CHAPTER VIII
SUMMARY AND POLICY IMPLICATIONS

8.1 Summary

The role of stock markets in our everyday life has become rather difficult to ignore. Stock markets influence growth rate of countries by promoting efficiency, reducing transaction costs, increasing liquidity, lowering risks, and transferring irreducible risks to those more willing to bear them. The importance of stock markets stems from their ability to reduce liquidity and productivity shocks, and expand the information set at the disposal of the financial sector, both of which affect the marginal efficiency of capital which, in turn, influences output and its growth.

Recently, more attention has been given by the theoretical literature on the links between stock markets and economic growth, but the empirical evidence is still scarce. This study provides considerable knowledge about the impact of stock market development and economic growth in a developing country like India.

Taking into account the critical role of stock market in Indian economy, the study examines certain key aspects of stock market development in connection with economic development. The specific issues addressed are: the role of stock market development on economic growth in a developing economy of India and the causal linkage between stock market development and economic growth in the post liberalization period; the causal linkage between the macroeconomic determinants and stock market development variables during the period from 1991 to 2012; the integration of Indian Stock Market with the global stock markets after the liberalization and globalization of the Indian Economy; and the level of efficiency of the Indian Stock Markets since 1991.

The role assumed by financial market particularly the stock market in promoting economic growth process from the theoretical angles, the role of stock markets in the growth process and the development of financial markets in an emerging economy as portrayed by various macroeconomic schools of thought was analyze and the theoretical
relationship between economic growth and stock market development was brought out in detail. In addition to this, the role played by financial markets, the various theses such as financial repression paradigm and financial liberalization thesis, post Keynesian criticism of Financial Liberalization thesis, endogenous growth models, stock market instability and the role of stock market integration are also examined.

A major subject of controversy is the usefulness of the development of a stock market in a developing economy. A lot of advantages and disadvantages have been cited in the literature. One of the problems surrounding stock market development is that it was ignored by the early literature which proposed financial deepening. Although an early analysis on the benefits of the creation of a stock market in developing economies was missing, several of these countries either promoted the development of, or created a stock market. The effect of the stock market development on economic growth can be direct or indirect. A national stock market should integrate with the world capital markets in order to assist economic growth more effectively. Integration can help the stock market grow and develop the characteristics which make it a useful instrument for economic growth. The prevailing efficiency in stock market affects a large extent the domestic economic growth as well as its integration with global stock markets.

The growth and evolution of stock exchanges in the global context, the structure and characteristics of Indian Stock Markets and the trends in the development and operational procedures over the period of years are surveyed. The growth and evolution of major global stock exchanges, namely, New York Stock Exchange (NYSE), London Stock Exchange (LSE), Paris Stock Exchange, Frankfurt Stock Exchange, Tokyo Stock Exchange and Australian Stock Exchange were examined. The history of the earliest stock exchange, the French Stock Exchange, may be traced back to 12th century when transactions occurred in commercial bills of exchange. In 1773, London stock dealers, who had been meeting informally in coffee houses, moved into their own building to establish an exchange. Other European exchanges that opened in the 1600’s and 1700’s included those in Belgium, Spain, Portugal, and Sweden. From the early exchanges for
commercial bills and notes, it was an easy and logical transition to establish stock exchanges for securities. By the mid-1800s, many countries outside of Europe (including Canada and Australia) began trading in securities. During the 19th and 20th centuries, major exchanges opened in Asia, Eastern Europe, and parts of Africa and Latin America.

The growth and evolution of the Indian Stock Market during the pre-independence period and post-independence period are examined in detail. The development of capital markets in India were not in concurrence, on a contemporaneous basis, with that of rest of the world. Unlike the monetary and banking history, India never had an orderly and systematic development of capital markets. The genesis of Indian stock market can be traced back to the eighteenth century. However, the orderly development of the Indian Stock Market started in the post-independence era with the framing of Capital Issues Control Act in 1947.

The decade of nineties ushered in a series of significant turnarounds in the financial market, especially the capital market. Severe macroeconomic and fiscal imbalances characterized the country’s economic situation. Burgeoning fiscal deficit, worsening balance of payment situation, escalating inflation and downward spiraling productivity took a heavy toll of India’s economy. The country in dire necessity of a way to wriggle out of the stalemate of economic affairs had to chart out an alternative path of economic policy. India embraced a new economic philosophy in July 1991 when the new economic policy of liberalization, privatization and globalization was introduced. Interwoven in this policy was the removal of existing administrative controls and impediments and opening up of the economy by encouraging private sector participation in many sectors. Hitherto existing shackles on investment and enterprise were thrown to winds. The changed milieu and the anticipation of good tidings for the corporate sector could not leave the stock market unturned. The Indian stock market has evolved at a very fast pace in the post liberalization period.

The progress made by the Indian capital markets in the post-liberalization phase in terms of implementing international standard practices, widening and deepening of capital markets and the technological progress have been remarkable and provide the
necessary impetus for growth and development, and there by strengthening the emerging
market economy in India. This period was also marked by greatest turmoil that the
markets have ever witnessed. However, with timely and appropriate policy initiatives,
systemic failures were avoided. Some of the fundamental problems relating to Indian
capital markets include existence of huge number of illiquid stocks, lack of depth with
few companies accounting for the majority of trading volume, low delivery ratio and
concentration of trading with a few brokerage houses. Although some of these problems
are chronic and difficult to solve for any regulatory authority, these problems underline
the need to develop the capital markets further.

The growth trajectory of India with emphasis during the liberalized era, the
macroeconomic environment and the growth process of the Indian economy since
independence has been analyzed. The theoretical literature with regard to stock market
and economic growth was reviewed. The existing theoretical literature has identified
various mechanisms to explain the positive incidence of stock markets on long-run
economic growth rate. The mechanisms emphasized by these studies rely on the premise
that stock markets help to promote physical capital accumulation, improve capital
mobilizing and increase total factor productivity growth. Theoretical analysis in these
studies show that stock markets can do this by performing different financial functions:
decrease liquidity and productivity risks, facilitating liquidity, information production,
exerting corporate control and monitor, improving capital mobilizing to their efficient
use and transmission path for monetary policy. Numerous economists, however, tend to
argue that since stock markets do not raise much capital, they are insignificant in the
development process. Stock markets may even have a negative effect since they are
merely "Casinos". Moreover, because most stock markets in developing countries are
very thin, some researchers argue that this may lead to excessive volatility in share
prices. Stock price volatility may seriously hamper economic development. In addition,
other researchers argue that because stock markets have many more problems with
asymmetric information, and since banks and other financial intermediates perform
similar functions, they are more suitable than stock markets for developing countries.
The stock market development indicators used generally for constructing proxies for stock market development are associated with the size (Market Capitalisation Ratio), and liquidity (Value Traded Ratio and Turnover Ratio) of the stock market. The advantages and disadvantages of using each of these indicators as a proxy for stock market development are dealt in detail and an empirical attempt has been made to examine the link between stock market development and economic growth of India. The study has used the monthly data of BSE for the time span of November 1994 to March 2012. The variables used for understanding the causal relationship between stock market development and economic growth are Index of Industrial Production (IIP) and Turnover ratio which respectively represent economic growth and stock market development.

A number of statistical test are used for deciphering the relationship between economic growth and stock market development such as Granger Causality test, Unit Root tests, cointegration test, Engel Granger Error Correction Method, Vector Auto regressive model (VAR), Impulse Response and Decomposition Analysis etc. The results of the empirical analysis indicate that there exists a unidirectional relationship between IIP and TR. Turnover Ratio does not Granger cause the economic growth while the economic growth as represented by IIP does Granger cause the stock market development which is represented by TR. The result of variance decomposition indicates that the economic growth behaves exogenously. In the initial period, the variation in changes in economic growth is caused by the economic growth itself. As time passes, the change in economic growth is contributed by the selected stock market variables. However, the impact exerted by the stock market development variables on economic growth is very low. Only less than 1% of variation in economic growth is attributed by stock market development even after twenty months. Similar to economic growth, the stock market development represented by TR behaves exogenously. The contribution of economic growth in creating variation in TR is very minimal in the Indian stock market. The results of the impulse response test show that the shocks in stock market development variables have less impact on economic growth variable, IIP. The shock emanated from economic growth has some impact on the stock market development and the impact decrease over the time. The results suggest that stock market development in
India leads to economic growth at least for the period under study, which is in line with the ‘supply leading’ hypotheses. In addition to that the causal relationship between stock market development and economic growth is sensitive to the proxy used for describing the stock market development.

The macroeconomic determinants of Stock Market Development in India and the causal linkage between the macroeconomic determinants and stock market development were analyzed. Based on the various domestic and global literature reviews, the identified factors were classified into economic growth, financial intermediary development, macroeconomic stability and external factors. In general, the stock market development is represented either by stock market size or the stock market liquidity. Since the monthly data on GDP is not available, the estimation of market capitalisation ratio (MCR) and value traded ratio (VTR) are not possible, only measure of stock market development left for the analysis is the turnover ratio (TR). TR is used as measure of stock market development in this context. The data used is monthly data of all the above mentioned variables for the period from November 1994 to March 2012.

The value of GDP and its growth rate is generally accepted factor of economic growth. However, the monthly data on GDP is not available and hence the index of industrial production (IIP) was taken as a proxy variable for GDP. Among the various indicators of financial intermediary, the Credit-deposit ratio was used as an index for financial intermediary development. There were two variables, namely, interest rate and inflation rate, used for macroeconomic stability. The SBI prime lending rate is used for representing interest rate and month-to-month inflation based on WPI is used for representing the inflation rate for the analysis. The external factors were represented by the exchange rate of domestic currency and the flow of net FDI towards the country. The result of the analysis showed that in the short-run, economic growth is positively and significantly influenced by stock market development. Inflation (Variable used to Proxy macroeconomic stability), interest rate(Variable used to Proxy macroeconomic stability), net FDI(Variable used to proxy External factor) and CD ratio(Variable used to proxy Financial Intermediation) negatively influence the stock market development. However, their association with stock market indicator turnover ratio is not significant.
Exchange Rate (Variable used to represent External factor) has positively and significantly affected Stock Market Development.

The study investigated whether Indian Stock Markets in India are integrated with global developed stock markets namely, US, UK, Australia, France, Germany and Japan, especially after the initiation of economic and financial reforms. The daily BSE Sensitive Index (SENSEX) comprising 30 most sensitive scrips was used to represent Indian stock market for the period from 1991 to 2012. The results of the study implies that all developed markets of USA and Europe affects the Indian Market and not vice versa.

The efficiency of Indian stock market was evaluated during the period from 1990 to 2012. The weak form efficiency is tested for BSE. One of the conditions for weak form efficiency is that the stock returns must follow a random walk model. For the evaluation of the existence of random walk mode, the tests used are the Autocorrelation Test, the Runs Test, the Unit Root Tests, the Variance Ratio Test and the GARCH (1,1) Model. The results of the above mentioned test show that BSE stock returns are inefficient in the weak form has very profound implications for both investors and policy makers.

In this study the following hypothesis are tested.

(i) It was propounded that there exists two-way causality between stock market development and economic growth. The results of our analysis show that there is unidirectional causality from IIP (Variable used as proxy for Economic Growth) to Turnover Ratio (Variable used as proxy for Stock Market Development).

(ii) It was mentioned that the stock market development is significantly influenced by the macroeconomic determinants of economic growth (represented by Index of Industrial Production), financial intermediation, macroeconomic stability and external factors. The result of the analysis shows that in the short-run, economic growth is positively and significantly influenced by stock market development. Inflation (Variable used to Proxy macroeconomic stability), interest rate (Variable used to Proxy
macroeconomic stability), net FDI (Variable used to proxy External factor) and CD ratio (Variable used to proxy Financial Intermediation) negatively influence the stock market development. However, their association with stock market indicator turnover ratio is not significant. Exchange Rate (Variable used to represent External factor) has positively and significantly affected Stock Market Development.

(iii) It was propounded that the Indian stock market (eg, Bombay Stock Exchange, BSE) is closely integrated with developed stock markets during the liberalized era. The result of the analysis shows that there is unidirectional relation between Indian Stock market and few global Stock Markets and not vice-versa.

(iv) It was mentioned that the Indian Stock market is weak form efficient. The hypothesis is rejected as the results show that Indian Stock Market is weak form inefficient.

**8.2 Policy Implications**

The findings from this study raise some policy issues and recommendations, which will reinforce the link between the stock market and economic growth. The analysis and empirical findings of this study have important implications for the conduct of economic policy regarding the role of the stock market in Indian economy. There is reasonable confidence that development of the stock market is an effective policy towards promoting India's economic growth. By adopting measures in favour of stock market development, the Indian government might be successful in establishing a strategy that enhances the role of the stock market in the process of economic development. In this respect, given the past and actual performance of the stock market in India, considerable progress has been made towards improving the regulatory framework, which is expected to enhance the role of the stock market in the economy. Yet, there still remains standing critical issues that represent a challenge but which are necessary for promoting the activities of the stock market in a competitive global environment.
With the existence of a positive relationship between stock market development and economic growth, it is pertinent to recommend that there should be sustained effort to stimulate productivity in both the public and private sectors. The determination of stock prices should be deregulated. Market forces should be allowed to operate without any hindrance. Interference in security pricing is inimical to the growth of the market. The stock market is known as a relatively cheap source of funds when compared to the money market and other sources. The cost of raising funds in the Indian monetary union market is however, regarded to be very high. There should be a review downward, of the cost, so as to enhance its competitiveness and improve the attractiveness as a major source of raising funds. Given the present political dispensation, all the tiers of government should be encouraged to fund their realistic developmental programmers through the stock market. This will serve as a leeway to freeing the resources that may be used in other sphere of the economy.

Given that the stock market operate in a macroeconomic environment, it is therefore necessary that the environment must be an enabling one in order to realize its full potentials. It was clear from the analysis that, from a macroeconomic perspective, the key factors determining the future development of the stock market in India and its relation with international capital markets are the domestic macroeconomic policy stance and the status of external financial relation. These will remain the key issues in influencing investors' perceptions of transfer risk. To this end, the government needs to continue with the policies of economic restructuring, privatization and liberalization, and put in place key legislation governing investment and taxation in order to stimulate local and foreign investment. The demand for the services of the stock market is a derived demand.

The results, in general, suggest that stock market turnover have a positive influence on real Index of Industrial Production. Granger Causality tests as well as variance decomposition and impulse response functions show an indirect positive effect of Turnover Ratio on IIP. Given that the results show that a positive influence of the stock market on economic growth, it is of utmost importance that the government
prioritise the development of the stock market. This can be done through relaxing laws and regulations that have to do with listing requirements for both local and foreign investors so as to encourage more listings on the bourse. This will ensure that there are more players on the stock exchange and thus increases competition and quality of securities investments resulting in a significant influence on economic growth. The relevant authorities can also encourage more trading of on the stock market even for the already listed stocks.

The results of the empirical evaluation showed that Indian markets are not isolated from the world markets and there is uni-directional causality from USA, UK and Australia. The developments in USA, UK and Australia create positive cues in Indian stock market. This provides evidence of the existence of possible exploitable profit opportunities, stemming from the awareness of price developments in other countries. Investors with a long-run perspective may benefit from an investment made across these countries. In the regulatory framework, this result may provide useful guidelines in respect of policies to be framed for individual countries. It is a well-known fact that integrated stock markets has its own advantages and disadvantages. In the current era of liberalization, it is impossible to isolate the fact that stock markets will be integrated. This will impact the global pricing of securities, develop hedging and other strategies using derivative contracts and in turn lead to the development of stock markets. However, the spillover of negative effects of other stock markets is inevitable. The government and regulators will have to take adequate steps to prevent flight of capital which may disastrously affect the economy.

The results of stock market efficiency imply that an investor is not capable of consistently outperforming the market if he uses the information contained in past prices of stocks. The results obtained from the analysis would signal that for the majority of stocks the market should be taken to be a reliable price setter at least to the extent of using past price information. The key notion held by the majority of stock market administrators and regulators is that the market is not a reliable price setter and that it is easy, unless they hold a tight reign of control, to fool the market. The evidence provided
here does not lend any support to these beliefs. This means that they can re-direct their efforts to the second major issue in this market: the structural review necessary to increase the level of trading and activity of the exchange. This will improve the structural efficiency of the exchange and make it more attractive to investors.

In short, the empirical inferences such as the unidirectional relation between Stock market development and Economic Growth, the varying influence of macroeconomic determinants on Stock market development, unidirectional stock market integration with leading global Stock markets and weak form of inefficiency in stock market returns provide ample scope for policy makers and regulators to reframe the existing stock market system in tune with the economic existences of the Indian Economy