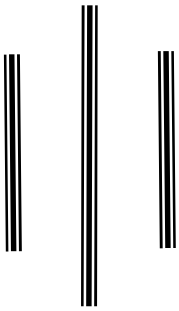
STOCK MARKET AND ECONOMIC GROWTH



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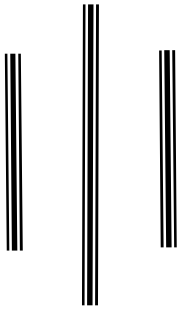

A Thesis Submitted to
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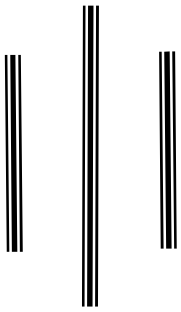

In partial fulfillment of the requirement of the degree of
Masters of Business Studies (MBS)
Bhairahawa, Rupandehi
August 2009

RECOMMENDATION

This is to certify that the thesis

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Entitled:

"STOCK MARKET AND ECONOMICGROWTH"

has been prepared as approved by this Department in the prescribed format of faculty of Management. This thesis is forwarded for examination.

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VIVA-VOCE SHEET

We have conducted the viva-voce examination of the thesis presented by

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Entitled:

"STOCK MARKET AND ECONOMIC GROWTH" **and found the thesis to be original work of the student and written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirement for**

Master's Degree in Business Studies (M.B.S.)

VIVA-VOCE COMMITTEE

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DECLARATION

I hereby declare that the work reported in this thesis entitled **"Stock Market and Economic Growth"** submitted to Office of the Dean, Faculty of Management, Tribhuvan University is my original work done in the form of partial fulfillment of the requirement of Master of Business Studies (M.B.S.) under the guidance and supervision of Dr. Ramji Gautam of Bhairahawa Multiple Campus.

Date: 25 August 2009 Durga Lamsal

ACKNOWLEDGEMENT

This study has been undertaken to study the stock market and economic growth of the common stocks of listed finance companies using the secondary data solely for the purpose of partial fulfillment of the requirement of MBS degree.

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Date: August 2009

Durga Lamsal

CONTENTS

LIST OF TABLES

ABBREVIATION

NEPSE	=	Nepal Stock Exchange Limited
SEBON	=	Securities Board of Nepal
TU	=	Tribhuvan University
Reg.	=	Registration
FOM	=	Faculty of Management
CS	=	Common Stock (s)
MBS	=	Masters Degree of Business Studies
ARR	=	Average Rate of Return
SD	=	Standard Deviation
CV	=	Coefficient of Variation
RRR	=	Required Rate of Return
GDP	=	Gross Domestic Product
SEC	=	Security Exchange Center Limited
F/Y	=	Fiscal Year
AGM	=	Annual General Meeting
Dr.	=	Doctor

Chapter 1

Introduction

1.1 GENERAL BACKGROUND:

The relationship between the stock market development and economic growth has received renewed attention of academicians and policy makers in the present decade both in the developed and developing countries as a result of the emerging equity market phenomenon and of the need of to provide liquidity for privatization-lined equity issues. The importance of stock markets in the developing countries has opened up in many avenues for research in the relationship between financial development and economic growth, with focus on developmental role of stock markets. Empirical studies in many developing countries suggest that every nation has a structure of financial system that exists side by side with its real infrastructure, and the differences in the nations. Evidences show that financial development of a nation overwhelmingly affects its economic growth.

Development and expansion of the capital/ stock market are essential for the rapid economic growth of the country. Capital market helps economic development by mobilizing long term capital which is needed for the productive sector.

Capital market proved to be the important segments of the economy since it facilitates and provides better institutional arrangements the borrowing and lending of the long-term funds. Capital market is the general barometer that measures the proper collection ad capitalization of saving for generation of assets. The locative efficiency in the use of funds is the basis for measuring the performance of capital market. But what matters crucial is the effective regulation of security market. However, experience in the number of advanced and developing countries shows that regulation of

securities market become a fleet necessary as advanced and developing countries. Capital market is the mechanism thought which the translation of financial assets with life span of greater than one year takes place. Financial assets may take different forms ranging from the government bonds to the ordinary shares of various companies. Stock market is a very important constituent of capital market when the shares to take place in two different forms of stock market when the issuing firm sells its shares to take place in the primary market but when already issued shares of firms are traded among the various investors the transaction is said to have taken place in the secondary market.

Stock market are very important economic institutions that play a crucial role in the economy by channeling investment where it is needed and can be put to best use (Liberman and Furgesson, 1998). So, the stock market works as the channel through which the public savings are chanalised to industrial and business enterprises. Mobilization of such resources for investment is certainly a necessary condition for economic take off, but the quality of their allocation to various investment projects is just as important factor for growth. This is precisely what an efficient stock market does to economy. Stock market helps agents manage liquidity and productivity. Stock market also accelerates growth indirectly by reducing liquidity risk which encourages firm investment (Livine & Zervos 1996). Hence, the principle roles that stock market can be stated as follows; first: stock market work as a vehicle for raising capital for firms, second: capital market in general, and stock market in particular, can enable investors to diversify their wealth across a Varity of assets, usually more essential than in most other financial markets. Thus capital markets reduce the risk that investors must bear, there by reducing the risk premium demanded and the cost of capital. Third, stock market can perform a screening and monitoring role. Fourth, Stock market and other financial intermediaries may function, as complements, rather than substitutes, and stock market that functions well may have externalities for the rest of the financial system.

The basic functions of stock market are still to proved and allocate capital funds to firms with profitable investment opportunities and to offer and avenue of liquidity for individuals to invest current income or borrow against future income and there by achieve their preferred time pattern of consumption. Because investing involves uncertainty, capital market also proved a means for transferring risk among the parties to these transactions. The stock market and economy activity move in similar cyclical patterns. Although, some analysis's view stock markets in developing countries on economic growth, recent evidences suggest that stock market can give a big boost to economic development for the developing countries.

In a liquid and more efficient stock market investors assume low level risk and therefore invest in the stock portfolio. At the same time, companies enjoy permanent access to capital raised through equity issue. By facilitating long-term, more profitable stock market liquidity can also lead to more investment (Levine, 1996). In this way, a long-term capital needs for productive investment are fulfilled and mobilized such capital is essential for economic development. Stock markets assist in increasing capital formation through canalization of saving towards the more productive sector.

How well stock market performs its role of capital mobilizes also depends upon how efficiently the market functions. Stock market efficiency may have one of the following three forms

1. Week form of efficient market: Hypothesis stipulates that historical price and volume data for securities contain no information which can be used to earn a trading profit above what could be attained with a naïve buy and hold investment strategy.

2. Semi-strong efficient market hypothesis: specifies that markets are efficient enough for prices to reflect all publicly available information. Consequently, only those insiders who have access to valuable information

could earn a profit larger than what could be earned by using a naïve buy and hold strategy in a semi-strong efficient market.

3. Strong efficient market hypothesis: claims that no one can earn a profit larger than what could be earned with a naïve buy and hold strategy by trading on short-term security price movements.

In principle, then, only the strongly efficient market can allocate the saving to the best possible alternative investment projects. This could lead to the investment in to more productive sector which ultimately increases the productivity.

Stock market may affect economic activity through the creation of liquidity. Many profitable investments require a long-term commitment of capital but investors are often reluctant to relinquish control of their saving for long period. Liquid equity markets make investment less risky and more attractive. They allow savers to acquire assets and to sell it quickly and cheaply if they need access to their savings or want to alter their portfolios. At the same time, companies enjoy permanent access to capital raised through equity issue. By facilitating long-term, more profitable investment, liquid markets improve the allocation of capital and enhance prospects for long-term economic growth (Levin 1996). Further by making investment less risky and more profitable, stock market liquidity can also lead to more investment. Put succinctly, investors will come if they leave solving the problem of under developed economic market and economic growth of a nation are widely dependent on economic market and economic infrastructure, manufacturing industries, financial institutions and the capital market. Capital market is the major component of economic infrastructure. The corporate success or positive performance of every industries and firms is almost necessary for overall development of market. The positive financial performance brings satisfaction in the value of organizations. The increasing value of corporate firms means, it makes investors to feel safer and the investments is less risky.

There is a strong correlation between various measures of stock market development between various measures of stock market development and long run economic growth. Stock market liquidity said to have positive impact on long-run economic growth. Stock market liquidity said to have positive impact on long-run economic growth, capital accumulation and productivity growth (Levine & Zervos, 1998). More liquid markets, where it is less expensive to trade equities- reduce the disincentives to investing in long duration projects because investors can easily sell their stocks in the project if they need their savings before the project matures. Enhanced liquidity, therefore, facilitates investment in long-run; higher return projects that boost productivity growth.

The development of an economy requires the productive activities which in true is the result of the investment venture in productive enterprises. The establishment of these enterprises needed a huge amount of funds. There are mainly two sources of financing, the productive enterprises the internal and external sources. The internal financing has the limited scope because of the limited resources and risk associated with the investment. So, now a days, the external financing, the method of financing, an enterprises through the financial market has became the most important and popular sources of financing for fostering the productive activities in economy. Now, all economic units including the household and government have to rely on external financing also. The introduction and development of the financial assets is the most important attribute of the external financing. Thus the stock market, the most important component of the financial market is a must for the development of an economy. In Nepal, external financing has the limited scope because of the least developed financial market in the economy. The savers and investors are often the same in the Nepalese economy, which is one of the discouraging factors for the rapid growth of investment in productive activities.

The history of security market activity in Nepal dated back to 1937 when the share of the Biratnagar Jute Mill and Nepal Bank Limited were floated

to the general public. The next significant development after this was the introduction of the companies Act 1964 and the issue of government bonds in the same year. Real market activity however did not commence until the establishment of the securities Exchange Centre (SEC) in 1976 with the objective of facilitating and promoting the growth of capital market in Nepal.

The security Exchange Centre was owned 51 persons by the Nepal Industrial Development Corporation (NIDC) and 49 percent By Nepal Rastra Bank (NRB) and operated with the capital of 1.0 Million NR_s. At the same time, there were less than 3000 shareholders in Nepal and there were very few publicity traded companies. In an effort to increase public awareness and public ownership of shares, the government set a side 30 to 35 percent of all newly created government owned companies to be sold to the public. At a later stage, the government began to sell government bonds on the SEC- which had predominantly been held by NRB up until this point. As a result of pro-active advertising campaign by the SEC, the public started to purchase the government bonds such that by 1988, 70 percent were held by the general public. The SEC also started to manage the other public issues. All trading was done at and by the SEC.

Now NEPSE is the only corporate body having permission from SEBO/N to run the stock Exchange business in Nepal. NEPSE is owned by Government of Nepal, NRB, NIDC and the member of NEPSE. As per the power conferred by the "Securities Exchange Act, 1983","Securities Exchange Regulation, 1993" and its own memorandum and articles of association, NEPSE has formulated "Securities Listing Bye-Laws, 1996", and "Membership of stock Exchange and transaction bye-laws, 1998" to regulate listing and trading of securities. These bye-laws have the following provisions, (SEBO/N 2000/2001)

1. Listing of securities.
2. De-listing Suspension
3. De-listing of Securities

4. Categorization of listed Companies
5. Information Disclosure

Stock market both the primary and secondary market is in its early phase of standardization and the growth. It may not be regarded as a liquid and efficient market while comparing to the stock markets of more developed countries but it certainly contributes towards mobilization of the saving to the business investment.

1.2 STATEMENT OF THE PROBLEM:

Since the capital market in Nepal is operating in an immature stage, the turnover of the shares is still very thin. However, there has been continuous addition in the number of listed companies over the past 5 years. The paid-up value as well as market capitalization seems to be expanding over the years due to the addition of new listed companies. Nevertheless, the rudimentary nature of Nepalese stock market indicates highly dissatisfaction from the investors. In the view to these, we have carried on in-depth study of the efficiency of Nepalese stock market in relation to the economic growth.

A large literature, during at least as far back as Joseph A Shumpiter (1911), emphasize the positive influence of the development of a country's financial sector to the level and the rate of growth of its per capita income. The argument essentially is that the services the financial sector provides of reallocating capital to the highest value use without substantial risk of loss through moral hazard, adverse selection and transactions casts are an essential catalyst of economic growth. Empirical work seems consistent with this argument. For example on the basis of data from 34 countries between 1960 and 1963, Goldsmith (1969) concludes that "a rough parallelism can be observed between economic and financial developments if periods of several decide are considered." But other economists have expressed skepticism that financial development is anything but a sideshow to economic development. Robinson (1952) is representative of such a view point when she claims.

"Where enterprise leads finance follows." But in recent year economists have returned to this problem of financial intermediation and growth.

Raymond Atye and Jovanovic (1993) present a cross country study of stock market and economic growth. They found the significant correlation between the growth over the period 1980-1988 and the value of the stock market trading dividend by GDP for 40 countries. Domiygue Kunt and Maksimovic (1996) shows that firms in countries with better functioning bank and equity markets grow faster than predicted by individual markets grow faster than predicted by individual firm characteristics. Valerie R Bencivenga, et.al, (1995) derive models where more liquid stock markets – markets where it is less expensive to trade equities-reduce the disincentives to investing in long duration projects because investors can easily sell their state in the project if they nee their savings before the project matures.

However, Nowton, (1997) shows that the positive effects of capital gain taxes, generating form booming market transaction in reducing the budget deficit and increase in government spending that fuel the economic growth. He also finds the strong casual relationship between stock market performance as measured by "S&P 500 Index" and different variables of economic activities such as increase in capital expenditure, sales, wages, consumers' spending, commercial paper issuances and corporate expansion. In this study, he finds that stock market leads economy as measured by GDP by 2 to 3 quarters.

Very few studies have been conducted in the context of Nepalese Stock market. But there has been no attempt to measure the contribution made by stock market to the economy yet. Professor K.C (2004) found that in Nepal, despite a history of about half of a decade of planned economic activities to develop the local sector of the countries, little attention was paid to the development of financial sector. Over the past one and half decade, financial sector, despite many problems have been developing significantly in Nepal. However, most of the developments were confined to the banking sector.

Stock market has virtually remained stalled because of the low priority in the government financial reform policy.

Professor Shrestha (1992) also carried out the study on shareholders democracy and AGM feedback. Though, the investors are losing faiths on the performance of shares market since companies are not providing timely and adequate disclosure of information and the continuous violence of shareholders right by the company management. This is responsible for losing faith of general public to buy and sell their shares of such companies. Wagle (2000) also stress that the capital market in general and stock market in particular has been one of the parts of his study, the study fails to provide and specific link between saving, investment and capital formation with stock market development.

The general conclusion derived from the review of the above studies is that stock market is very important economic institution which plays as vital role for the economic development for the nation.

This study aims at assessing the role of stock market in the economic growth of Nepal.

The study specifically deals with the following issues:

- What is the role of stock market in the economy?
- Does the efficient stock market mobilize the saving efficiently?
- What is the role of stock market in increasing the economy's level of physical capital?
- What is the significance of the stock market in capital formation, mobilization and hence the increasing in per capita gross domestic product?
- Does the stock market explain the corporate expansion in the economy?
- Which factor of the development of the stock market influence the economic growth most market size as measured by market capitalization, market liquidity as measured by turnover and value

traded? or the volatility as measured by the variation in the return of market portfolio?

1.3 OBJECTIVES OF THE STUDY:

The principle objective of this study is to find out the efficiency of the stock market development in the long term economic growth. Specially, followings are the specific objectives of this study:

i) To examine the role of stock market in capital mobilization

ii) To assess the significance of stock market in the corporate expansion capital stock growth, productivity growth and employment generation.

iii) To evaluate the relationship between various indicators of stock market development and market capitalization.

1.4 LIMITATION OF THE STUDY:

This study is subject to the following limitations:

I. Lack of up-to-date data:

The study is primarily based on the secondary sources of data. The up-to-date and complete data are very difficult to get due to the inability of providing the required by concerned authorities. Variations in the data itself are also found when comparing with different sources.

II. Limited scope of the study:

This study is limited from the point view submission partial fulfillment of the requirement for the master of Business studies, MBS.

III. Financial and time constrains:

This study is fully based in the student's financial resources and is to be completed within the limited time; the study is not a final study on the subject.

1.5 ORGANIZATION OF THE STUDY:

The study has been organized into five chapters each of which contains some aspects of stock market and economic growth:

Chapter one contains the introduction part. As already has been presented in detail with the general background, statement of the problem, objectives of the study and limitations of the study.

Chapter 2 deals with the framework of the study and review of major empirical works in the area of stock market and economic growth. This study is based on the framework provided by this chapter.

Chapter three describes the research methodology employed in the research study. The main aspects to be dealt are research design, nature and sources of data, selection of enterprises, methods of analysis and definition of key terms.

Chapter 4 deals with the empirical analysis of the study. It consists of two sections. First deals with the contribution of stock market to the economy in terms of employment generation, capital formation, saving mobilization and industrial expansion. Second section attempts to formulate the empirical relationship between the indicators of the market development with the various indicators of economic growth.

At last, Chapter five concludes with the major findings of the study, summary and conclusions. This chapter also deals with the comparison between major findings and the theory. It ends the study with the recommendation and offers directions for future research.

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Chapter 2

Review of Literature

2.1 THEORETICAL FRAMEWORK

In this chapter, an attempt is made to review, some of the existing literature concerning the stock market in Nepal and aboard. Few books, articles and research, studies have been reviewed on these subjects.

Is the financial system important for economic growth? One line of research argues that the financial system is um important for economic growth; another line stresses the importance of financial system in mobilizing savings, allocating capitals, exerting corporate control and easing risk management. Furthermore, some theories provide a conceptual basis for believing that larger, more efficient stock markets boost economic growth.

The study concerned worth on Industrial production and price of common stock, 1953-1975 has received that the stock market and economic activity move in similar cyclical patterns. This fundamental relationship shows that he stock prices in the since of reflecting real economic variables(Brosworth,1975).The study concerned by U.S. Department of commerce on stock price and the cycle 1948-1984 has found that the general correspondence between stock price and the business cycle, where weighted moving average the peak and through of business cycle since 1948. The market has reflected all the recession in the economy since 1948 (Kimptan 1985).

The indicator of stock market development reflects the development of an economy. It I important to predict the course of the national economy because economic activity affects corporate profits, investors attitudes and expectations and ultimately security prices. The key for the analyst is that

overall economic activity manifest itself in the behavior of the stock market is critical (Fiher,1990, Jordan 1990).

Clearly, according to these economists, the financial system plays an inconsequential role in economic development, Furthermore, 1955 Noble prize winner Robert Lucas argues that economists frequently exaggerate the role of financial sectors in economic development (Lucas 1980). Such a view is not limited to the recent past, Robinson (1952) argues that the financial system does not spore economic growth; financial development simply responds to development in the real sector. Thus, many influential economists give a very minor role, if any, to the financial system in economic growth.

There are two important aspects of capital market, namely, the raising of funds in the form of shares and debentures and trading in the securities already issued by companies. While the first aspects is obviously is much more important from the point of view of economic growth, the second aspect is also of considerable importance. In fact, if facilities for transfer of exciting securities are abundant, the raising of new capital is concerned assisted for the buyer of a new issued of security is confident that whenever he wants to get cash, he can find a buyer without much difficulties. The aspect is called the liquidity of stock market. Thus the liquidity of stock market affects the raising the new capital from the market. (Kunt & Levine 1996)

A number of studies, on the relationship between stock price and Natural economy have found that changes in the stock market tend to precede changes in business conditions by an average of about four months. As a result, the stock price index is a major component of the index of leading economic indicators, which consistently provides a warning about the changes in economic activity (Lorie, Dood & Kimpton, 1985).

Ross Levine, a senior economist in the finance and private sector department division of the World Bank's policy research department, has mentioned in his article, the stock market may activity through the creation

of liquidity many profitable investments require a long term commitment of capital, but investors are often reluctant to relinquish control of their saving for long periods. Liquid equity market -maker investment is less risky and more attractive, because they allow savers to acquire assets equity and to sell it quickly and at cheaper price if they need access to their saving or want to alter their portfolios. At a same time, companies enjoy permanent access to capital raised through equity issue. By facilitating long-term more profitable investments, Liquid market improve the allocation of capital and enhance prospects for the long-term economic growth further by making investment less risky and more profitable, stock market liquidity can also lead to more investment (Levine 1996).

However, there are various researchers performed on the stock market liquidity and its effects on long-term economic growth. Levine Zeros have mentioned in his article that increased liquidity can have different growth through at least three channels. First, by increasing the returns to investment, greater stock market liquidity may reduce saving rates, through income and substitution effects. Second, by reducing the uncertainty associated with investment, greater stock market volatility may reduce saving rates because of the ambiguous effects on uncertainty on saving. While less uncertainty makes an investment more attractive to risk average agents, less uncertainty makes an investment more attractive to risk average agents, less uncertainty also lower-demand for precautionary savings. Thus, the ultimate impact of lower uncertainty on saving rates produced by the greater stock market liquidity is uncertain. Third, stock market liquidity may adversely affect corporate governance; very liquidity may encourage investor mafia. Because, more liquid markets make it easy for dissatisfied investors to sell quickly, liquid markets weaken investors commitment and reduce investors incentives to exert corporate control by overseeing manages and monitoring firm performance and potential. According to this view, enhanced stock market liquidity may actually hurt economic growth. (Levine & Zeros,1996).

Economists hold, straight lying importance opinions regarding the importance of financial system for economic growth. Walter Begehot (1973) and John Hicks (1969) argue that is played a critical role in igniting industrialization in England by facilitating the mobilization of capital for "immense works" Joshep Shumpter (1912) contends that well functioning banks spore technological innovation by identifying and funding those entrepreneurs with the best changes of successfully implementing innovative products and production processes. In contrast, John Robinsion (1952 Pg 86) declares that "where enterprise lead finance follows". According to this view, economic development creates demands for particular types of financial arrangement and the financial system responds automatically to these demands. Moreover, some economists just do not believe that the finance-growth relationship is important. Robert Lucas (1988 pg 6) asserts that economists "badly over-stress" the role of financial factors in economic growth, while development economists frequently express their skepticism about the role of the financial system by ignoring it (Anand Chandavakar 1992). For example, a collection of essays by the "Pioneers of development economists, including three Noble laureates, doesn't mention finance (Gerald Meir and Dudley Seers 1984). Further more; Nicholas Stern's (1989) review of development economics does not discuss the financial system, even in a section that lists committed topics. In light of this conflicting view, these papers use existing theory to organize an analytical framework of the finance-growth nexus and then assess the quantitative importance of the financial system in economic growth.

Although conclusions must be stated hesitantly ad with ample qualifications the preponderance of theoretical reasoning and empirical evidence suggests a positive, first order relationship financial development and economic growth. A growing body of work would push even most skepticism toward the belief that the development of financial markets and institutions is a critical and inextricable part of the growth process and away from the view that the financial system is an inconsequential side show, responding positively to economic growth the level of financial development is a good predictor of future rate of economic growth, capital accumulation and technological

change moreover, cross country, case study, industry and firm-level analysis document extensive periods when financial development-or the lack there of crucially affects the speed and pattern of economic development. Ross Levine, June 1997)

The following figure presents that the theoretical approach to finance and growth (Levine, 1997)

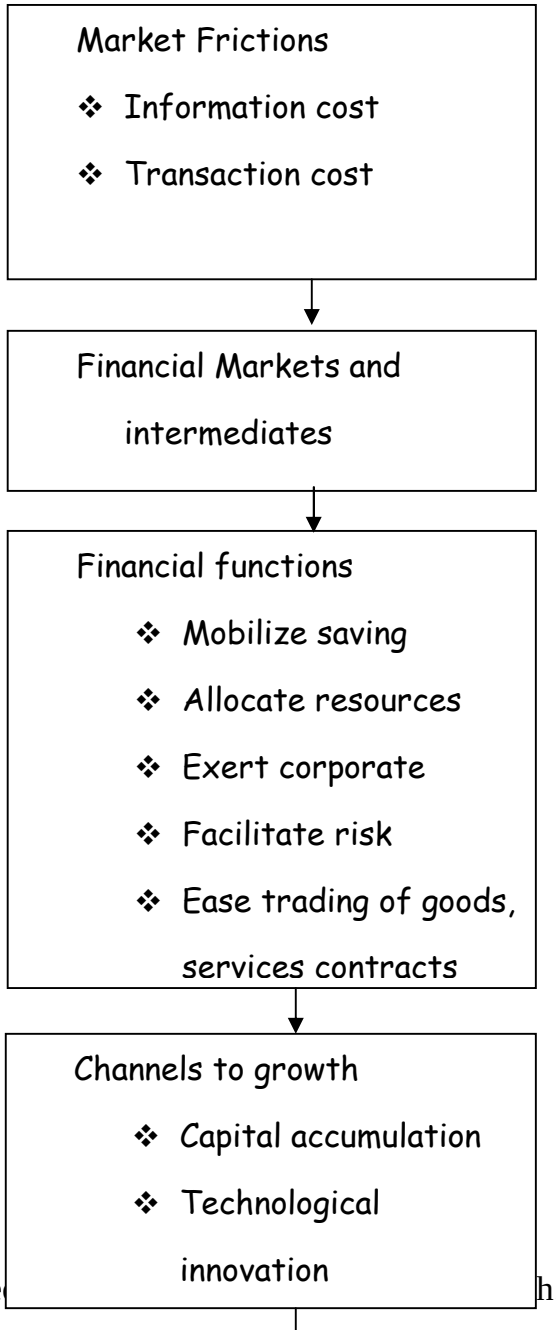

Figure 2.1: A the h.

Source: Journal economic litrabire, val xxxvc June 1997, pg 691

In this model, the functions performed by the financial system affect steady state growth by altering the rate of technological innovation.

Financial systems that are more effective at pooling the saving s of individuals can profoundly affect economic development. Besides the direct effect of better savings mobilization on capital accumulation, better saving mobilization can improve resource allocation and boost technological innovation. (*Begehot 1873 pg 3-4)*

I. Indicators of stock market development:

a. Size-market capitalization measures the size of the stock market and equals the value of listed domestic share on domestic exchanges. Although, large markets do not necessarily function effectively and taxed May distort incentives to list on the exchange, any observes use capitalization as an indicator of market development.

b. Liquidity Indicator- Two rated measures of market liquidity are used. First, turnover equals the value of the trades of domestic shares on domestic exchange divided by the value of listed domestic shares. Turnover measures the volume of domestic equities treated on domestic exchange relative to the size of the market. Higher turnover is often used as an indicator flow transaction costs. Importantly, a large stock market is not necessarily a liquid market; a large but inactive market will have large capitalization but small turnover.

The second measure of market liquidity is value traded, which equals the value of he trades of domestic shares on domestic exchange divided by GDP. While not a direct measure of trading sector or the uncertainly associated with trading on a particular exchange, theoretical models of stock market liquidity and economic growth directly motivate value traded. Value traded measures trading volume as a share of national output and should therefore positively reflect liquidity on an economy-wide basis. Value trade any be importantly different from turnover. While value traded captures trading relative to the size of the economy,

turnover measures trading relative to the size of the stock market. Thus, a small and liquid market will have high turnover, but small value traded.

c. Volatility: This indicator is a twelve-month, rolling standard devotion estimate based on market turnover. Greater volatility is not necessarily a sign of more a less stock market development. Indeed, high volatility could be an indicator of development, so far as revelation of information implies volatility in a will-functioning market.

d. Concentration: In some countries a few companies dominate the market. Higher concentration is not desirable because it may adversely affect the liquidity of the market. To measure the degree of market concentration, share of market capitalization accounted for by ten largest stocks is computed and called concentration. In the more developed market the concentration is low whereas in less developed market concentration may be quite large.

II. Indicator of economic growth

a. Real per capita GDP growth:

Economic growth can be most simply defined as the increase in the economy's output overtime. The best measure of economy's output is real GDP or GDP in constant price. The reason for specifying constant price is of course, the changes over the years in GDP in current prices are the result of a maximum of price changes and output changes therefore, if growth is defined as the expansion of the economy's output and if we are to use GDP as a measure of growth, then price changes must be removed for GDP as in the constant price series, furthermore; if the interest is not merely in how much the amount of output produced per person expands over time, real GDP must also be corrected for population increases.

b. Physical capital stock growth:

Real investment adds to nation's physical stock of capital and increase employment. According to Keynes "investment means real investment.

It means an addition to nation's physical stock of capital. It created employment and generates income". For example, the building of new factories, new companies are real investment capital is defined as building, equipment and inventories and sometimes intangibles such as knowledge and techniques, which are both outputs of the productive process and inputs to future production

c. Productivity growth:

When it comes to measure the source of growth and draw economies policy conclusion, economists really on growth accounting. According to this approach, per capita growth is explained by two sources; capital accumulation and total factor productivity (Bebczuck, 2002)

The relation between output and inputs can be expressed as:

Total production= Efficiency x Volume of combined inputs.

= TFP x Volume of combined inputs

In other words:

Qt = ArF (kt, Lt)

where,

Q = Output (value added)

k = Value of services rendered by capital

L = Value of services rendered by labor

A = Level of efficiency

t = Time

Productivity growth can be obtained with the help of following relationship as well:

PG= Output growth- 0.3 x capital stock growth since growth accounting practices generally give productivity growth a weigh that is about two the weigh on physical capital accumulation, the above equation holds time.

d. Gross private saving:

As a matter of accounting, investment has to be financed by the saving from either domestic or foreign sources. In only a few high investment

countries has foreign savings accounted from more than 20% of investment over long Stretcher of time. In an economy investing, say 3% of this GDP, relying on foreign saving beyond this limit would imply running a persistent current accounting deficit in excess of 6% of GDP, which would be courting disaster. Hence the critical importance of domestic saving in economic growth follows from little strength forward facts of economic life. Individuals as well as business institutions defined private saving as the surplus of income over consumption private saving is of immense importance for economic growth because it helps in increasing investment and capital stock growth.

There are three indicators of variables which measure the stock market Randal K. Filer, Jan Hanousek and Nauro F Cammposion working paper tilling "Does stock market promote economic growth?" had explained the indicators or variables of the stock market development i.e

i. Market capitalization over GDP

There is a positive relationship between market capitalization and future economic growth because the efficient market anticipated future growth into current period prices. The link exist only is such countries, which have developed financial market.

ii. Turnover Volatility: The country having greater turnover volatility at stock market i.e. a more active stock market will have a higher rate of growth. The active stock market is crucial in reallocation capital in productive, profitable economic sectors. Therefore without such market, the growth rate will be lower than expected.

iii. Changes in a number of listed companies:

The changes in the number of listed companies in the stock market also affect the rate of the economic growth. If the number is in increasing order, the economic rate will be higher and vice versa. Through the analysis of these variables, the measurement of stock market

development became possible as a result the economic growth of the country is influence.

2.2 REVISE OF EMPIRICAL WORKS

Empirical evidence suggest that will functioning stock market promote economic development by fueling the engine of growth through faster capital accumulation any by turning at through better resource allocation takage 2002 provides some good reasons in favour of the capital markets in general and stock markets, in particular.

- Efficient combination of debt at equity.
- Lower average cost of external financing
- Corporate control
- Efficient resource allocation
- Financing for innovation

The study concerned by Bary Bornworthon industrial production and price of common stock, 1953-1975 has revealed that the stock market and economic activities more in similar cyclical patterns. Thus fundamental relationship shows that stock prices are meaningful in ht essence of reflection real economic variables (Browsworth, 1975). The study concerned by the U.S department of commerce on stock price and business cycle,1948-84 has found that the general correspondence between stock prices and the business cycle; were weighted moving average of a stock price index is mapped against the peaks and thoughts of business cycle since 1948. The market has reflected all the recession in the economy since 1948 (Kimpton 1985)

The study concerned by Ross Levine and Sart Zervos on stock markets, Bank and Economic growth has revealed that, measures of stuck markets liquidity, size, voluntary, and integration with world capital markets are robustly correlated with capital accumulation, productivity improvements and saving rate using detain 47 countries form 1976 thought 1993. This

investigation provides empirical evidence on the major theoretical debates regarding the linkage stock markets and long run economic growth. Moreover researcher integrate this study into recent cross-country research in financial intermediation and growth by extending the king Levine(1993a) analysis of banking and growth to include measures of the functioning of stock market. Specially, whether banking and stock market indicator both robustly correlated with current and future rate of economic growth and private saving. Both banks and stock markets have an independent empirical connection contemporaneous and future long run growth rate.

Stock market liquidity –as measured both by the value of stock trading relative to the size of the market and by the value of trading of relative to the size of the economy-is positively and significantly correlation with current and future rate of economic growth. Stock market liquidity is a robust predictor real capital gross domestic product (GDP) growth, physical capital growth, and productivity growth after controlling for initial income, initial invest mention education, political stability, fiscal policy, openness to trade macro economic stability, and the forward looking nature of stock prices. [Levine and Zerovos, 1998]

Raymond Atye and Jovanovice (1993) present a cross country study of stock market and economic growth. They find a significant correlation between growth over the period (1980-1988) and the value of stock market trading divided by GDP for 40 countries that make several contributions. Beside, increasing the number of countries by almost 20 percent and almost doubling the number of years. Construction additional measures of stock market liquidity, a measure of stock return volatility and measures of stock market integration in world capital market and incorporate these measures into our structures of stock markets, bank and economic growth.

Levine and Sarah Zerovs (1985) study whether the stock market and bank promote economic growth. They find that measures of market liquidity are strongly related to growth capital accumulation, and the productivity, while

surprisingly, more traditional measures of development such as tock market size are not as robustly correlated. They also find that bank leading to the private sector has a strong independent effect on growth. They focus on a rich set of measures of financial development and growth.

Demirgure Kunt and Levine (1996) have also studied the relationship between stock market, corporate finance and economic growth. Their research focused on four issues. First, it compared liquidity, concentration, volatility, institutional development and international integration across forty four industrial and developing countries from 1976 to 1993. Second, the research investigated the relationship between stock market and financial intermediaries. Third, their research analyzed the relationship between stock market development and economic growth. And fourth, the research studied the ties between the stock market development and financing choices of firms. The y found that will developed stock market can help align the interests of owners and managers and thereby spur efficient resources allocation and economic growth. They also found that the sock markets and other financial institutions are generally complements, they grow simultaneously.

In their next paper Demirgure Kunt and Levine studied about stock market development and financial intermediaries in some detail. Their article collects and summarized information on a wide assortment of indicators of stock market and financial intermediary development. To describe different characteristics so equality market development, they used measures of stock market size, liquidity, integration with world markets, volatility, concentration, features of the regulatory system. To describe the development and structure of financial intermediary sector, the allocation of credit, the spread interest rate and the size of the particular type of financial intermediaries, such as banks and insurance companies and pension funds. Later on they form various types of indicators and on the basis of such indicators categorize the countries market as most developed,

must under developed, highly developed, under developed and emerging markets.

Although the role of the financial sector in the economic development of a nation remained controversial for the some time recent theories in finance suggest that stock market promote long-term growth. It has been experienced that the development of stock markets in emerging nations passes through four main stages, (Papaioannau and Duke 1993 pg 36). Development of equity markets in any country requires political and economic stability and growth oriented policies pre-conditions. At the second stage, equality prices rise and the investors gradually gain confidence in the equity market. They accept equity as an alternative to the traditional bank, deposits and government securities. As the second stage, equity markets gain more creditability and market liquidity increases. Investors long for raise in risk adjusted returns and demand a wide variety of securities to match their risk performance. Rules and regulations refined and the equity market start functioning on the basis of self discipline. Equity markets at this state gradually get integrated to the international market and attract foreign investors. At the third stage, equity markets become an integral part of the overall financial system. Investors get higher, less volatile and easily absorb new issues of stock and bonds. The volume of trading increases as the equity market become more liquid and forms go for initial for public offerings to replace their debts. At this stage the mechanism for risk transfer develops, creating markets for equity and currently holding instruments such as derivatives and index products. At the final stage, the equity market got highly integrated with the global market and the equity risk premiums match with the internationally with the competitive level. Equality market at this stage achieves stable growth and attains a mature stage.

By encouraging acquisition and dissemination of information, stock markets reduce cost of mobilizing savings and facilitate investments. Well developed stock markets exchange efficiently of market for corporate

control by mitigating the agency problems between the stock owners and managers. In countries where stock market discipline is effective, firms tend to be more productive, theory creating better per unit of money invested. (Diamond and Verrecchia 1982; Jesen and Murphy 1990; Greenwood and smith 1997)

Stock markets help expansion of economic activity by providing liquidity to financial assets traded in them. Investments in real assets require long term commitment of capital; however, investors are reluctant to commit their savings for the long period. Liquid stock markets make investment less risky because they allow savers to buy and sell financial assets they hold cheaply and quickly and restructure their portfolios any time according to their risk-return performances. At the same time, firm enjoy permanent access to long-term capital through equity issues. By making assets less risky and providing easy resources, boost investment and enhance long-term economic growth very liquid stock markets may some time deter economic growth by encouraging investor myopia. It is argued that such stock markets may weaken investors' commitment to exert corporate monitor and force managers to improve their performance. However, empirical studies suggest that greater stock market liquidity boosts and in money cases proceeded economic growth. (K.C 2004)

A large literature, dating at least as far back as Joeshph A. Shumpter (1911) emphasizes the positive influences of the development of countries financial sector on the level and the rate of growth of its per capital income. The argument essentially is that the services the financial sector provides of reallocating capital to the highest value used without substantial risk of loss through the moral hazard, adverse section of transaction costs are as essential catalyst of economic growth. Empirical works seem constant with this argument for example, on the basis of data from 34 countries between 1860 and 1963 Raymond W Goldsmith (1969 pg 48) concluded that "avouch parallelism can be observed between economic and financial

development if periods of several decades are considered. (Rayan and Zingale)

In an importance recent paper, Robert G. King and Ross Levine (1993) investigate the causality problem following a post hocergo proper hoc approach. They show that the predetermined component of financial development is a good predictor of growth over the next 10 to 30 years. However, skeptic could still offer a number of arguments against attributing causality. First, both financial developments and growth could be driven by a common omitted variable such as the propensity of households in the economy to save. Since endogenous savings (in certain models of growth) affects the long run growth rate of the economy, it may not be surprising that the growth and initial hard to reflect with simple cross-country regressions. In the absence of the will accepted theory of growth, the list of potential omitted might be a proxy for is large and the explanatory variable to include a matter of conjecture. Second financial development typically measured by the level of credit and the size of the stock market may predicts economic growth simply because financial markets anticipate future growth; the stock market capitalizes, while financial institutions lead more if they think sector will grow. The financial development may simply be a leading indicator rather than a causal factor. [Zingles]

Bencivenga, Smith and Starr (1996) studied about how is volume of activities in financial markets is related to the level or efficiency of an economy's productive activities. They pursued the relation between and economy's efficiently in performing financial transactions and its efficiency in performing physical production. They have also discussed how an economy's volume of financial transactions and it level of real activity are related. They have also analyzed why the connections between the development of an economy's financial market and its level of real developments although close are not perfect. Studying up on these

propositions, they found that as the efficiency of an economy's capital markets increases (i.e. as transaction costs full) the general effects to cause agents to make longer term, and hence more transactions intensive investments. The result is higher rate of return on saving as well as a change in its composition. These general equilibrium effects of the composition off saving cause agents to hold more of their wealth in the form of existing equity claims and to invest less in the initiation of new capital investments. As a result, a reduction in the resources losses suffered in the transaction cost will typically later the composition of savings and investments and that any analysis of the consequences of such changes must take these effects into accounts.

An extensive literature and discusses the rate of financial markets in economic development in an exhaustive study of three dozen developed and developing countries over the period 1860-1863, Goldsmith (1969) provides evidence of a positive relationship between the ratio of financial institutions assets to GNP and output per person. Goldsmith also presents data showing " that periods of more rapid economic growth have been accompanied, through not without exception, by an above-average rate of financial development. In addition, Romor (1989) and others have shown, using cross country data sets that range from 2 0to over 100 years that here exists starting differences in per capita output growth rate with no tendency for these growth rate to converge unconditionally.

Some recent work has extended knowledge about the casual relationships between financial development and economic growth. For example, Rajan and Luigi Zingles (1996) assume that the financial markets in the United States are relatively frictionless. This benchmark country then defines each industry's efficient demand for external finance (investment minus internal cash flow). They then examine industries across a large sample of countries and test whether the industries that are more dependent on external finance (in the United States) growth relatively faster in countries that begins the sample period with better developed financial systems. They find that

industries that rely heavily on external funding grow comparatively faster in countries with well developed intermediaries (as measured by PRIVY) and stock markets (as measured by stock market capitalization) than they do in countries that start with relatively weak financial system. Similarly, using firm level data from 30 countries, Asli Demirgue – Kunt and Vojislav Maksimovic (1996 b) argue that firms with access to more developed stock markets grow at faster rates than they could have grown without this access. Furthermore, when individual states of the United States related intrastate branching restrictions, this boosted bank leading quality and accelerate real per capita growth rates even faster controlling for other growth determinants (Jith Jayaratne and Philip Strahan, 1996). Thus using firm and industrial level data on individual states of United States, recent research presents evidence consistent with the view that the level of financial development materially affects the rate and structure of economic development.

Levine and Zervow (1996) empirically evaluate the relationship between stock market development and long-run growth. They found a strong correlation between overall stock market development and long run economic growth. After controlling for the initial level of GDP per capita, initial investment in human capital, political instability and measures of monetary, fiscal and exchange rate policy, stock market development remains positively and significantly correlated with long-run economic growth. However, their study was based on the cross country growth regression that suffers from measurement, statistical and conceptual problems. In terms of measurement problems, country officials sometimes define, collect and measure variables inconsistently cross-country regressions. This measurement, statistical and conceptual problems, however, should not detract from the benefits that can accrue form cross-country companions. So, their study suggests that the stock market development is positively associated with the economic growth moreover; the instrumental variables procedures indicate a strong connection between

the predetermined component of stock market development and long-run growth.

To evaluate the relationship between the stock market liquidity and the national growth rates, capital accumulation rates and the rate of technological changes, Levine and Sra Zervows (1996) build on Raymond Atje and Javnovic's (1993) study and focus on two measures of liquidity for a broad cross-section of 49 countries over the period 1976-1993. The first liquidity indicator, the value traded ratio, equals the total value of shares trade on a country's stock exchanges divided by GDP. The value traded ratio measures trading relative to the size of the economy. While not a direct measure of trading costs or the uncertainty associated with trading and settling equity transactions, theoretical models of liquidity and growth directly motivated the value traded ratio. (Bencivenga, B. Smith and Starr 1996). As shown in the table 2.2.1, the value traded ratio varies considerably cross countries. For example, the United States had an average annual value trade ration of 0.3 during the 1976-1993 periods while for Mexico and India it was about 0.04. The second indicator, the turnover ratio equals the total value of shares traded on a country's stock exchanges divided by the stock market capitalization (the value of listed shares on the country's exchanges). The turnover ratios of almost 0.5, while for less liquid markets, such as Bangladesh, Chine and Egypt they are 0.06 or less. The turnover ratio may differ from the value trade ratio because a small, liquidate market will have high turnover ratio but small value trade ratio, for example, India's average turnover ratio of 0.5 over the 1976-1993 is greater than the United state's but India's value traded ratio is about one-tenth the size of United state's. These measures seek to measure liquidity on a micro economic scale; the objective is to measure the degree to which agents can cheaply, quickly and confidently traded ownership claims of a large percentage of the economy's productive technologies.

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Table 2.2.2

Growth and Initial Stock market liquidity, 1976-1943

Dependent Variables		
Real per capita GDP growth	0.0987***	0.027***
	[0.003]	[0.006]
Adjusted R^2	0.33	0.34
Real per capita capital stock growth	0.093***	0.022***
	[0.005]	[0.023]
Adjusted R^2	0.38	0.35
Productivity growth	0.075***	0.020***
	[0.001]	[0.030]
Adjusted R^2	0.21	0.21

Source: Journal of Economic Literature, Col XXXV June (1997) pg 713

* Significant at the 0.10 level, ** significant at the 0.05 level, *** significant at the 0.01 level [p. value in brackets], Observation 42

- Value traded ratio = value of domestic equity transactions on domestic stock exchanges divided by GDP. By extending King and Levine (1993) a study particular study examines the empirical relationship between various measures of stock market development banking development and long-run economic growth. They found that, even after controlling for many factors associated with grown, stock market liquidity and banking development are both positively and robustly correlated with contemporaneous and future rates of economic growth, capital accumulation and productivity growth furthermore, since measures of stock market liquidity and banking development both enter the growth regressions significantly finds the suggest that banks provide different financial services from those provided by the stock market. They, therefore, concluded that banks and stock markets should be developed simultaneously.

In the context of Nepal, following studies are of some importance while studying about the stock market and economic growth:

No specific research studies have been available regarding and vice versa in the Nepalese context. However, some articles, books, dissertations etc related to the stock market are consulted and reviewed.

Prof. Mr. M.K. Shrestha, in his published book "Shareholders democracy and AGM feedback" has focused various issues related to protection of shareholders expectations. "Success of companies directly depended up on protection of their owners. But how can this are accomplished in main question. Thus, it is necessary to develop a possible guidance for enhancing the efficiency for public limited companies to contribute directly in the growth of national economy on one hand and ensuring handsome return to the shareholders on the other hand to make their investment meaningful and worthwhile. At present, the overall shareholders democracy in terms of the protections of their interest is basically focused on the payment of satisfactory dividend and the maximization of shareholders wealth by appreciating the value of shares they hold" (Shrestha, 1992)

It may be appropriate to mention at this stage that the expansion and the growth of the stock market has direct correlation with the overall growth and expansion on the private sector in Nepalese economy. If the private sector is to assume a lead role in future economic development, it is necessary to provide ready sources of capital to sustain such efforts. An importance components of the capital markets is the stock exchange, which performs a pivotal role in channeling individuals as well as industrial savings in the private sector (Peiris, 1992)

There is absence of secondary market to ensure liquidity to the securities on demand. Any attempt to stimulate investment in industrial sources would naturally depend on the extent to which the securities are salable n the market only the extended of a stock exchange market can enable the securities holders to sell their securities for cash and purchase alternative

securities if they want. In Nepal, in the absence of such a stock market an industrial securities is an illiquid form of assets even more liquid that the real estate for all practical purpose. (Ram Saran Mahat 1981)

Temilsina, in his article "Role of stock market in saving mobilization" described the stock market, as stock market is the mechanism through which trade and industries get the supply of capital for their economic activities. He concluded in his article stating that the stock market is positively associated with economic growth. In the article, "Stock market in Nepal; problem and solution" Mr. Sapkota define stock market as a market, which mobilized and forwards the economy towards the most productive sector though the supply of long-term capital so that all the economically, backward people of the country can enjoy economic output. For the encouragement of the economic activities in our country transportation, electricity, society, tourism, industries, communication, irrigation should be developed. And for these developments, long-term debt will be required which could be fulfilled only through the stock market. Finally in his article suggesting the government to take the stock market as mechanism by which the stock market becomes the backbone of the financial development of the country. The timely change on the policies regarding the stock market makes easier for the growth of the market. For the long-run economic growth, stock market play a vital role by fulfilling the capital when ever needed which carrying the projects that motivate, facilitate the economic activities.

Prof. Mr. K.C. in his article "Development of stock market and economic growth in Nepal" emphasize that, various measures of stock market development indicates the stock market in Nepal is under developed and has led to show impact on the overall national economy. Small market size has made it vulnerable to manipulation and price rising. Low turn-over ration and value trade ratio to volatility, and high concentration ratio indicate that the stock market in Nepal is highly liquid and risky. Investors tend to avoid stock market because they do not have option to invest in

securities according to their risk-return performance. Similarly, firms shun it because stock market is less reliable source of raising funds for them. Due to this financial system in Nepal has remained basically bank-dominated.

The economic and non-economic market factors are responsible for the fluctuating of stock prices. The most fundamental factors in stock price fluctuation lies in corporate earnings which together with interest rates and business cycle trends, contribute to marking up the economic factors inflecting the stock price (Sharma 1996)

Mahat (1981) examines the sate of capital markets and development of financial institutions in the country. The growth of the financial institutions has been examined both in terms of the growth in the number of financial institutions and in terms of the growth in there assets. Their role in the national economy has been evaluating in terms of some indicators such as total financial institutions issue ratio, assets to GDP ratio etc.

Similarly, Wagle (2002) studies the development of stock markets in terms of its size (market capitalization), annual turnover and also studies about the ration of market capitalization to GDP and annual turnover to GDP. But the study has been fairly descriptive regarding the factual information.

2.3 CONCLUSION

The review of aforementioned works makes it clear that the relationship between financial development and economic growth with focus on development role of stock markets has been in debate for sometime in the parts. Empirical studies suggest that financial development does matter and stock markets do spur economic growth. Therefore, it is obvious that stock markets be well functioning for the sustainable economic development. Firms need capital to grow and finance their investment needs.

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Chapter Three

Research Methodology

3.1 INTRODUCTION:

Research methodology is the method used to test the hypothesis set by the researcher. It is the mechanism by the application of which the objectives of the study are empirically tested and some kind of inference is drawn. Due to such implications, the research methodology should always be in accordance with the objectives of the study. Research methodology in a broader prospective includes the design of the research; method of data analysis; and statistical tools used.

This chapter refers to the overall research method from the theoretical aspects to the collection and analysis of data. This study covers quantitative methodology in a great context and also used the descriptive part based on both technical aspect and logical aspect. This research tries to perform the well designed quantities in every clear and direct way using both financial and statistical tools. Detail research methods are described in the following heads:

3.2 RESEARCH DESIGN

Research Design is an overall framework or plan for the collection and analysis of data. Research design that focuses on the data collection methods, the research design is the conceptual structure within which the research is concluded. Hence, the research design is a plan structure and strategy for investigation of the facts in order to achieve the conclusions.

The research design of the study is descriptive as well as an analytical. This study is primarily based on the secondary data. However, for the purpose of analyzing the relationship between the variable of the stock market development and economic growth, co-relation research design is used. It

is also chosen to investigate the causality between stock market indicators and growth indicators. The study covers the time period between the fiscal year 1993/94 to 2005/06 for the purpose of testing causality between various stock market indicators and growth variables. However 30 enterprises out of 125 listed in the Nepal Stock Exchange are selected.

3.3 NATURE AND SOURCES OF DATA

To accomplish the above mentioned objectives, this research is based upon the secondary data of the historical performance assessment of information. As input for the study, the secondary data that are closed through the various published and unpublished documentary type sources. The major sources of data are:

- Security Board Nepal (SEBO/N)
- Website of NEPSE: http://www.nepalstock.com.np
- Nepal Rasta Bank's economic report.
- Repots published by Ministry of Finance and Government of Nepal.
- Central Bureau of Statistics
- Reports of IMF's International Financial Statistics of Various years.

3.4 SELECTION OF ENTERPRISES AND STUDY PERIOD.

The transaction of the study in the Nepalese Stock market started from the fiscal year 1993/94, as this study is about the contribution made by the stock market in the economy, time period of the study will be 1993/94 onwards. The study covers the 13 years from 1993/94 to 2005/06. This is related to the main part of the study. Another supporting part of the study is about the relationship of stock issuances of the listed enterprises with their level of saving, investments and capital formation. For the purpose of its analysis time period of 5 years from 2000/01 to 2004/05 has been selected and 30 enterprises out of 125 listed in NEPSE are selected. The enterprises are selected using judgmental non-random sampling method. The criteria for selection are availability of the required information.

Table: 3.1

Selection of sample organization.

S.N,	Sectors	N	n	n/N (%)
1	Bank	23	6	26.08
2	Finance Company	44	16	34.78
3	Insurance Company	14	5	35.71
5	Trading company	8	1	12.5
6	Development Banks	7	1	20
8	Others	5	1	20
	Total	125	30	

Sources: Web page of NEPSE Ltd: http://www.nepalstock.com.np and SEBO/N.

Note: N indicates the total number of Nepalese enterprises that were listed in NEPSE and 'n' indicates the number of enterprises selected for the study.

Table 3.2

Some listed companies in the Stock Exchange which are included in this study.

SN	Name of Enterprises
1	Nabil Bank Limited, NBL
2	Himalayan Bank Limited
3	Everest Bank Limited
4	Bank of Kathmandu Limited
5	Nepal Industrial & Commercial Bank Limited
6	Nepal Development Bank Limited
7	Butwal Power House Company Limited

8	Nepal Finance & Saving Co. Limited
9	People's Finance Limited
10	Lalitpur Finance Limited
11	Goodwill finance and Investment company Limited
12	Pokhara Finance Company Limited
13	Nepal Merchant Banking and Finance Ltd
14	Lumbini Finance and Leasing Company Ltd
15	Alpic Everest Finance Ltd
16	Nepal Bangladesh Finance and Leasing Company Limited
17	Narayani Finance Company Limited
18	Nepal Housing and Merchant Finance Company Limited
19	Nepal Share Market Company Limited
20	Universal Finance and Capital Market Company Limited
21	ACE Finance Company Limited
22	Maha Luxmi Finance Company Limited
23	Annapurna Finance Limited
24	Everest Insurance Company Limited
25	NECO Insurance Company Limited
26	Alliance Insurance Company Limited
27	Himalayan General Insurance Limited
28	Sagarmatha Insurance Company Limited
29	Nepal Development Bank Limited

Source: Web page of NEPSE: http://www.nepalstock.com/ and SEBO/N

The selection of the enterprises from the different sector may not look an appropriate representative but it is in line with the selection criterion. As only those enterprises could be included in the study which have the data available on the four variable i.e. approved amount of equity issued, investment, saving and capital formation of the same year. Due to

this criterion, only 29 enterprises are included and surprisingly none of the manufacturing and processing and hotel sectors' companies are included.

3.5 METHODS OF ANALYSIS

Analysis is the systematic and careful examination of available facts. So that certain conclusion can be drawn and inferences be made. The major part of this study is concerned with the testing of association of stock market with economic growth various related variables have been used for this purpose. The empirical results have been estimated in the study by using annual data for the period of 1993/94 to 2005/06.

3.5.1 Trend Analysis:

Simple trend analysis has been used for the following purpose of the study:

- To trend the relationship between primary market activities and secondary market development, the amount of equity issuance approved in the primary market is compared with market capitalization, turnover and value treated. It is done to find some kind of relationship between primary market and secondary markets.
- To determine the association between the saving mobilization and growth, the trend of primary market's amount of equity issuance is compared with the factor of growth. Such as savings, capital stock growth and productivity growth. This would clarity that, even though in the small scale, equity issued by firms has a bearing on saving investment and productivity.

3.5.2 Correlation Analysis

Correlation between the each of the following variables will be computed to determine any kind of association. The variables are output growth per capita, savings, market

capitalization, value traded, turnover, market volatility and amount of equity issued in primary market.

3.5.3 Econometric Models

The main objectives of this study are to find the role of stock market development in the overall economic growth. The study, hence, attempts to access the role of stock market in the economy. Various models are used to determine the association between stock market and growth. The variable that will be used in the models are : per capita income, real gross domestic product (GDP), Individual saving (S), Investments (I), capital formation (CF), market capitalization (MC), Value of shares traded (VT) Turnover (TO) and Volatility of stock return (V)

The theoretical statement of the model is that real rate of GDP per capital may be regarded as subject to constrains of various macro-economic and stock market related variables. As an approximation of the theory, the function may be written as:

Log GDP = Log f(S, I, MC) …….3.1

Log GDP = Log f(S, I, VT) …….3.2

Log GDP = Log f(S, I, TO) …….3.3

Log GDP = Log f(S, I, V) …….3.4

Where,

S = Saving

I = Investment

MC = Market Capitalization

VT = Value Traded Shares

TO = Turnover of Shares

V = Volatility of Market returns

The equations to be estimated have, therefore, been specified as follows:

$\text{Log GDP} = a + b_1 \text{Log S} + b_2 \text{Log I} + b_3 \text{Log CF} + b_4 \text{Log MC}$ …….3.5

$\text{Log GDP} = a + b_1 \text{Log S} + b_2 \text{Log I} + b_3 \text{Log CF} + b_4 \text{Log VT}$ ....….3.6

$\text{Log GDP} = a + b_1 \text{Log S} + b_2 \text{Log I} + b_3 \text{Log CF} + b_4 \text{Log TO}$ …….3.7

$\text{Log GDP} = a + b_1 \text{Log S} + b_2 \text{Log I} + b_3 \text{Log CF} + b_4 \text{Log V}$ …….3.8

To find out whether the stock market variables, along with other macro economic variables are related to saving, the theoretical functions may be selected as:

Log S = Log f (GDP, I, CF, MC) …….3.9

Log S = Log f (GDP, I, CF, VT) ……3.10

Log S = Log f (GDP, I, CF, To) ……3.11

Log S = Log f (GDP, I, CF, V) ……3.12

In equations:

$\text{Log S} = a + b_1 \text{Log I} + b_2 \text{Log CF} + b_3 \text{Log MC}$ ……3.13

$\text{Log S} = a + b_1 \text{Log I} + b_2 \text{Log CF} + b_3 \text{Log VT}$ ……3.14

$\text{Log S} = a + b_1 \text{Log I} + b_2 \text{Log CF} + b_3 \text{Log To}$ ....……3.15

$\text{Log S} = a + b_1 \text{Log I} + b_2 \text{Log CF} + b_3 \text{Log V}$ ……3.16

The equations 3.1 to 3.16 are concerned with the major part of this study. For the case of comparison absolute variables such as GDP, S, I, CF, MC, VT, V and TO are transformed into logarithm value. These equations are used to assess the nature of relationship between various stock market indicators and economic growth indicators.

Another part of the study attempts to find the relationship of equity issued by the firm with their level of investment, Savings and Capital formation. The theoretical relation may be described as:

$I_f = f(PM_f)$

$S_f = f(PM_f)$

$CF_f = f(PM_f)$

where,

I_f = Investment level of companies

S_f = saving level of Companies

CF_f = Capital formation by companies

PM_f = Amount of equity issued in the primary market.

In equations:

$I_f = a + b_1 PM_f$ ……3.17

$S_f = a + b_1 PM_f$ ……3.18

$CF_f = a + b_1 PM_f$ ……3.19

3.5.4 Other statistical tools used

The study, among others, attempts to estimate various statistical tools to confirm the relationship between stock market and economic growth to test the robustness of the results. The statistical specifications are attempted in each case where necessary in order to obtain the best possible results i.e. coefficient of multiple determination (R^2) standard of errors of estimate (SEE), student's test, F-test and averages. The statistical parameters are calculated with the help of computer through SPSS, software for models prescribed above.

An explained of statistical tools employed in this study is given below:

- **Coefficient of multiple Determination (R^2)**
  - The coefficient of multiple determinations is a measure of the degree (extent or strength) of linear association or correlation between two variables one of which happens to be independent and other being dependent variables. In other words, R^2 measures the percentage total variation in dependent variable explained by explanatory variables. The coefficient of determination can be valued ranging from zero to one (i.e. $0 \leq R^2 \leq 1$). If R^2 is equals to 0.95, which indicates that the independent variables used in regression model, explain 95 percent of the total variation in the dependent variables. A value of one can only occur only if the

unexplained variation is zero, which simply means that all the data points in the scatter diagram fall exactly on the regression line.

- **Regression constant (α)**
  - It is also known that the numerical constant which determines the distance of the fitted line directly above or below other origin (i.e y-intercept). The value of the constant which is the intercept of the model indicates the average level of dependent variables when the effect of the dependent variables is held constant.

- **Regression coefficient (b1, b2, b3 …….. bn)**
  - The regression coefficients describe now changes in independent variables affect the values of dependent variables estimate. It is also known that the numerical constant which determine the changes in dependent variable per unit changes in independent variables (i.e slope of line)

- **Standard error of an Estimate (SEE)**
  - Standard error of an estimate is a measure of the reliability of the estimating equation locating the variability of the observed points around the regression line, i.e the extent to which observed values differ from their predicted values on the regression line and the better the estimates based on the equation for this line. If, SEE is zero, there is no variation about the line and correlation will be perfect. Thus, with the help of SEE, it is possible to ascertain how good and representative the regression line is as a description of the average relationship between two series.

Student's test

- To Test the Validity of assumptions of the study for small samples, t-test is used. It is very difficult to make a clear –cut distinction between small samples and large samples. However, from practical point of view, in most of the situation a sample is formed as small if n_< 30. It should be clearly understood, that exact sample technique can be used, even for large samples but large sample theory cannot be used for small samples. For applying t- distribution, the t-values are educated first compared with the critical value at a certain level of significance for given degree of freedom. If the computed value of "t" exceed the table value (say t 0.05), is known that the difference is significant at 5% level of significance but if t-values are less than the corresponding critical of the't' distribution, the difference is not related as significant .

❖ **Arithmetic Mean :**

- Arithmetic mean is a variable which can be used for further analysis. The arithmetic mean, in this study is used for the level of investment, savings, and capital formation of the firms. Average investment, savings and capital formation is calculated by using the arithmetic mean of these variables.

❖ **Standard Deviation : (SD)**

- Standard deviation measures the variability of the observations around the mean value. Therefore, it is the appropriate measure of the variability of the stock market returns. Volatility of stock market is measure by the use of standard deviation of the monthly stock index around the mean value.
- Limitations of the methodology

- The problem of unavailability of consistent data is one of the major limitation of the study and, therefore, where not available provisional data have been sued. The limitations of the statistical tool and techniques have been ignored.
- Due to time constraint the study has not defined deeper some areas of the study which needs further research.

3.6 Definition of key terms

The following terms may have different meanings in different circumstance and under different conditions, but they bear the meaning as they are defined in this study.

Savings: It means excess of income over expenditure. Firms saving mean the retained Earnings left after the distribution of dividend.

Investment: In national income analysis, it is the value of that part of economy output for anytime period that takes the form of new structures, new procedures, durable equipment, and change in inventories. But the growth in total assets of individual enterprise is taken as investment for the enterprise level.

Productivity Growth: That part of the gross domestic product or national output which is not the result of the increases in the fixed capital stock growth and the growth?

Fixed Capital Stock Growth: The growth in the economy's stock of fixed capital in the form of structures, equipment and productive factors, buildings etc. But, it does not include the changes in inventory as in investment. So, it is net of inventories.

Market capitalization: It equals the value of listed domestic shares on domestic Exchanges. So it is the product of number of

outstanding shares in the exchange and market price of those shares.

Value traded: It equals the value of the shares traded in the domestic exchange.

Turnover: It equals the value of the trades of domestic shares on domestic exchanges dividend by the value of listed domestic shares.

Volatility: It measures the movement of the stock index during the certain period around the mean value. Specifically, it is the variance of the market index during a certain period.

Chapter 4

Data Presentation and Analysis

This chapter is divided into three sections. The first section is related with the trend analysis of various indicators of stock market and economic development. The second section of this chapter attempts to find the association between the indicators of economic growth and stock market development with the help of correlation matrix. And, the last and final part examines the casual relationship of economic growth and stock market development indicator.

4.1 GENERAL TREND ANALYSIS: INICATORS OF STOCK MARKET DEVELOPMENT IN NEPAL

The level of stock market development and its impact on the national economy can be measured by using various indicators broadly classified into stock market size, liquidity, concentration and volatility.

Literature in finance examines the relationship between various attributes of stock market and economic growth of nations and has developed a set of indicators under these categories to conceptualize the nature of such relationship.

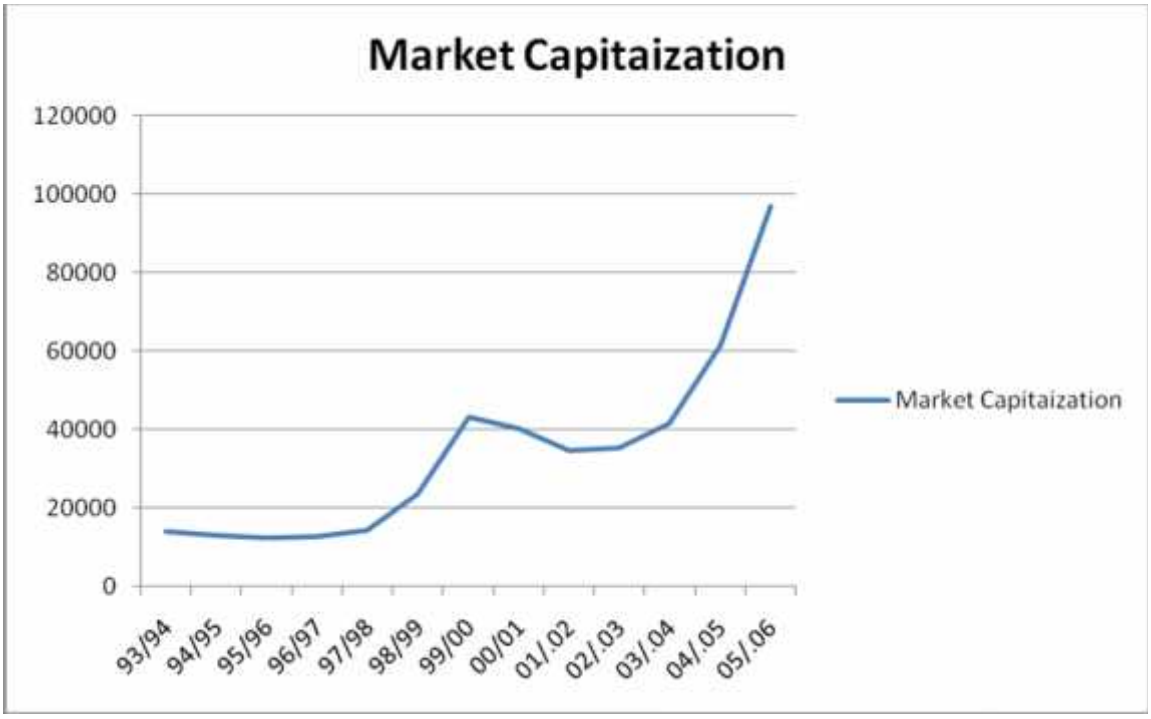
Table 4.1

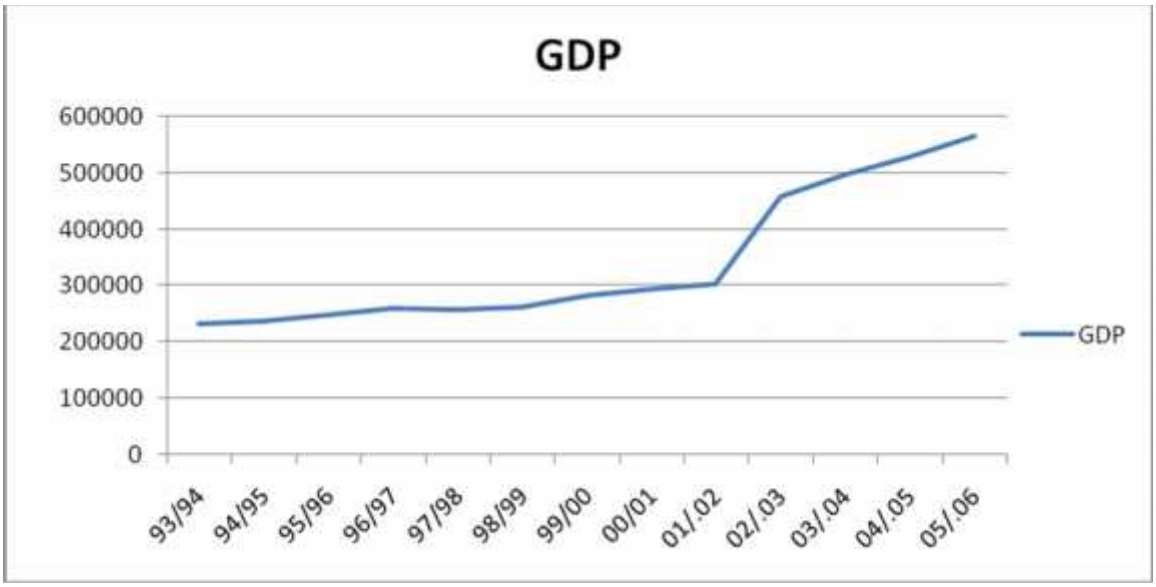
Market capitalization and Number of companies listed with NEPSE

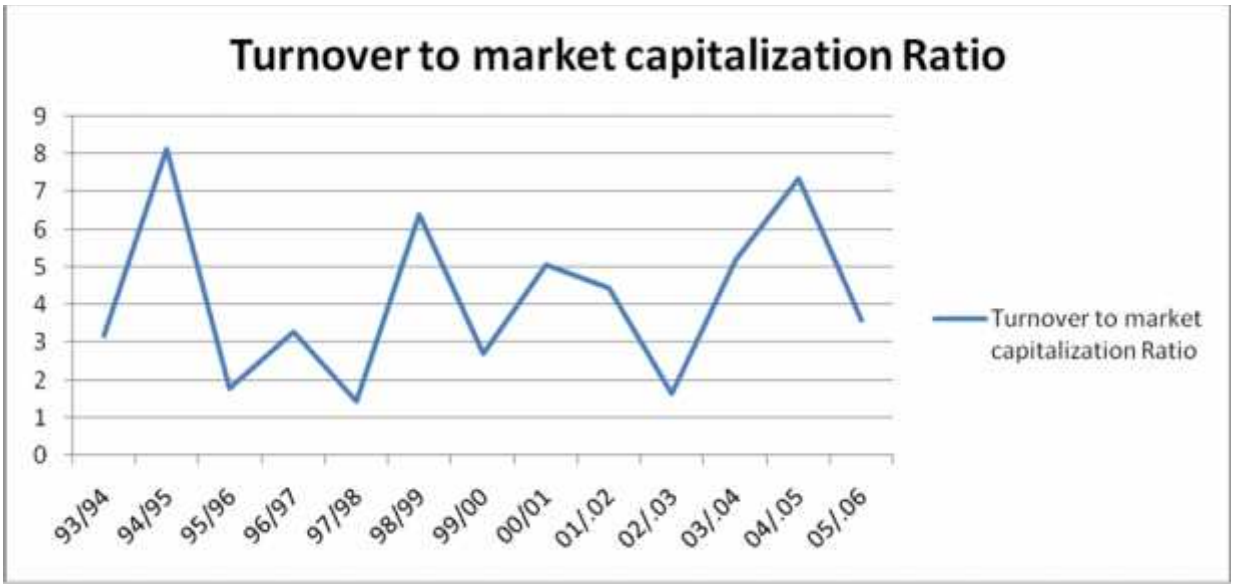
Year	Market Capitalization RS	G D P	Turnover to Market Capitalization Ratio	No. of Listed Companies	Paid up value of listed Securities.	Market capitalization of GDP
1993/94	13872.00	231981	3.18	66	2182.2	7.24
1994/95	12963.00	236946	8.13	79	2961.8	6.17

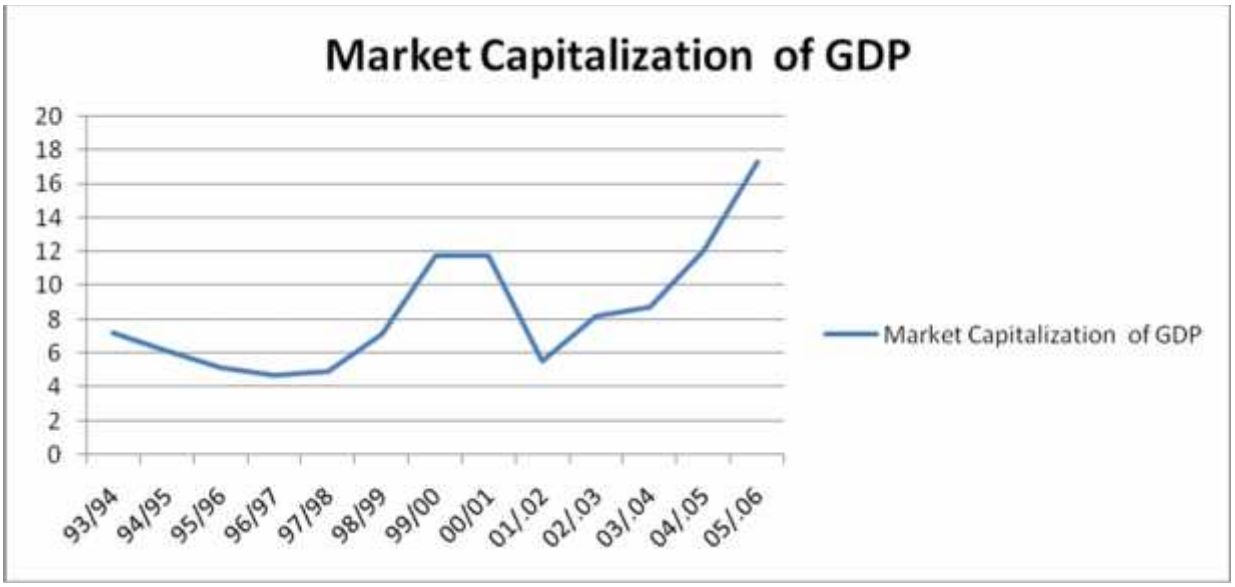
1995/96	12295.00	248913	1.75	89	3358.5	5.14
1996/97	12698.00	259414	3.28	95	4476.5	4.71
1997/98	14289.00	256913	1.42	101	4959.8	4.93
1998/99	23508.00	262293	6.38	107	6487.4	7.12
1999/00	43123.33	281543	2.68	110	7344.4	11.77
2000/01	40063.33	294027	5.06	115	8164.2	11.78
2001/02	34704.00	301644	4.44	96	9685.0	8.58
2002/03	35204.40	456675	1.63	108	12560.07	8.22
2003/04	41424.77	495589	5.18	114	13404.90	8.77
2004/05	61365.89	529003	7.35	125	16771.84	12.06
2005/06	96813.70	564446	3.56	135	20008.55	17.35

Similarly, above table is plotted into the graph in the following way:




GDP
600000
500000
400000
300000
200000
100000
0
93/94
94/95
95/96
96/97
97/98
98/99
99/00
00/01
01/.02
02/.03
03/.04
04/.05
05/.06
GDP


Turnover to market capitalization Ratio
9
8
7
6
5
4
3
2
1
0
93/94
94/95
95/96
96/97
97/98
98/99
99/00
00/01
01/.02
02/.03
03/.04
04/.05
05/.06
Turnover to market capitalization Ratio



In Nepal, number of companies listed with the NEPSE was 66 in 1993/94 which increased to 135 in 2005/06. Similarly, the paid up value of listed securities were Rs 2182.2 Million in 1993/94 which reached in 2005/06 at 20008.55 Million. It is, however interesting to note that despite the increase in the number of companies and paid up value of the securities listed with the exchange, only about 12 percent of the companies registered with the office of the company register as public limited period are listed with the NEPSE during the twelve years.

Another important measure of the stock market size is the market capitalization ration, which is aggregate market value of listed shares divided by gross domestic products. These ratios indicate the relative importance of stock market to the national economy and assume that stock market size is positively correlated with the ability to mobilize capital and diversity risk. As can be seen from the table no. 4.1, the turnover to market capitalization ratio has on average, been only around 3.18 for the period between 1993/94 and 3.56 in 2005/06. It is important to remember that in countries with developed stock market this ratio is greater than one and in many developing countries. Low market capitalization ratio in Nepal indicated that stock market is at to show it's imparted on the economic activities of the country.

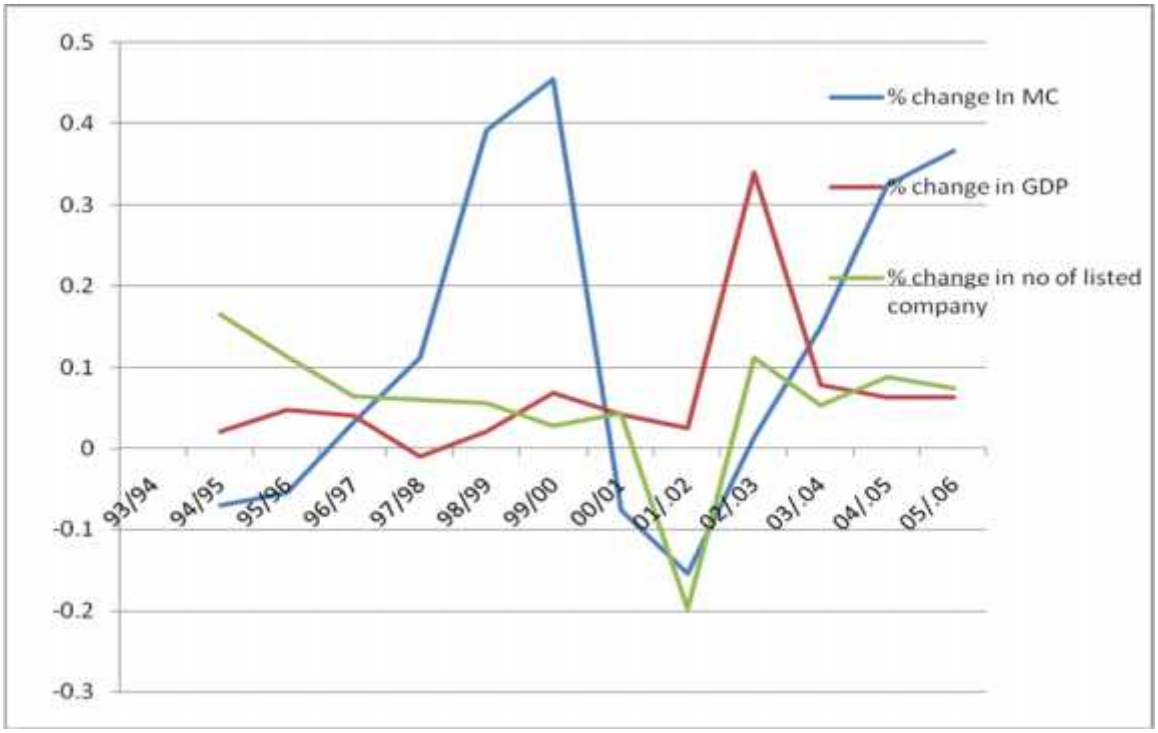
Sometimes it is argued that stock market size as measured by the number so listed companies and the market capitalization ratio is not a good predictor of economic growth that in countries where firms are closely held and family controlled, very

few shares are actually traded in the stock market. In such cases market capitalization does not bear significant relationship with the economic activity of the county.

Further more, The Datae of the market Capitalization, GDP and Paid Up value of the securities can be analyzed by seeking the percentage changes by using the following formula:

% change: Ending Price – Beginning Price/ Beginning Price

Year	% Change in Market Capitalization	% Change in GDP	% Change in nos of Listed Companies
1993/94			
1994/95	-0.0655	0.0214	0.1970
1995/96	-0.0515	0.0505	0.1266
1996/97	0.0328	0.0422	0.0674
1997/98	0.1256	-0.0096	0.0632
1999/00	0.6452	0.0209	0.0594
2000/01	0.8344	0.0734	0.0280
2001/02	-0.0710	0.0443	0.0455
2002/03	-0.1338	0.0259	-0.1652
2003/04	0.0144	0.5140	0.1250
2004/05	0.1767	0.0852	0.0556
2005/06	0.5538	0.0674	0.0965



According to the above presented table and graphs, we can say that in the starting two years, market capitalization percentage in negative and gradually turned into positive but again in the year 2001/02 and 2002/03 it shows the negative figure. Similarly in the rest of the years it is positive.

Stock market is playing the vital role in the GDP because it is positive the early years but in the year 1997/98 it felt to negative.

Similarly, No of listed companies also increased in the security Board. But in the year 2001/02, the figure fall down to the 96.

The main reasons of go down the figures into negative, shows that the political instability in the country directly affected the stock market as well. Because to strengthen the stocks market, the political situation, investment friendly environment should be favorable. In that time, Maoists were fighting with the government and they created a king the horror, collecting donations from corporate houses, blast in the factories, kidnappings demoralized the investors to invest in the country. So also, the negative figures can be seen.

Liquidity

Liquidity in the stock market parlance refers to the convenience and case in buying and selling securities in the market. By allocating investors to alter their investment portfolios conveniently at any time and low cost, liquidity markets the financial assets less risky. This improves the efficient allocation of resources and promoted long term economic growth.

Table 4.2

Measure of Market liquidity, market concentration ratio and Volatility in the NEPSE

Year	Value of share traded (Rs)	Value of share traded GDP	Value of share traded MC	Market concentration ratio	Twelve month rolling S.D	Value traded ratio to volatility
1993/94	431.34	0.002	0.031	0.71	68.87	0.0012
1994/95	1054.26	0.005	0.081	0.73	18.85	0.0111
1995/96	209.01	0.001	0.017	0.68	11.16	0.0014
1996/97	416.19	0.002	0.033	0.66	10.89	0.0121
1997/98	202.61	0.001	0.014	0.65	6.98	0.0031
1998/99	1485.55	0.005	0.063	0.68	16.23	0.0167
1999/00	1157.00	0.003	0.027	0.71	50.01	0.0049
2000/01	2335.91	0.006	0.058	0.69	59.69	0.0063
2001/02	1540.63	0.004	0.004	0.58	38.61	0.0035
2002/03	575.80	0.001	0.016	0.60	25.88	0.0053
2003/04	2336.00	0.007	0.060	0.69	20.51	0.0721
2004/05	1650.60	0.005	0.040	0.71	76.03	0.0045

Source: Appendix VII and Annual Report of SEBO/N

As we can see from the table no- 4.2, ratio of the value of shares traded to gross domestic product was always below 0.005, except in the fiscal year 2000/01,

during the thirteen years of period between 1993/94 to 2005/06. During this period the value of shares stated accounted, on an average, only for about 0.003 of gross domestic product. In countries with the developed stock market this figure is as high as 0.4 in many developing countries the value of shares traded vary in a range of 0.001 to 0.01 of gross domestic product low ratio of value of shares traded to gross domestic products indicates that trading in equity relatively to the size of economy is very low in Nepal.

Another measure of liquidity of stock market is the ration of value of shares traded to market capitalization. This measure, also known as turnover ratio, equals the value of shares traded divided by market capitalization and is indicative of the trading relative to the size of stock market. A high turnover ratio may indicate low transaction cost and relative case in buying and selling of shares. Experience shows that countries with high turnover ratio develop faster than countries with the low turnover ratio countries with small stock market, as measured by the market capitalization ratio, may have a high turnover ratio an growth fast. In developed countries, this ratio is greater that or very close to one whereas in many developing countries this ratio stands in the rage of 0.15 to 0.31. In Nepal, the turn over ratio has remained very low during the twelve years of period between 1993/94 to 2005/06. This ratio was highest in 1994/95 indicating sizable turnover of shares. As the table shown, the value of shares traded relative to both gross domestic product and market capitalization is a decline since 2001/02, indicating growing liquidity in the country's stock market.

Taken together these ration i.e. market capitalization, value of shares traded to gross domestic product, and turnover, indicate that the stock market in Nepal is very small relative to this economy and highly liquid and stock market in Nepal is yet to makes its presence felt in the national economy.

Concentration

Table 4.2 gives the market concentration ratio calculated on the basis of market capitalization in the stock market in Nepal. Countries with developed stock market have concentration rations of about 0.2 of the market whereas in countries with underdeveloped stock market. This ratio is as high as 0.9. In Nepal, the ratio uses on an average around 0.67 over the past twelve years which indicates that, the market value of shares of ten largest companies account for 67 percent of the total market value. The concentration ratio is as high as 0.8 when it is computed on the basis of turnover. This indicates that the stock market in Nepal is highly dominated by large ten companies in terms of either market capitalization or turnover. It is interesting to note that of ten largest companies dominating the market in 2005. Nine are commercial banks, indicating that the stock market in Nepal is highly dominated by the commercial banks. High concentration has adversely affected liquidity and significance of the stock market in the national economy.

Volatility

Volatility may be measured as a twelve month, rolling standard deviation of market returns. Higher standard deviation means higher volatility and more risk.

Although, volatility in the stock market in Nepal was high during the initial years. It was on decline till 1996/97 indicating that equity price on the stock market tended to stabilize during the period from 1998/99 onwards volatility in the stock market has wider fluctuation but it showed a tendency to rise consistently. Countries with the high inflation rates seem to have higher volatility in the equity market except in 1993/94, 2000/01 and 2001/02. Volatility in the stock market in Nepal is less than average volatility of other developing countries. The reason for this is mainly low volume of trading of equities due to the low demand. Volatility in these three years was high due to increase in the volume of trading triggered by speculative motive of the investors.

4.2 NEPALESE ECONOMIC OUTLINE

Table 4.3

Nepalese Economic Indicator

S.N	Indicators	Fiscal Years					
		2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
1	Economic Growth Rate (Percent)	4.8	-0.5	3.4	3.8	2.7	1.9
2	Gross Domestic Product (Growth Rate)	8.1	2.8	7.7	….	….	…..
3	Gross National Income (Rs in Million)	426458	405632	437546	5090700	543902	595675
4	Gross National Saving (Rs in Million)	77202	44067.6	472869	75341	76700	77438
5	Gross Domestic Saving (Rs in Million)	61030	9615	7097.2	62386	66333	64711
6	Total Domestic Saving (Rs in	-	50775	5477.2			

	Million)						
7	Total Investment (Rs in Million)	98313	10166.8	119048	130993	154132	176483
8	Total Consumption (Rs in Million)	349257	37156.6	40189.7	434359	467202	518236
9	Foreign Trade (Rs in Million)	114253	17428.27	190188	208179.3	129643.7	160796.5
	a. Import (Rs in Million)	76353	12435.21	136277	149473.6	91875.4	117482.1
	b. Export (Rs in Million)	87901	4993.06	59911	58705.7	37768.3	43314.4
10	Total fixed capital formation (Growth rate)	6.4	4.6	6.6	9.3	6.3	6.5
	a. In private Sector	-0.3	2.5	12.6	12.2	10.0	6.4
	b. In Public Sector	18.4	6.0	-2.5	4.1	-1.4	6.5
11	Total loan of commercial Banks	9.2	4.1	11.0	8.8	9.7	8.1

	(Growth rate)						
	a. To government	-4.4	4.6	25.1	8.1	1.5	2.8
	b. To public sector	13.00	-4.0	-6.3	9.7	43.5	-5.1
	c. To private sector	10.9	4.4	-9.5	9.1	12.1	10.1

Source: Economic Survey 2005/06

During the first eight months of the fiscal year 2005/06, total trade deficit increased by 37.1 percent to Rs 74170 Million because of the increased import. During the same period of the fiscal year 2004/05, total trade deficit rose by 7.4 percent to reach Rs 54110 Million.

In fiscal year 2005/06, the total fixed capital formation is estimated to increase by 6.5 percent whereas in the fiscal year 2004/05, it had increased by 6.3 percent. In the fiscal year 2005/06, the growth rate of total fixed capital formation of the private sector is estimated to be 6.4 percent while it was 10 percent during the previous year. Similarly, growth rate of the total fixed capital formation of the public sector is estimated to be 6.5 percent, which was -1.4 percent in the last fiscal year. During this fiscal year, the ratio of the total capital formation to nominal GDP decreased to 18.5 percent from that of 18.9 percent during the last fiscal year.

Among the monitory indices, total credit and investment of the commercial banks increased by 8.1 percent during the first eight months of the fiscal year 2005/06, whereas in the same period of the last fiscal year, it had increased by 9.7 percent. Of the total credit and investment, level of credit to the government of Nepal from commercial banks during this period increased by 2.8 percent which had increased by 1.5 in the same period of the last fiscal year. During the first eight months of the fiscal year 2005/06, credit to the government enterprises from the commercial banks decreased by 5.1 percent, which had increased by 43.5 percent during the corresponding period of the last fiscal year. Similarly, the credit and investment of

commercial banks to the private sector in this fiscal year increased by 10.1 percent, slightly down from increment rate of 12.1 percent during the corresponding period of the last fiscal year.

4.2 CORRELATION ANALYSIS

With the data of the each of the nine variables from the fiscal year 1993/94 to 2005/06, the correlations are computed and the table 4.2.1 present the result is in the matrix form:

Table no: 4.2.1

Correlation Matrix

	S	**I**	**CF**	**GDP**	**MC**	**VT**	**TO**	**V**	**PM**
S	1.00								
I	0.46	1.00							
CF	0.29	0.95	1.00						
GDP	0.59	0.75	0.62	1.00					
MC	0.81	0.54	0.30	0.87	1.00				
VT	0.63	0.22	0.02	0.64	0.78	1.00			
TO	0.05	-0.29	-0.37	-0.01	0.10	0.66	1.00		
VO	0.44	-0.02	-0.26	0.27	0.59	0.47	0.04	1.00	
PM	0.36	0.79	0.67	0.89	0.73	0.45	-0.13	0.36	1.00

Source: Appendix II and III

The summary statistics presented in the table no. 4.2.1 are as five stock market indicators and four growth indicators. The following relations are worth highlighting. Obliviously, there is strong correlation between GDP with S,I and CF with the co-efficient 0.59, 0.75 and 0.62 respectively. The interesting relation prevail between the stock market indicator, Market capitalization (MC) and growth indicator i.e saving (S), Investment (I) and gross domestic product (GDP) the correlation between MC and S is 0.81, between MC and I is 0.554, between MC and S is 0.81. Even with the

growth indicators, the correlation of MC is worth nothing with CF the co-efficient is 0.30. But the correlation of MC with the variables S, I and GDP is meaningful and telling. In the context of this significant relationship, few inferences can be made first, as the MC is the product of market prices of share multiple by the outstanding number of shares and if the firm are performing strongly in a bull markets, it passes a optimistic message to the general investors who tends to invest more in the market and firms. So, to finance such projects, firms need to capitalize their earnings which will increase their saving. The inference is that, as the shares are performing strongly in the market general investors as well as firms tend to save their earning for future investments purpose which ultimately increases the gross domestic saving. Therefore the strong correlation between MC and S is quite natural. Same proportion applies incase of the relation between MC and I. Since, the investors, (Individual or institutional) as weak as firms tend to save, they invest their saving in the new projects and hence increasing their investments with the increased investment, capital stock also increases thus the positive significant relation between MC and CF exists. The result of all this is that MC is also significantly and positively related with GDP.

Some other indicators of stock markets are also related to the economic growth indicators. The value traded (VT) which is equal to the amount of turnover in the domestic stock market divided by GDP, has significant correlations with saving (S) and GDP with the co-efficient of 0.63 and 0.64 respectively. Value traded measures the trading relative to the size of the economy. Higher value traded is regarded as the good indicator of stock market that contributes positively towards the GDP. Thus significant relationship of value traded to saving and GDP is meaningful. Higher value traded means that the stock market is performing better with the maximum participation of the investors. If more investors are involved in the market saving and investments are likely to increase and hence the GDP. Therefore, positive significant relation is all but expected.

Another, indicators of stock market development is turnover (TO) which equals to the trading value of the stocks in domestic share market divided by market capitalization. It measures trading relative to the size of the market. A high turnover is the indicator of the more liquid market. Surprisingly, it has the negative through insignificant relationship with all the other indicators except for S, MC and VT. This unexpected and insignificant relation may be due to the other unobserved factors as describe in limitation.

The relationship between the size of the primary market (PM) and most of the economic growth indicators in positive and significant which indicates towards the strong relation between stock market and growth. For instance, the co-efficient of the correlation between PM and I, PM and CF, PM and CS, PM and GDP are 0.79, 0.67, 0.79 and 0.89 respectively. And also, PM is positively and significantly related to the major indicators of the secondary market i.e. market capitalization with the coefficient of 0.73. On the basis of these relationships, few interesting implications can be observed. Strongly performing secondary market is also a cause a growing activities in the primary market.

With their price appreciating in the secondary market, firms feel at case to go for the equity issue in the primary market if and when the situation arises. The investors in the primary markets also look for the productive and profitable investments and invest in the firms' shares that are performing well in the secondary markets. This inter-relation between primary and secondary also explains the efficiency of the market. And the market efficiency is closely related to the efficiency of the economy.

Therefore the strong and positive relationship between growth of the primary market and the various indicators of economic growth is just as expectable and acceptable.

4.3 REGRESSION ANALYSIS

Table 4.3.1 stores out all the result between stock market indicators and economic growth indicators. Variables that enter into the regression are: Gross Domestic Product (GDP), Saving (S), Investment (I), Capital formation (CF), Market capitalization (MC) Value Traded (VT), Turnover (TO) and Volatility (VO)

Regression Equations

$$\text{Log GDP} = a + b_1 \log S + b_2 \log I + b_3 \log CF + b_4 \log MC \quad 4.1$$

$$\text{Log GDP} = a + b_1 \log S + b_2 \log I + b_3 \log CF + b_4 \log VT \quad 4.2$$

$$\text{Log GDP} = a + b_1 \log S + b_2 \log I + b_3 \log CF + b_4 \log TO \quad 4.3$$

$$\text{Log GDP} = a + b_1 \log S + b_2 \log I + b_3 \log CF + b_4 \log VO \quad 4.4$$

Table No: 4.3.1

Regression of Gross Domestic Products (GDP) on market capitalizaion MC Value tradeda VT Turnover TO and Volatility VO

Independent Variables

Independent Variables	***MC***	***VT***	***TO***	***VO***
Estimated coefficient	1.183	0.062	0.035	0.35
Standard Error	[0.018]	[0.036]	[0.053]	[0.048]
t- Statistics	[9.175]	[1.710]	[0.668]	[0.733]
R^2	0.986	0.790	0.67	0.680
F	66.02	3.710	2.030	2.093

Source: Appendix V

Note: i. Dependent Variables: GDP

ii. Log GDP = Logarithm value of gross domestic products in real terms. Log MC = Logarithm value of market capitalization which equals the value of all the outstanding shares in the stock market; Log VT= Logarithm value of value traded which equals value of

traded share divided by GDP; Log TO = Logarithm value of turnover which equals value of traded shares divided by market capitalization and Log VO = Logarithm value of volatility which equals the standard deviation of monthly stock inhere.

The relationship of GDP with all the stock market indicates is investigated in the table no 4.3.1.Along with the variable MC, TO, VO and VT. Other independent variables are also including in the equation no 4.1 to 4.4. This is because GDP is determined by other variables such as saving (S), Investment (I) and capital formation (CF) as well. All these variables are included in the equations is that every variables in all of the equation is presented in the logarithm forms which is quit helpful while explaining the results.

The results presented in the table no 4.3.1 indicates that the estimated coefficient of MC, VT, TO and V have the expected sign. Table 4.2 presents four regression, where the GDP is dependent variable and stock market indicators are independent variables (i.e MC, VT, TO and VO) along with other economic variables. Only market capitalization enters the gross domestic products regression significantly. Though, all other measures of stock market liquidity and variability have the positive sign. They enter the GDP regression significantly. The value of R^2 = 0.986 which is quite high meaning that about 98.6 percent of the variability in S, I, CF and MC is explained by the model. And the value of F = 66.02 is also high meaning that the assumption are correct.

The regression coefficient of value traded is 0.062. But R^2 = 0.790 and F = 3.710 indicates that the sufficient variability in GDP is explained by the variables S, I, CF and V and that the assumption are correct. The same is the case with turnover, TO where the coefficient is 0.035, R^2 = 0.670, F = 2.030. Here, also the coefficient of TO is significant. In case of the volatility, the regression coefficient is .350, R^2 = 0.680 and F = 2.093 but the regression co-efficient is not significant.

Chapter 5

Summary, Conclusion and Recommendations

5.1 SUMMARY

The relationships between financial development and economic growth, with the focus on development role of stock markets have been in debate for some time in the past. Empirical studies suggest that financial development does matter and stock market do spore economic growth. Unfortunately, in Nepal, despite a history about half a decade of planned economic activities to develop the real sector of the country, little attention was paid to the development of financial sector. Over the past one and half decade, financial sector, despite many problems has developed significantly in Nepal. However, most of the development was confined to the banking sector. Stock market has virtually remained stalled because of the low priority in the government financial reform policies.

Stock market works as a vehicle for raising capital for firms. Stock market helps investors to diversity their wealth across variety of assets. And the companies enjoy permanent access to the capital fund raising through equity issues. The growth in ht economy only occurs if society invests and maintains a sufficient amount of capital in firms that argument human capital and technologies. The more resource allocated to the firms the more paid will be economic growth. Efficient stock markets perform this role by reducing the liquidity risk to the investors.

The main aim of this study is to examine the role of stock market in the economic growth of the nation. Finally the objectives of the study are set as first, to examine the role of the stock market in saving canalization and the capital mobilization. Second, to access the significance of the stock market in the corporate expansion, capital stock growth, productivity growth and employment generation and third, to evaluate the relationship between various indicators of stock market development such as market

capitalization, turnover, value traded and volatility with various indicators of economic growth such as per capita income growth, saving mobilization.

The study suggests the role of stock market in economic growth in the context of Nepal. This study is totally based on the secondary data. For the purpose of the study's objectives, the data on aggregate economic variables such as gross domestic product, saving, investment, capital formation, productivity growth and the stock market size such as market capitalization, value traded, turnover, volatility and primary market size were collected from the year 1993/94 to 2004/05. In order to give more focus to the study, the firm's level behavior is also studied for this purpose 30 listed companies have been selected which compares of 24 Percent of total listed enterprises in NEPSE in F/y 2004/05. Firm level investment, saving and capital formation are compared with the size of the primary market as the primary market provides the direct link between saving and investment in the productive firms.

With the purpose of aggregate analysis all the data on economic variables and stock market variables are transferred into logarithm. It is done in order to have the comparison and relation simple and more interpreting. Another reason was to have the analysis of simple trend line on the basis of log value because these processes showed the direction of change more clearly than the magnitude of change. Then correlation analysis is also performed so as to understand the simple association between the different variables. This analysis is done with the help of correlation matrix. Finally the regression analysis is performed to find the causal association between stock market variables and economic growth variables. Though, the results obtained from this analysis on the aggregate economic and stock market variables should be viewed quite skeptically and while drawing conclusion, a cautious and calculative process is required. The main reason for this is that the observation period for the study is only 12 years (from F/y 1993/94 to 2004/05). And as the annual data are used on observation period of 12

years is not that much sufficient for the regression analysis. But due to the unavailability of quarterly data, yearly data have been used.

5.2 MAJOR FINDINGS

The major findings of trend analysis are stated as follows:

- The size of primary market in Nepal is gradually increasing over the yeas. Except for the year 1998/99, the trend of equity issue is increasing. This markets the involvement of more and more individual as well as institutional investors in the market turnover, is quite fluctuating from the year 1996.97 up to when it was constantly decreasing.
- Size of secondary market, as measure by market capitalization, is also in constantly increasing trend. Though, the increase in the size of the market is not very quick and fast, but keeping in the mind the state of our economy, it is encouraging. The economy as measured by the GDP is also increasing trend. This shows that the turnover amount in the market is increasing which also marks more liquidity in the market and more resource mobilization.
- When the size of primary market is compared to the economic growth variables, we find the positive results. Over the years, saving investment and GDP are in relationship between financial markets and the real activities in the economy. Only productivity growth in Nepalese economy is more fluctuating.

The major finds of co-relation analysis are presented as follows:

- Comparison of the relationship between market capitalizations with various economic growth related various shows quite significant and positive relationship. The co-efficient of correlation with saving, investment, capital formation and GDP are 0.81, 0.54, 0.54, 0.30 and 0.87 respectively.

- The relationship of the size of the primary market with the economic variables is also quite remarkable. The relationship between primary market size and secondary market size is also quite significant. The co-efficient of correlation with saving, investment, capital formation, GDP and size of secondary market (MC) are 0.36, 0.79, 0.67, 0.89 and 0.73 respectively.

Major findings of Regression Analysis on the aggregate basis:

- The size of the secondary market MC revealed that market capitalization, and gross domestic products are positively and significantly related. The causal relation tells that with the increase in the size of the market as measured by MC, the size of the economy as measured by GDP also increased. This result supports the theoretical assumption of Levine and Zervos (1990).
- As in the case of GDP, only market capitalization is significantly positively related with the saving. The causal relation specifies that with the size of the secondary market saving level of the economy also increases due to the increased saving by firms and individuals.
- Saving has positive but insufficient relation with value traded. But its negative though insignificant relation with other stock market variables such as turnover and volatility is quite surprising and not consistent with the assumption.
- Though the relation of stock market variables are positive as theorized with the capital stock growth, but the relation is not significant. The relationship of market capitalization, value traded, turnover and volatility is positive, even it is insignificant which tells us that stock market may also have positive effect on the capital stock growth.
- The relationship between productivity growth and stock market variables i.e. market capitalization and volatility is positive as expected, though it is statistically insignificant. But its relation with

stock market variables such as value traded and turnover is negative, though statistically insignificant and is against the theories relationship.

- Though some of the relations are quite consistent with the theoretical relationship of stock market variables and economic variables. Surprisingly, the liquidity measures such as value traded and turnover are not related significantly even with any one of the economic growth variables.

Major findings of regression analysis on the firm level economics and stock market variables:

- The study on the equity issuance of the firm and their investment level reveals that there is the significant positive relationship between equity issued amount and investment.

Re 1 of equity raised though the primary market is like to raise the investment level of the firm almost eight times. This may look a bit surprising at first hand, but when we consider the ability of equity based to enhance probability of assuming the debt liquidity, it is most likely possibility.

- Another casual relation exist between a firm's level of issued and raised equity capital with its saving as measured by the retained earning. As the result show, and increasing in equity based by Rs 10 is likely to increase the retained earning of the firm by about Rs 3. This indicates that the firms with productive investment projects only gain the confidence of the investors who invest their hard earned within those firm and the firms become able to profit by enjoying long term use of such capital and are out of danger of the premature liquidation of the capital from their projects.
- But quite surprisingly, there is not significant relationship between the level of equity issued in the market and capital formation of the firms as measured by net worth.

From the above findings, a few, very interesting inferences can be made:

a. The size of the primary as well as secondary market has the positive influences on the overall size of the economy.
b. Saving behavior of the firms as well as individuals is affected by the way prices are moved in the secondary stock market.
c. Increasing issue of the equity by the firms indicate that the investors are willing to take part in the investment process and thus drive the economic forces.
d. Strongly performing stock markets help prevail the optimism in the overall economy. And, also booming markets help the government to collect revenue from capital gain tax.

5.3 CONCLUSION

The study studies the empirical relationship between various measures of stock market development and long-run economic growth. Researchers find that, even after controlling for many factors associated with growth, stock market liquidity and financial development are both positively and robustly corrected with contemporaneous and future rates economic growth, capital accumulation and productivity growth. This result is consist with the view that a greater ability to traded ownership of an economy's productive technologies facilities efficient resource allocation, physical capital formation, and faster economic growth. Furthermore, since measures of stock market liquidity and financial development both enter the growth regressions significantly. Thus, to understand the relationship between the financial system and long-run growth more comprehensively, we need theories in which stock markets and develop simultaneously while providing different bundles of financial services to the economy. We find no support for the contentions that stock market liquidity, international capital market integration, or stock return volatility reduces private saving rates or hinder long-run growth. This study finds a strong, positive link between financial development and economic growth and the

result suggests that financial factors are an integral part of the growth process.

Various measures of stock market development indicate that the stock market in Nepal is under developed and has failed to show the impact on the overall national economy. Small market size has made it vulnerable to manipulation and price rigging. Low turnover ratio and value-traded ratio to volatility and high concentration ratio indicate that the stock market in Nepal is highly liquid and risky. Investors tend to avoid stock market because they do not have options to invest in securities according to their risk return performance. Similarly firms shun it because stock market is less reliable source of raising funds for them. Due to this financial system in Nepal has remained basically bank-dominated.

5.4 RECOMMENDATIONS:

Stock markets are very strong economic institutions and are found to be the cause of economic enhancement of the nation. Since, the economic activities of the nation get big boost by the orderly and efficient functioning of the stock market is the must.

a. Strong provisions via specific laws should be made to protect the rights of the investors.
b. Any company is not meeting the minimum requirements of Nepal Stock Exchange be de-listed. This would include money companies currently listed on the exchange.
c. The use of mutual funds should be encouraged so that more Nepalese could benefit from the market activity-while permitting an increase in the minimum number of shares traded.
d. Insurance, pension and provident funds should be permitted to invest beyond the banking and financial sectors. They are currently helping the "power" the trade in this sector to the determinant of the other

sectors. This should not be permitted to happen, however, until the above listing and accounting changes have been made.

e. A corporate governance code should be approved in Nepal.
f. The government should be encouraged to trade bonds on the stock exchange.
g. This is urgent need to effective reform in the commercial banking sector. So that any fall out from the sector will not have a negative impact upon the capital market development in the future.
h. The government needs to seriously address issues related to the poor business environment in Nepal and effort to encourage rapid increase in both domestic and foreign direct investment.
i. Maximum possible information should be made available to the investors at minimum possible cost.
j. All the necessary organisms should be setup for the efficient functioning of the market.
k. Ways of the transactions should rectify and modified via automated quotation and appropriate technology.

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