considerable attention has been focused on the performance of commercial banks in India in recent years. According to the general perception as well as on several metrics, the "new" private sector banks and the foreign banks have led the way in terms of efficiency. Public sector banks, still not entirely free from the old bureaucratic mode of functioning and constrained by certain "developmental" lending objectives, are often thought to be lagging behind in the race to efficiency. Bank privatization and further liberalization of

[9] Koeva (2003). The Herfindahl index is a measure of industry concentration and is computed as the sum of the squared market shares of the firms in an industry. Ranging between 0 and 10,000, a lower Herfindahl index represents less concentration and greater competition.

the banking sector including allowing bank mergers are frequently discussed as remedies for the situation.

5.1 Performance of commercial banks in recent years – a brief background

The performance of commercial banks in India has been under policy and academic spotlight for a while now with the public sector bank performance receiving the greatest attention. The relatively poor performance of several public sector banks (PSBs) has led to calls for a complete overhaul of these banks and privatization as a solution.

Performance evaluation of banks, particularly in an economy that is dominated by public sector banks that are not driven purely by profit motive, however, is not a simple task. Profitability is definitely a key measure of performance, but its use as the *sole* measure is disputed by many and several alternative measures of efficiency have been used in the literature. Here we take a look at a few of these measures to evaluate the performance of banks in the post-reforms era.

A caveat is in order here. A key issue in judging bank efficiency is the link between management objectives and the selected measure of efficiency. As in any business, banks too seek to maximize shareholder value as well as pursue strategic objectives. Banks at different levels of market share frequently set differing objectives, so any measure other than Return on Assets is fraught with comparability problems. In addition, more than in many other businesses, risk management plays a crucial role in banking and it is, indeed, a difficult task to figure out the riskiness of a bank's operations without going through a detailed analysis of its investments and loan portfolio. A cross-sectional comparison of relative bank performance, as presented here, abstracts in a large measure from these considerations, which are doubtless limitations of such analysis.

Panel A of Figure 5.3 shows the Return on Asset (Profit/Asset) for different bank groups. It is evident that foreign banks are, by far, the most profitable bank category in India. The non-SBI public sector banks have consistently been the worst performers. There appears to have been a mild improvement in the efficiency of the banking sector in general during the decade[10] much of which has been driven by improvements in performance of the

[10] A conclusion also supported by Koeva (2003)

private and foreign banks. Within the private sector banks, the "new" private sector banks, those that came up in the post-reforms era, seem to have driven the efficiency gains.

It is however, imperative to consider risk in evaluating a bank's performance. The riskiness of banking is not wholly reflected in the variation of its earnings. Nevertheless, we present "risk-adjusted" returns in Panel B of figure 5.3. This is obtained by dividing the average ROA of a bank group in a year by the (cross-sectional) standard deviation of ROAs of banks in that group during that year. On this criterion, the SBI group is an order of magnitude better than others, simply because of its very low intra-group variability in earnings. However, banks in the SBI group is also different from other banks in their lower decision-making independence from one another. Among the three other groups, there does not seem to be any systematic pattern. If we measure risk with time-series rather than cross-sectional standard deviation, however, then the *coefficients of variation* (defined as $\frac{\text{time - series standard deviation in average return for the group}}{\text{panel average group return over the sample period}}$) provide the following ranking of the four bank groups (least to most risky): foreign banks (0.14), public (0.25), private (0.27), SBI (0.32). The significant stability of foreign banks on this score is noteworthy. The "most risky" status of SBI when time-series variation in ROA is considered while being the "least risky" by far using cross-sectional variation as a measure of risk, suggests that the SBI group may be distributing temporal shocks among the constituent banks to maintain intra-group parity and so should really be viewed as a single bank rather than a group.

To confirm the patterns exhibited in the Return on Assets, we also carry out the analogous exercise using Operating Profits as a Percentage of Working Funds for the years for which data are available. The results are shown in Figure 5.4. Largely figure 5.4 also exhibits the similar patterns (including the extremely low intra-group variance for the SBI group banks) confirming our general conclusions from the ROA analysis.

Yet another alternative measure of bank performance and efficiency is provided by the "spread" or the difference between the interest charged and interest paid by the banks as a proportion of total assets of the banks – the Net Interest Margin (NIM).

Figure 5.5 shows the variation of this metric for different categories of banks during the 1990s. Once again, foreign banks appear to enjoy a considerable advantage over the other

bank categories. The relatively lower NIM of private banks seems to suggest that they are gaining market share by reducing margins.

Another measure of efficiency of the banking sector is the productivity of its personnel. This is not a "total factor productivity" kind of measure, but rather just a measure of how well the human resources are exploited by the banks. Clearly this figure would depend crucially with the expenditure on non-human inputs that complement the efforts of the employees. A measure of labor productivity in the banking sector is the ratio of "turnover" or the total business generated as the sum of total deposits and advances to the total number of employees. There has been improvement across all categories over the time period. However, the foreign banks' turnover per employee is about *five* times that of the nationalized banks[11]. Equally impressive has been the relative surge of the private banks on this metric, from below par when compared to the public sector banks at the beginning of the decade to over twice as efficient as the nationalized banks in later years. Much of the relative poor performance of the public sector banks stem from the fact that they are required to have branches in rural areas all over the country that are largely cost centers. However public sector banks are overstaffed even when their metro and urban area branches are considered[12]. However, when we look at the banks' turnover as a multiple of their employee *cost* (Figure 5.6), rather than number of employees, the difference is less marked. More importantly the Indian private banks appear to have trounced the foreign banks on this score in the latter half of the decade. Clearly the "new" private sector banks have been more successful in keeping their employee costs down while raising turnover. Both the foreign and private banks hire fewer but more expensive employees than their public sector counterparts.

Foreign banks tend to use information technology more intensively and practice niche banking. As for private banks, their climb of the efficiency ladder has been driven almost exclusively by the new private banks – ICICI Bank, UTI Bank (recently renamed Axis Bank), HDFC Bank etc. – that have followed the foreign bank-type staffing practices and business model with lower clerical and subordinate staff strength. All these features have important policy implications for the debate concerning restructuring and

[11] D'Souza (2002).
[12] D'Souza (2002)

privatizing of public sector banks. There is also the view[13], however, that ownership per se does not affect the operational efficiency of banks – it is the discipline of stock markets that make the *traded* private companies more efficient than public sector banks.[14]

While the regulatory mechanism is frequently blamed for the lackluster performance of public sector banks, till 1996, deregulation had not resulted in a productivity surge in public sector banks, though private banks improved performance through expansion[15].

Perhaps the best measure of a country's financial health and robustness is the extent of non-performing assets (NPAs) in its banking system. Broadly speaking, a non-performing advance is defined in India as one with interest or principal repayment installment unpaid for a period of at least two quarters. NPAs form a substantial drag for individual banks as well as the banking system of a country. They represent the poor quality of the assets of the bank and have to be provisioned for using capital. Obviously they have a huge negative impact on a bank's profitability and can lead to complete erosion of its asset base.

As noted before (figure 1.11) public sector banks have traditionally had higher levels of NPAs than private sector banks and foreign banks. In recent years, however, they appear to have managed their NPAs well, steadily reducing them to levels comparable to those of private banks. On the other hand, the new private sector banks have witnessed an increase in the share of NPAs in their portfolios.

A closer look at the cross-sectional distribution of NPAs among the different banks (figure 5.8), however, suggest that as a group, public sector banks have a tighter distribution than other categories, particularly foreign banks which show considerably larger skewness in the ratio of net NPAs to net advances.

There is, however, skepticism in some quarters about the definition and measurement of NPAs in Indian banks. Banks often indulge in creative accounting and loan rollovers – "ever-greening" – to keep the NPA figures artificially low[16]. The share of

[13] See Sarkar et al (1998)
[14] While *a priori* one would expect the threat of takeovers, rather than trading of shares *per se* to improve efficiency, recent evidence (see Gupta (2005)) suggests that Indian public sector companies listing only a non-controlling part of the equity have experienced profitability and productivity enhancements.
[15] See Kumbhakar and Sarkar (2003)
[16] See Banerjee et al (2004) and Topalova (2004)

"potential NPAs" defined as firms whose reported interest expense is greater than their EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization) has risen considerably in the period since 1989, suggesting that it is largely "ever-greening" of their loans that keeps the NPAs at their reported levels. Banks also face considerable interest rate risk in that a small rise in lending rates could cause a considerable increase in the share of NPAs – a 2% rise in lending rates could cause a 4 percentage point increase in the share of NPAs.[17] As the international NPA recognition standards as well as capital adequacy ratios rules are replaced with the new, more complex supervisory system of Basel II, the banking sector in India needs to pay even greater attention to properly identifying and controlling NPAs.

Chakrabarti & Chawla (2006) find that on a "value" or profitability basis, the foreign banks, as a group, have been considerably more efficient than all other bank groups, followed by the Indian private banks. From a "quantity" perspective or on the basis of volume of deposits and credit created with given input levels, however, Indian private banks have been the best performers while the foreign banks are the *worst* performers. This suggests that the foreign banks have been "cherry-picking" – focusing on more lucrative segments of banking.

[17] Topalova (2004)

6. Corporate Governance

Corporate governance issues in India, as in any other country, are multi-dimensional. For instance, the intricacies and opacity of conglomerates have been blamed for economic crises like the Asian crisis. A glance at India's 500 largest (by market-cap) companies, that together account for over 90% of the market capitalization of the country's leading Bombay Stock Exchange, reveals that about 60% of these companies (65% in terms of market capitalization), are part of conglomerates, or what are called "business groups" (see figure 6.1) . Clearly family-run business groups still play a crucial role in the Indian corporate sector. Even in 2002, the average shareholding of promoters in all Indian companies was as high as 48.1% (See Table 6.2 for more current figures).[18] Recent studies have documented the presence of "tunneling" of funds among business groups in India[19]. The actual ownership in these companies are far from transparent with widespread pyramiding, cross-holding and the use of non-public trusts and private companies for owning shares in group companies.

6.1 Corporate Governance in India – a historical background

The history of the development of Indian corporate laws has been marked by interesting contrasts. At independence, India inherited one of the world's poorest economies but one which had a factory sector accounting for a tenth of the national product; four functioning stock markets (predating the Tokyo Stock Exchange) with clearly defined rules governing listing, trading and settlements; a well-developed equity culture if only among the urban rich; and a banking system replete with well-developed lending norms and recovery procedures.[20] In terms of corporate laws and financial system, therefore, India emerged far better endowed than most other colonies. The 1956 Companies Act as well as other laws governing the functioning of joint-stock companies and protecting the investors' rights built on this foundation.

The beginning of corporate developments in India were marked by the managing agency system that contributed to the birth of dispersed equity ownership but also gave rise to the practice of management enjoying control rights disproportionately greater than

[18] Topalova (2004)
[19] See Bertrand et al (2002)
[20] This section draws heavily from the history of Indian corporate governance in Goswami (2002).

their stock ownership. The turn towards socialism in the decades after independence marked by the 1951 Industries (Development and Regulation) Act as well as the 1956 Industrial Policy Resolution put in place a regime and culture of licensing, protection and widespread red-tape that bred corruption and stilted the growth of the corporate sector. The situation grew from bad to worse in the following decades and corruption, nepotism and inefficiency became the hallmarks of the Indian corporate sector. Exorbitant tax rates encouraged creative accounting practices and complicated emolument structures to beat the system.

In the absence of a developed stock market, the three all-India development finance institutions (DFIs)– the Industrial Finance Corporation of India, the Industrial Development Bank of India and the Industrial Credit and Investment Corporation of India – together with the state financial corporations became the main providers of long-term credit to companies. Along with the government owned mutual fund, the Unit Trust of India, they also held large blocks of shares in the companies they lent to and invariably had representations in their boards, though they have traditionally played very passive roles in the boardroom.

Though financial disclosure norms in India have traditionally been superior to most Asian countries, noncompliance with disclosure norms and even the failure of auditor's reports to conform to the law attract nominal fines with hardly any punitive action. The Institute of Chartered Accountants in India has not been known to take action against erring auditors.

While the Companies Act provides clear instructions for maintaining and updating share registers, in reality minority shareholders have often suffered from irregularities in share transfers and registrations. Sometimes non-voting preferential shares have been used by promoters to channel funds and deprive minority shareholders of their dues. Minority shareholders' rights have sometimes also been compromised by management's private deals in the relatively scarce event of corporate takeovers. Boards of directors have been largely ineffective in India in their monitoring role, and their independence is more often than not highly questionable.

For most of the post-Independence era the Indian equity markets were not liquid or sophisticated enough to exert effective control over the companies. Listing

requirements of exchanges enforced some transparency, but non-compliance was neither rare nor acted upon. All in all therefore, minority shareholders and creditors in India remained effectively unprotected despite the laws on the books.

6.2 Recent Developments in Corporate Governance in India

Concerns about corporate governance in India were, however, largely triggered by a spate of crises in the early 1990's – the Harshad Mehta stock market scam of 1992 followed by incidents of companies allotting preferential shares to their promoters at deeply discounted prices as well as those of companies simply disappearing with investors' money.[21]

These concerns about corporate governance stemming from the corporate scandals as well as opening up to the forces of competition and globalization gave rise to several investigations into the ways to fix the corporate governance situation in India. One of the first among such endeavors was the CII Code for Desirable Corporate Governance developed by a committee chaired by Rahul Bajaj. The committee was formed in 1996 and submitted its code in April 1998. Later SEBI constituted two committees to look into the issue of corporate governance – the first chaired by Kumar Mangalam Birla that submitted its report in early 2000 and the second by Narayana Murthy three years later. These last two committees have been instrumental in bringing about far reaching changes in corporate governance requirements in India through the formulation of the Clause 49 of Listing Agreements.

Concurrent with these initiatives by SEBI, the Department of Company Affairs, Ministry of Finance of the Government of India has also been contemplating improvements in the corporate governance area. These efforts include the establishment of a study group to operationalize the Birla committee recommendations in 2000, the Naresh Chandra Committee on Corporate Audit and Governance in 2002 and the Expert Committee on Corporate Law (the J.J. Irani Committee) in late 2004. All of these efforts were aimed at reforming the existing Companies Act, 1956 that still formed the backbone of corporate law in India.

[21] Goswami (2002)

6.3 Clause 49 of the Listing Agreements

SEBI implemented the recommendations of the Birla Committee through the enactment of Clause 49 of the Listing Agreements. This Clause 49 may well be viewed as a milestone in the evolution of corporate governance practices in India. They were applied to companies in the BSE 200 and S&P C&X Nifty indices, and all newly listed companies, on March 31, 2001; to companies with a paid up capital of Rs. 10 crore ($ 2.5 million) or with a net worth of Rs. 25 crore ($ 6.25) at any time in the past five years, as of March 31, 2002; to other listed companies with a paid up capital of over Rs. 3 crore ($ 750,000) on March 31, 2003. The Narayana Murthy committee worked on further refining the rules and Clause 49 was amended in 2004. The key features of this amended Clause are discussed below.

The major mandatory areas of Clause 49 regulations are the following: (i) Composition of the Board of Directors; (ii) the composition and functioning of the Audit Committee; (iii) the governance and disclosures regarding subsidiary companies; (iv) Disclosures by the company; (vi) CEO/CFO certification of financial results; (vi) Report on Corporate Governance as part of the Annual Report; and (vii) certification of Compliance of a company with the provisions of Clause 49.

The composition and proper functioning of the Board of Directors emerge as the key area of focus for Clause 49. It stipulates that non-executive members should comprise at least half of a board of directors. It defines an “independent” director and requires that independent directors comprise at least half of a board of directors if the chairperson is an executive director and at least a third if the chairperson is a non-executive director. It also lays down rules regarding compensation of board members; sets caps on committee memberships and chairmanships; lays down the minimum number and frequency of board meetings and mandates certain disclosures for board members.

Clause 49 pays special attention to the composition and functioning of the Audit Committee, requiring at least three members on it, with an independent chair and with two-thirds made up of independent directors and having at least one “financially literate” person on it. It lays down the role and powers of the audit committee and stipulates the minimum number and frequency of and the quorum at the committee meetings.

With regard to “material” non-listed subsidiary companies (i.e. turnover/net worth exceeding 20% of holding company’s turnover/net worth), Clause 49 stipulates the at least one independent director of the holding company to serve on the board of the subsidiary. The audit committee of the holding company should review the subsidiary’s financial statements particularly investment plans. The minutes of the subsidiary’s board meetings should be presented at the board meeting of the holding company and the board members of the latter should be made aware of all “significant” (likely to exceed in value 10% of total revenues/expenses/assets/liabilities of the subsidiary) transactions entered into by the subsidiary.

The areas where Clause 49 stipulates specific corporate disclosures are: (i) related party transactions; (ii) accounting treatment; (iii) risk management procedures; (iv) proceeds from various kinds of share issues; (v) remuneration of directors; (vi) a Management Discussion and Analysis section in the Annual report discussing different heads of general business conditions and outlook; (vii) background and committee memberships of new directors as well as presentations to analysts. In addition a board committee with a non-executive chair should address shareholder/investor grievances. Finally the process of share transfer, a long-standing problem in India, should be expedited by delegating authority to an officer or committee or to the registrar and share transfer agents.

The CEO and CFO or their equivalents need to sign off on the company’s financial statements and disclosures and accept responsibility for establishing and maintaining effective internal control systems.

The company is required to provide a separate section of corporate governance in its annual report with a detailed compliance report on corporate governance. It should also submit a quarterly compliance report to the stock exchange where it is listed. Finally, it needs to get its compliance with the mandatory specifications of Clause 49 certified by either the auditors or practicing company secretaries.

In addition to these mandatory requirements, Clause 49 also mentions non-mandatory requirements concerning the facilities for a non-executive chairman, the remuneration committee, half-yearly reporting of financial performance to shareholders,

a move towards unqualified financial statements, training and performance evaluation of board members and perhaps most notably a clear “whistle blower” policy.

By and large, the provisions of Clause 49 closely mirror those of the Sarbanes-Oxley measures in the USA. In some areas, like certification compliance, the Indian requirements are even stricter. There are, however, areas of uniqueness too. The distinction drawn between boards headed by executive and non-executive chairmen and the lower required share of independent directors is special to India (and somewhat intriguing too, given the prevalence of family-run business groups).

6.4 Recent findings about corporate governance in India

Of late, a burgeoning volume of empirical research has begun to document several interesting features of corporate governance in India. We summarize some of the major findings in this section.

Corporate Boards in large companies in India in 2003 were slightly smaller than those in the US in 1991 with 9.46 members on average as compared to 11.45 (Sarkar and Sarkar 2005a). While the percentage of inside directors was roughly comparable (25.38% compared to 26% in the US), Indian boards had relatively fewer independent directors, (just over 54% as compared to 60% in the US) and relatively more affiliated outside directors (over 20% as compared to 14% in the USA). While 41% of Indian companies had a promoter in the board, in over 30% of cases a Promoter served as an Executive Director. There is evidence (Ghosh, S., 2006) that larger boards lead to poorer performance (market-based as well as in accounting terms) in India as in the USA.

The median director in large companies in India held 4.28 directorships in 2003 (Sarkar and Sarkar, 2005a). The number is considerably (and statistically significantly) higher for directors in group-affiliated companies (4.85 compared to 3.09 for non-affiliated companies). The figures are similar for inside directors – 4.34, 4.95 and 3.06 respectively. As for independent directors however, the median number of positions held is 4.59 with no major differences between group and standalone companies. Interestingly, independent directors with multiple directorships are associated with higher firm value in India while busier inside directors are correlated negatively with firm performance. Busier independent directors are also more conscientious in terms of attending board

meetings than their counterparts with fewer positions. As for inside directors, it seems that the pressure of serving on multiple boards (due largely to the prevalence of family owned business groups) does take a toll on the directors' performance.

However, busy independent directors also appear to be correlated with a greater degree of earnings management as measured by discretionary accruals (Sarkar et al, 2006). Multiple positions and non-attendance of board meetings by independent directors seem to be associated with higher discretionary accruals in firms. After controlling for these characteristics of independent directors, board independence, i.e. proportion of independent directors, does not seem to affect the degree of earnings management. However CEO-duality (i.e. where the top executive also chairs the board) and the presence of controlling shareholders as inside directors are related, perhaps unsurprisingly, to greater earnings management.

Shareholding patterns in India reveal a marked level of concentration in the hands of the promoters – individuals/family who started the company. In 2002-03, for instance, promoters held 47.74% of the shares in a sample of close to 2500 listed manufacturing companies (Sarkar and Sarkar, 2005) –50.78% for group companies and 45.94% for standalone firms. In comparison, the Indian public's share amounted to 34.60%, 28% and 38.51% respectively. As for the impact of concentrated shareholding on firm performance, Sarkar and Sarkar, 2000 find that in the mid-90's (1995-96) holdings above 25% by directors and their relatives was associated with higher valuation of companies while there was no clear effect below that threshold. More recently, based on 2001 data that distinguishes between "controlling" insiders and non-controlling groups, Salerka, 2006 report a U-shaped relationship between insider ownership – insider defined as promoters and "persons acting in concert (PACs) with promoters" – and firm value with the point of inflection lying at a much higher level – between 45% and 63%.

Institutional investors comprising the government sponsored mutual funds and insurance companies, banks and "development financial institutions" (DFIs) that are also long-term creditors, and foreign institutional investors, hold over 22% shares of the average large company in India, of which the share of mutual funds, banks and FIs, insurance companies, and FIIs are about 5%, 1.5%, 3% and 11% respectively. Analyzing cross-section data of the mid-90's, Sarkar and Sarkar 2000 find that company value

actually declines with a rise in the holding of mutual funds and insurance companies in the range 0-25% holding after which there is no clear effect. On the other hand, for DFIs' holdings, there is no clear effect on valuation below 25% but a significant positive effect after the 25% mark, suggesting better monitoring when stakes are higher. Whether these effects have stayed the same after the changes witnessed in the decade that followed this period remains to be checked.

Executive compensation in India is another area of corporate governance that has received some attention among researchers. Since 1993-94 executive compensation has been freed from the strict regulation by the Companies Act. Executive compensation in India often has two components – salary and performance-based commission – apart from retirement and other benefits and perquisites. Based on an analysis of unbalanced panel data of roughly 300 firms in each year, Fagernäs (2007) reports that the average total compensation (salary plus commission) of CEOs has risen almost three-fold between 1998 and 2004 (from Rs. 2.1 million (approx. $48,500) to Rs. 6.4 million (approx. $143,000)) in real terms. During this period, the proportion of profit-based commission has risen steadily from 13.4% to 25.6% and the proportion of CEOs with commission as part of the pay package has risen from 0.34 to 0.51. So clearly, CEO pay has become more performance based during that period. There is some evidence that this increasing performance-pay linkage is associated with the introduction of the corporate governance code or Clause 49. Meanwhile the commissions as a fraction of profits have also almost doubled from 0.55% to 1.06%.

Fagernäs (2007) also finds that CEOs related to the founding family or directors are paid more than other CEOs. In a firm fixed effects model, she finds being related to the founding family can raise CEO pay by as much as 30% while being related to a director can cause an increase of about 10%. There is some evidence that the presence of directors from lending institutions lowers pay while the share of non-executive directors on the board connects pay more closely to performance.

Ghosh (2006) finds that during 1997-2002, the average (of a sample of 462 manufacturing firms) *board* compensation in India has been around Rs. 5.3 million (approx. $120,000) with wide variation across firm size – average Rs. 7.6 million or

$ 171,000 for large firms and Rs. 2.5 million ($56,000) for small firms. The board compensation also appears to be higher (average Rs. 6.9 million ($155,500)) if the CEO is related to the founding family. Both board and CEO compensation depended on current performance and the former depended on past-year performance as well. Also diversified companies paid their boards more.

Given that close to two-thirds of the top 500 Indian companies are group-affiliated, issues relating to corporate governance in business groups are naturally very important in the Indian context. "Tunneling", or "the transfer of assets and profits out of firms for the benefit of those who control them"[22] is a major concern in business groups with pyramidal ownership structure and inter-firm cash flows. Bertrand *et al* (2002) estimate that an industry shock leads to a 30% lower earnings increase for business group firms compared to stand-alone firms in the same industry. They find that firms lower down in the pyramidal structure are less affected by industry-specific shocks than those nearer the top, suggesting that positive shocks in the former are siphoned off to the latter helping the controlling shareholders but hurting the minority shareholders. However, Khanna and Yafeh (2007) question how this logic would make them less sensitive to negative shocks. There is also some evidence (e.g., Khanna and Palepu 2000) that firms associated with business groups have superior performance than stand-alone firms.

More recently Kali and Sarkar (2007) argue that diversified business groups help increase the opacity of within-group funds flow driving a wider wedge between control and cash flow rights and a greater degree of diversification aids tunneling. Using data for Indian firms in 385 business groups in 2002-03 and 384 groups in 2003-04 they find that firms with greater ownership opacity and lower wedge between cash flow rights and control than those in a group's core activity are likely to be located away from the core activity. This incentive for tunneling explains, according to them, the persistence of sometimes value destroying groups in India and occasional heavy investment by Indian groups in businesses with low contribution to group profitability.

Using a sample of over 600 of the 1000 largest (by sale) Indian firms in 2004, Saha (2007) finds that, after controlling for other corporate governance characteristics, firm performance is negatively associated with the extent of related party transactions for

[22] Johnson set al (2000).

group firms but positively so for stand-alone companies, further strengthening the circumstantial evidence of tunneling and its adverse effects. The same study also reveals, using a sample of over 5000 firms for the period 2003-2005, that most related party transactions in India occur between the firm and "parties with control" as opposed to management personnel as in the US. Also group companies consistently report higher levels of related party transactions than stand-alone companies.

Transparency and corporate governance levels are very closely related. Cross-country studies have repeatedly put India among the worst cases of earnings opacity and management (see Bhattacharya et al (2003) and Leuz et al (2003) for instance). Indian accounting standards provide considerable flexibility to firms in their financial reporting and differ from the International Accounting Standards (IAS) in several ways that often makes interpreting Indian financial statements a challenging task (see Bae et al, 2007). These deviations, however, need to be viewed in the right perspective. India still falls short of the median number of deviations from IAS in the 49 country sample of Bae et al, 2007.

The nature of corporate governance can arguably affect the capital structure of a company. In the presence of well functioning financial institutions, debt can be a disciplining mechanism in the hands of shareholders or an expropriating mechanism in the hands of controlling insider. Studying the relationship between leverage and Tobin's Q in 1996, 2000 and 2003, Sarkar and Sarkar (2005b) conclude that the disciplinary effect has been more marked in recent years with greater market orientation of institutions. They also find limited evidence of the use of debt as an expropriating mechanism in group companies.

The market for corporate control has been relatively limited in India till the mid-1990's when the average number of mergers per year leapt from 30 between 1973-74 and 1987-88 and 63 between 1987-88 and 1994-95 to171 between 1994-95 and 2002-03 (Agarwal and Bhattacharya, 2006). Merger activity appears to occur in waves and is split roughly evenly between inter-industry and intra-industry mergers. The share of group-affiliated mergers has increased significantly in the post 1994-95 period.

With regard to public sector governance, Gupta (2005) finds that even when control stayed in government hands, partial privatization has had a positive impact on

profitability, productivity, and investment of the PSEs concerned. She argues that the monitoring role of the markets has been responsible for this. Sangeetha (2007), however, argues that the effect of partial privatization may have been confounded with the application of MoUs to these cases before the partial privatizations. She finds that the application of MoUs or performance contracts has had a positive impact on profitability as well as operational performance of PSEs.

7. Microfinance in India

The microfinance sector is clearly one of the fastest growing segments of the Indian financial sector, and also one where such growth is sustainable for a very long period of time. In spite of a large banking sector, about 40% of the Indian population does not have bank accounts. Given that over 75% of the Indian population still lives below $2 a day, and a vast majority in rural areas, microfinance – the provision of thrift savings, credit and other financial products and services at a very scale to the poor to enable them to raise their income and improve living standards – is key to financial inclusion in India. Traditionally, micro-credit in India has been the domain of village money-lenders, generally at exploitative interest rates that impoverished borrowers.

While special emphasis on rural and small loans have existed in India at least since the 1960s and India's apex specialized rural credit agency, the National Bank for Agricultural and Rural Development (NABARD) was established in 1982, microfinance in India has witnessed a dramatic increase in recent years with the involvement a large number of private players in addition to the government. Providers of microfinance in India today include specialized country-level institutions like NABARD, the Small Industrial Development Bank of India (SIDBI) and that Rashtriya Mahila Kosh (RMK); commercial banks – both private and state-owned; regional rural banks; cooperative banks as well as non-banking financial companies (NBFCs). While non-profits (NGOs) have often played a key role in the formation of microfinance institutions (MFIs), the contribution of governmental thrust in scaling microfinance (largely through the self-help group model) has, at the end of the day, reached a far higher number of people. Of late, with the realization of the profit opportunities in the sectors and the spectacular growth in the past half decade, microfinance in India is beginning to attract for-profit funding from commercial banks as well as from venture capital firms, both domestic and foreign.

Though microfinance in India, as in most other places, is generally lauded as the success of private enterprise, the role of the government in scaling and mainstreaming microfinance cannot be overlooked in India, particularly in the SHG Bank Linkage Program. In 2000, two-thirds of SHGs in India were promoted by NGOs. Now around half of them are promoted by government, less then third are promoted by NGOs and rest

by banks. SEWA, one of the pioneers of microfinance in India took 35 years to reach membership of 0.8 million women, but in contrast the government of the Southern state of Andhra Pradesh took 15 years to mobilize 8 million women[23]. The Swarnajayanti Gram Swarojgar Yojana (SGSY), perhaps the biggest government program promoting SHGs anywhere in the world was launched in 1997, and generated over 0.34 million SHG loan applications in 2006-07 alone.

7.1 Outreach and recent growth

The Self-Help Group (SHG) model of group-lending and linking of such groups (almost always of women) to banks has been the predominant model of microfinance in India connecting about 14 million poor households to banks in March 2006 and providing indirect banking access to an equal number. Loans from micro-financial institutions (MFIs) have reached about 7.3 million households among which about 45% are poor. Together these two models appear to have touched about a quarter of the Indian poor.

The SHG Bank Linkage Program (SBLP) – dominant microfinance model in India – had, in March 2006, an average loan size of Rs 2,684 ($67.1) for fresh loans and Rs 4,497 ($112.42) for repeat loans per group member with average group size of 14 members. In the five years from 2001 to 2006 outreach and loan volume in this model had witnessed close to nine-fold increases. While the quantity of bank loan disbursed shot up from Rs 481 crores ($ 120.25 million) to Rs 4, 499 crores ($ 1.12 billion), outreach expanded from 0.26 million to 2.2 million SHGs, making it the largest such program in the world. During the period, average loan size almost doubled from Rs 19,379 ($ 484.5) per SHG to Rs 37, 574 ($ 939.4) per SHG in 2006, the average size of repeat loans grew almost three-fold from Rs 22,215 ($ 555.4) in 2001 to Rs 62,960 ($ 1,574) in 2006.

The alternative model of microfinance institutions (MFIs) has produced the success stories and poster organizations of Indian microfinance. MFIs are of diverse legal forms and it is difficult to estimate their exact number. Sa-dhan, an association of MFIs in India has 162 members with outstanding loan portfolio of Rs 1600 crores ($ 400 million) in March 2006. While the number of MFIs in India is probably well in excess of 800, top 20 MFIs in India account for about 95% of their aggregate loan portfolio.

[23] Ramesh (2007)

Microfinance in India also exhibits tremendous regional disparities. It is fair to say that microfinance in India is largely a "southern" affair. In 2005 about 83% of the households reached by microfinance were in the Southern states. Eastern India came next with 13% of the households while the West accounted for less than 1%. While conscious efforts are afoot to rectify this regional bias, it is likely to take a while before the regional distribution of microfinance approaches uniformity.

In terms of the products and services, apart from micro loans, the microfinance sector in India focuses on micro-savings and financial literacy among the poor – developing the habit and discipline of saving – and, more recently have begun, in a relatively small way, to introduce micro-insurance. Individual and group level insurance is now being offered, in limited areas of both life and non-life types. A study on micro insurance products by ILO in 2003-04, identified 83 insurance products provided by insurance companies; half of them were life products. Out of those 24 were addressed to individuals and rest to the groups. Life Insurance Corporation (LIC) of India, (a public sector insurance company) provides both individual and group insurance. Various private sector insurance companies also provide these kinds of insurance products. In 2002, the Indian microfinance institution BASIX and AVIVA jointly designed a group insurance product to provide life insurance to all BASIX credit customers. Other than life risk, rural household faces health risk, risk to agricultural activity, risk to live-stock, risk to assets used in non farm activities. Crop insurance and Life stock insurance are two common non-life insurance products offered by General Insurance Corporation (GIC) of India (public sector insurance company). But the delivery of the above products has been restricted to beneficiaries of various government sponsored schemes and there has been little active participation by insurers to deliver these products on a larger scale. The situation has improved somewhat after the opening of the insurance sector to private sector companies. For instance, in 2003, BASIX and ICICI Lombard introduced a rainfall insurance product, which was rolled over to six states by the year 2005. Finally, transferring money, particularly for migrant workers, is another area where micro-finance institutions are making an entry.

7.2 The performance of the larger MFIs in India

Table 7.1 provides financial performance indicators of the leading microfinance institutions in India. The weighted average ROA for these MFIs is 2.1% with considerable variability. The range is from a low of 0.74% to a high of over 9%. The ROEs are extremely variable as well, ranging from slightly over 8% to over 173%, with a weighted average of 25.6%. The asset-weighted average loan balance is slightly over $ 108 with profit margins ranging from below 4% to above 60%. Clearly even among these largest players, the level of variability makes it difficult to generalize performance. However, it also shows that done properly, a microfinance institution can be a profitable enterprise.

It is possible that higher profitability may come at the price of lower outreach and that MFIs experience a "mission drift". While data on the poverty level of clients is not uniformly available, all of these MFIs, with the exception of BASIX have over 98% of their lending to women borrowers. Given the negative correlation between the average loan size and the ROA and ROE figures, it may not be such a major concern.

A study by Sa-dhan in 2005 (using a sample of 74 MFIs) reflects that these MFIs performed well in terms of sustainability, asset quality, and efficiency. Evidence found that, large MFIs were the efficient users of funds, extending 81 % of their total assets as loans, while this figure is 75 % for medium and small MFIs.

A report by MIX Markets (MIX (2006)) highlighted the inverse relation ship between growth and size with young MFIs growing faster than the mature MFIs. The report shows that medium MFIs are sustainable and have positive returns on assets and equity. It also shows that the small MFIs are more efficient, with lower unit cost ratios comparing to medium sized MFIs (see Table 7.2).

The MIX report on MFIs in South Asia[24], points out that MFIs in India are unique in leveraging the borrowed funds. The average capital asset ratio in India is 11%, which is half of the average of South Asia. Indian MFIs share the feature of providing loans from voluntary deposits with Bangladesh. Around 8.4% of total loans funded from voluntary deposits, hence provide another financial service 'Saving' along with credit.

[24] Performance and Transparency : A Survey of Microfinance in South Asia

Like Bangladesh, staff costs in the Indian microfinance sector are also one of the lowest in the world.

In terms of interest charged, Indian MFIs are among the highest in the South Asia region, which, however, has one of the lowest averages in the world. Thus by international standards, interest rates in microfinance in India, are pretty low. Nevertheless, because of cases of multiple farmer suicides in the Indian state of Andhra Pradesh, reportedly owing to extreme indebtedness, MFIs have come under government pressure to reduce interest rates. Table 7.3 provides the break-down of the components of interest costs in Indian microfinance.

7.3 Financing of MFIs in India

Commercial Banks

The growth of MFIs in the recent past has attracted most of the private sector banks. In the 1990's most of the MFIs lending comes from FWWB and SIDBI. Earlier banks used to lend at the level of priority sector lending obligations, but now they have found lending to MFIs being profitable, with almost perfect repayment rates. For the last three years, commercial bank lending almost doubled in every year. Table 7.4 shows outstanding figures of responding banks at the end of 2006.

Banks provide both term loans and cash credit. The rate of interest charged range from 8.5 to 11% for tenor ranging from 3 months to 5 years. For MFIs lacking track record, personal guarantees are also taken for security. As Table 7.4 shows, ICICI bank (the largest private bank and second largest bank in India) has the largest outstanding credit accounting for over 80% of the total commercial bank lending to MFIs. About 60% of this lending is based on the "partnership model" where MFIs function as social intermediary providing loan origination, monitoring and collection services, for a fee. But the MFI partner is expected to share the risk of default up to some specified level. Another way of lending adopted by ICICI is that of portfolio buy-out. Under deals with certain MFIs, the bank has bought out their portfolio, for amounts on which MFIs are charged 9 %. Apart from lending, ICICI bank has taken the initiative of using technology,

like low cost ATMs, mobile phone banking, internet services and others that help automate cash transactions in the field.

In January 2006, the Reserve Bank of India (RBI) specified guidelines for inclusion of certain agencies along with MFIs as intermediaries. The intermediaries were supposed to work on the basis of two models: the Business Facilitator Model (BFM) and the Business Correspondent Model (BCM). Under the BFM, NGOs, Cooperatives, Post Offices, Insurance agents and community based organizations work as intermediaries. These intermediaries would perform the "last mile" services – activities like, identification of borrowers, creating awareness about savings, processing and submission of loan applications and follow up for recoveries. While under the BCM model, intermediaries include NGOs and MFIs registered under the Trusts Act, not-for-profit companies ("Section 25 companies" in India) and Post Offices. In addition to BFM activities, the intermediaries perform the following additional activities: Disbursal of small value credit, recovery of principal, collection of interest, Sale of micro insurance and mutual fund products. The banks may pay reasonable commissions or fees to the intermediaries for these services.

Shortage of MFIs with requisite capacity and regulatory anomalies, among other things, constrain lending to MFIs by commercial banks. The probation on banks from charging more than PLR (of 11-13 %) on loans less than Rs 2 lakh ($ 5,000) and charges and commissions (over the PLR) on loans less than Rs 25,000 ($ 625) increases the cost of funds for banks and made the BC model unworkable.

Venture Capital Funds

More recently, venture capital funds (VCFs) – both Indian and off-shore – are entering the microfinance sector in India. Table 7.5 shows the top ten VCFs investing in India on the basis of their total MFI investment worldwide. These VCFs have helped reduce the problems faced by start-ups and emerging MFIs. According to an estimate by M-CRIL (2006), the current equity deficit of sample MFIs is Rs 23 crores ($ 5.75 million) and their total equity fund requirement is expected to be Rs 1,100 crores ($ 275 million) by 2010.

VCF entry into the microfinance sector in India is a recent phenomenon. Till Bellwether registered in India in 2005, SIDBI Foundation for Micro Credit (SFMC) was the sole (and far from effective) major provider of equity capital to the sector. In the 2005-2006 budget, the size of NABARD's MFDEF (Microfinance Development & Equity Fund) was doubled from Rs 100 crores ($ 25 million) to Rs 200 crores ($ 50 million).

The instruments preferred by VCFs have included both loans and equity and can broadly be classified (using Bellwether's segmentation) as the following – Tier I: Equity investment in start-ups and big established MFIs; Tier II: Convertible debt provided to high potential NGOs-MFIs; Tier III: Debt to NGOs. The involvement of the famous venture capitalist Vinod Khosla has also generated considerable exposure to the sector.

But the existing foreign investment regulation for NBFCs, not specific to microfinance, creates a hurdle in the way of VCF financing of MFIs, since MFIs do not always have equity requirement equal to minimum capital required for foreign investment (see Table 7.6).

7.4 The regulatory environment

It is fair to say that microfinance in India has evolved so far largely in (and arguably because of) an absence of sector-specific regulations. While each player, according to its institutional status, was regulated by its respective apex body (frequently the central bank, the Reserve Bank of India) very little regulation specifically targeted at microfinance was in effect. That is likely to change soon with the introduction of a microfinance bill, currently in the Indian Parliament.

The objective of the Microfinance Regulation Bill is to register and regulate the trusts and registered societies promoting and helping SHGs. The bill has two broad objectives: (a) to promote and regulate the micro finance sector and (b) to permit Micro Financial Organizations (MFOs) to collect deposits from 'eligible clients'[25]. The bill defines an MFO as any organization that provides micro finance services and includes

[25] Defined as as any member of an SHG or any group formed to provide micro finance services to certain categories of people. The categories include (a) any farmer owning a maximum of two hectares of agricultural land; (b) agricultural cultivators such as oral lessees and share croppers; (c) landless and migrant labourers; (d) artisans and micro entrepreneurs; and (e) women

societies, trusts, and co-operative societies. The definition excludes SHG and groups of SHGs. The financial assistance to 'eligible client' by these MFOs cannot exceed (a) Rs 50,000 ($ 1,250) in aggregate per individual for small and tiny enterprise, agriculture, and allied activities or (b) Rs 1.5 lakh ($ 3,750) in aggregate per individual for housing purposes.

The bill seeks to bring the entire microfinance sector under the surveillance of The National Bank for Agricultural and Rural Development (NABARD). It will be NABARD's role to promote and ensure the orderly growth of micro financial services by formulating policies for transparency, facilitating the development of rating norms and by specifying accounting norms and auditing norms. To offer thrift (savings) services to eligible clients, an MFO will need to obtain a certificate of registration from NABARD. Every MFO has to create a reserve fund by transferring a minimum of 15% of its net profit or surplus realized out of thrift services and micro finance services. NABARD may direct that this fund be invested in specified securities.

Also, NABARD shall constitute a Micro Finance Development and Equity Fund to be utilized for the development of the micro finance sector[26].The Fund would be managed by the Board of Directors of NABARD and would be used to provide any financial assistance to an MFO, invest in equity of an MFO, and meet any other expenses for the promotion of the micro finance sector.

The proposed bill seeks to regulate the trusts and cooperative societies promoting and helping SHGs, not SHGs themselves. However, SHGs are also cooperatives organized to provide certain services to its members more economically. These SHGs can not register themselves as cooperatives because according to state government and RBI, there can be only one cooperative credit society in a village. Since these SHGs are not legal entities, so they can not put money in bank in the name of SHG, but in the name one or two members creating room for fraud. The unsettled issues about the bill includes: (a) whether MFOs are the appropriate vehicle to address credit needs of the poor; (b) whether NABARD is the appropriate body to regulate the sector, given that it itself is a

[26] The Fund would include (a) all grants received from the government and other sources; (b) any income received from investments made in equity of an MFO; and (c) the balance outstanding in the Fund maintained by NABARD before the commencement of the Act.

player in the microfinance area; and (c) whether there are adequate safeguards to protect depositors' funds.

Clearly not everyone is happy with the bill. What shape it will take by the time it becomes law and how that law will impact the reach and effectiveness of microfinance in India, of course, remains to be seen.

8. Emerging issues for research

The fundamental transformations in the Indian economy and financial markets have important implications for academic as well as industry research in finance in India. Indian markets can now no longer be studied in isolation without properly factoring the global market forces to which they have become far more vulnerable than before.

International investors – both portfolio and FDI – will continue to play an important in the Indian markets and the perception of Indian industry and economy abroad will be forceful in deciding several key issues in India. The days of isolation are gone indeed and the price of a global presence is the susceptibility to foreign shocks. As India moves towards planned full capital account convertibility in 2009, the management and integration of foreign players in the financial system remain an important area to study.

Market institutions and bourse-specific practices in terms of accounting and book-keeping and settlement issues go a long way in determining the microstructure of stock markets. Order execution procedures and costs are central to market efficiency. As technology and institutional infrastructure continue to develop in India, the future is likely to bring about greater financial innovations and efficiency.

Derivatives are here to stay. Equity options and futures can only increase in importance in the coming years. Commodity futures are beginning to play a role in risk management among producers and buyers alike. In the future perhaps, more exotic ones including tradable weather derivatives will make their appearance as well. A proper understanding of these instruments and the opportunities and threats they carry is essential to research in Indian financial markets. There is evidence of considerable mis-pricing of equity options in India[27]. Theoretical and empirical exploration of these issues is essential for a better understanding of the functioning of these markets.

Corporate governance and company practices as well as the functioning of the financial services industry including equity analysis create the structure of the financial sector at large. These issues as well as those related to the service provider-client relationships need to be better studied as well.

[27] See Shah (2003) and Varma (2003)

The banking sector in India is in a flux. New technology and the growing importance of private and foreign banks are reshaping the retail banking industry into a dynamic terrain marked with severe competition. The growth in stock prices and market transactions is setting the stage for a significant increase in M&A activity and greater demand for quality investment banking services. As banks' revenue pools move towards less traditional fee-based activities where today's dominant players – public sector banks – are at a relative disadvantage given their restrictive human resource practices, the shape and composition of banking is likely to witness far-reaching changes in India.

Finally, despite the good economic performance in recent years India remains a developing country with about a quarter of its massive population in acute poverty. With all its sheen and dazzling capital market performance, the financial system still excludes about 40% of the population, mostly the rural poor. Poverty alleviation and development have traditionally been thought of as government prerogatives to be funded out of taxpayers' money. However, as privatization progresses and the importance of the public sector wanes, private endeavor and commercial involvement in these efforts are becoming increasingly important. The progress of microfinance, often viewed as a profitable method of poverty alleviation and development, therefore, is of considerable importance to India.

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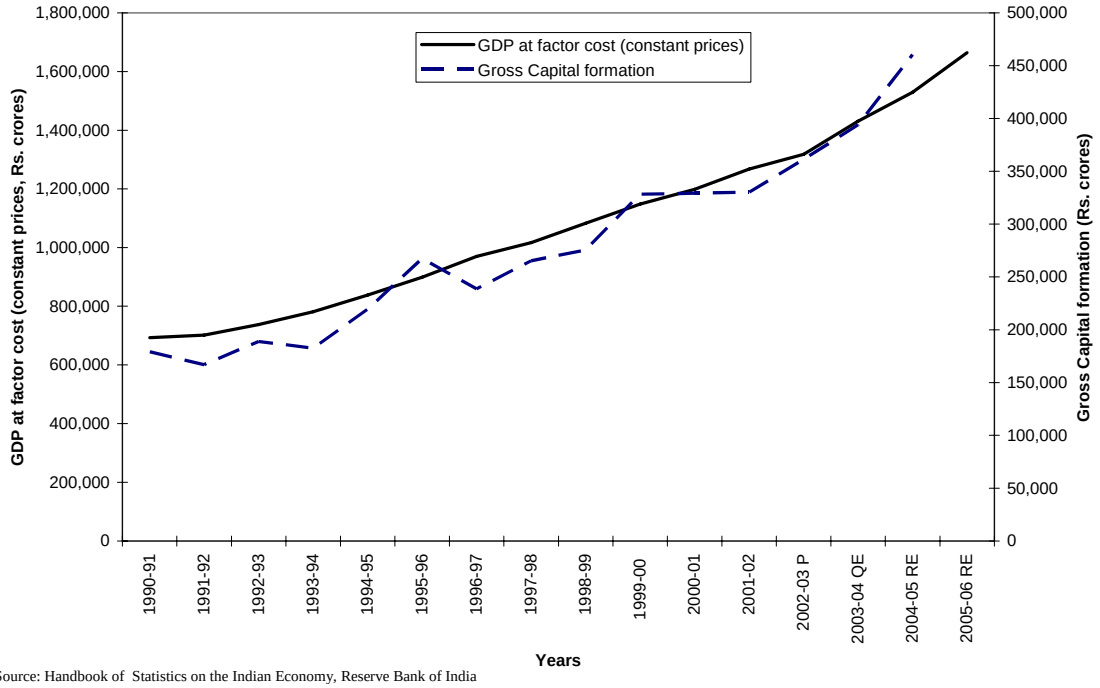
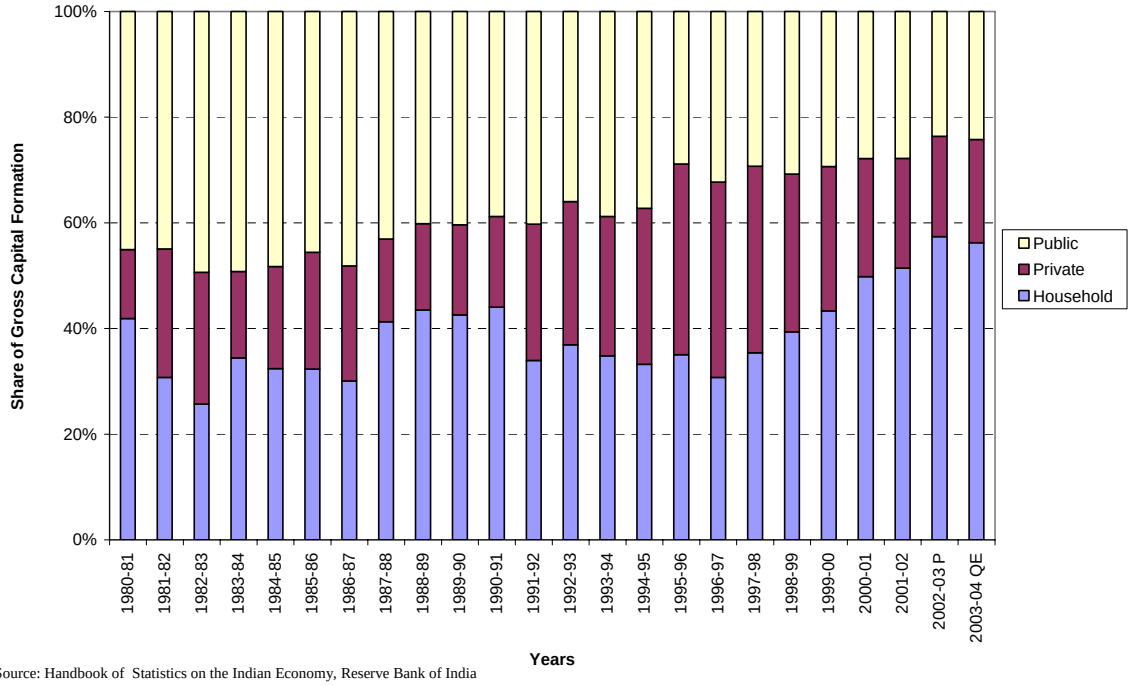
Figures and Tables

Figure 1.1: GDP and capital formation since liberalization



Source: Handbook of Statistics on the Indian Economy, Reserve Bank of India

Figure 1.2: Components of Capital Formation



Source: Handbook of Statistics on the Indian Economy, Reserve Bank of India

Figure 1.3: Inflation rates

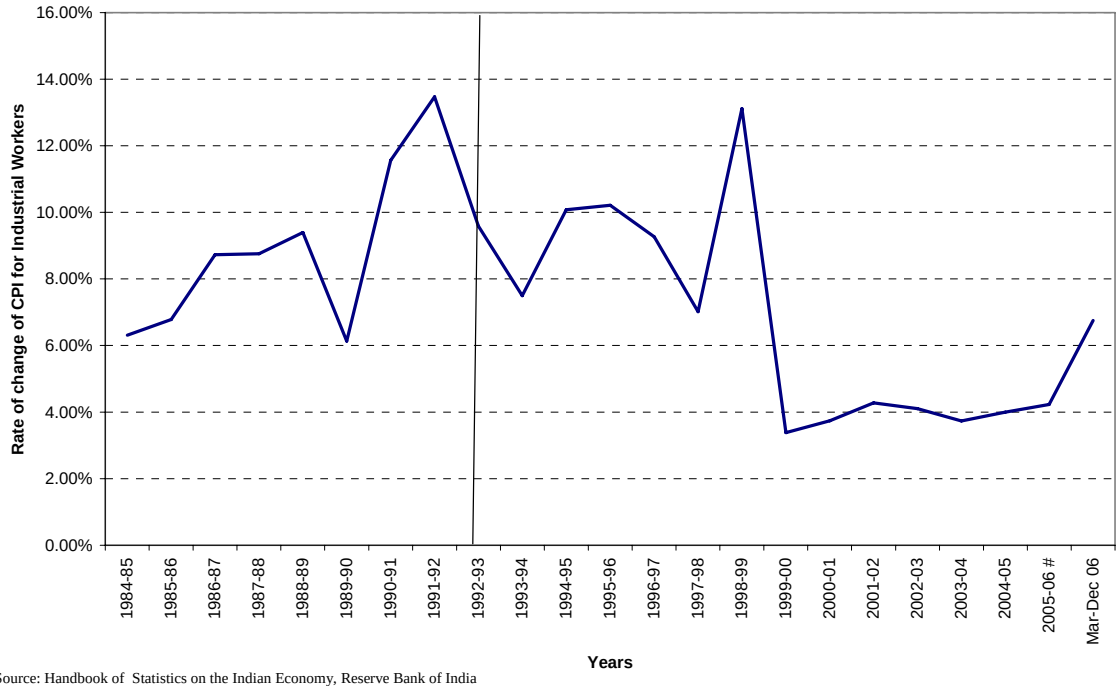


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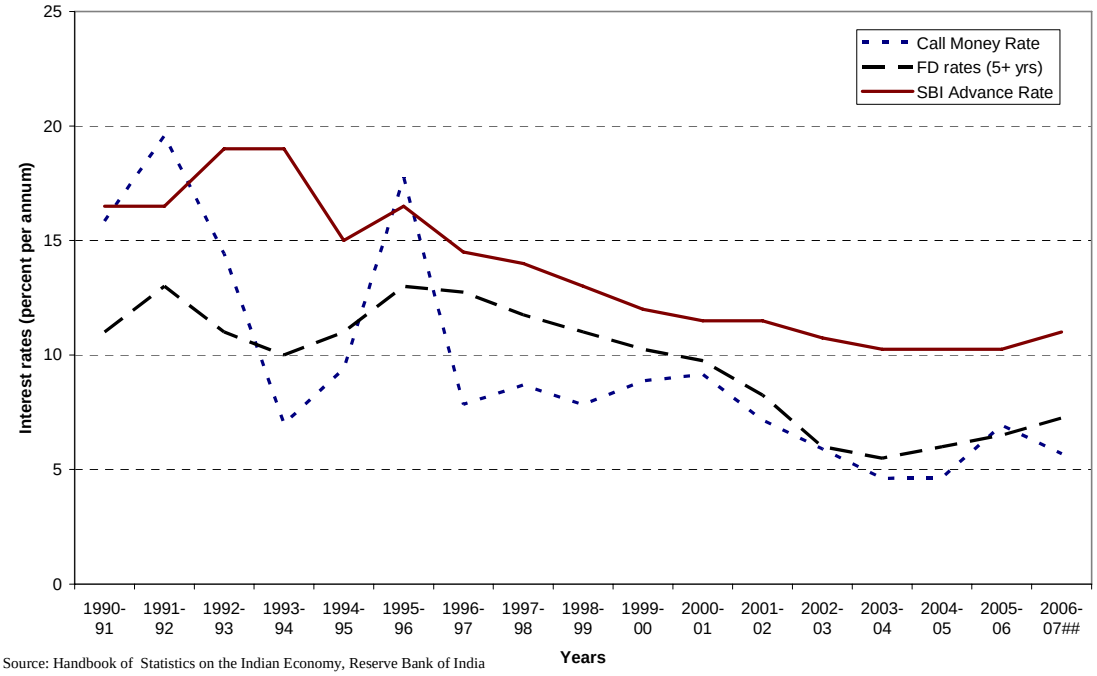
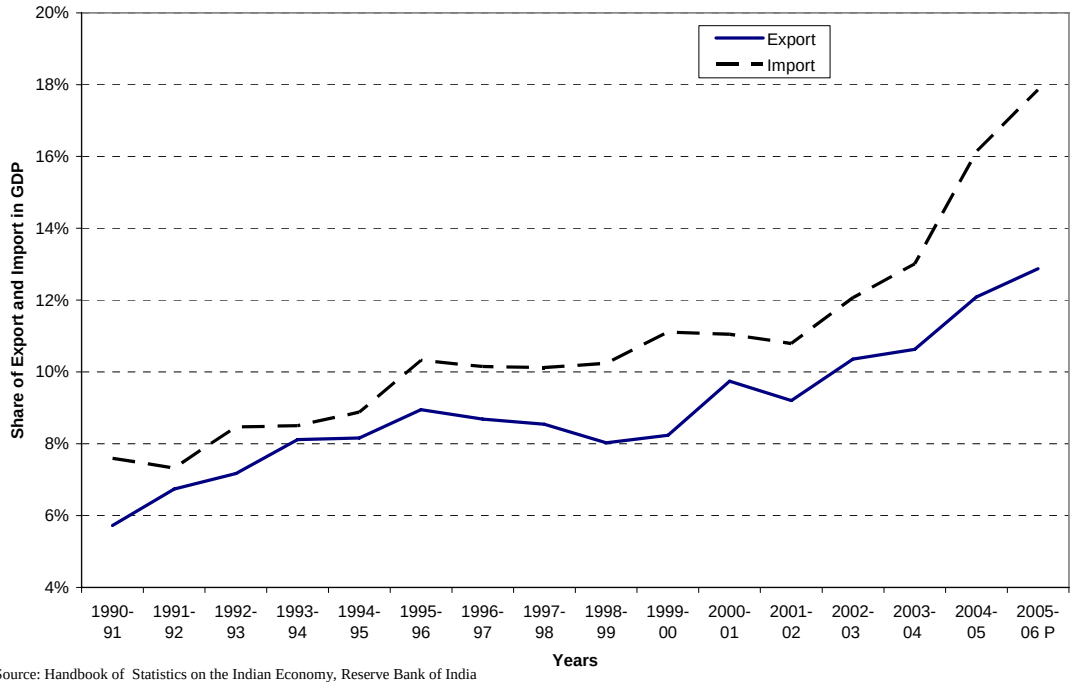
Figure 1.4: Interest Rates in India



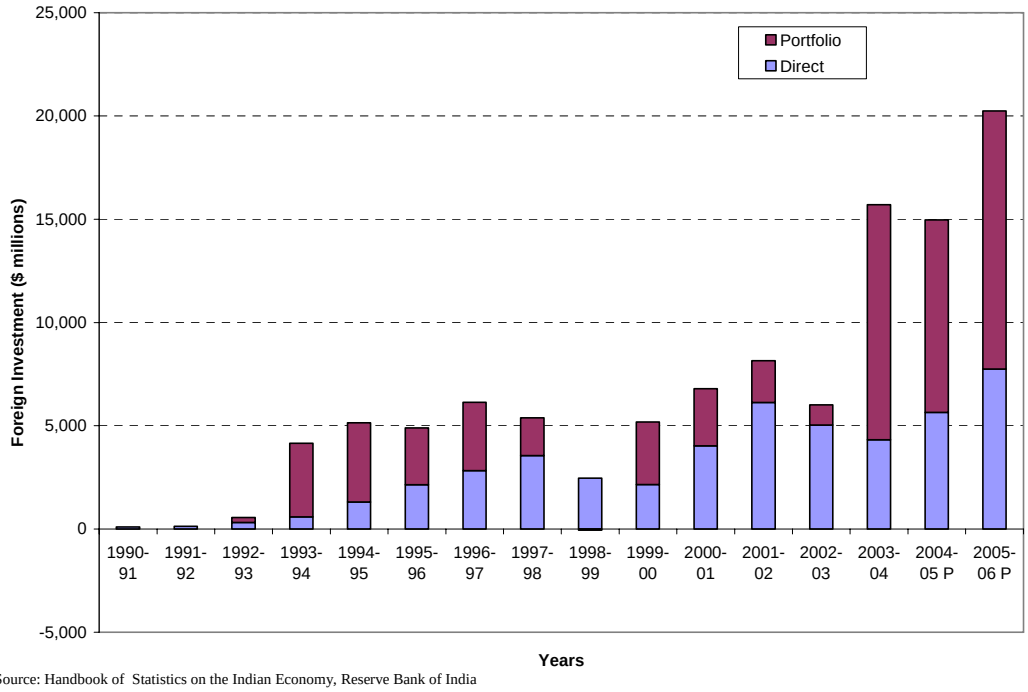
Source: Handbook of Statistics on the Indian Economy, Reserve Bank of India

Figure 1.5: Degree of Openness



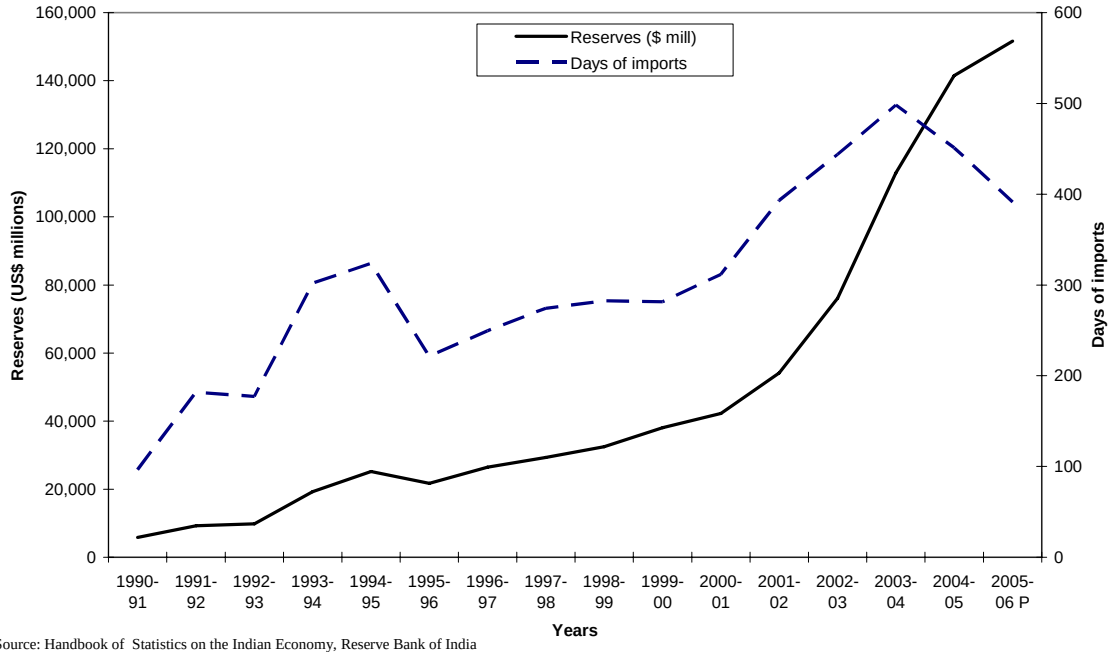
Source: Handbook of Statistics on the Indian Economy, Reserve Bank of India

Figure 1.6: Foreign Investment



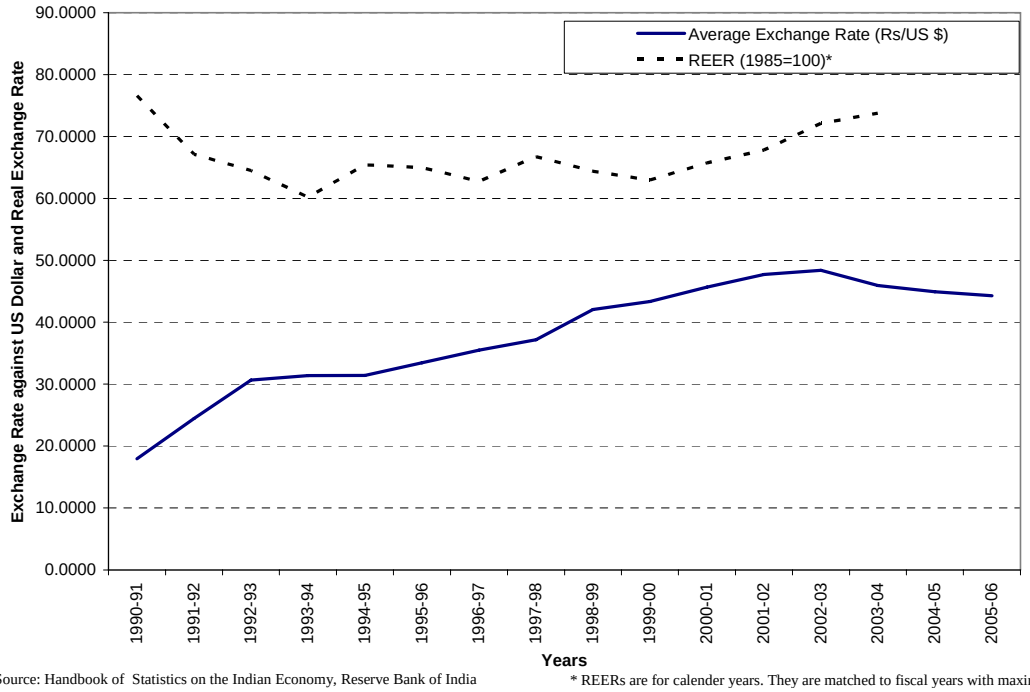
Source: Handbook of Statistics on the Indian Economy, Reserve Bank of India

Figure 1.7: Foreign Exchange Reserves



Source: Handbook of Statistics on the Indian Economy, Reserve Bank of India

Figure 1.8: Exchange Rates



Source: Handbook of Statistics on the Indian Economy, Reserve Bank of India

* REERs are for calender years. They are matched to fiscal years with maximum overlap.

Figure 1.9: A Comparison of Performance of Stock Indexes
("Buy and Hold" returns during 1992-2007 Sept.)
Return on Stock Indexes around the World

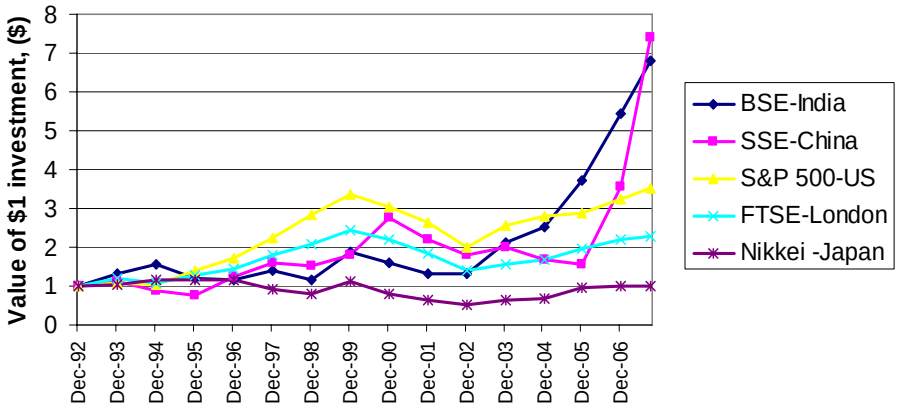


Figure 1.10 Investor Protection and External Markets – International Comparison

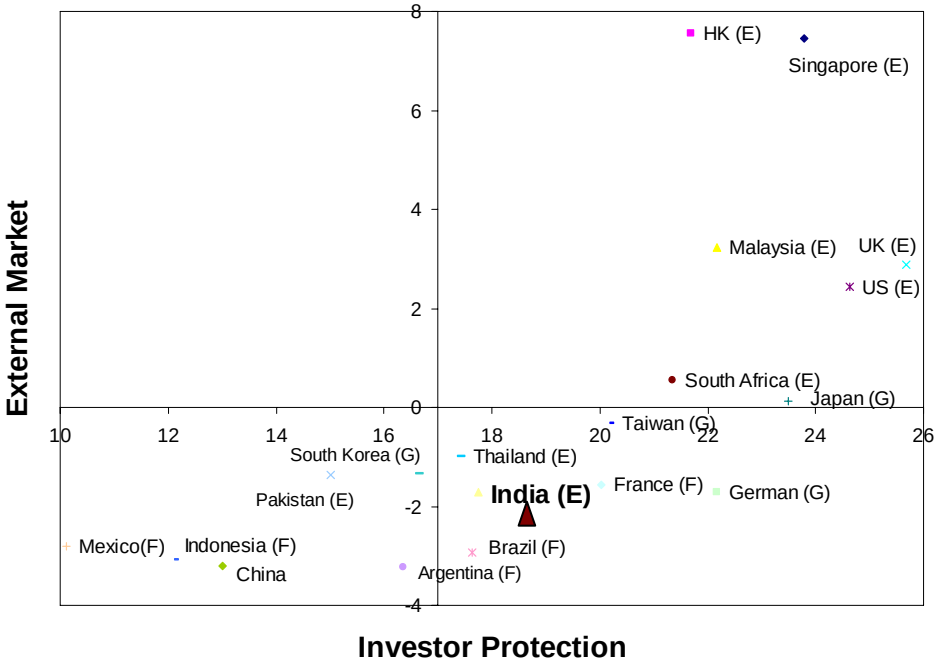
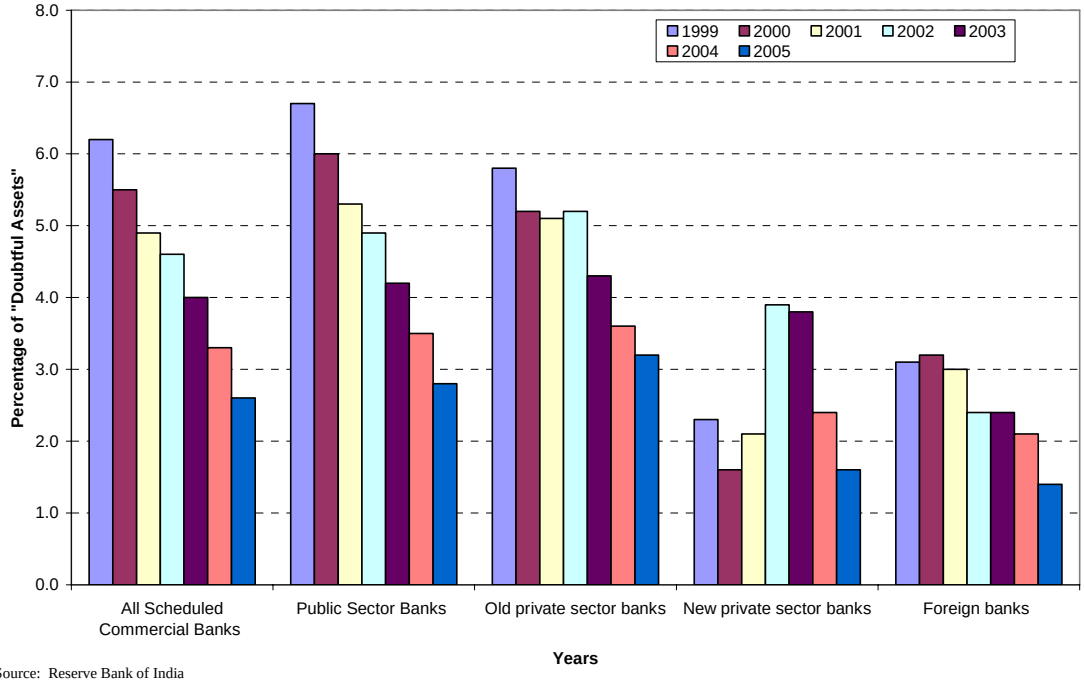


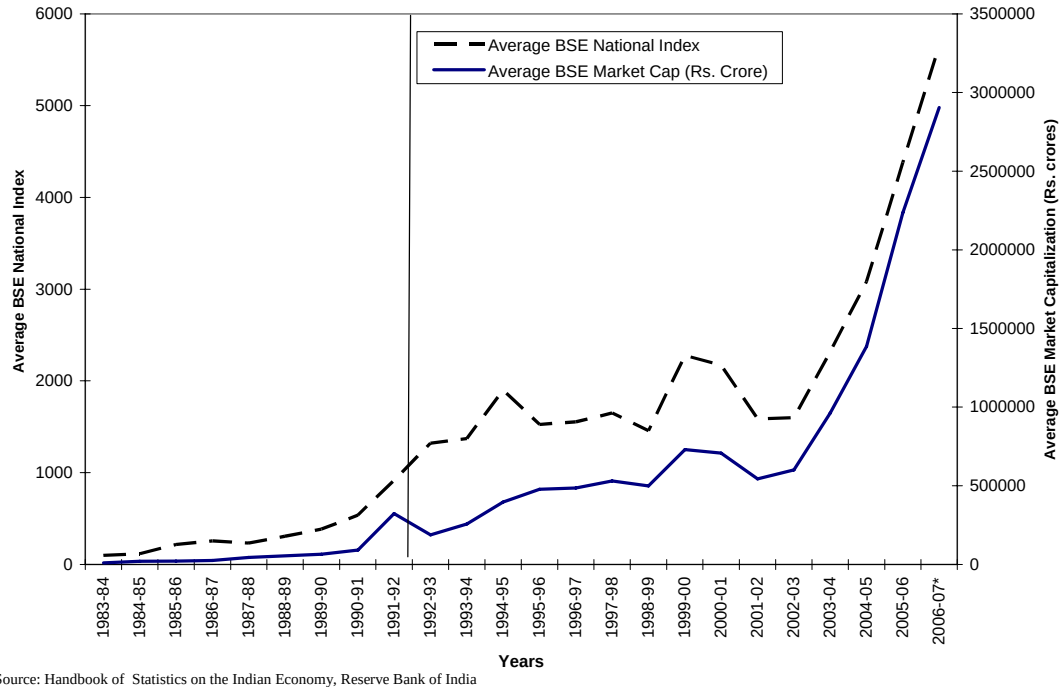
Figure 1.10 compares India's legal system and external financial markets to those of LLSV countries (LLSV, 1997a, 1998) and China. Following LLSV (1997a, 1998), the score on the horizontal axis measures overall investor protection in a country. It is the sum of (overall) creditor rights, shareholder rights, rule of law, and government corruption. The vertical axis measures the (relative) size and efficiency of that country's external markets. The score of a country measures the distance of the country's overall external markets score (external cap/GNP, domestic firms/Pop, IPOs/Pop, Debt/GNP, and Log GNP) to the mean of all countries, with a positive (negative) figure indicating that this country's overall score is higher (lower) than the mean.

Figure 1.11: Non-Performing Assets



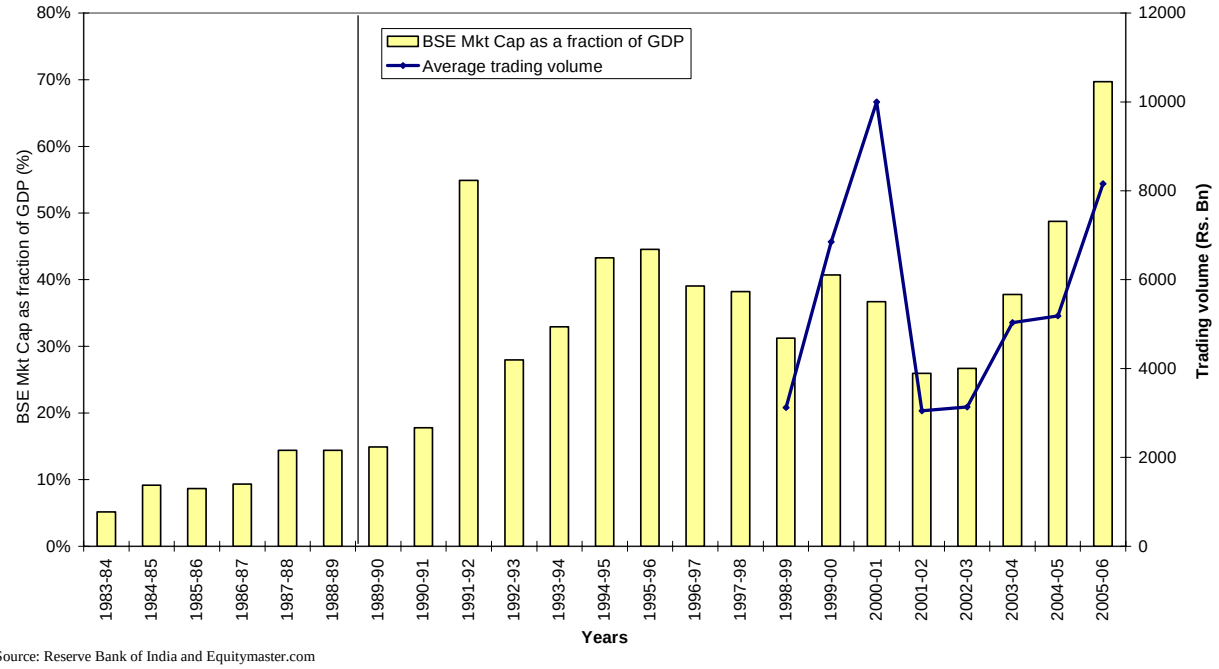
Source: Reserve Bank of India

Figure 1.12: Equity Market growth



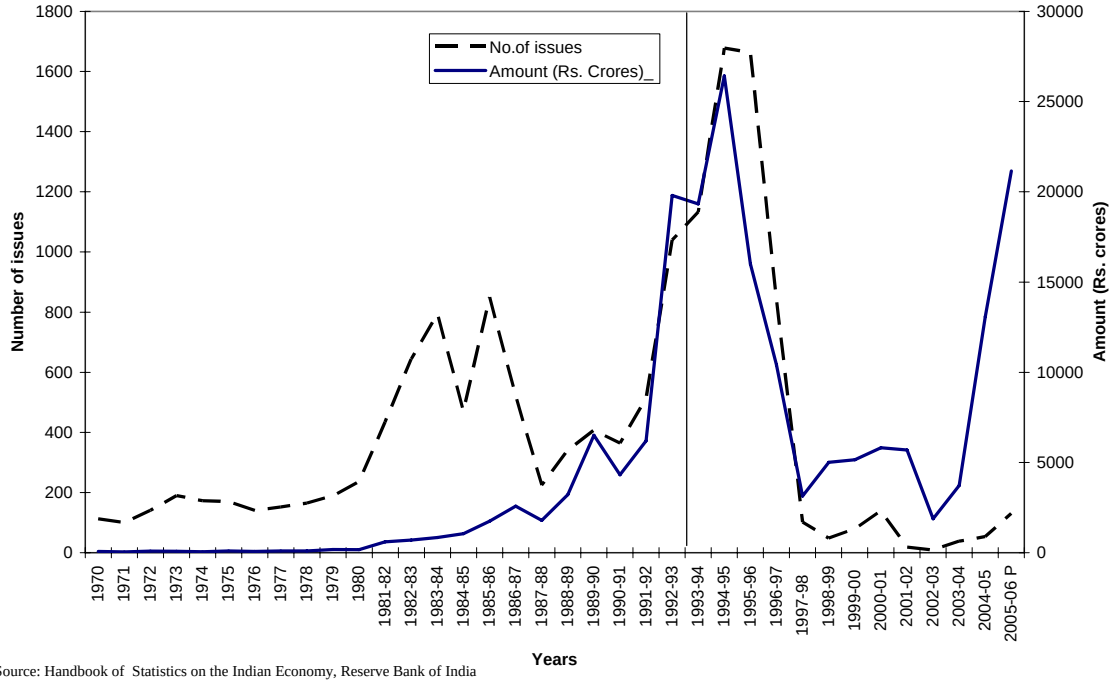
Source: Handbook of Statistics on the Indian Economy, Reserve Bank of India

Figure 1.13: Equity Markets



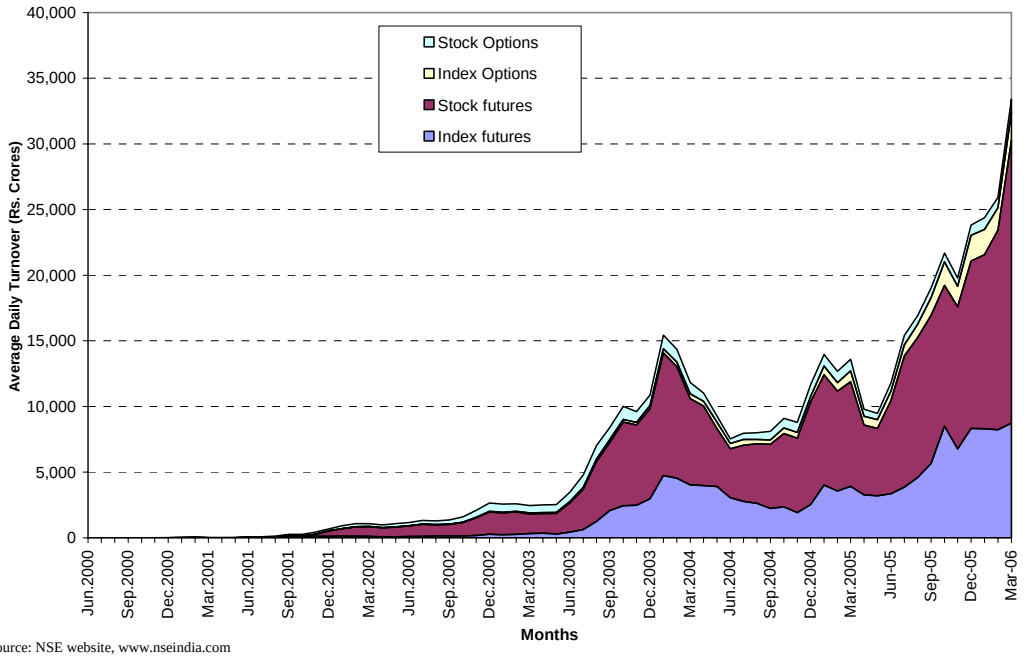
Source: Reserve Bank of India and Equitymaster.com

Figure 1.14: Total New Issues (Stock and Debentures) by companies



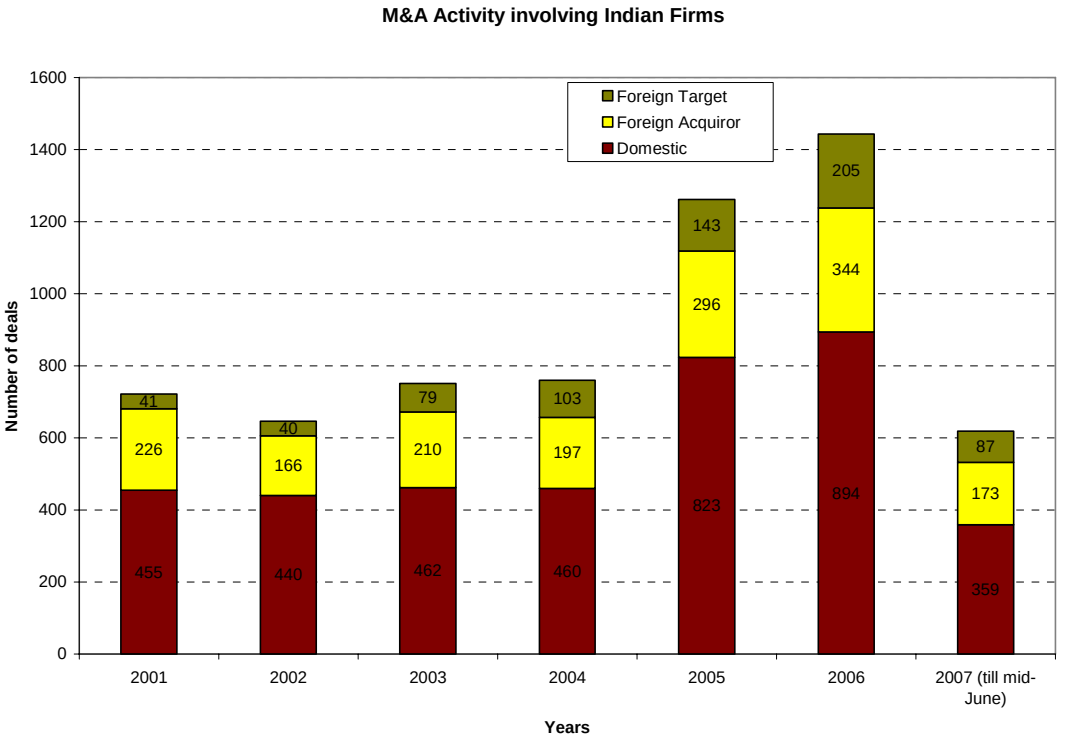
Source: Handbook of Statistics on the Indian Economy, Reserve Bank of India

Figure 1.15: Turnover in the NSE Derivatives Markets



Source: NSE website, www.nseindia.com

Figure: 1.16: Trends on M & A activity in India



Source: SDC Platinum

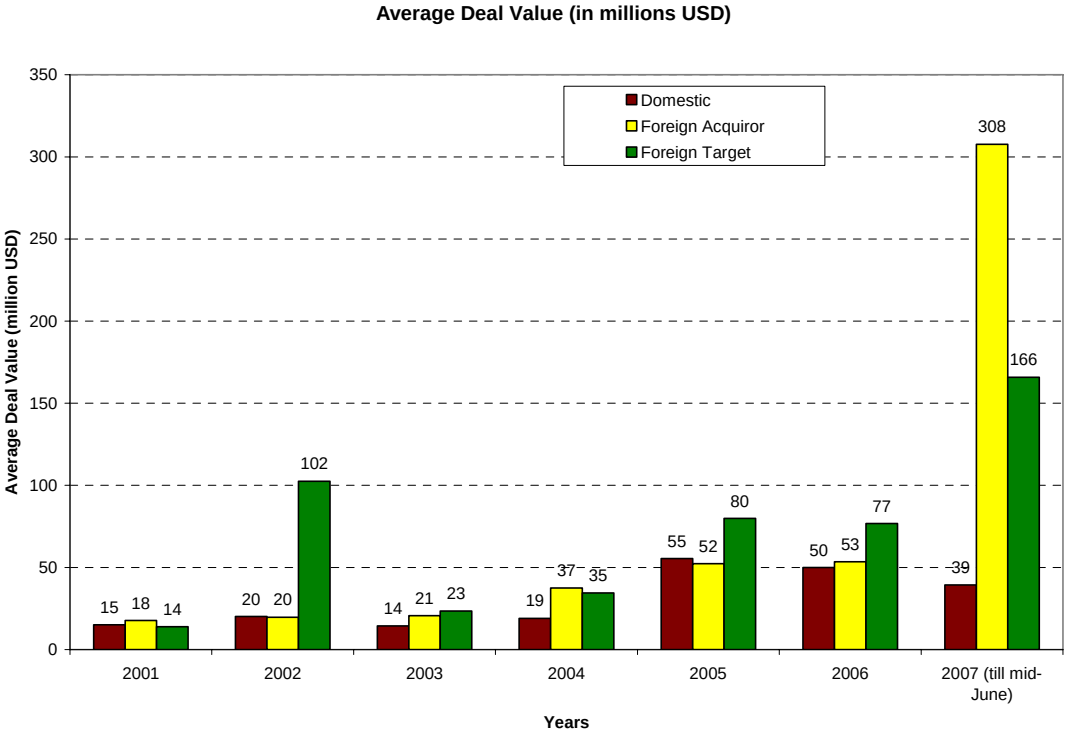
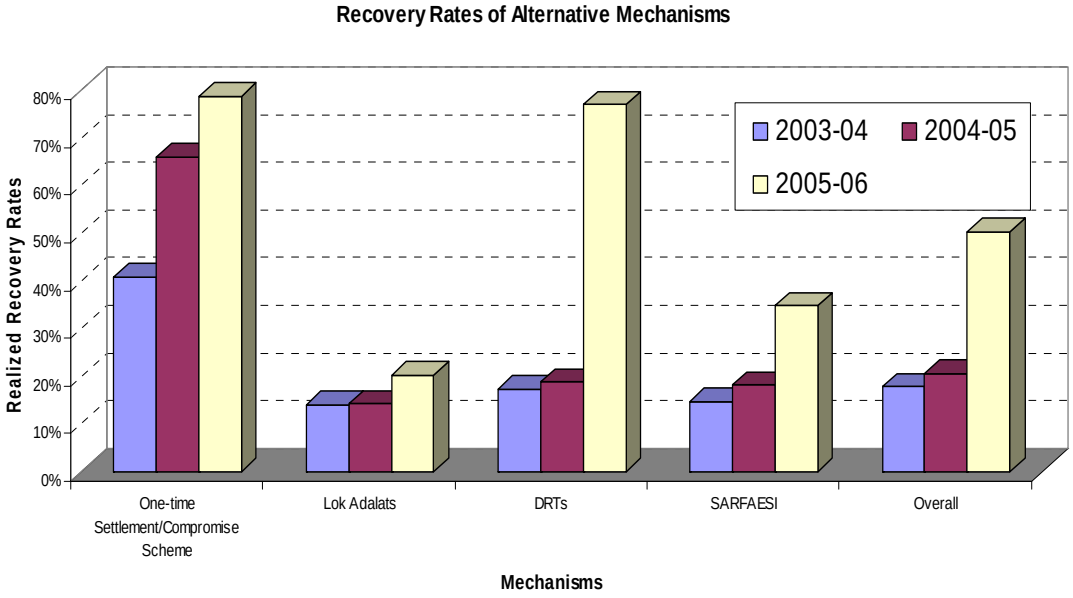
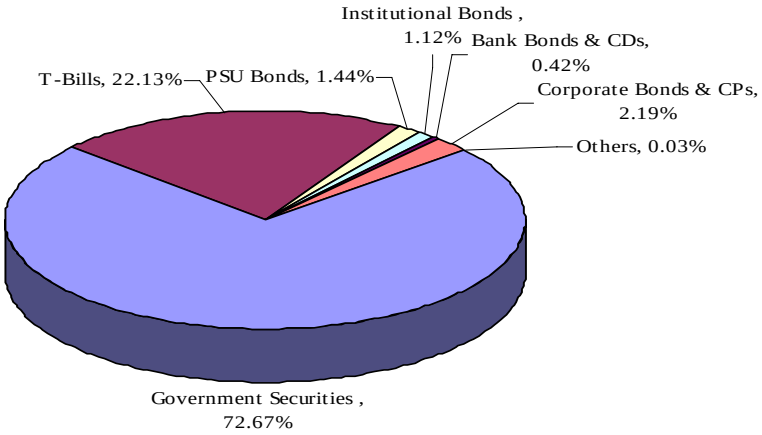


Fig. 2.1



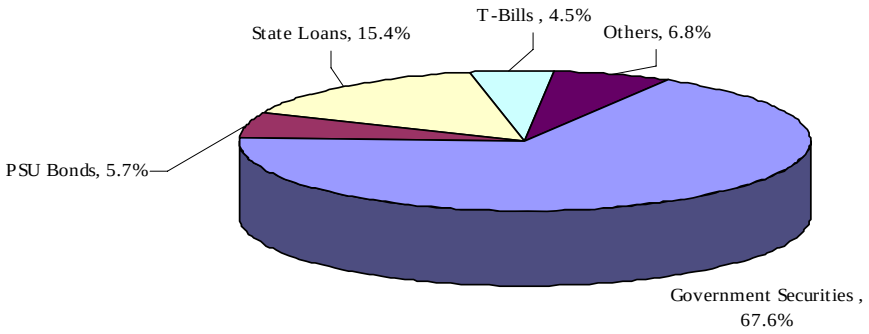
Source: Reserve Bank of India

Figure 3.1: Security-wise Distribution of Turnover, 2005-06



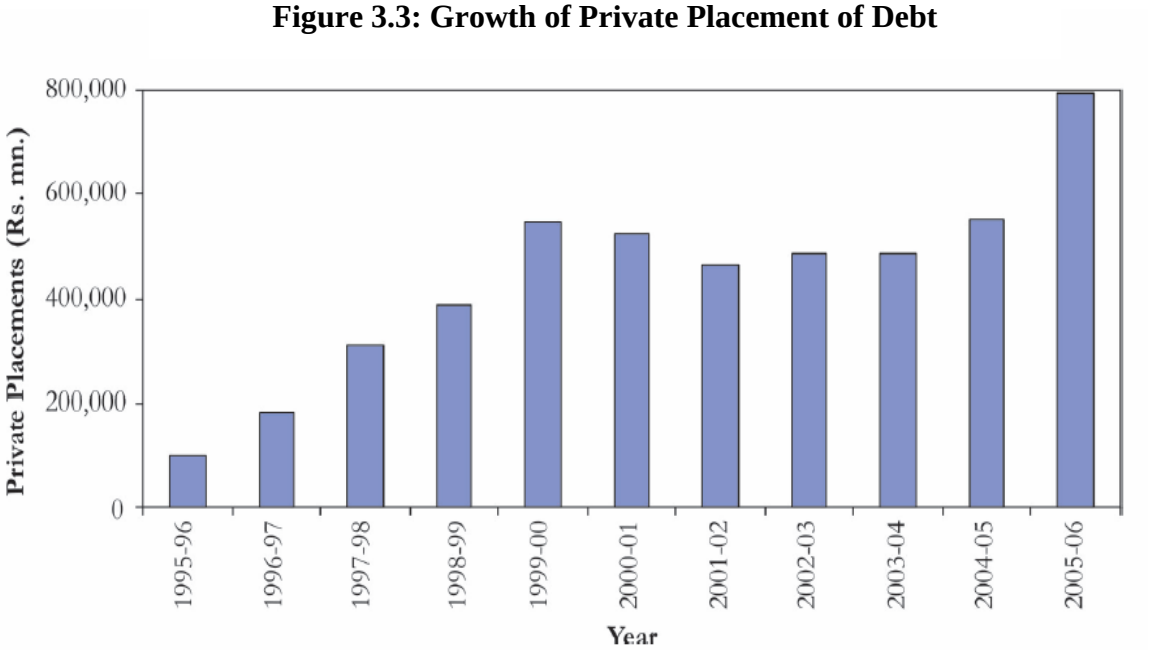
Source: NSE: Indian Securities Market- A Review (2006)

Figure 3.2: Market Capitalisation of WDM Segment at the end of March 2006



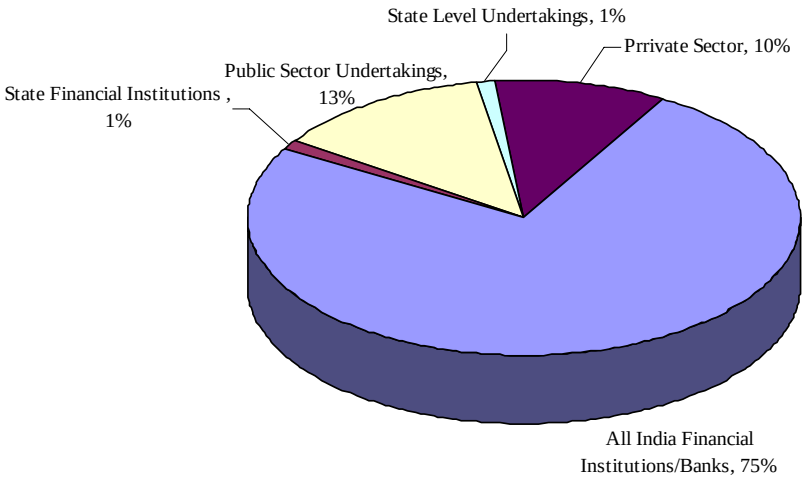
Source: NSE: Indian Securities Market- A Review (2006)

Figure 3.3: Growth of Private Placement of Debt



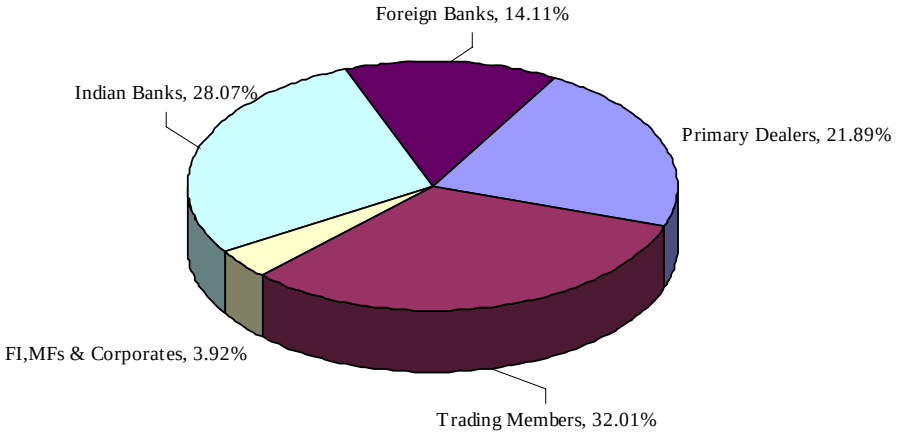
Source: NSE: Indian Securities Market- A Review (2006)

Figure 3.4: Issuer-wise Distribution of Private Placement of Debt, 2005-06



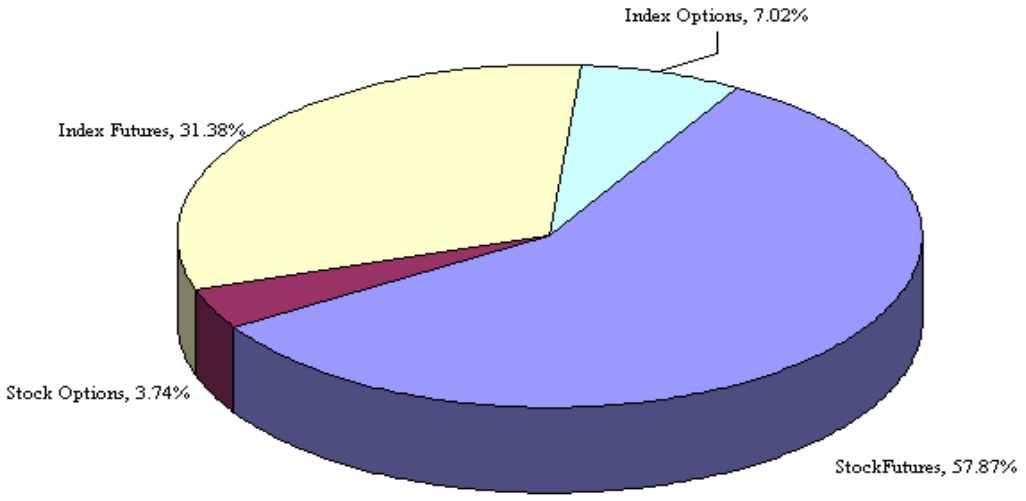
Source: NSE: Indian Securities Market- A Review (2006)

Figure 3.5: Participant -wise Distribution of Turnover, 2005-06



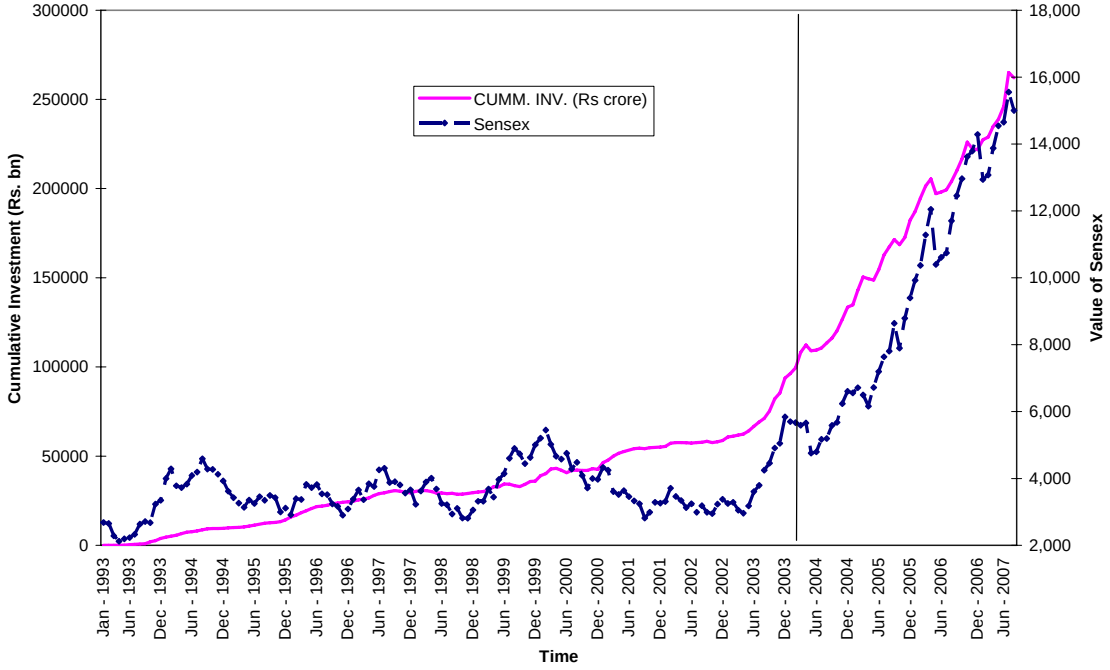
Source: NSE: Indian Securities Market- A Review (2006)

Figure 3.6: Product-wise Distribution of Turnover of F&O Segment of NSE, 2005-06



Source: NSE: Indian Securities Market- A Review (2006)

Figure 4.1 Cumulative FII Investment and the Sensex



Source: Equitymaster.com

Figure 5.1: Share of Deposits

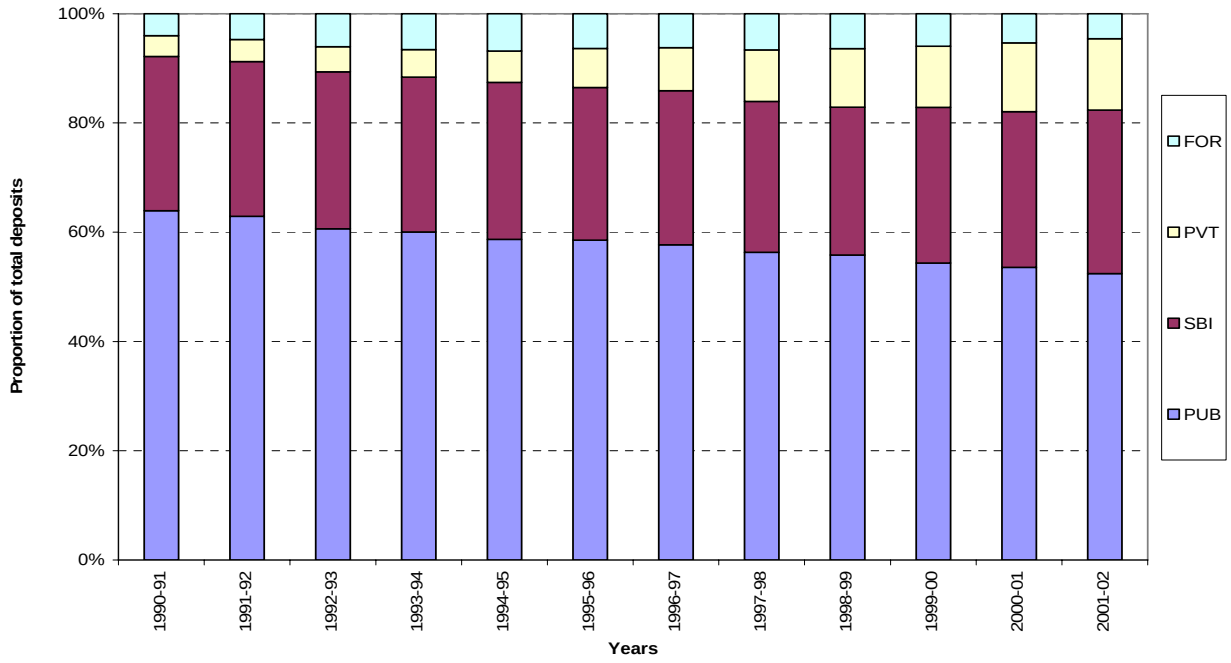


Figure 5.2: Share of Credit

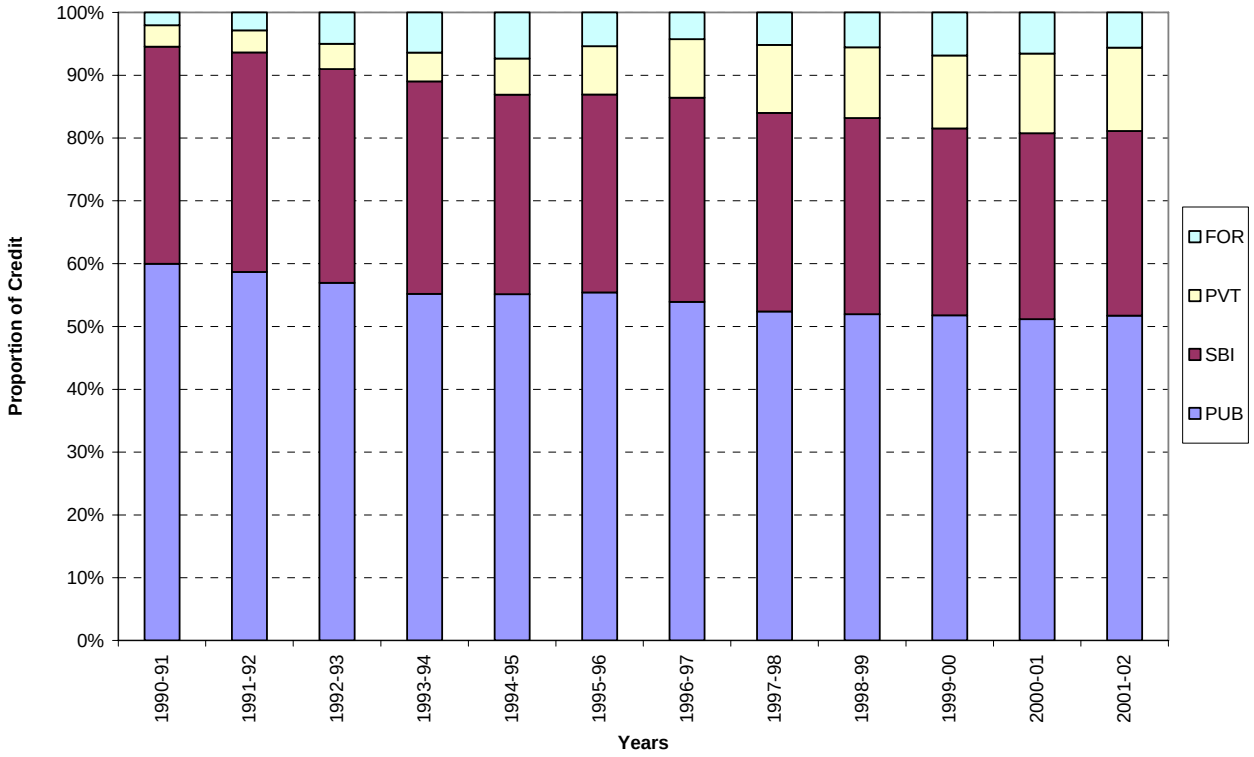
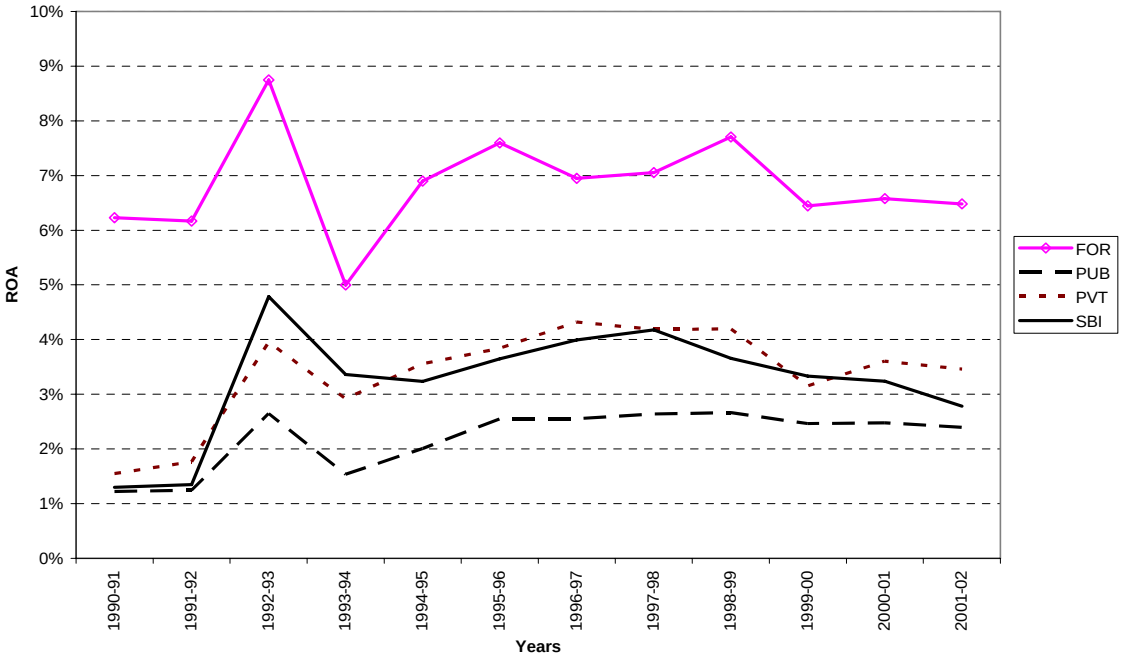


Figure 5.3

Panel A: Return on Assets (Group-wise)



Panel B: Risk-adjusted ROA (Group-wise)

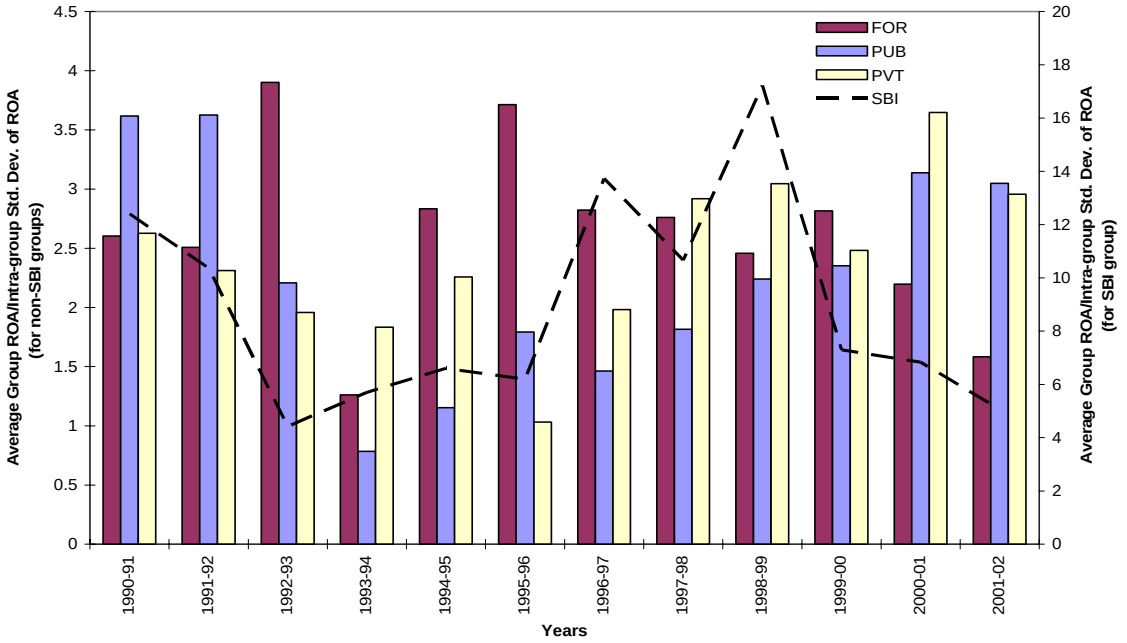
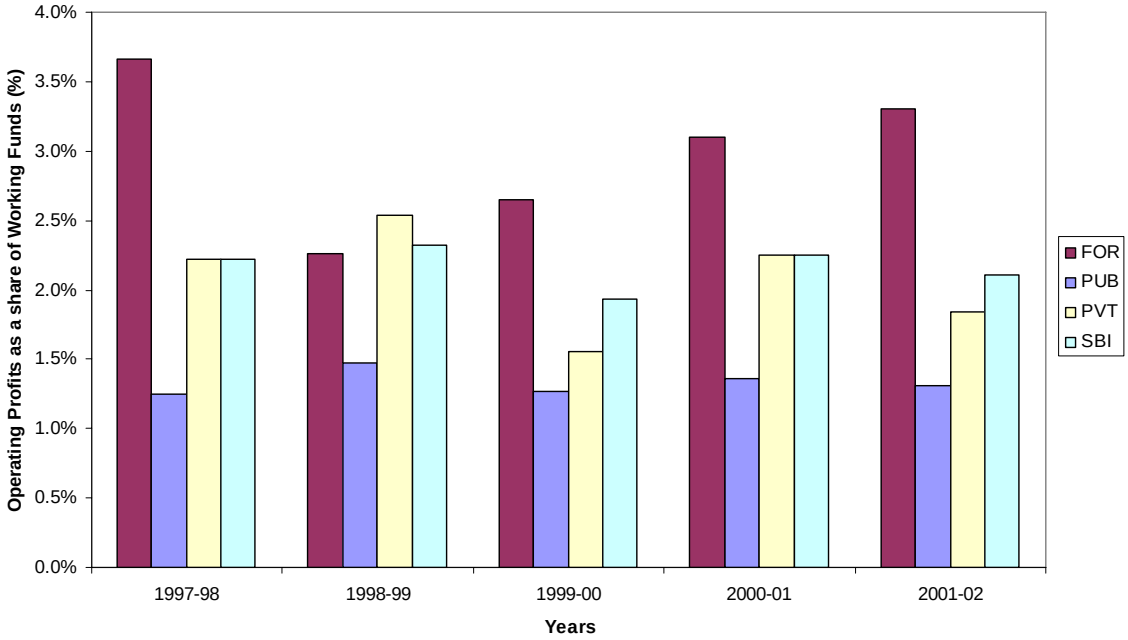


Figure 5.4

Panel A: Operating Profits as fraction of Working Capital



Panel B: Operating Profits as fraction of Working Capital
(Group Level- Risk Adjusted)

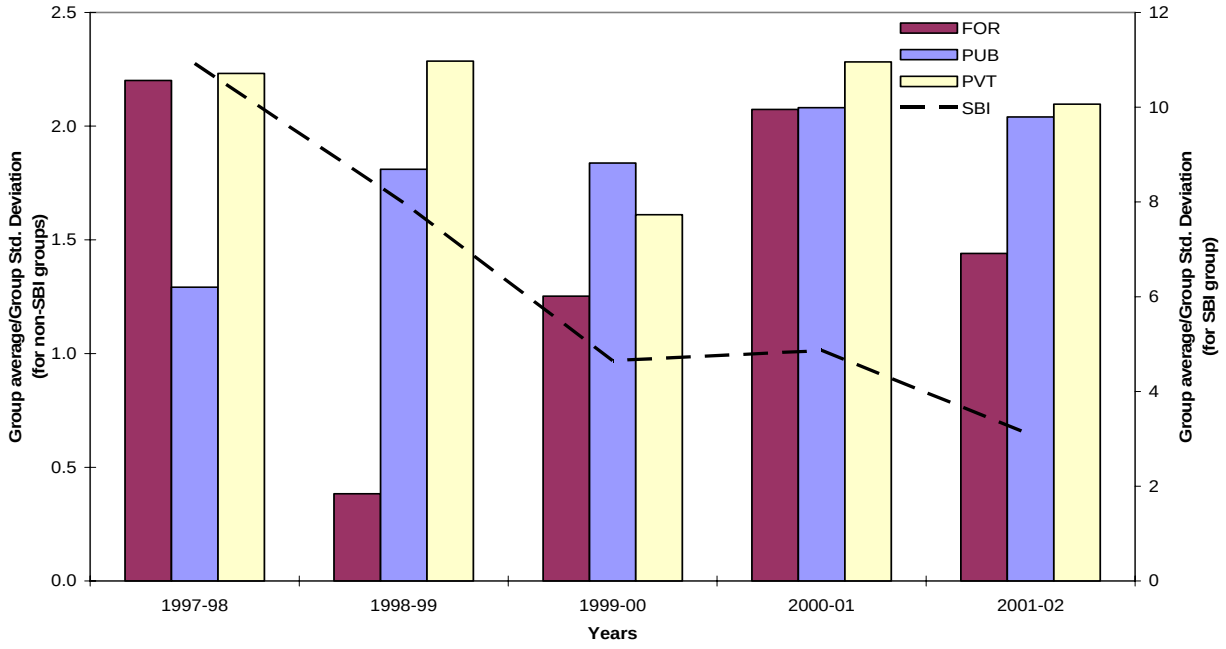


Figure 5.5: Net Interest Margin of Indian Banks (Group-wise)

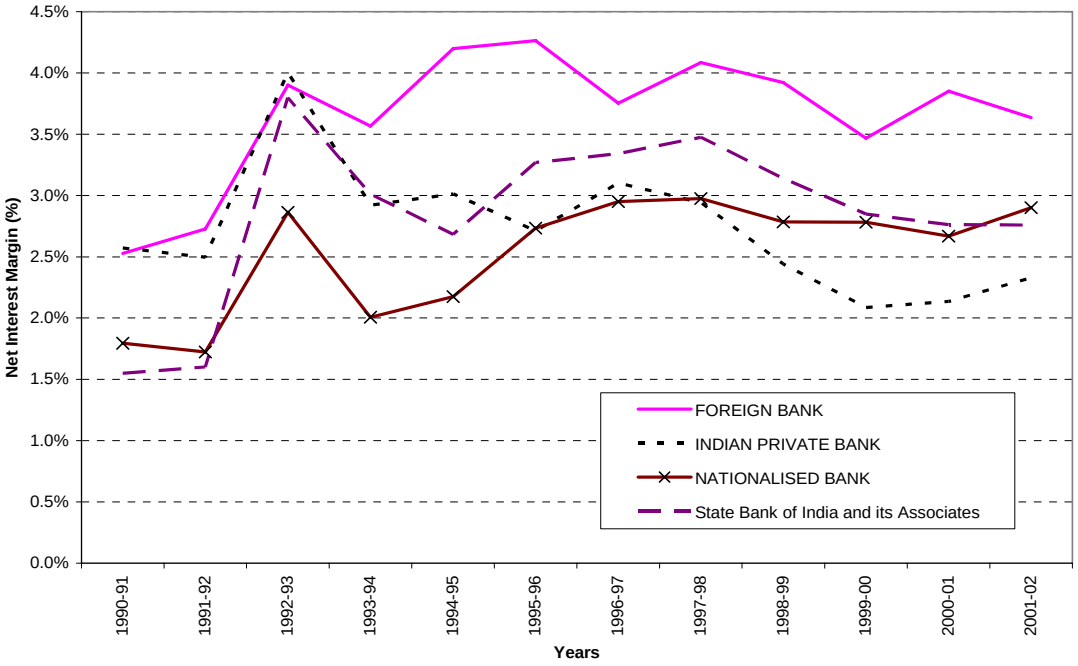


Figure 5.6: Turnover per rupee of employee expense

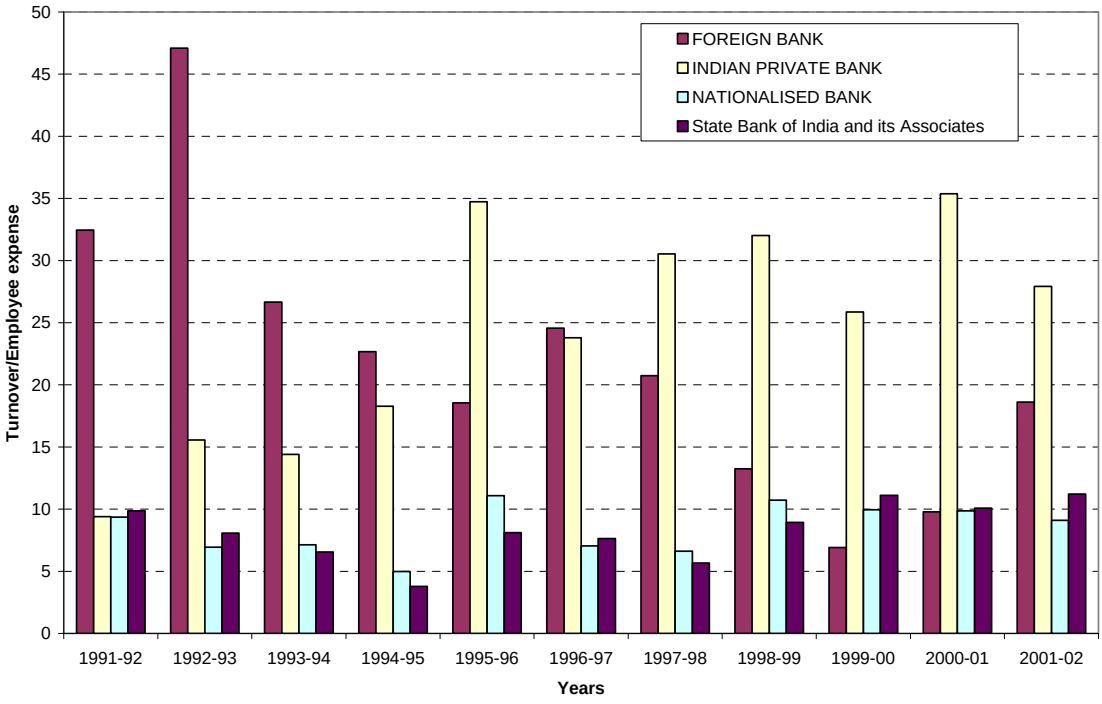


Figure 5.8: NPA category-wise breakdown of banks in March 2003

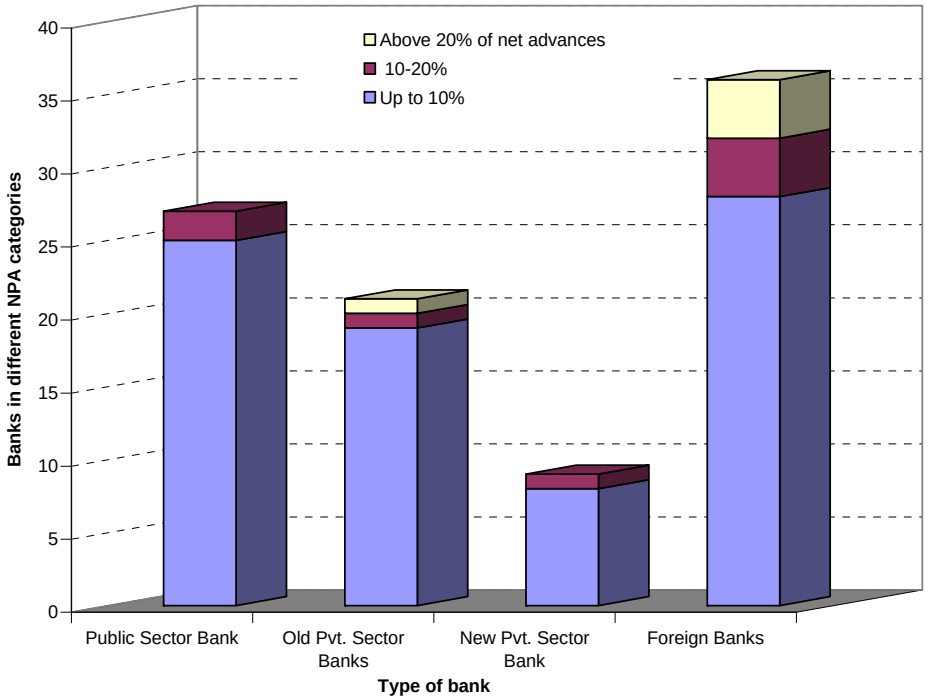
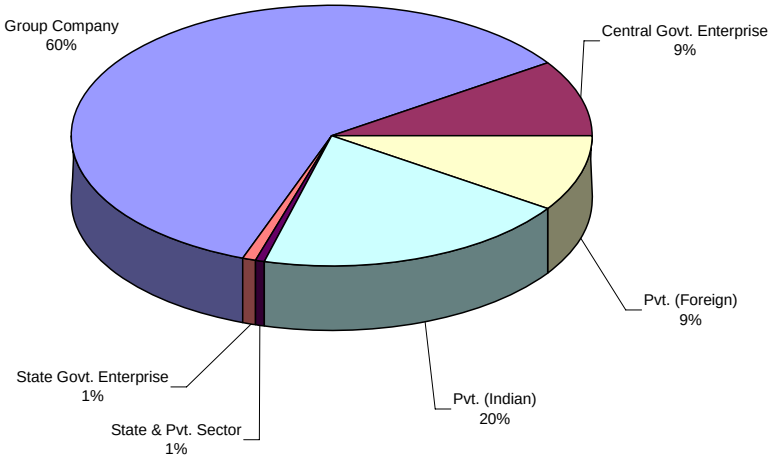


Figure 6.1: Distribution of 500 largest Indian companies Among different ownership categories

Panel A: Count

Break-down (number) of 500 largest Indian corporations



Panel B: Market Capitalization

Breakdown (Market Cap) of 500 largest Indian companies

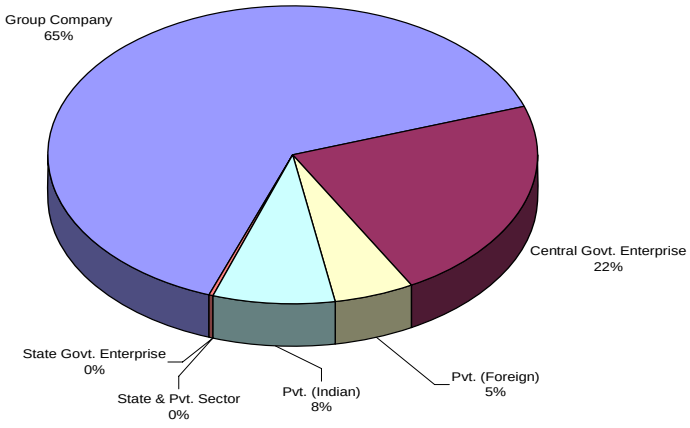


Table 1.1 The Largest 20 Economies in the World: GDP and Growth

Rank	GDPs and Growth (simple exchange rates)			GDPs and Growth (PPP*)		
	Country	GDP in 2005 (US$bil.)	Annual Growth Rate (1990-05; constant prices)	Country /Region	GDP in 2005 with PPP (Int'l $bil.)	Annual Growth Rate (1990-05)
1	United States	12,456	3.0%	United States	12,278	5.2%
2	Japan	4,567	1.3%	China	9,412	12.4%
3	Germany	2,792	1.6%	Japan	3,911	3.5%
4	China	2,234	10.1%	**India**	**3,633**	**8.0%**
5	U. K.	2,229	2.4%	Germany	2,522	3.8%
6	France	2,127	1.7%	U. K.	1,833	4.6%
7	Italy	1,766	1.3%	France	1,830	4.0%
8	Canada	1,132	2.8%	Italy	1,668	3.5%
9	Spain	1,127	3.0%	Brazil	1,577	4.7%
10	Brazil	796	2.5%	Russia**	1,576	5.8%
11	Korea	788	5.6%	Canada	1,105	5.0%
12	**India**	**772**	**5.9%**	Spain	1,089	5.1%
13	Mexico	768	2.9%	Mexico	1,073	5.1%
14	Russia**	763	3.9%	Korea	994	7.8%
15	Australia	709	3.3%	Indonesia	977	6.5%
16	Netherlands	630	2.3%	Taiwan	631	7.4%
17	Belgium	372	2.0%	Australia	630	5.5%
18	Switzerland	368	1.0%	South Africa	570	4.5%
19	Turkey	362	3.8%	Turkey	569	5.9%
20	Sweden	359	2.1%	Iran	555	6.8%

Notes: * The PPP conversion factor is obtained from the *World Bank Development Indicator* (Table 5.6, World Bank. For details on how to calculate the indicator, see "Handbook of the International Program." United Nations, New York, 1992). **: Russia's GDP growth is calculated for the period 1995-2005.
Source: IMF World Economic Outlook Database 2006.

Table 1.2 Selected Indicators of India's Financial System in 2005

Measure of Financial Structure	India	World	Rank	Number of Obs.
Deposit money bank vs. central bank assets	0.97	0.85	66	168
Liquid liabilities to GDP	0.62	0.59	47	147
Central Bank Assets to GDP	0.02	0.06	79	139
Deposit Money Bank Assets to GDP	0.56	0.56	58	149
Private credit by deposit money banks to GDP	0.36	0.46	65	148
Bank deposits as a share of GDP	0.52	0.52	51	149
Financial system deposits as a share of GDP	0.52	0.52	51	149
Overhead Costs of banks (share of total assets)	0.02	0.04	36	150
Net Interest Margin	0.04	0.05	86	149
Concentration in banking [a]	0.34	0.69	6	151
Life insurance penetration (volume/GDP)	0.03	0.03	30	84
Non-life insurance penetration (volume/GDP)	0.01	0.02	75	84
Stock market capitalization to GDP	0.59	0.62	40	106
Stock market total value traded to GDP	0.55	0.41	30	106
Stock market turnover ratio	0.94	0.49	20	108
Private bond market capitalization to GDP	0.01	0.34	38	41
Public bond market capitalization to GDP	0.32	0.38	27	49

[a] Share of 3 largest banks in total assets of all commercial banks; Source: World Bank's World Financial Structure.

Table 1.3 Comparing Financial Systems: Banks vs. Markets (Value-weighted approach)

	Measures	English origin*	French origin*	German origin*	Scandinavian origin*	LLSV average	India
Bank and market size	Bank credit/GDP	0.62	0.55	0.99	0.49	0.73	**0.31**
	Overhead cost/Bank total assets	0.04	0.05	0.02	0.03	0.03	**0.02**
	Float supply of Market Cap/GDP	0.31	0.07	0.37	0.08	0.27	**0.16**
	Market capitalization/GDP	0.58	0.18	0.55	0.25	0.47	**0.34**
Structure indices: Markets vs. banks**	Structure activity	-0.76	-2.03	-1.14	-1.83	-1.19	**-0.66**
	Structure size	-0.10	-1.05	-0.77	-0.69	-0.55	**0.11**
	Structure efficiency	-4.69	-6.00	-5.17	-6.17	-5.17	**-5.59**
	Structure regulatory	7.02	8.21	10.15	7.72	8.95	**10**
Financial development (banking and market sectors)	Finance activity	-1.18	-3.38	-0.84	-2.86	-1.58	**-3.03**
	Finance size	0.69	0.47	0.75	0.55	0.65	**-0.43**
	Finance efficiency	2.18	0.44	2.85	1.04	2.01	**1.90**

Notes: All the measures are taken from Levine (2002) or calculated from the World Bank Financial Database using the definitions in Levine (2002) (using 2003 figures for India); (see Appendix A.2 for list of definitions)
*=the numerical results for countries of each legal origin group is calculated based on a value- (GDP of each country) weighted approach. **=measuring whether a country's financial system is market- or bank-dominated; the higher the measure, the more the system is dominated by markets.

Table 1.4: A Comparison of the Largest Stock Markets in the World (01/01-12/31, 2006)

Rank	Stock Exchange	Total Market Cap (US$ million)	Concentration (%)	Turnover Velocity (%)
1	NYSE Group	15421167.9	26.6	134.3
2	Tokyo SE	4,614,068.8	58	125.8
3	Nasdaq	3,865,003.6	82.1	269.9
4	London SE	3,794,310.3	84.8	124.8
5	Euronext	3,708,150.1	57	116.4
6	Hong Kong Exchanges	1,714,953.3	68.4	62.1
7	TSX Group	1,700,708.1	67.5	76.4
8	Deutsche Börse	1,637,609.8	77.1	173.7
9	BME Spanish Exchanges	1,322,915.3	….	167
10	Swiss Exchange	1,212,308.4	74.1	130.2
11	OMX	1,122,705.0	79.1	134.5
12	Australian SE	1,095,858.0	…	88.4
13	Borsa Italiana	1,026,504.2	65.6	162.9
14	Shanghai SE	917,507.5	31.5	153.8
15	Korea Exchange	834,404.3	57.6	171.4
16	**Bombay SE**	**818,878.6**	**75.2**	**31.9**
17	**National Stock Exchange India**	**774,115.6**	**68.6**	**67.8**
18	JSE	711,232.3	66.5	48.9
19	Sao Paulo SE	710,247.4	54.6	45.5
20	Taiwan SE Corp.	594,659.4	45.3	141.7
21	Singapore Exchange	384,286.4	41.8	58.2
22	Mexican Exchange	348,345.1	61.7	29.6

Notes: All figures are from http//:www.world-exchanges.org, the web site of the international organization of stock exchanges. Concentration is the fraction of total turnover of an exchange within a year coming from the turnover of the companies with the largest market cap (top 5%). Turnover velocity is the total turnover for the year expressed as a percentage of the total market capitalization.

Table 1.5 Comparison of (Mean) External Capital Markets (Stocks and Bonds)

Country	English-origin Average	French-origin average	German-origin average	Scandinavian-origin average	LLSV Sample average	**India**
External capital/GNP	0.60	0.21	0.46	0.30	0.40	**0.31**
Domestic firms/Pop	35.45	10.00	16.79	27.26	21.59	**7.79**
IPOs/Population	2.23	0.19	0.12	2.14	1.02	**1.24**
Total debt/GNP	0.68	0.45	0.97	0.57	0.59	**0.29**
GDP growth (1-year)	4.30	3.18	5.29	2.42	3.79	**4.34**
Rule of law	6.46	6.05	8.68	10.00	6.85	**4.17**
Anti-director rights	3.39	1.76	2.00	2.50	2.44	**5**
One share - one vote	0.22	0.24	0.33	0.00	0.22	**0**
Creditor rights	3.11	1.58	2.33	2.00	2.30	**4**

Sources: LLSV (1997a)

Table 1.6 Cross-country Comparison of Banking System Profitability

The profitability is measured as the return on average equity (ROAE), and return on average assets (ROAA). The latter is presented in the brackets.

	1997	1998	1999	2000	2001	2002
China	6.6 (0.2)	4.0 (0.2)	3.2 (0.18)	3.9 (0.2)	3.5 (0.2)	4.16 (0.2)
Hong Kong	18.7 (1.8)	11.0 (1.0)	18.2 (1.6)	18.8 (1.6)	15.7 (1.4)	15.6 (1.4)
India	**17.0 (0.9)**	**9.7 (0.5)**	**14.2 (0.7)**	**0.9 (0.5)**	**19.2 (0.9)**	**19.6 (1.0)**
Indonesia	-3.8 (-0.3)	N/a	N/a	15.9 (0.3)	9.7 (0.6)	21.1 (1.4)
Japan	-18.6(-0.6)	-19.2(-0.7)	2.7 (0.1)	-0.7 (0.0)	-10.4 (-0.5)	-14.5 (-0.6)
South Korea	-12.5(-0.6)	-80.4(-3.0)	-34.0 (-1.5)	-7.0(-0.3)	15.8 (0.7)	13.1 (0.6)
Taiwan	11.2 (0.9)	9.5 (0.8)	6.9 (0.6)	5.1(0.4)	4.0 (0.3)	-5.2 (-0.4)

Source: The Asian Banker data center 2003, http://www.theasianbanker.com.

Table 1.7: Industry distribution of M&A deals

Top 10 Target Industries	# of Deals during 01-07	% of all deals	Within-Industry deals	Share of within-industry deals
Business Services	723	12%	289	40%
Investment & Commodity Firms, Dealers, Exchanges	561	9%	356	63%
Drugs	370	6%	210	57%
Chemicals and Allied Products	365	6%	152	42%
Prepackaged Software	360	6%	89	25%
Metal and Metal Products	312	5%	106	34%
Textile and Apparel Products	305	5%	106	35%
Food and Kindred Products	294	5%	162	55%
Machinery	192	3%	73	38%
Electronic and Electrical Equipment	187	3%	70	37%

Top 10 Acquiring Industries	# of Deals during 01-07	% of all deals	Within-Industry deals	Share of within-industry deals
Investment & Commodity Firms, Dealers, Exchanges	2161	35%	356	16%
Business Services	553	9%	289	52%
Drugs	271	4%	210	77%
Chemicals and Allied Products	259	4%	152	59%
Food and Kindred Products	208	3%	162	78%
Metal and Metal Products	202	3%	106	52%
Prepackaged Software	197	3%	89	45%
Commercial Banks, Bank Holding Companies	191	3%	83	43%
Textile and Apparel Products	183	3%	106	58%
Transportation Equipment	153	2%	75	49%

Top 10 pairs

	Target	Acquirer
1	Investment & Commodity Firms, Dealers, Exchanges	Investment & Commodity Firms, Dealers, Exchanges
2	Business Services	Business Services
3	Drugs	Drugs
4	Business Services	Investment & Commodity Firms, Dealers, Exchanges
5	Food and Kindred Products	Food and Kindred Products
6	Chemicals and Allied Products	Chemicals and Allied Product
7	Textile and Apparel Products	Investment & Commodity Firms, Dealers, Exchanges
8	Chemicals and Allied Products	Investment & Commodity Firms, Dealers, Exchanges
9	Prepackaged Software	Investment & Commodity Firms, Dealers, Exchanges
10	Metal and Metal Products	Metal and Metal Products

Table 2.1: Comparison of Legal Systems: India, Country Groups and Major Emerging Economies*

	Creditor Rights	Anti-director Rights	Corruption Perception Index	Legal Formalism Index	Legality Index	Disclosure Requirement	Earnings Management Score
India (E)	**2**	**5**	**3.3**	**3.51**	**11.35**	**0.92**	**19.1**
English-origin Ave.	2.28	4.19	5.33	3.02	15.56	0.78	11.69
French-origin Ave.	1.31	2.91	4.39	4.38	13.11	0.45	19.27
German-origin Ave.	2.33	3.04	5.58	3.57	15.53	0.60	23.60
Nordic-origin Ave.	1.75	3.80	9.34	3.32	16.42	0.56	10.15
LLSV Sample Ave.	1.8[28]	3.37[29]	5.24	3.58[30]	14.98	0.60[31]	16.00
China (G)	2	1	3.3	3.40	N/a	N/a	N/a
Pakistan (E)	1	4	2.2	3.74	8.27	0.58	17.8
S. Africa (E)	3	5	4.6	3.68	11.95	0.83	5.6
Argentina (F)	1	2	2.9	5.49	10.31	0.50	N/a
Brazil (F)	1	5	3.3	3.83	11.43	0.25	N/a
Mexico (F)	0	3	3.3	4.82	10.79	0.58	N/a
Malaysia (E)	3	5	5	3.21	13.82	0.92	14.8
Sri Lanka (E)	2	4	3.1	3.89	9.68	0.75	N/a
Thailand (E)	2	4	3.6	4.25	10.70	0.92	18.3
Egypt (F)	2	3	3.3	3.60	10.14	0.50	N/a
Indonesia (F)	2	4	2.4	3.88	8.37	0.50	18.3
Peru (F)	0	3.5	3.3	5.42	9.13	0.33	N/a
Philippines (F)	1	4	2.5	5.00	7.91	0.83	8.8
Turkey (F)	2	3	3.8	3.49	9.88	0.50	N/a
Korea (South)(G)	3	4.5	5.1	3.33	12.24	0.75	26.8
Taiwan (G)	2	3	5.9	3.04	14.26	0.75	22.5
Average of EM	1.69	3.63	3.60	4.00	10.59	0.63	16.61

*****Includes all emerging economies from Table 1 for which information was available. Notation (E), (F), or (G) against a country indicates that the said country belongs to English, French, or German legal origin groups.

Definitions and sources:
Creditor rights scores are from DMS (2007)

Anti-director rights scores are from DLLS (2007)

Corruption Perception Index --- International Transparency (2006)—The rank is based on the survey of businessman on whether corruption is prevalent in business when conducting business in each country. It ranges from 0 to 10, with 0 meaning most corrupted and 10 meaning most clean.

Legal Formalism Index –DLLS(2003)-- The index measures substantive and procedural statutory intervention in judicial cases at lower-level civil trial courts, and is formed by adding up the following dummies: (i) professionals vs. laymen, (ii) written vs. oral elements, (iii) legal justification, (iv) statutory regulation of evidence, (v) control of superior review, (vi) engagement formalities, and (vii) independent procedural actions. The index ranges from 0 to 7, where 0 means a lowest level and 7 means a higher level of control or intervention in the judicial process.

[28] :DMS average
[29] : DLLS (2007)average
[30] : DLLS (2003)average
[31] : LLS(2006) average

Legality Index – Berkowitz, Pistor, and Riachard (2003) — Use 5 legality proxies (each range from 0 to ten) from LLSV(1997, 1998)and principal components analysis to aggregate the individual legality proxies into a single legality Index. The first component accounts for 84.6 percent of the total variance, and is given by Legality=0.381*(Effciency of Judiciary)+ 0.578*(Rule of Law)+0.503*(Absence of Corruption)+0.347*(Risk of Expropriation)+0.384*(Risk of Contract Repudiation). The index ranges from 0 to 21 with higher score meaning better legal environment.

Disclosure Requirement – LLS(2006)-- The index of disclosure equals the arithmetic mean of scores on disclosure requirements of: (1) Prospect; (2) Compensation; (3) Shareholders; (4) Inside ownership; (5) Contracts Irregular; (6) and Transactions; each of them is a dummy variable. One means disclosure required. The Index ranges from zero to one, with zero meaning no disclosure requirement for anything, and one meaning disclosure of everything.

Earnings Management –Leuz, Nanda, Wysocki (2003)-- The "aggregate earnings management score" is the average rank across four measures of earnings management. H*igher* scores implies *more* earnings management and lower score implies *less* earnings management.

Table 3.1 Panel A: Cash Segment of BSE

Year	No. of Companies Listed *	No. of Companies Permitted *	No. of Scrips Listed *	No. of Trading Days	No. of Scrips Traded	No. of Trades (Lakh)	Traded Quantity (Lakh)	Turnover (Rs. crore)	Average Daily Turnover (Rs. crore)
1	2	3	4	5	6	7	8	9	10
1992-93	2861	0	-	192	-	126	35031	45696	238
1993-94	3585	0	-	218	-	123	75834	84536	388
1994-95	4702	0	-	231	-	196	107248	67749	293
1995-96	5603	0	-	232	-	171	77185	50064	216
1996-97	5832	0	6663	240	6325	155	80926	124190	517
1997-98	5853	0	6815	244	3971	196	85877	207113	849
1998-99	5849	0	6969	243	4457	354	129272	310750	1279
1999-00	5815	0	8028	251	4330	740	208635	686428	2735
2000-01	5869	0	9826	251	3927	1428	258511	1000032	3984
2001-02	5782	0	7321	247	5347	1277	182196	307292	1244
2002-03	5650	12	7363	251	2679	1413	221401	314073	1251
2003-04	5528	12	7264	254	2610	2028	390441	503053	1981
2004-05	4731	36	6897	253	2382	2374	477171	518715	2050
2005-06	4781	42	7311	251	2548	2640	664455	816074	3251

Source: Security and Exchanges Board of India (SEBI)

Table 3.1 Panel B: Cash Segment of NSE

Year	No. of Companies Listed *	No. of Companies Permitted *	No. of Companies Available for Trading * @	No. of Trading Days	No. of Companies Traded	No. of Trades (Lakh)	Traded Quantity (Lakh)	Turnover (Rs.crore)	Average Daily Turnover (Rs. crore)
1	2	3	4	5	6	7	8	9	10
Nov 94-Mar 95	135	543	678	102	-	3	1391	1805	17
1995-96	422	847	1269	246	-	66	39912	67287	276
1996-97	550	934	1484	250	-	264	135561	295403	1176
1997-98	612	745	1357	244	-	381	135685	370193	1520
1998-99	648	609	1254	251	-	546	165327	414474	1651
1999-00	720	479	1152	254	-	984	242704	839052	3303
2000-01	785	320	1029	251	1201	1676	329536	1339510	5337
2001-02	793	197	890	247	1019	1753	278408	513167	2078
2002-03	818	107	788	251	899	2398	364065	617989	2462
2003-04	909	18	787	254	804	3780	713301	1099534	4329
2004-05	970	1	839	255	856	4508	797685	1140072	4471
2005-06	1069	-	929	251	928	6089	844486	1569558	6253

Source: Security and Exchanges Board of India (SEBI)

Table 3.2: Indicators of Liquidity

(Per cent)

Year	BSE Mcap/GDP	NSE Mcap/GDP	Turnover Ratio - BSE	Turnover Ratio - NSE	Traded Value Ratio - BSE	Traded Value Ratio-NSE
1	2	3	4	5	6	7
1992-93	25.1	-	24.3	-	6.1	-
1993-94	42.8	-	23.0	-	9.8	-
1994-95	46.3	-	14.5	-	6.7	-
1995-96	47.5	33.8	8.9	16.8	4.2	5.7
1996-97	36.9	30.7	24.6	70.4	9.1	21.6
1997-98	41.4	31.6	32.9	76.9	13.6	24.3
1998-99	35.6	28.2	50.2	84.4	17.8	23.8
1999-00	47.1	52.7	75.2	82.2	35.4	43.4
2000-01	27.4	31.5	175.0	203.6	47.9	64.1
2001-02	26.9	28.0	50.2	80.6	13.5	22.6
2002-03	23.2	21.8	54.9	115.1	12.7	25.1
2003-04	43.5	40.6	41.9	98.1	18.2	39.8
2004-05	54.4	50.8	30.5	71.9	16.6	36.5
2005-06 P	85.6	79.7	27.0	55.8	23.1	43.4

P: Provisional.

Source: Security and Exchanges Board of India (SEBI)

Table 3.3 : Daily Return and Volatility: Select World Stock Indices

(Per cent)

Year	USA (DOW JONES)		UK (FTSE 100)		France (CAC)		Australia (AS 30)		Hong Kong (HSI)		Singapore (STI)		Malaysia (KLCI)	
	Return	Volatility	Return	Volatility	Return	Volatility	Return	Volatility	Return	Volatility	Return	Volatility	Return	Volatility
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1992	0.0	0.6	0.1	1.0	0.0	1.2	0.0	0.7	0.1	1.4	0.0	0.9	0.1	0.8
1993	0.0	0.5	0.1	0.6	0.1	1.0	0.1	0.7	0.3	1.4	0.2	0.8	0.3	1.1
1994	0.0	0.6	0.0	0.8	-0.1	1.1	-0.1	0.9	-0.2	1.9	0.0	1.3	-0.1	1.8
1995	0.1	0.5	0.1	0.6	0.0	1.1	0.1	0.7	0.1	1.3	0.0	1.0	0.0	1.1
1996	0.1	0.7	0.0	0.6	0.1	1.8	0.0	0.7	0.1	1.1	0.0	0.8	0.1	0.8
1997	0.1	1.1	0.1	1.0	0.1	1.4	0.0	1.0	-0.1	2.5	-0.1	1.5	-0.3	2.4
1998	0.1	1.3	0.1	1.3	0.1	1.7	0.0	0.9	0.0	2.8	0.0	2.5	0.0	3.2
1999	0.1	1.1	0.1	1.1	0.2	1.2	0.0	0.8	0.2	1.7	0.2	1.5	0.1	1.8
2000	0.0	1.4	0.0	1.2	0.0	1.5	0.0	0.9	-0.1	2.0	-0.1	1.5	0.1	1.4
2001	-0.1	1.4	-0.1	1.4	-0.1	1.6	0.0	0.8	-0.1	1.8	-0.1	1.5	0.0	1.3
2002	0.1	1.6	-0.1	1.7	-0.2	2.2	-0.1	0.7	-0.1	1.2	-0.1	1.0	0.0	0.8
2003	0.1	1.1	0.1	1.2	0.1	1.4	0.2	0.9	0.1	1.1	0.1	1.2	0.1	0.7
2004	0.0	0.7	0.0	0.7	1.6	0.0	1.6	0.0	0.0	1.0	0.1	0.8	0.1	0.7
2005	0.0	0.7	0.1	0.6	0.1	0.7	0.1	0.6	0.0	0.7	0.1	0.6	0.0	0.5

Source: Security and Exchanges Board of India (SEBI)

Table 3.3 : Daily Return and Volatility: Select World Stock Indices (Contd.)

(Per cent)

Year	Brazil (IBOV)		Mexico (INMEX)		South Africa (JALSH)		Japan (NKY)		India (BSE SENSEX)		India (S&P CNX NIFTY)	
	Return	Volatility	Return	Volatility	Return	Volatility	Return	Volatility	Return	Volatility	Return	Volatility
1	16	17	18	19	20	21	22	23	24	25	26	27
1992	1.0	7.0	0.1	1.6	-	-	-	-	0.1	3.3	-	-
1993	1.6	3.4	0.2	1.3	-	-	0.0	1.2	0.1	1.8	-	-
1994	1.0	3.9	0.0	1.8	-	-	0.0	0.9	0.1	1.4	-	-
1995	0.0	3.4	0.1	2.3	0.1	0.5	0.0	1.2	-0.2	1.3	-0.2	1.3
1996	0.2	1.4	0.1	1.2	0.0	0.8	0.0	0.8	0.0	1.5	0.0	1.5
1997	0.1	3.0	0.2	1.8	0.0	1.3	-0.1	0.4	0.0	1.6	0.1	1.7
1998	-0.2	3.5	-0.1	2.3	0.0	1.8	0.0	1.4	-0.1	1.9	-0.1	1.8
1999	0.4	2.9	0.2	1.9	0.2	1.0	0.2	1.2	0.2	1.8	0.2	1.8
2000	0.0	2.0	-0.1	2.2	0.0	1.3	-0.1	1.4	-0.1	2.2	-0.1	2.0
2001	-0.1	2.1	0.1	1.5	0.1	1.4	-0.1	1.6	-0.1	1.7	-0.1	1.6
2002	-0.1	1.9	0.0	1.4	-0.1	1.2	-0.1	1.4	0.0	1.1	0.0	1.1
2003	0.3	2.1	0.1	1.1	0.1	1.2	0.1	1.4	0.2	1.2	0.2	1.3
2004	0.1	1.8	0.2	0.9	0.1	0.9	0.0	1.0	0.0	1.6	0.0	1.8
2005	0.1	1.6	0.1	1.1	0.1	0.8	0.1	0.8	0.1	1.1	0.1	1.1

Source: Security and Exchanges Board of India (SEBI)

Table 3.4: SEBI Registered Market Intermediaries

Market Intermediaries	As on 31st March													
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Stock Exchanges (Cash Market)	21	22	22	22	22	22	23	23	23	23	23	23	22	22
Stock Exchanges (Derivatives Market)	-	-	-	-	-	-	-	2	2	2	2	2	2	2
Brokers (Cash Segment)	5290	6413	6711	8476	8867	9005	9069	9192	9782	9687	9519	9368	9128	9335
Corporate Brokers (Cash Segment)	-	143	616	1917	2360	2976	3173	3316	3808	3862	3835	3746	3733	3961
Sub-brokers (Cash Segment)	-	202	876	-	1798	3760	4589	5675	9957	12208	13291	12815	13684	23479
Brokers (Derivative)	-	-	-	-	-	-	-	-	519	705	795	829	994	1120
Foreign Institutional Investors	18	158	308	367	439	496	450	506	527	490	502	540	685	882
Custodians	-	-	-	-	-	-	-	15	14	12	11	11	11	11
Depositories	-	-	-	-	1	1	2	2	2	2	2	2	2	2
Depository Participants	-	-	-	-	28	52	96	191	335	380	438	431	477	526
Merchant Bankers	74	422	790	1012	1163	802	415	186	233	145	124	123	128	130
Bankers to an Issue	-	-	70	77	80	72	66	68	69	68	67	55	59	60
Underwriters	-	-	36	40	38	43	17	42	57	54	43	47	59	57
Debenture Trustees	-	-	20	23	27	32	34	38	37	40	35	34	35	32
Credit Rating Agencies	-	-	-	-	-	-	-	4	4	4	4	4	4	4
Venture Capital Funds	-	-	-	-	-	-	-	-	35	34	43	45	50	80
Foreign Venture Capital Investors	-	-	-	-	-	-	-	-	1	2	6	9	14	39
Registrars to an Issue & Share Transfer Agents	-	100	264	334	386	334	251	242	186	161	143	78	83	83
Portfolio Managers	28	40	61	13	16	16	18	23	39	47	54	60	84	132
Mutual Funds	-	12	22	27	37	38	41	38	39	38	38	37	39	38
Collective Investment Schemes	-	-	-	-	-	-	-	0	0	0	0	0	0	0
Approved Intermediaries (Stock Lending Schemes)	-	-	-	-	1	1	4	6	8	10	4	3	3	3

Source: Security and Exchanges Board of India (SEBI)

Table 3.5 Panel A: Resources Raised by Corporate Sector

(Rs. crore)

Year	Debt Issues				Total Resource Mobilisation (2+5)	Share (%) of Private Placement in		Share (%) of Debt in Total Resource Mobilisation
	Equity Issues*	Public Issues	Private Placements**	Total (3 + 4)		Total Debt	Total Resource Mobilisation	
1	2	3	4	5	6	7	8	7
1995-96	14830	5974	13361	19335	34165	69.1	39.1	56.6
1996-97	7979	6357	15066	21423	29402	70.3	51.2	72.9
1997-98	1892	2678	30099	32777	34669	91.8	86.8	94.5
1998-99	9358	4652	49679	54331	63689	91.4	78.0	85.3
1999-00	4566	3251	61259	64510	69076	95.0	88.7	93.4
2000-01	3368	2740	67836	70576	73944	96.1	91.7	95.4
2001-02	1278	6271	64876	71147	72425	91.2	89.6	98.2
2002-03	1257	2613	66948	69561	70818	96.2	94.5	98.2
2003-04	18948	4324	63901	68224	87172	93.7	73.3	78.3
2004-05	24388	3867	83405	87272	111660	95.6	74.7	78.2
2005-06	27382	0	96368	96368	123750	100.0	77.9	77.9

Source: Security and Exchanges Board of India (SEBI)

Table 3.5 Panel B: Resources Mobilized from the Primary Market

(Rs. crore)

Year/Month	Total		Category - wise				Issuer Type			
			Public		Rights		Listed		IPOs	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount
1	2	3	4	5	6	7	8	9	10	11
1993-94	1143	24372	773	15449	370	8923	451	16508	692	7864
1994-95	1692	27633	1342	21045	350	6588	453	11061	1239	16572
1995-96	1725	20804	1426	14240	299	6564	368	9880	1357	10924
1996-97	882	14276	751	11557	131	2719	167	8326	717	5959
1997-98	111	4570	62	2862	49	1708	59	3522	52	1048
1998-99	58	5587	32	5019	26	568	40	5182	18	404
1999-00	93	7817	65	6257	28	1560	42	5098	51	2719
2000-01	151	6108	124	5378	27	729	37	3385	114	2722
2001-02	35	7543	20	6502	15	1041	28	6341	7	1202
2002-03	26	4070	14	3639	12	431	20	3032	6	1039
2003-04	57	23272	35	22265	22	1007	36	19838	21	3434
2004-05	60	28256	34	24640	26	3616	37	14507	23	13749
2005-06	139	27382	103	23294	36	4088	60	16446	79	10936

Source: Security and Exchanges Board of India (SEBI)

Table 3.5 Panel C: Resources Mobilization through Private Placements

(Rs. crore)

Year	Private Sector						Public Sector						Grand Total	
	Financial Institutions		Non-financial Institutions		Total		Financial Institutions		Non-financial Institutions		Total			
	No. of Issues	Amount	No. of Issues	Amount	No. of Issues	Amount	No. of Issues	Amount	No. of Issues	Amount	No. of Issues	Amount	No. of Issues	Amount
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1995-96	-	2136	-	1934	-	4070	-	4552	-	4739	-	9291	-	13361
1996-97	-	1847	-	646	-	2493	-	6541	-	6032	-	12573	-	15066
1997-98	-	4324	-	4879	139	9202	-	9660	-	11237	118	20896	257	30099
1998-99	87	12174	93	4824	180	16998	67	20382	69	12299	136	32681	316	49679
1999-00	176	10875	191	8528	367	19404	119	17981	92	23874	211	41856	578	61259
2000-01	208	13263	171	9843	379	23106	112	26201	96	18530	208	44731	587	67836
2001-02	363	16019	309	12601	672	28620	167	17358	119	18898	286	36256	958	64876
2002-03	327	9454	550	15623	877	25077	157	20407	110	21464	267	41871	1144	66948
2003-04	344	12551	296	6209	640	18760	132	26461	102	18679	234	45141	874	63901
2004-05	255	20974	462	14820	717	35794	124	25531	69	22080	193	47611	910	83405
2005-06 P	374	26553	570	14652	944	41205	138	39395	30	15769	168	55164	1112	96368

P: Provisional.

Source: Security and Exchanges Board of India (SEBI)

Table 3.5 Panel D: Bonds Issued by Public Sector Undertakings

(Rs. crore)

Year	Tax- Free Bonds	Taxable Bonds	Total (2+3)
1	2	3	4
1985-86	0	354	354
1986-87	900	775	1674
1987-88	1387	947	2334
1988-89	2412	456	2868
1989-90	3317	912	4229
1990-91	2545	3118	5663
1991-92	2469	3242	5711
1992-93	11	1052	1063
1993-94	1414	4172	5586
1994-95	1198	1872	3070
1995-96	547	1744	2291
1996-97	67	3327	3394
1997-98	570	2412	2983
1998-99	406	3957	4363
1999-00	400	8297	8697
2000-01	662	15969	16632
2001-02	274	14162	14436
2002-03	286	7243	7529
2003-04	-	10169	10169
2004-05	-	18671	18671
2005-06 P	-	27636	27636

P: Provisional.

Note: Data include both public issues of bonds and privately placed bonds.

Source: Security and Exchanges Board of India (SEBI)

Table 3.5 Panel E: Absorption of Private Capital Issues

(Rs. crore)

Year	No. of Companies	Amount Underwritten	Subscribed			Offered to Public					
							Subscribed by Underwriters				
			By Promoters, Collaborators, Employees, etc.	By Govt., Financial Institutions & Insurance Companies	Total (4+5)	Subscribed by Public Other Than Underwriters	As Investors	As Underwriting Obligations	Unsubscribed	Total (7 to 10)	Total (6+11)
1	2	3	4	5	6	7	8	9	10	11	12
1991-92	159	837	749	191	940	846	2	0	0	848	**1788**
1992-93	426	3786	754	46	800	2846	169	387	13	3415	**4215**
1993-94	525	4880	2976	666	3642	4059	20	218	13	4310	**7952**
1994-95	800	5417	6387	816	7203	5502	35	15	8	5560	**12763**
1995-96	581	1361	1996	326	2322	0	0	0	0	2280	**4602**
1996-97	269	172	547	229	776	0	0	0	0	774	**1550**
1997-98	13	26	29	6	35	0	0	0	0	44	**79**
1998-99	5	31	6	4	10	34	0	0	0	34	**44**
1999-00	53	1601	115	262	377	1562	0	0	0	1562	**1939**
2000-01	91	1419	246	30	276	1752	0	0	0	1752	**2028**
2001-02	4	879	107	12	119	1032	0	0	0	1032	**1151**
2002-03	3	255	0	0	0	207	0	0	0	207	**207**
2003-04 P	13	1885	41 *	0	41	2279 $	0	0	0	2279	**2320#**

P: Provisional.

* Including offer for sale of Rs. 1 crore and fresh issue of Rs. 40 crore.

$ Including offer for sale of Rs. 1377 crore and fresh issue of Rs.902 crore.

\# Including offer for sale of Rs. 1378 crore and fresh issue of Rs.942 crore.

Source: Security and Exchanges Board of India (SEBI)

Table 3.6: Trends in Resource Mobilization by Mutual Funds

(Rs. crore)

Year	Gross Mobilisation				Redemption*				Net Inflow				Assets at the End of Period
	Private Sector	Public Sector	UTI	Total	Private Sector	Public Sector	UTI	Total	Private Sector	Public Sector	UTI	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1993-94	1549	9527	51000	62076	-	-	-	-	-	-	-	-	-
1994-95	2084	2143	9500	13727	-	-	-	-	-	-	-	-	-
1995-96	312	296	5900	6508	-	-	-	-	-	-	-	-	-
1996-97	346	151	4280	4777	-	-	-	-	-	-	-	-	-
1997-98	1974	332	9100	11406	-	-	-	-	-	-	-	-	-
1998-99	7847	1671	13193	22710	6394	1336	15930	23660	1453	335	-2737	-949	68193
1999-00	43726	3817	13698	61241	28559	4562	9150	42271	15166	-745	4548	18970	107946
2000-01	75009	5535	12413	92957	65160	6580	12090	83829	9850	-1045	323	9128	90587
2001-02	147798	12082	4643	164523	134748	10673	11927	157348	13050	1409	-7284	7175	100594
2002-03	284096	23515	7096	314706	272026	21954	16530	310510	12069	1561	-9434	4196	109299
2003-04	534649	31548	23992	590190	492105	28951	22326	543381	42545	2597	1667	46808	139616
2004-05	736463	56589	46656	839708	728864	59266	49378	837508	7600	-2677	-2722	2200	149600
2005-06	914703	110319	73127	1098149	871727	103940	69704	1045370	42977	6379	3424	52779	231862

* Includes repurchases as well as redemption.

Notes: 1. Erstwhile UTI has been divided into UTI Mutual Fund (registered with SEBI) and the Specified Undertaking of UTI (not registered with SEBI). Above data contain information only of UTI Mutual Fund.

2. Net assets of Rs. 736.06 crore pertaining to Funds of Funds Schemes for Apr-04 is not included in the above data.

3. Data in respect of Specified Undertaking of UTI are included upto January 2003.

Source: Security and Exchanges Board of India (SEBI)

Table 3.7: Derivatives Segment at BSE and NSE

Month/ Year	No. of Trading Days	Index Futures		Stock Futures		Interest Rate Futures	
		No. of Contracts	Turnover (Rs. crore)	No. of Contracts	Turnover (Rs. crore)	No. of Contracts	Turnover (Rs. crore)
1	2	3	4	5	6	7	8
			BSE				
Jun-00 to Mar-01	207	77743	1673	-	-	-	-
2001-02	247	79552	1276	17951	452	-	-
2002-03	251	111324	1811	25842	644	-	-
2003-04	254	246443	6572	128193	5171	-	-
2004-05	253	308950	13600	6725	213	-	-
2005-06	251	89	5	12	0.5	0	0
			NSE				
Jun-00 to Mar-01	211	90580	2365	-	-	-	-
2001-02	247	1025588	21482	1957856	51516	-	-
2002-03	251	2126763	43951	10675786	286532	-	-
2003-04	254	17191668	554463	32368842	1305949	1013	20
2004-05	253	21635449	772174	47043066	1484067	0	0
2005-06	251	58537886	1513791	80905493	2791721	0	0

Source: Security and Exchanges Board of India (SEBI)

Table 3.7: Derivatives Segment at BSE and NSE (Contd.)

Month/ Year	Index Options				Stock Options				Total		Open Interest at the end of	
	Call		Put		Call		Put					
	No. of Contracts	Notional Turnover (Rs. crore)	No. of Contracts	Notional Turnover (Rs. crore)	No. of Contracts	Notional Turnover (Rs. crore)	No. of Contracts	Notional Turnover (Rs. crore)	No. of Contracts	Turnover (Rs.crore)	No. of Contracts	Turnover (Rs.crore)
1	9	10	11	12	13	14	15	16	17	18	19	20
BSE												
Jun-00 to Mar-01	-	-	-	-	-	-	-	-	77743	1673	-	-
2001-02	1139	39	1276	45	3605	79	1500	35	105527	1922	-	-
2002-03	41	1	2	0	783	21	19	0	138037	2478	375	7
2003-04	1	0	0	0	4391	174	3230	157	382258	12452	35	1
2004-05	48065	1471	27210	827	72	2	17	0.5	531719	16112	0	0.0
2005-06	100	3	0	0	2	0.1	0	0.0	203	9	0	0.0
NSE												
Jun-00 to Mar-01	-	-	-	-	-	-	-	-	90580	2365	-	-
2001-02	113974	2466	61926	1300	768159	18780	269370	6383	4196873	101925	93917	2150
2002-03	269721	5671	172520	3577	2456501	69644	1066561	30490	16767852	439865	97025	2194
2003-04	1043894	31801	688520	21022	4258595	168174	1338654	49038	56886776	2130649	235792	7188
2004-05	1870647	69373	1422911	52581	3946979	132066	1098133	36792	77017185	2547053	592646	21052
2005-06	6413467	168632	6521649	169837	4165996	143752	1074780	36518	157619271	4824250	1028003	38469

Source: Security and Exchanges Board of India (SEBI)

Table 3. 8: Receipt and Redressal of Investors Grievances

Year	Grievances Received		Grievances Redressed		Cumulative Redressal Rate (%)
	During the Period	Cumulative	During the Period	Cumulative	
1	2	3	4	5	6
1991-92	18794	18794	4061	4061	21.6
1992-93	110317	129111	22946	27007	20.9
1993-94	584662	713773	339517	366524	51.4
1994-95	516080	1229853	351842	718366	58.4
1995-96	376478	1606331	315652	1034018	64.4
1996-97	217394	1823725	431865	1465883	80.4
1997-98	511507	2335232	676555	2142438	91.7
1998-99	99132	2434364	127227	2269665	93.2
1999-00	98605	2532969	146553	2416218	95.4
2000-01	96913	2629882	85583	2501801	95.1
2001-02	81600	2711482	70328	2572129	94.9
2002-03	37434	2748916	38972	2611101	95.0
2003-04	36744	2785660	21531	2632632	94.5
2004-05	54435	2840095	53361	2685993	94.6
2005-06	40485	2880580	37067	2723060	94.5

Source: Security and Exchanges Board of India (SEBI)

Table 3.9: PROGRESS OF DEMATERIALISATION AT NSDL AND CDSL

At the end of the period	NSDL						CDSL					
	Companies: Agreement Signed	Companies: Live	DPs: Live	DPs: Locations	Mkt. Cap. (Rs. crore)*	Demat Quantity (shares in crore)	Companies: Agreement Signed	Companies: Live	DPs: Live	DPs: Locations	Mkt. Cap. (Rs. crore)#	Demat Quantity (shares in crore)
1	2	3	4	5	6	7	8	9	10	11	12	13
1996-97	40	23	24	24	90818	2	-	-	-	-	-	-
1997-98	191	171	49	200	288347	176	-	-	-	-	-	-
1998-99	375	365	84	750	396551	711	15	15	-	-	-	-
1999-00	918	821	124	1425	765875	1550	541	541	-	-	-	-
2000-01	2821	2786	186	1896	555376	3721	2723	2703	137	132	10906	192
2001-02	4210	4172	212	1648	615001	5167	4293	4284	148	181	24337	482
2002-03	4803	4761	213	1718	600539	6876	4628	4628	177	212	36164	821
2003-04	5216	5212	214	1719	1107084	8369	4810	4810	200	219	106443	1401
2004-05	5537	5536	216	2819	1638316	12866	5068	5068	532	1530	1671226	1908
2005-06	6022	6022	223	3017	3005067	17472	5479	5479	582	2577	2952743	2722

* Market capitalisation of companies that have joined NSDL (inclusive of both physical and dematerialised shares).

\# Market capitalisation of securities in CDSL.

Source: Security and Exchanges Board of India (SEBI)

Table 3.10: Delivery Patterns in Stock Exchanges

(In per cent)

Exchange	2004-05		2005-06	
	Quantity	Value	Quantity	Value
NSEIL	25.67	24.22	27.66	25.99
Mumbai	39.62	27.00	45.25	33.24
Calcutta	40.91	46.48	56.23	60.32
Delhi	0.00	0.00	0.00	0.00
Ahmedabad	1.25	3.13	0.00	0.00
Uttar Pradesh	1.46	0.52	0.28	2.83
Bangalore	0.00	0.00	0.00	0.00
Ludhiana	0.00	0.00	0.00	0.00
Pune	0.00	0.00	0.00	0.00
OTCEI	0.00	0.00	100.00	100.00
Hyderabad	82.22	65.00	96.00	95.82
ICSEIL	0.00	0.00	0.00	0.00
Chennai	--	--	100.00	97.80
Vadodara	0.00	0.00	0.00	0.00
Bhubaneshwar	0.00	0.00	0.00	0.00
Coimbatore	0.00	0.00	0.00	0.00
Madhya Pradesh	0.00	0.00	0.00	0.00
Magadh	0.00	0.00	0.00	0.00
Jaipur	0.00	0.00	0.00	0.00
Mangalore	0.00	0.00	0.00	0.00
Gauhati	0.00	0.00	0.00	0.00
SKSE	0.00	0.00	0.00	0.00
Cochin	0.00	0.00	0.00	0.00
Total	**30.92**	**25.05**	**35.57**	**28.49**

Source: NSE: Indian Securities Market- A Review (2006)

Quantity = qnty shares delivered as a % of no. of shares traded

Table 3.11: Market Capitalisation of WDM Segment

(In Rs. mn.) (In per cent)

Securities	Market Capitalisatoin (end of period)		% to total	
	March-05	March-06	March-05	March-06
Government Securities	10,061,070	10,597,887	68.83	67.61
PSU Bonds	683,981	887,165	4.68	5.66
State Loans	2,232,082	2,419,271	15.27	15.43
T-bills	735,018	701,859	5.03	4.48
Other	905,193	1,069,556	6.19	6.82
Total	**14,617,344**	**15,675,738**	**100.00**	**100.00**

Source: NSE: Indian Securities Market- A Review (2006)

Table 3.12: Business Growth of WDM Segment of NSE

Parameter	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
No. of Active Securities	719	1,071	1,057	1,038	979	1,123	1,078	1,151	897
No. of Trades	16,821	16,092	46,987	64,470	144,851	167,778	189,518	124,308	61,891
No. of Retail Trades	1,390	1,522	936	498	378	1,252	1,400	1,278	892
Turnover (Rs. mn.)	1,112,633	1,054,691	3,042,162	4,285,815	9,471,912	10,687,015	13,160,962	8,872,936	4,755,235*
Average Daily Turnover (Rs. mn.)	3,850	3,650	10,348	14,830	32,775	35,983	44,765	30,283	17,547
Retail Turnover (Rs. mn.)	2,887	3,078	2,185	1,318	1,094	2,995	3,317	4,101	3,104
Share of Retail Trades (%)	0.26	0.29	0.07	0.03	0.01	0.03	0	0.05	0.07
Average Trade Size (Rs. mn.)	66.15	65.54	64.74	66.48	65.39	63.70	69	71.4	76.83
Average Size of Retail Trade (Rs. Mn.)	2.08	2.02	2.33	2.65	2.89	2.39	2	3.21	3.48

Source: NSE: Indian Securities Market- A Review (2006)

Table 6.1: Percentage shareholding of various groups for the 500 largest companies in India in 2006[32]

	Mean (EW)	Mean (VW)	Median
Promoters holding (%)	52.24	52.85	51.93
Indian Promoters(%)	41.38	45.75	41.09
Individuals & Hindu Undivided Family (%) - Promoters	10.74	6.00	1.14
Central & State Government (%) – Promoters	5.72	15.49	0.00
Corporate Bodies (%) – Promoters	21.58	19.05	18.69
Financial Institutions & Banks (%) – Promoters	0.51	0.27	0.00
Other indian promoters (%)	1.32	3.68	0.00
Foreign Promoters(%)	10.57	6.55	0.00
Individuals (Non-Residents & Foreign) (%) - Promoters	0.58	0.32	0.00
Foreign Corporate Bodies Promoters(%)	9.64	6.13	0.00
Institutional Foreign Promoters(%)	0.01	0.03	0.00
Other Foreign Promoters (%)	0.38	0.19	0.00
Persons acting in concert (%) – Promoters	0.29	0.55	0.00
Non-promoters holding (%)	45.99	43.62	47.02
Institutions (%) - Non-Promoters	22.37	26.33	19.96
Mutual Funds / UTI (%) - Non-Promoters	5.29	3.91	4.06
Banks, FI's, Insurance Cos. (%) - Non-Promoters	4.70	6.01	1.88
Financial Institutions & Banks (%) - Non-Promoters	1.39	1.28	0.14
Insurance Companies (%) - Non-Promoters	3.10	4.54	0.35
Central & State Government (%) - Non-Promoters	0.14	0.16	0.00
Venture Capital Funds (%) - Non-Promoters	0.09	0.02	0.00
Foreign Institutional Investors (%) - Non-Promoters	10.93	15.77	7.04
Foreign Venture Capital Investors (%) - Non-Promoters	0.17	0.06	0.00
Other Institutions (%) - Non-Promoters	1.22	0.57	0.00
Non-institutions (%) - Non-Promoters	23.62	17.30	22.30
Corporate Bodies (%) - Non-Promoters	6.50	3.94	4.59
Individuals (%) - Non-Promoters	15.24	10.36	14.20
Individuals holding nominal capital upto Rs 1 lakh (%) - Non-Promoters	11.38	8.34	10.87
Individuals holding nominal capital over Rs 1 lakh (%) - Non-Promoters	3.41	1.95	2.14
Other Non-institutions (%) - Non-Promoters	1.87	2.99	0.26
Shares held by Custodians (%)	1.57	3.02	0.00
Total equity holding (%)	100	99.52	100.00

Source: Prowess

[32] Most figures are for end-June 2006, less than 10 firms have for end-March and end-Sep data.

Table7.1: Performance of MFIs in India

(Top ten MFIs on the basis of Total Assets)

Name of MFI	Total Assets (Mn. US $)	Return on Assets	Return on Equity	Profit Margin	Cost per Borrower	Avg. Loan Balance Per Borrower (US $)
Spandana	101.49	0.74%	22.00%	8.89%	6.0%	92
SHARE	101.33	1.22%	15.31%	9.16%	12.0%	111
SKS	78.78	1.75%	9.22%	13.55%	17.0%	123
MFI	54.47	4.35%	78.00%	60.14%	4.0%	123
AML	52.36	1.73%	33.27%	14.16%	11.0%	109
BASIX	40.89	1.42%	8.14%	11.41%	29.0%	161
Bandhan	31.72	9.07%	131.21%	34.04%	6.0%	67
KAS	28.90	2.18%	173.04%	21.75%	4.0%	70
GV	23.42	0.78%	17.02%	3.76%	16.0%	102
BISWA	21.77	2.36%	29.92%	20.97%	6.0%	108

Source: www.mixmarket.org

Table 7.2: Financial performance of MFIs classified by client out reach and Loan Portfolio

		Sustainability	Asset Quality		Efficiency		
Categories	**No. of MFIs**	**OSS**	**PAR**	**CRR**	**OCR**	**TCR**	**Client per credit officer**
MFIs categorized by credit client outreach							
Small (<10,000)	44	73.6	4.3	92.2	15	23.5	485
Medium (10,000-50,000)	23	84.2	4.2	93.8	20.4	30.5	438
Large (>50,000)	7	123.3	1.5	99.3	14.2	23.7	372
Aggregate	**74**	**110.3**	**2.2**	**97.7**	**15.4**	**25**	**405**
MFIs categorized by loan portfolio							
Small (< 5 crore)	53	66.6	3.6	93.3	12.4	21.2	561
Medium (5-20 crore)	14	90	4.9	94.3	25.9	36.2	298
Large (>20 crore)	7	125.8	1.3	99.2	13	22.3	389
Aggregate	**74**	**110.3**	**2.2**	**97.7**	**15.4**	**25**	**405**
Sa-dhan recommended standards		100 %	< 10%	>90%	<20%	< 30%	between 250 and 350

Source: Prabhu Ghate (2006)

OSS: Operational Self Sufficiency (defined as Operating Income from Loans and Investments /operating Cost + Loan loss provision +Financing cost) ; PAR : Portfolio at risk (defined as unpaid principal Balance of Loans overdue by > 60 days); CRR: Current Repayment rate (Principal amount collected – Prepayments / Principal due) ; OCR : Operating Cost Ratio (Total Operating Cost /Average Outstanding Portfolio); TCR: Total Cost ratio (Total Costs / Average Outstanding Portfolio)

Table 7.3: Interest rate schedule for MFIs

Item of Cost	Basis of Cost	Percentage
Cost of Funds	SBI Prime Lending Rate	9%
Cost of delivery of Credit	Money order charges by government Post office	5%
Cost of Collection of repayment	Money order charges by government Post office	5%
Cost of provisioning of bad debts	As per RBI norms , based on extent of bad debts	1-3%
Profit margin	Minimum required to maintain capital adequacy as per RBI norms	1-2%
Total		21-24%

Source: Prabhu Ghate (2006)

Table 7.4: Commercial Banks Outstanding to MFIs

(As of March 2006)

Bank	No. of MFIs Supported	Outstanding (in Rs Crores)
ICICI Bank	100	2350
HDFC Bank	N/A	250
UTI Bank	40	103
ABN AMRO Bank	19	87
ING Vysya Bank	19	61
Standard Chartered Bank	12	50
HSBC	8	15
Rishikulya grameen Bank,Ganjam	3	6
State Bank of India	1	5
UCO Bank	4	2
United Bank of India	1	2
Indian Bank	2	0.4

Source: Prabhu Ghate (2006)

Table 7.5: VCFs Investing in India

(Top ten funds on the basis of there Total Investments in MFIs)

Fund Name	Country of Incorporation	Funds Assets Allocated to MF Invesments (Mn. US$)	Funds Assets (Mn.US$)	# of Active MF Investments	Projected new Funds allocated to MF Investments (Mn. US $)
Oikocredit	Netherlands, The	198.22	455.79	306	131.67
Dexia Microcredit Fund	Luxembourg	107.99	161.84	105	20.00
responsAbility Fund	Luxembourg	89.59	96.15	111	N/A
Gray Ghost	United States	75.00	75.00	16	N/A
DOEN	Netherlands, The	51.19	79.15	15	6.99
HTF	Netherlands, The	37.17	39.97	37	3.96
CORDAID	Netherlands, The	34.64	63.47	90	9.47
SNS Institutional Microfinance Fund	Netherlands, The	30.01	170.00	13	140.00
Oxfam Novib Fund	Netherlands, The	28.13	28.13	77	N/A
MicroVest I	United States	22.57	24.23	25	7.50

Source: www.mixmarket.org

Table 7.6: Minimum capitalization requirement for foreign equity investment in NBFCs

Percent Ownership	Minimum Capital requirement	Other Stipulations
0-51%	$500,000	Entire amount must be contributed up front
51-75%	$5,000,000	Entire amount must be contributed up front
76-100%	$50,000,000	$ 7.5 million must be contributed up front. The balance must be provided within 24 months

Source: Prabhu Ghate (2006)