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**Financial Intermediation and National Growth:
Why India Needs to Further Develop its Stock Markets**

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Abstract

The aim of this paper is twofold: to show the positive growth effect on economies through steady stock market growth, and to analyze the performance of India's stock markets over the last decade on national growth. I start out in Section I with economic analyses of the high correlation between stock market indicators and the development of all financial institutions. Studies conducted by other economists prove correlations between the stock market and other macroeconomic indicators such as liquidity, level of banking, volatility, consumption, income and stock prices. Section II is a detailed case analysis of the Bombay Stock Exchange (BSE) that has for decades failed to provide substantial growth to the Indian economy. After the balance of payments crisis in 1991, the BSE underwent major management changes such as the creation of the Securities and Exchange Board Commission and the National Stock Exchange that have undoubtedly improved the stock market's role. There has been a significant increase in the BSE's role in Indian markets. Nonetheless, in order to make the stock exchange efficient, continued efforts are needed to restore market optimism by fighting off mass corruption, and by guaranteeing domestic and foreign investors a functional regulatory system.

SECTION I: The Stock Market and the National Economy

I. The Positive Growth Cycle Correlation: Introduction

With the stock market representing at times the bulk of the economy in terms of GDP, changes in capital markets affect national economic well-being, and inversely, changes in the economy affect the capital markets. In the past, stock markets were considered unimportant for growth, while the banking industry was encouraged to expand (World Development Report, 1989). This was because more corporate capital is raised from banks instead of equity issues. But as Joan Robinson points out, economic growth creates a demand for a variety of financial services, forcing eventual expansion into the equity markets, so that “where enterprise leads, finance follows” – a positive growth cycle correlation (Robinson, 1952).

There is enough proof to show that developed stock markets result in a higher growth rate of economic development. Cross-country studies done between stock market development and financial intermediary development reveal that most stock market indicators are highly correlated with the development and efficient functioning of banks, non-banking financial corporations, and private insurance companies and pension funds (Demirguc-Kunt and Levine, p. 293). The more developed the stock market, the more developed the financial intermediaries, promoting positive growth at both ends.

Demirguc-Kunt and Levine analysed a selection of five countries with high market capitalisation to GDP ratio greater than 1 were compared with five others with a ratio less than 0.1 (p. 292). The developed, large stock markets were found to be more liquid, more financially integrated, less volatile, with close to perfect information, internationally accepted accounting procedures building credibility, extensively liberalised markets, and with a high turnover velocity. I will discuss each of these factors separately analysing how, in particular they affect financial systems in developing countries, which will lead to my conclusion at the beginning of Section II. I will also present some dated studies that contribute economic

growth to stock market growth, which in turn, results from growth in corporate profits. Finally, with all these 'positive growth correlations' in mind, I will analyse why India, a developing country, has been unable to develop its stock markets to competitive levels, in a three step analysis: the Indian economy before and during liberalisation, shortcomings of the Bombay Stock Exchange, and recent attempts for better regulation.

II. Analysis

A recent study conducted by Levine and Zervos look at 49 'rich' and 'poor' countries between 1976 and 1993 to measure stock markets' contribution to growth, using eight macroeconomic indicators (Levine and Zervos, World Bank Policy Research Working Paper No. 1622). The strongest correlation is with liquidity, where the most liquid stock markets tend to grow fastest. (Countries with large stock markets don't necessarily grow more quickly than smaller ones). Liquidity is important because savers are weary of tying up their assets, boosting bank credit and investment. Such a market allows savers to sell their shares easily allowing those in need of capital, like firms, to invest in portfolios. The total value traded/GDP ratio measures the number of stocks traded in relation to the size of the economy. If averaged over time, this ratio measures the ease of trading; hence, if trading is costly the statistics will correspond to an illiquid market.

It has been shown that "countries with the most liquid stock markets in 1976, both, accumulated more capital and enjoyed faster productivity growth over the next 18 years" (Levin, 1997), both of which increase the rate of economic growth. The turnover ratio, which is the number of shares traded divided by market capitalisation, records the cost of financial transactions. A high turnover ratio is associated with low costs and is present in well-developed stock markets. The link between liquidity and economic growth is by far the strongest, proving the importance of a well-developed and liquid stock market for accelerated economic growth.

Liquid markets will grow fastest with a well-developed banking sector where both will complement each other, expanding trading opportunities. Nonetheless, the two indicators – liquidity, and the level of banking measured by bank credit/GDP, are fully capable of affecting economic growth separately. At times, banks focus only on long run investment projects and accumulating information about managers and future firm prospects. On the other hand, stock markets can provide liquidity and low volatility. All of these four factors complement each other and can promote exponential growth. Research confirms that they work together resulting in higher returns for investors and provide greater financing opportunities for long run growth. In emerging markets, high stock market liquidity coincides with more bond offerings and bank loans as the means of investment financing. Consequently, the debt-equity ratio rises with more stock market liquidity (Demirguc-Kunt and Maksimovic, 1996); hence, stock market development accompanies bank lending in emerging markets, increasing bank credit/GDP. But as Demirgüç-Kunt and Ross Levine observe, as countries reach the middle-income bracket (\$2000 per capita in 1990), stock markets and non-financial intermediaries develop rapidly, and banks end up representing a smaller share of the financial system (Demirguc-Kunt and Levine, p. 232).

Volatility of stock markets is yet another measure of economic development. Initially, in emerging stock markets, volatility is high because of high concentration of few large stocks (e.g., 10 large stocks controlling a high market capitalisation percentage). Such high concentration can hamper liquidity by domination of the stock market. As an economy liberalises, foreign investors in particular, fear that stock prices will fluctuate a lot on the basis of good or bad economic news (Rea, 1996). This can complicate macroeconomic decisions such as exchange rate policies. Initially, liberalisation leads to an immediate rise in liquidity and volatility. But, with time, opening up to international capital flows reduces stock return volatility, critical for good economic growth (Demirguc-Kunt and Levine, 1996).

A positive growth correlation exists between stock prices and consumption, where a 10% rise in America's stock market has raised consumption by 0.3% ("Wall Street and the Economy," 1996). Similarly, falls in stock prices have led to falls in consumption. A fall in share prices also reduces investment. Cummins, Hassett and Hubbard assert that falling share prices precede lower sales and lower profit (Cummins, Hassett, and Hubbard). Since firms reinvest their profits, the total amount of profits reinvested will decline, lowering the demand for capital as well.

Other studies conducted over the years by Loire and Hamilton show us, the level of stock prices are proportionally related to the levels of output, income, unemployment and other such macroeconomic measures. And the value of stocks is, in turn, determined by the performance of a corporation in terms of its earnings and profits, and also by the expected value of the corporation's future earnings. They continue to point out that the greater the mean or expected value of possible changes in earnings (derived from the standard deviation) and the greater the confidence, the higher the prices of stocks, *ceteris parabis*.

The "large scale of public markets for stocks and bonds in the country, the high standards of disclosure imposed upon corporations by the exchanges and the government, and the very broad participation of individuals and institutions as investors" have lowered the cost of capital to American enterprises (Loire and Hamilton, 1995, p. 213-21). This is one of the problems facing developing countries leaving bank credit ratios and investment in low levels.

A study published by Solomon in 1995 analyses stock prices against national economic growth (Solomon, 1995, p. 213-21). With reliable data dating back to 1874, he used the Standard & Poor's Index of 425 industrial stock prices. After adjusting for inflation for both series, he divided the GNP into two periods: 1874-1913 with an average GNP growth of 4%, and 1909-1955 with an average growth of 3%; while the average stock price growth was at 2.67% and 2% respectively. He showed that "over the period as a whole, the real growth in

stock values has proceeded at about two-thirds of the rate of real growth in GNP” (p. 217). Since 1955 though, enormous growth rates in the economy have raised the price-earnings ratios substantially. Between 1955-1969, the nominal rise in these 425 industrial stock prices has been 98% and even when discounted for by the price deflator, the rise has been 35%. This gap can be partly explained by the slower rise of corporate profits in relation to real economic growth.

Finally, in 1956, Weston arrived at a similar conclusion on the proportional relationships between GNP and the level of stock prices after uncovering similar relationships between GNP and sales by business, sales and profits, profits and dividends, and dividends and stock prices (Weston, 1956, p. 71-80). This study shows that even the performance of corporations at a microeconomic level determines, in part, the growth of the stock markets.

As we have seen, indicators like liquidity, the level of financial intermediation, volatility, investment, stock prices, national output, and the level of corporate profits are all determinants of the level of real economic growth within the country. And in turn, each of these indicators are affected by the growth of the stock market. For example, Campbell and Shiller successfully use price earnings ratios and dividend-price ratios between 1970 and 2000 to forecast stock price changes (Campbell and Shiller, NBER Working Paper #8221). Hence, careful analyses should be done when predicting the effects on future national growth. In the next section, after introducing certain aspects of the Indian economy before liberalisation in 1991-1992, I continue to analyse the state of the Indian stock exchanges since 1980 and recent changes made to the whole network that led to its expansion, increasing real growth.

SECTION II: Case Study on India's Stock Markets

III. The Shape of India's Stock Markets and Economy: Prior to Liberalisation¹

The following statistics, averaged over the period 1986-1993 will largely show a healthy Indian stock market with potential for remarkable growth just prior to financial liberalisation.² India's market capitalisation stood at 0.16 and its total value traded/GDP^(a) (total number of stocks traded/GDP) as 0.06, both of which are very low. This tells us that the proportion of the Indian stock market represented only 16% of the whole economy unlike Japan's, for example, which stood at 108%. Instead, India ranked second after the US with 4,614 listed companies – a number much above the average.³ Thus these listed companies must have been smaller enterprises with a small net worth each. The market's turnover ratio was higher than average as well, with a value of 0.50 implying a small “but active market with small market capitalisation” (Demirguc-Kunt and Levine, “Stock Market Development and Financial Intermediaries”). Its volatility ratio stood at 0.06, better than most developing economies, while market concentration was considerably low at 0.22, comparable to most developed economies.

Apart from the small size of the Indian stock market, all other significant indicators show that the financial dynamic was in good shape to allow quick expansion of the stock market and fast economic growth. But this was impossible because financial liberalisation only took place in 1990-92, making it one of the last countries to open up its barriers to foreign investment. In addition, the stock market didn't expand much over the previous 115 years of its existence because of bad management that resulted in ineffective financial intermediation, mass corruption, and numerous scandals in the stock exchanges – all of which I address in the following sections.

¹ 1 USD = 50 Rupees, approx. and 1 crore = 10 million

² Statistics taken from Demirguc-Kunt, Asli and Levine, Ross; “Stock Market Development and Financial Intermediaries: Stylised Facts”, *World Bank Economic Review*, Vol. 10(2)

³ The average includes a selection of high, middle and less developed markets.

IV. Effects of Financial Liberalisation on Growth

The outlook of India's financial policies towards foreigners changed dramatically after the 1991 balance of payments crisis. Prior to 1991, foreign direct investment (FDI) was limited to a maximum of 40% of joint ventures in most industries. In 1991, the Government of India raised this investment barrier to 51% in 35 industries, with immediate approval. In 1996, further reforms allowed foreign-held equity up to 100%, although mostly in those industries dealing with infrastructure.

Until September 1992, portfolio investment in Indian firms was prohibited. Over the years though, a gradual loosening of these controls led to a portfolio investment of net worth \$3.85 billion by fiscal year end 1997, i.e., 30 to 40% of equities in any firm with 10% representation on any single Foreign Institutional Investor (FII). 63% of this amount came from FIIs alone, from their purchases on capital markets. Also in 1996, "India opened its \$36 billion government securities markets to FIIs, taking the first step towards enabling the government to sell its debt in overseas markets" (Echeverri-Gent, p. 210).

Throughout the 1980s, total foreign investment never exceeded \$100 million a year, and foreign direct investment (FDI) hovered around \$158 million in 1991-93. In 1995-97, foreign investment grew to \$6.4 billion while FDI reached \$2.6 billion. Even then, \$2.6 billion represented only a meagre 2.9% of all FDI to developing countries (IMF, 1997, p. 43).

With slow economic reform in the 1980s, came greater market capitalisation and increased daily turnover of shares, followed by an increased number of mutual fund investors, and each of these values multiplied by the mid-1990s. Total market capitalisation as a proportion of GDP remained at 5% in 1980, but by 1990, the ratio rose to 13%, and by the end of 1993, the proportion stood at 60% of GDP.⁴ The daily turnover of shares on the BSE

⁴ Statistics from paragraph taken from Singh, Ajit; "Liberalisation, the Stock Market, and the Market for Corporate Control: A Bridge too Far for the Indian Economy?"; *India's Economic Reforms and Development*,

was at Rs 0.13 billion in 1980-81, which rose to Rs 3.7 billion in 1993-94. By this time, the average volume of shares traded daily was approximately 45,000 – a value similar to that in the London Stock Exchange. Finally, the number of mutual fund investors rose from 2 million to 40 million (compared to the US's 51 million), and in 1995, the Indian stock market boasted 7985 listed companies - the largest number of listed companies in the world. As previously discussed, each one of these trends is consistent with the normal growth process of developing stock markets.

Financial globalisation and the recurring balance of payments crises forced India to rethink its financial and macroeconomic policies in 1991. The changes mentioned above, the liberalisation of capital markets, changed the face of India's stock exchanges. I mention in further detail below, the shortcomings of the Bombay Stock Exchange (BSE), along with some of the restructuring that was done in the mid-1990s with the establishment of the Securities and Exchange Board of India (SEBI) and the National Stock Exchange (NSE).

V. Focus: The Bombay Stock Exchange (BSE)

Amongst India's 23 stock exchanges, the Bombay Stock Exchange (BSE) has been by far the largest until 1995. Founded in 1875, it is also Asia's oldest stock exchange. The BSE lists close to 4500 of India's 8000 listed companies and accounts for 80% of the \$139 billion market value present in all the 23 exchanges. The average daily turnover has more than tripled from Rs. 851 crores^(a) in 1997-98 to Rs. 2729 crores in 1999-2000, while the average daily turnover has multiplied from 80,000 to 295,000.

VI. Shortcomings of the BSE (Prior to 1991)

The development of the BSE has been on the low priority list during both, the British raj, and even during India's first years of independence under Jawaharlal Nehru as Prime Minister. The Nehruvian state preferred channelling investments through public banks and

Essays for Manmohan Singh; Isher Judge Ahluwalia and I.M.D. Little, editors; Delhi: Oxford University Press, 1998.

the state. India's stock exchanges have been one of the main reasons for its low economic growth. (We have already seen its correlation to GNP, etc.).

In order for a stock exchange to survive and grow, it needs, inherently, to be free of government control, or at least, these controls must only act to protect the basic rights of investors. With tight rules and regulations defining how each transaction must take place, this bureaucratic environment has stifled any success the exchanges may have had up until 1991.

Over 100,000 sub-brokers domestically initiate approximately 80% of all transactions for individual investors (Echeverri-Gent, *India*). These sub-brokers are often employed by the 2,200 brokers themselves, but neither one is legally liable for the other's actions. As a result, sub-brokers reduce the transparency of transactions since they do not make available information on brokers' transaction costs, which are negotiable with a ceiling of 2.5% of contract values (BSE online, About BSE, Brokerage and Other Transaction Costs). They try their fullest to retain the maximum profits possible.

Over the past years, BSE brokers have exploited various India's stock exchanges to their own advantage. They would maximise returns on individual transactions even if that hurt other less important transactions. As a result, no priority was given to increasing their profits by maximising the volume of transactions^(a), which would have contributed more profits to the economic growth of the country.

This rent seeking behaviour of Indian brokers has been recognised by the government of India and even by the membership of the Unit Trust of India:

...The security business in the country has tended to be in the hands of a few families of stockbrokers whose actions are primarily governed by the need to protect their own interests and bereft of the interests of the investing public and even obstruct the attempts of the Government aimed at making the Stock Exchange efficient instruments for mobilising savings of the community for national development... (GOI, 1985, p. 10)

Not even 5% of the stockbrokers were "properly trained and equipped" (Echeverri-Gent, *India*). They are often charged for creating unnecessary delays, and malpractices such as

“insider trading, concealing speculative trading on their own accounts from stock exchange authorities, colluding with promoters to manipulate premia on new issues by buying up shares to attract investors and then selling the shares for a profit leaving unsuspecting investors with losses, and rigging stock market quotations to illegally enhance profits from options trading” (GOI, 1985, p. 9-18).

Already unnecessary bureaucratic work is further worsened by the requirement that all share certificates and transfer deeds must be signed by the seller before the completion of the transaction. This process should legally be done within 14 days, but allowances can be made up to 28 days for those living in remote locations (Echeverri-Gent, *India*). In the stock market, the prices of stocks can change considerably every few minutes. As a result, clients can no longer be assured that their transactions will be worthwhile because within 28 days, companies’ stock values could take a dive, and it will take at least another 28 days for clients to sell their shares to another buyer.

The growing number of Foreign Institutional Investors (FIIs) face a further problem. The maximum number of shares that can be bought in a single lot usually ranges between 10 and 50 with 100 being the absolute maximum. This multiplies the amount of paperwork and time, if it becomes necessary to conduct several such transactions to acquire the needed number of shares.

Concerning changes in ownership, companies are required to register all transfers of shares within 60 days. This creates a stockpile of share certificates and transfer deeds. At present, the average FII takes over 4 months to complete registration changes, assuming all paperwork is in order. On the other hand, if faulty signatures are discovered, the papers are returned to the owners who must then contact the brokers. At times, lack of interest on the brokers behalf and other inevitable delays result in the issue taking close to a year to resolve.

To further worsen things, brokers “use the periods between sales and settlement to speculate with their clients’ money” (Echeverri-Gent, *India*, p. 213). Legally, issuing companies do not have to recognise transfers of share ownership. This delays transfers through their registrars, and they use all means possible to keep shares out of circulation minimising sales that might depress the price of their stocks. They can also use their influence to avoid hostile takeovers and they can even intentionally sign under false names so that they can later nullify transactions (Global Money Management, 1996, p. 2).

VII. Securities and Exchange Board of India (SEBI)

The government established the Securities and Exchange Board of India (SEBI) to oversee the country’s stock exchanges. Its creation sought out to legitimise existing capital market institutions for the public. SEBI did not receive any statutory powers or legal sanctions until 1991, resulting from the urgent need to solve the balance of payments crisis and hence, it remained ineffective in resolving well-known problems that plagued India’s capital markets. At the same time, international financial institutions pressurised India to better regulate financial intermediation. India’s need to revise its financial and economic situation led to the appointment of Manmohan Singh as Finance Minister.

SEBI’s legal authority to regulate India’s stock markets meant that companies could bypass the Controller of Capital Issues (CCI) in order to enter the capital market. They could now set their own prices in accordance with SEBI’s norms. The Board

strengthened the standards of disclosure on primary markets, introduced prudential norms for issues and intermediaries, and streamlined issue procedures. The 1995 amendment to the SEBI Act for the first time enabled SEBI to file suits against violators of its regulations without prior approval of the central government. It provided SEBI subpoena powers for records, documents, accounts, and personal testimony, and it authorised it to levy fines in for certain violations of its regulations. (Echeverri-Gent, *India*, p. 215)

SEBI’s actions angered India’s stockbrokers and members of the BSE. It took a few strikes and upheavals, for the SEBI to gain authority over India’s stock markets.

In 1994, to make the takeover of inefficient firms even more transparent, SEBI issued regulations that would also protect minority shareholder interests. Unnecessary bureaucratic procedures, such as getting three approvals for the same transaction were eliminated. Also, measures have been taken under the new code to save jobs and protect shareholders' and creditors' interests when managing companies were soon to be bankrupt. Earlier, such companies would either be forced to close down, be restructured or be sold. SEBI's new ruling allows takeover bids after companies lose only 50% of their value.

Furthermore, the Surveillance Department was set up in August 1995 with staff assigned to make "promote and inculcate honourable and just practices of trading transactions and to discourage malpractices" (BSE online, About BSE, Safety of the Market). Some of its duties include monitoring price movement of scrips, price movement anomalies and detecting market manipulated rigging. Later, in 1999, it developed an On-line Real Time (ORLT) Surveillance System which generates alerts on-line, in real time, based on price and volume variations in scrips. Previously, under pressure due to the extremely rapid growth of the National Stock Exchange, the BSE, introduced the Bombay On Line Trading (BOLT)^(b) system towards the end of 1995.

VIII. The National Stock Exchange (NSE)

Creating the Indian National Stock Exchange (NSE) was first brought up in November 1992 upon the BSE's refusal of SEBI recommendations. The NSE, much more futuristic and user-friendly in its outlook opened for trading equities in October 1994. Soon after, by the end of 1995, the volume of equities traded at NSE outstripped that of the BSE (Tassel 1997). By 1997, it linked 145 cities via an on-line satellite-based network.

Unlike the BSE, NSE regulations require the rectification of bad trade deliveries within 48 hours. Those deliveries still not rectified are auctioned off to other brokers who resolve the problem within a few days, unlike the months taken by the BSE. In addition,

penalty points accumulate once a broker is unable to see through a transaction accurately. A broker with 51 points is fined, while a broker with 100 points is suspended for 5 working days.

The NSE is owned by state financial institutions and run by professional managers, whereas the BSE is both, owned and managed by their own brokers (Echeverri-Gent, *India*). The NSE requires its member brokers to pay a fee for using NSE's services instead of buying seats on the exchange as in practice in the BSE. Despite the assimilation of BOLT by end 1995, the BSE's turnover was \$168 million by June 1996, while the NSE's turnover increased to \$426 million. Although BOLT has made the BSE more efficient than it has ever been, one of its flaws is that it still requires brokers to quote prices.

The absence of share depositories (Clearing house systems)^(a) does not allow centralisation of share collection. In October 1996, the NSE opened up the country's first such depository, National Securities Depository Ltd., in coordination with the Industrial Development Bank of India and the Unit Trust of India. But, its market capitalisation value has remained small. This value in June 1997 was less than \$750,000 (0.5% of total market capitalisation), although soon agreements were made with companies to increase this representation to 25% of the total market capitalisation within the following years.

IX. Problems that continue to face the Indian stock markets: Scandals in the BSE

Of late, India's stock markets have been plagued by multiple defrauding scams, despite increased regulation and transparency of information. A Mumbai-based stockbroker, Harshad Mehta has been accused of "siphoning off Rs. 55 billion (\$ 1.18 billion) in a securities scam in 1992" ("Harshad Mehta opposes charges in fraud case," 2001). An investigation ensuing from mid-1998 has him on trial for allegedly diverting Rs. 6.8 billion (\$147 million) from India's Oil and Natural Gas Corporation between 1989 and 1991. Yet another recent scandal involves broker Ketan Parekh who has been accused of defrauding the

Bank of India of close to US \$30 million (“Indian broker denied bail again,” 2001). First, he acquired substantial loans by violation banking norms, and then, once the stock value fell, he couldn’t repay his debts. A series of similar scams has been responsible for various crashes in share prices over the past 10 years, with the latest one being on March 2, 2001 with the sell off by Parekh.

SEBI has banned three companies, BPL, Sterlite and Videocon from trading for multiple years for manipulating stock prices. The Exchange Board also froze operations of Credit Suisse First Boston (CSFB) and Nirmal Bank Group, making CSFB the first non-Indian broker to be shuttered (“Indian brokerage head arrested,” 2001). Involving yet another company, First Global, the chairman, Shankar Sharma has been arrested on charges for buying 14.5% stake in Tehelka.com in July 2000 knowing fully well of the effects on the stock value because of their soon to be released report on the arms and bribery scandal in the Government of India, involving officials in high posts. In a separate case, Subramanian Swamy has documented concrete examples on how Reliance Industries Ltd. (RIL) raised Rs. 1000 crore^(a) (\$217.4 million) by a fresh public issue and hid the money at 0% interest as loans with 250 family-owned companies. Then, these companies bought RIL shares in order to hike up RIL’s stock price (Swamy, 2001).

The SEBI has come under a lot of scrutiny as an ineffective regulator, especially due to its own shady involvement in the proposed UTI and GTB Bank merger that was called off on April 4, 2001. It has been confirmed that the Reserve Bank of India (RBI) and the SEBI were aware of the price rigging of GTB much before the proposed merger date (“How RBI was aware of GTB rigging,” 2001). Perhaps, the RBI and SEBI had something to benefit by not informing UTI Bank about this price rigging. This high price would have significantly affected the swap ratio for the banks shares, giving GTB’s shareholders an unfair advantage.

X. The Stock Market in Turmoil⁵

On budget day, February 28, 2001, the BSE 30-share sensitive index (Sensex) went up by 177 points. On March 1, the RBI cut the Bank Rate from 7.5% to 7% per annum and the market went up by 24 points. But on March 2, the Sensex fell by 176 points triggering an investigation by the Union Finance Ministry. On March 5, the index fell by 97 points and on March 7, Automated Lending and Borrowing Mechanism (ALBM) rates on select scrips rose 80-100%. On March 8, the BSE president, Mr. Anand Rathi was asked to demit office due to involvement in the market crash. The payment crisis began on March 9 and the Sensex dipped by 175 points. On March 12, the market fell by a further 14 points.

The Government announced moves for corporatisation of stock exchanges and Tehelka.com broke the defence deal scam on March 13; the market fell by 227 points. In addition, Mr. Anand Rathi's firms were debarred from trading, and all broker-directors on the BSE were sacked. The Sensex swung wildly by 900 points during the day. A payment crisis hit the Calcutta Stock Exchange and the market fell by 184 points. On March 15, the market recovered 94 points with SEBI's announcement of fresh guidelines for stock exchange functionaries. On March 16, the market fell 74.5 points after more details of ministers involved in the Tehelka.com expose were released.

Such turmoil in the stock market can have major repercussions on the economy, not only by the resulting fall in economic welfare, but also by making investors lose confidence in the stock market. And this is especially unfortunate when such loss results from unnecessary scandals or from the lack of proper supervision, events that do not always reflect the current state of the economy.

⁵ Taken from "Systemic failure behind stock market turmoil", *The Hindu*, March 22, 2001

XI. Future Success

The principal problem in India's stock markets is the necessary intervention of the government to supervise their proper functioning and their lack of liquidity. But for the real success of the stock market, government intervention should only be occasional exceptions. Part of the problem arises due to the fact that for the most part, the BSE has been run by unqualified professionals. And given the BSE's history of corruption, such intervention has, ironically, been needed:

Speculative excess, referred to concisely as a mania and revulsion from such excess in the form of crisis, crash or panic can be shown to be, if not inevitable, at least historically common... Markets generally work, but occasionally they break down. When they do, they require government intervention to provide the public good of stability... It happens that crashes and panics are often precipitated by the revelation of some misfeasance, malfeasance or malversation (the corruption of officials) engendered during the mania. (Kindleberger)

Nonetheless, government intervention must be restricted to ensuring the flow of funds, with transparency and accountability. It should by no means dry up funds through the use of bureaucratic regulations. Oommen A Ninan points out one such regulation where the cost of capital for Indians is at 12% real interest on loans, while foreigners are only charged 2-3%. Consequently, bank credit as a ratio of the GDP is just 45.6% in India, while the same ratio stands at 66.3% in China, 139.4% in Japan, 162.9% in the US, and at 177.7% in Switzerland (Swamy, 2001). Such financial levies leave little incentive for the Indian broker and the investor to be honest; creating a vicious cycle where more dishonesty leads to even more government intervention, and hence, even more corruption, and less confidence. If investors cannot be assured of efficient, quick and liquid transactions at low cost, the stock market will never grow exponentially, as desired.

The creation of SEBI has most definitely improved the condition of the BSE, but numerous lapses in overseeing problems, and its possible involvement with UTI bank price rigging have failed to assure investors of its credibility. It has also failed to find conclusive

results on numerous investigations, many times without holding the person responsible for any crimes committed.

Although India's economy has been in good shape in terms of its liquidity, the market concentration ratio, volatility, total value traded/GDP, and turnover ratio prior to liberalisation (refer to section II), the Indian stock exchanges were not allowed to expand due to prohibitive restrictions imposed by the government and due to the inefficiency of financial intermediation. Besides these reasons, disorganised fragmentation of the trading system poses yet another problem. About 20 million investors need to go through 23 different stock exchanges, some of which exist only on revenues made from inter-exchange arbitrage and listing fees. A first time investor is guaranteed to be misguided and referred to the wrong brokers, increasing his total cost of financial intermediation. As a result, to avoid dealing with secondary and at times, non-official brokers, Indian investors prefer the primary market of placement in company issues, instead of the secondary market of trading in shares. This trend is exactly the opposite of the fast growing and developed countries (Swamy, 2001).

Also, a study conducted by the Reserve Bank of India (RBI) on "Stock returns and volatility in India" shows that the equity market in India is dominated by those investors who tend to optimise returns in the short-run. The study concludes that this adds to the volatility of the BSE Sensex, due to frequent alternations "between short phases of bull runs and bear hugs". But, as stated by Levine and Zervos, there is not any strong evidence that this short-term volatility will hurt the growth of the economy, and every stock market in its early stages of development needs to go through this stage as it continues to develop (Levine and Zervos, World Bank Policy Research Working Paper No. 1622).

In order for the Indian stock markets to continue to expand, further deregulation and even further financial liberalisation will need to be carried out. At the same time, policy makers and economists must make sure that the Indian economy is sound enough for it to

sustain even further, rapid expansion. Certain problems within the corporate scene of India will need immediate rectification: the lack of cohesion between the government, the SEBI, and the stock exchanges; tighter control on the transfer of accurate information to shareholders; stricter supervision of the scandals and other forms of corruption; and finally, the inefficiency, inconvenience and high costs of financial intermediation. Once such basic issues are overcome, only then, can the Indian stock markets reach competitive levels with those around the globe.

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(a) **Glossary**

- Clearing House – Each Exchange maintains a clearing house to act as the central agency for effecting delivery and settlement of contracts between all members. The days on which members pay or receive the amounts due to them are called pay-in or pay-out days respectively.
- Crore – The Indian numeric system. 1 crore = 10,000,000 or 10 million.
- Total value traded/GDP – This ratio measures the number of stocks traded in relation to the size of the economy.
- Volume of Trading – The total number of shares, which change hands in a particular company's securities. It is the sum of either purchases or sales, which necessarily equal. This information is useful in explaining and interpreting fluctuations in share prices.

(b) Bombay On Line Trading (BOLT) System (taken from the BSE website www.bseindia.com)

The Exchange, which had an open outcry trading system, has switched over to a fully automated computerized mode of trading known as BOLT (BSE On Line Trading) System. This system, which is both order and quote driven, was commissioned on March 14, 1995. It facilitates more efficient processing, automatic order matching and faster execution of trades. Above all, the system is more transparent for investors, while allowing members to keep their clients' positions confidential as compared to the earlier regime where the counterparty was always known. The members now enter orders/quotes on the Trader Work Stations (TWSs) in their offices instead of assembling in the trading ring.

The Exchange has obtained permission from Securities and Exchange Board of India (SEBI) for expansion of its BSE-On-Line-Trading (BOLT) network to locations outside Mumbai. In terms of the permission granted by SEBI and certain modifications announced later, the members of the Exchange are free to install their trading terminals at any place in the country. However, the Exchange had earlier signed a Memorandum of Understanding (MOU) with eleven regional stock exchanges permitting it to install the BOLT terminals in their jurisdictional areas. The Exchange has accordingly decided, for the time being, to allow its members to install BOLT terminals in all metro cities and other areas having stock exchanges who have not signed a MOU with the Exchange.