CHAPTER-ONE
INTRODUCTION

1.1 GENERAL BACKGROUND

The definition of savings differs depending on what type of unit in the economy is doing the saving. For households, savings are what is left from current income after current consumption expenditures are made. In the business sector, savings include current earnings retained inside business firms after payment of taxes, stockholder dividends and other cash expenses. Government savings arise when there is a surplus of current revenues over current expenditures. Savings produces the funds for investment(Rose,1997: 4). Investment can be defined as the employing money in earning asset/assets with the objective of earning some positive return in the future. Investment is the sacrifice of current dollars for the future dollars (Sharpe,1999: 278).

Business, individuals, and government often need to raise the capital. For this, they need access to the financial markets (Brigham & Houston,1996:267). Financial markets are markets where financial claims and financial services are traded. These markets may be viewed as channels through which moves a vast flow of funds that is continually being drawn upon by demanders of funds and continually being replenished by suppliers of funds (Rose,1997:6). People and organizations wanting to borrow money are brought together with those having surplus finds in the financial markets. There are a great many different financial markets in a developed economy. Each market deals with a somewhat different type of instrument in terms of the instrument's maturity and the assets backing it. Different markets serve different types of customers. For these reasons, it is often useful to classify markets along various dimensions, such as, physical asset vs. financial asset markets, spot vs. future markets, money vs. capital markets, primary vs. secondary markets, private vs. public markets etc (Brigham &Houston,1996:285).

Capital market is one of the most important and popular financial markets among different dimensions of financial markets. Capital markets are the markets for

intermediate or long term debt &corporate stocks (Brigham &Houston,1996:285). Capital market helps economic development by mobilizing long term capital needed for productive sector. It is a market for the long- term financing having maturity of greater than one year and they are vital to long term growth and prosperity of the economy since they provide the channel through which needed funds can be raised (Shrestha: 1988,10). Efficient capital market helps to mobilize the financial resources and provides sufficient channel to productive investment. Capital market is the place where financial assets are traded for the purpose of transformation of saving (Light and White: 1979, 4). Development and expansion of capital market are essential for the rapid economic growth of the country. It is a mechanism through which public saving is channelized to industrial and business enterprises. Capital market consists of securities market and non-securities market. Non-securities market refers to the mobilization of the financial resources by the financial institution in the form of deposits and loans. Securities market implies mobilization of the funds through issuance of security: shares, bonds and debentures by corporate sector and bonds, bills and debentures by government.

In the context of securities market, the capital market consists of the primary market and the secondary market (Poudyal: 1987, 54). The primary market deals with the selling of new securities when they are first issuance by issuing entities. Secondary market is for second hand or previously issued securities. The development of capital market confirms to a basic national development policy of mobilizing saving in productive investment on growth- oriented sector of the economy. Capital is required to start and run any productive operation. Capital market is a medium through which scattered saving investible resources are converted into actual investment. One of the mechanisms of financing the industries or the external resources in the modern era is the capital market through which the industrial enterprises with corporate organization assemble the funds by issuing various forms of securities from the surplus sending units directly and/ or via financial enterprises (Mahat: 1981, 25). Thus, the capital market is one of the important bases for the development of industry, commerce and the economy of a country.

Capital is more mobile in developed countries than in developing countries. In developing countries about 45 percent of the incremental saving is invested domestically;

while in developed countries about 75 percent of incremental saving in invested domestically (1991,39). This may be an indication that the more efficient capital market of developed countries is actually drawing funds from the less efficient developing countries (Koirala: 1991, 39). Savings carry a great significance in a country's development. While high savings results in high economic growth rate, rapid development leads in turn to high saving. Nepal's saving rate is lower compared to other developing countries; however, even to achieve 5 to 6 percent economic growth rate, more than 25 percent annual investment of GDP is considered necessary (NPC: 1998,81). As the country's current domestic saving are about 14 percent, the economic resources are by nearly 11 percent short in proportion of the GDP (NPC: 1998, 81). The situation is such that huge portion of investment has still to be made with external resources.

Saving is the excess of income over consumption. In other word, it is the part of income, which is left over after consumption. And investment is the part of the income, which is left over after consumption. And investment is the expenditure made for the construction of the fixed capital (fixed capital formation) assets and other expenditure made for reproductive purposes. The saving growth rate depends among others, on the level of country's per capita income and its growth rate, population growth rate, interest on saving or on bank accounts, banking and financial facilitates net factor income etc. The national income is the measure of the money value of goods and services available in a year. The amount of saving of typical household in Nepal is small because the people have limited opportunities for financial investment. They prefer to spend saving on commodities rather than hold financial assets. This restricts the process of financial intermediation; which might otherwise bring benefits, such as reduction of investment risk and increase in liquidity. Mobilization of saving implies transfer of resources from surplus sending units to deficits units. Mobilization of voluntary saving is the main function of financial intermediaries. When capital is highly mobile internationally, saving from aboard can finance the investment needed at home, but when capital is not mobile internationally, domestic saving will limit investment at home, the study of national income, saving and investment is no more regarded as the sufficient indicator of the country's economic

performances, however with the Keynesian revolution in economic thought, its study has great importance.

Capital formation refers to the creation of physical productive facilities such as building, tools equipment and roads. The process of adding to the amount or stock of the real assets produces growth in the economy. It is also known as capital accumulation. It means increasing a country's stock of real capital. It implies additions to the existing supply of capital goods in a country. It represents the addition of new capital stocks to existing stocks after deducting depreciation, damage and other physical deterioration of the existing capital stock. Economic progress in the country depends upon its rate of capital formation (Seth: 1979,783). The process of capital formation helps in raising national income

In fact, capital formation helps in making a country self-sufficient and reduces the burden of foreign aid. Capital formation is regarded as one of the important and principal factor in economic development. A key factor in the development of an economy is the mobilization of domestic resources. In the process of capital formation, the capacity to save of certain classes of people and institution increases, these people have varied assets-preferences, which change from time to time. The need of entrepreneurs who actually use the saving for productive proposes is also varied. A rapid rate of capital formation gradually dispenses with the need for foreign aid. Therefore, capital formation is necessary pre-requisite for economic growth.

Healthy capital market is essential for economic development of the country. Nepal, traditionally regarded as a capital shortage country, is seriously limited by low per capita income, low saving rate and poor investment rates. The development of capital market in Nepal has been slow process and it has one of the prominent reasons behind the slow growth of organized form and some are functioning not in an organized way (Shrestha: 1999, 2). In many developing countries, the unorganized capital market is still a prevailing characteristic of the economy. The capital market was initiated in country with the establishment of the Security Marketing Center in 1976 in the government sector

according to the industrial policy of that time (NPC: 1998, 167). With the gradual liberalization of Nepalese economy over the past two decades many important changes has been introduces in the Nepalese capital market too.

At present, there is very limited growth of primary and secondary markets of shares, and financial institution such as merchant banking which help in the execution of the capital market are still in their infancy. The expansion of capital market in Nepal is severely limited. The accelerating pace of the growth and development of Nepalese economy has created many economic problems, an important one of which is the accumulation and mobilization of capital. This will be improved with a better reorganization of the macro economic importance of capital market, the influence of information on international development via internet, the new generation of the better social recognition of companies to the stock exchange. Viewed in this perspective, the study devoted to saving, investment and capital market in Nepal at macro perspective may be very rewarding.

1.2 STATEMENT OF THE PROBLEM

Saving is one of the most important sources of investment. So it is important to understand the various determinants of saving and its behavior in course of development. The Keynesian absolute income hypothesis postulates a linear relationship between aggregate saving and aggregate income. A number of studies have fitted the Keynesian saving function to cross section data for different samples of countries and found a significant positive relationship between saving and income. For example, Houthakker (1965), Chenery and Eckstein (1970), Landau (1971) and Singh (1975) found that domestic saving to be positively related to national income for both the developed and developing countries. This confirms that absolute income is also an important determinant of saving in poor countries.

Development economists have usually regarded taxation as an extremely potent instrument for increasing the rate of saving in the under developed countries. Stanely Please (1967); Landau (Mikesell and Zinser: 1973) indicated the taxation has negative effects on saving. However the studies by Bhatia, Krishnamurty, Morss, Singh (Mikesell

and Zinser: 1973), and Engen and Gale (1997) indicated that taxation has very positive significant effects on saving. The study of the relationship between interest rates and saving is beset by a number of complex theoretical and empirical problems. The study by Williamson (1968) relating to 6 Asian countries, and another study (Gourinchas and Parker: 2001) showed that the real rates of interest appear to have negative effect on national saving while Gupta (1970) relating to India, and the study by Brown (Mikesell and Zinser: 1973) in the context of Korean economy found that interest rates and saving are positively related. Similarly, several authors argued that increased export-earnings lead to (1971); Weisskoof (1972); Bhagawati and Srinivasan (1976); and Bhagawati (1978) found that exports to be a significant determinant of domestic saving.

The analysis of investment and its relation with growth has been one of the most strategic aspects of development planning. With a view to test the theoretical presumption regarding the relationship between investment and growth, many authors resorted to empirical studies in the context of both the developed as well as developing countries. The study by Modigliani (1970); Sommers and Suits (1971); Robinson (1971); and Thirlwall (1974) pointed out that the growth rate is significantly influenced by the investment ratio. Devereux and Schiantarelli (1989) and Gomes (2001) indicated that the cash flow is significantly associated with investment.

Barro (1991) suggested that the investment and real interest rate move in opposite direction. However, Cleary (1999) concluded that the financial factors as key explanatory variables along with liquidity status of firm investment. This study further observed that the investment decisions of firms with high creditworthiness are significantly more sensitive to the availability of internal funds than the firms with less creditworthiness while another study (Beaudry et al.: 2001) revealed that the significant negative correlation between the investment rate and the profit rate.

The development in macro level of the national economy has positive impact in the capital formation capacity of the economy. Capital formation is regarded as one of the most important and principal factor in economic development. It has emphasized that capital accumulation is strategic factor of growth. Pesmazoglu (1972) also revealed that a

strong association between capital accumulation and growth. Another study (Compbell and Hamao: 1992) suggested least partial integration of US and Japanese stock markets in the capital markets. The Jorion and Goetzman (1999) study indicated that global capital markets have been systematically subject to dramatic changes over this century. However, Boutchkova and Megginson (2000) study focused a Privatization as key forces of the development of capital market.

The study by Poudyal (1998) verified the above-mentioned results. It revealed that the GDP influenced not only the current values of investment but also past values. While saving positively influenced GDP, it negatively influenced tax revenue. It also revealed that investment significantly influenced GDP, foreign aid and imports. Another study (Wagle: 2000) also found similar result expect the relation of taxation with saving.

The capital market is a part and parcel for corporate development. The development of financial institutions that link the surplus spending units with the deficits spending ones is in the rudimentary stage (Mahat: 1981). Through it is early stage of development, Nepalese investors in recent years have poured funds in newly established companies encouragingly. The Nepalese capital market had been passing through a transitionary phase over the past few decades. After restoration of democracy a network of financial institutions were created through legislative measures to include the growth of capital market. This trend is the milestone in the development of capital market. Development of a vibrant and dynamic capital market is a pre-requisite for the development of an efficient economy.

Now we can conclude that saving, investment and capital market are not determined by a single factor. These are the function of number of interdependent variables. However pertinent question arises as to what extent these finding are still relevant in the present day context. Many changes have taken place after the completion of these studies. In order to verify these results, this study assesses the behavior of saving, investment and capital formation in Nepal at macro perspective. To sum up, the study deals with the following issues:

- Importance of saving, investment and capital formation on economic development. Role of the current values and the lagged values of saving, investment and capital formation in determining GDP.
- Behavior and determinant of saving, investment and capital formation in Nepal.
- The way / process of affecting saving by investment, capital formation, GDP, National income, foreign aid, exports, tax revenue and interest rates on deposits of commercial banks.
- Role of saving, capital formation, foreign aid, imports and interest rates on lending of commercial banks while determining the level of investment.
- Investment, saving, GDP, and interest rates on lending of commercial banks in determining capital formation.

1.3 OBJECTIVES OF THE STUDY

The major objective of this study is to know the behavior of saving, investment and capital formation in Nepal. The specific objectives are as follows:

- To predict the role of saving, investment and capital formation on economic development.
- To analyze the determinant of saving, investment and capital formation which are the major macro-economics variables.
- To trace out the other variables and their relation with respect to the saving, investment and capital formation.
- To suggest and recommend on the basis of major findings.

1.4 DEFINITION OF KEY TERMS

The financial statement published by NEPSE Ltd., have its own format for publishing the financial data of Nepalese enterprises on a more or less uniform basis. It is, therefore, desirable to define some key terms.

Saving: Saving means excess of income over the consumption expenditure at macro level while retained earning of individual enterprises at micro level. The retained earnings account is built up over time by the firm "Saving" a part of its earning rather than paying all earning out as dividends (Weston and Brigham: 1968, 274)

Investment: Investment, in its macro level, means that sacrifice the current rupees for future rupees while growth in total assets of individual enterprises is taken as investment at micro level but decrees in total assets is realized as zero investment.

Capital Formation*:* It is also known as capital accumulation. Gross fixed capital formation is taken as capital formation at micro perspective whereas growth in capital employed of individual enterprises is treated as capital formation at micro perspective of the study but decrease in capital employed is realized as no capital formation.

Total Capitalization*:* Total capitalization is specified as long-term debt plus net worth. It is also known as capital employed.

Net Worth*:* It is also known as shareholder's equity. Equity consists of the amount of equity capital, reserves and surpluses or deficiencies.

Total Debt*:* These include short-term plus long term debt from financial institutions.

1.5 LIMITATIONS OF THE STUDY

All economists including those in the planning commission complain the data deficiencies problem. It is quite discovering that even with nine periodic plans in the background the availability and equality of the statistical data still remain far short of the ideal. The problem is remained as acute as in the past rather more acute than in most other developing countries. On the other hand, there exits fairly reasonable series with regard to government sector including both the revenue and the expenditure accounts and factor affecting it, and exports and imports. However some of these services are not also available in the form required for analyzing the different issues in the relationship between macro-economic variables.

In view of the poor database, a rigorous quantitative analysis of the macro-economic relationship for the Nepalese economy may not be feasible and even justified, but a beginning, howsoever in adequate, must be made somewhere with whatever data it is possible to compile. This type of exercise has some merits of its own. In the first place, for the policy markets whose have to rake quantitative decisions, it is better to base them on some rough statistical estimates than on pure intuition. Secondly, this type of exercise may provide basic information on the feasibility of developing larger and more comprehensive sectoral or macro-models for the Nepalese economy, bringing to the fore the particular directions in which existing data may have to be improved or new data may have to be collected. Given the non- availability of various relevant price indices, it has not been possible to estimate the structural relationship of various macro-economic entitles in constant prices. However, as an alternative, through not a satisfactory way to do, values of all the variables have been converted into real terms by means of national urban consumers price index. There is no database, which makes it difficult to carry on any research in Nepalese capital market. In order to make a study on saving, investment and capital market in Nepal more fruitful, it is essential that data should be of frequent time intervals. Here again, such type of monthly or quarterly data could not be obtained and due to this the study has been forced to use. The use of annual data in this study is thus likely to make the conclusion somewhat less valid and less reliable. In the absence of monthly of quarterly data, many on the approaches to the study could also not be employed.

This study does not cover all the Nepalese enterprises. It, therefore, implies that the conclusions drawn are on a tentative nature and firm generalization should be avoided for the entire listed enterprises. Similarly, each selected enterprises does not represent the entire industry in which it falls. But it does represent largely its industry groups. The study periods begins from 1997/98 only. The earlier years are not considered, as it will decrease the number of enterprises to be selected for this study. The regression results are based on polls cross section analysis of only limited observations at micro perspective of the selected enterprises.

1.6 ORGANIZATION OF STUDY

The study has been organized into five chapters, each devoted to come aspect of the study of saving, investment and capital market in Nepal. The chapters one to five consist of introduction, review of literature, research methodology, presentation and analysis of data, and summary and conclusion. The rationale behind this kind of organization is to follow a simple research methodology approach.

Chapter one contains the introductory part of the study. As already mentions, this chapter described the major issues to be investigated along with the general background and objectives of the study.

Chapter two includes a discussion on the theoretical framework and review of the major empirical works. The theoretical analysis and review of related literature conducted in this chapter provide a framework with the help of which this study had been accomplished.

Chapter three describes the research methodology employees in the study. This chapter deals with research design, nature and sources of data selection of enterprises, method of analysis, limitations of the study and definition of key terms.

Chapter four consists of three sections, which deals with the empirical analysis of the study. Section one deals with the role of saving, investment and capital formation on economic development. Analysis of determinants of saving, investment and capital formation had been described in section 2.

Chapter five indicated summary and conclusions of the study. This chapter presents the major findings and compares them with theory and other empirical evidences to the extent possible. It also offers several directions for future research.

CHAPTER-TWO

REVIEW OF LITERATURE

Before entering into any research, it is necessary to be clear about its theoretical aspects. This chapter includes a discussion on the theoretical framework and major empirical works. The theoretical analysis and review of literature conducted in this chapter provides the framework, with the help of which this study has been accomplished. This chapter also includes the conceptual framework of the study to make the basic knowledge for the study, which is also, be the foundation of the study.

This chapter has been provided into 3 parts. Part one presents theoretical framework, part two includes the empirical works on saving, investment and capital market as well as review of Nepalese study on the topic, part three provides the conclusion and remarks.

2.1 THE THEORETICAL FRAMEWORK

2.1.1 Conceptual Consideration

Conceptual Consideration on Saving:

Saving is the process of withholding current income for future use and results in the accumulation of tangible and financial assets. The amount so accumulated over past periods is referred to as saving. The reverse of saving (i.e. when expenditure exceeds income) is defined as spending. Saving and spending occurs with in all three major groups of the economy – individual, business and government. There are two concepts are used in national accounting- Net saving and gross saving. On a net basis, individuals save when personal income after tax exceeds outlays, business saves through retain profit and government saves when current receipt exceeds current expenditure. On a gross basis, saving includes in addition depreciation allowances covering the wear and tear on real assets for future replacement (Greenwald; 1982, 837)

Saving means excess of income over consumption or the difference between income and expenditure on consumption. So saving is income not consumed (Eatwell etal: 1987, 336). From the individuals point of view saving is that part of his income, which is not spent on consumption. Similarly, from the communities' point of view aggregate saving

is the part of natural income which is not spent on the consumption expenditure (Gupta: 1974, 110). In other words, it is equivalent to an earn surplus or changed in earned net worth during a given period. Current saving depends upon current income. Saving of an economic unit can be defined as the excess of current income over the current expenditure (Alamgir and Rahman 1974, 6). Saving is defined as the foregone consumption (SAB-6th Ed)

Saving is bad when they are hoarded. They become a virtue if they are invested. If saving is hoarded, they result in a decline in income, output and employment. What is in fact bad is not the fact of saving but the act of hoarding. (Keynes 1936, 74-81). One of the basic motives for saving is the accumulation of wealth to ensure future welfare

Conceptual consideration on Investment:

Investment in its simplest form means employing money to generate more money in future. It is the sacrifice of current rupees for future rupees. Return is the primary motive of investment but it always entails some degree of risk buying common stocks, bond of a company, depositing money in to banks a/c, buying a piece of land, gold, silver, are example of investment (MR 2003, 2).

Investment in its broadest sense means the sacrifice of current dollars for future dollars. To different attributes are generally involved; time and risk. The sacrifice takes place in the present and is certain. The reward comes later, if at all and the magnitude is generally uncertain. In some cases the element of time pre- dominates (for example government bonds). In other cases risk is the dominant attributes (for example, call optimal on common stock). In yet others, both time and risk are important (for example, shares of common stocks). Investment is restricted to “real” investment of the sort that increases national output in the future. Although this definition may prove useful in other contexts, generally themes are two types of investment “real” investment and "financial" investment. Real investment generally involves some kind of tangible assets such as land, machinery or factories. Financial investment involves contracts written on piece of paper, such as common stock and bond. (SAB-6th edition).

An investment is a commitment of money that is expected to generate additional money. Every investment entails some degree of risk; it requires a present certain sacrifice for a future uncertain benefit (Clarks, 11th edition).

According to Keynes, "Investment means real investment. It means and addition to nations physical stock of Capital. It creates employment and generates income. For example, the building of new factories, new companies, are real investment". Investment involves long term commitment and waiting for a reward.

An investment functions is the relations between the acquisition of Capital and a set of exclamatory variables. Capital is the long term investment which is defined as building equipment and investment and some terms intangibles such as knowledge and Techniques which are both outputs of the production process and inputs to future productions (Greenworld; 1982, 553).

In Macro economic concept investment is a part of Gross National product, GNP can be viewed as a flow of either product or income. In either case the total value (at market prices) of goods and services produced in the economy is the saw. So what it has the basic GNP identity? (Milliam H. Branson 1979, 32)

$$C + I + G + (X-M) = GNP = C + S + T + Rf$$

Where,

C = Total value of consumption expenditure.

I = Total value of Investment expenditure

G = Government purchase of goods and service

X-M = Net export of goods and services

S = Gross private saving (business + personal + Depreciation)

T = Net Tax revenue

Rf = Total private transfer payment to foreigner

Conceptual Consideration on Capital Market:

Capital Market refers to such type of Market in which financial assets with a term to maturity of typically more than one year is traded the long term financial instruments such as stocks, bond, government etc. (MRI 2003, 3).

Capital refers to the long term investment and market returns to the composition of buyer and seller so capital market combined refers to the composition of buyer and seller of long term investment from where investors get information and market the investment.

Investment generally consists of physical investment and financial investment. Physical investment relates to real investment in the economy or industry, which is known as Capital formation. Capital goods are generally to be such goods, which are used for future production. These goods normally have a life of more than one year. For the purpose of assessment, capital formation is generally decided into two parts. It consists to fixed capital formation which includes increase in fixed assets such as building, plant, Machinery and equipments and the second comprises increase in inventories and stock of goods which compass raw material, finished good and work in progress. Capital formation may be gross or net. Net capital formation can be derived by subtracting depreciation and obsolescence change from gross capital formation. Estimates of capital formation can be mad either by measuring change in fixed capital or stock or by where may be called saving and investment method. Capital formation shows the change in Gross fixed assets of productive units or manufacturing industries. Gross fixed assets include building, plant, machinery and other equipment. Capital formation is the development of means of future production. Hence, capital market made up of the various sources of capital for (medium or long term) investment in new and already existing companies.

2.1.2 Theories Regarding Saving Investment Functions

There are various theories or hypothesis regarding to saving and investment functions and their behavior before a century. They all relate with aggregate saving, personal or household saving. They are (a) Keynes 'Absolute Income' hypothesis

(b) Queensberry 'Relative Income' hypothesis

(c) The Friedman 'Permanent Income' hypothesis

(d)Modigani–Brumber-Ando(MBA)'LifeCycle'hypothesis.

In the literature the Keynes hypothesis is known as Keynesian Saving function while the rest are lumped together under the heading of Neo-Keynesian saving functions. Obviously the entire late three hypothesis have emerged as attempts to offer alternatives to the Keynesian saving function and despite some analytical differences; they convey basically similar conclusions on the nature of saving functions This study attempts to test the Keynesian absolute income hypothesis only due to the data deficiencies.

The Keynesian absolute hypothesis shows a linear relationship between aggregate saving (s) and aggregate income (y) (Keynes1936)

Where,

$$S = a0 + a1y \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots. (1)$$

It is assumed that a0<0 and 0<_a1<1, such that as the level of income rises, the saving will also increase. This hypothesis posses the marginal propensity to save (MPS) to be higher than the average prosperity to save (APC). The saving-income relationship in per Capital terms can also express and in so doing the size of population is also taken into the consideration.

Saving Investment Equality:

Saving is controversial topic in economic theory. The entire confusion in connection with the saving-investment controversy can be traced out to a failure to distinguish between schedules and observable (Klein 1956, 11). During 1930_s Keynes gave a new approach to the Macro economic theory. According to him saving is the function of income (derived from the consumption function) and income is the function of investment which is in opposition to the neo-classical views of saving as a determination of investment.

Suppose, higher the income higher will be the saving and higher the investment higher will be the saving.

According to Keynes,

$$S = f(I)$$

Where, S = Saving, I = Investment

Saving-Investment classical equality:

Keynes was not the first person to visualize equality between saving and investment. Classical economists also talked of this equality. However there are important and considerable difference between Keynes and Classical (Gupta 1974, 170). Firstly, according to the classical equality between saving and investment is brought about by the rate of interest. If saving exceeds investment, the rate of interest declines and if investment exceeds saving the rate of interest rises.

Secondly, the classical economists believe that the equality between saving and investment is brought about at full employment level of income. In contrast to the Classical view, Keynes believed that the equality between saving and investment is brought about not by the rate of interest but by income. Further Keynes believed that saving and investment can be equal in fact, normally are so, at less than full employment.

Classical Saving Function:

The classical saving function makes the saving ratio S a function of the profit rate P. If the reason for saving and investing is to increase future consumption possibilities, one might expect that as the rate of return in investment which equals saving in full employment equilibrium falls with rising. **K/E ratio, the rate of saving would fall since the future consumption payoff would be reduces.** It should be noted that this assumes that the substitution effect of a lower return or saving outweighs the income effect which would end to increase saving to maintain a given future consumption stream. The

classical saving function, under the assumption can be written as (William. H. Bransonlata, 444)

$$S= f (p)$$

Neo-Classical Growth Model:

According to Neo-classical growth model with a technical progress factor augmenting the effective labour force tends toward. A long ran equilibrium growth path on which the ratio of Capital (k) to effective labour (E) unit K/E = K and the ratio of output (Q) to E, q approach to equilibrium k* q* values. So that both capital and output tend to grow as fast as the effective labour force E. The result come from the simplest one sector-meaning that the economy has only one output that can be either invested or consumed-neoclassical growth model built on the following three basic assumptions.

The effective labor force E_t grows at the rate g_L+l as known in equation (1)

$$E_t=L_o e^{(gL + l)t}$$

The total output (Q_t) depends on capital (k_t) and effective labor E_t, inputs according to the production function

$$Q_t=f(k_t.E_t) = ft(kt)$$

The production function is homogenous of degree one or exhibits constant return to scale, so that we can divide by E_t to obtain the labor-intensive production function.

$$g_t=Q_t/E_t = f(k_t/E_t) = f_t(k_t)$$

Saving which equals investment by the assumption of full employment, is a constant fraction of output, thus

$$\partial k/\partial t= It = St = sQ_t \quad \text{(WilliamSharpe–1974 -442)}$$

Saving Investment Accounting Equality

Accounting equality between saving and investment is also called logical identity, the national output (O) consists of Consumption goods (C) and investment goods (I). In algebraic term O = C+I. similarly, national income (Y) is divided into consumption expenditure (C) and saving (S) in algebraic terms Y=C+I. It is known by the definition O=Y. from this follows that C+I=C+S or I=S. This equality between saving and investment can be expressed in another way also. Keynes defines saving as the difference between income and consumption i.e. I=Y-C. Since Y-C is common in both equation S=I (Gupta 1974, 171) mathematically

Y=C+I	400=180+120
S=Y-C	120=400-180
S=I	Hence 120=120

Therefore investment equals to saving. Thus, saving is the pre-requisite of investment and investment is meant the actual production of capital good, which leads to saving. Saving is necessary for the process of investment while saving does not exist without investment.

Saving Investment Functional Equality:

Functional equality shows the actual behavior and the process of adjustment of saving and investment in the economy as a whole. In other words, it puts life into dead statistics. Though saving and investment in the statistical sense are identically equals at all times and at any level of income, saving and investment in the schedule sense are equal only in equilibrium or in other words, at the equilibrium level of income (Gupta 1974, 172)

Therefore saving and investment in the schedule sense are brought into equality, overtime, by the equilibrium mechanism of income. This way of looking at saving and investment is consistent with the common sense new that, through decisions to save and to invest are made by different people and for different motives in the course of time these decision get some how reconciled through the "invisible hand" of income. They implies that they may itself influence income influencing saving and investment.

The Kaldor Saving Function:

Nicholas Kaldor has suggested a saving function that makes the saving ratio a function of profits are 'p' and capital ratio 'r'. Kaldor basic saving function is

$$S=S_w+SP$$

Here, wage income w plus profit income 'p' add to output 'Q', and Kaldor assumes that saving ratio out of profit S_p is greater than that out of wages S_w. That is, it is assumed that $1>S_p>S_w>O$

The overall saving ratio S=S/Q can be derived from above equation as follows.

$$W+P=S$$

$$\text{Or, } S=S_wQ + (S_p - S_w)P$$

With this theoretical consideration, the review of empirical works has been undertaken in the following part.

2.1.3 Review of Empirical Works

Study on Saving:

After presenting the conceptual consideration in topic, it is very important to state and review the different empirical review on the topic. Some empirical studies have been made to test the different theories of saving in different countries in different time series which sated below. The stated empirical reviews shows the different factors like taxation, interest rates, export and foreign aids etc would affect the domestic saving apart from the principal hypothesis.

There are various studies which have been some according to Keynesian saving function. A number of studies have fitted the Keynesian saving function to cross section data for different samples of countries and found a significant positive relationship between saving and income. For example, Honthker (1965) in a cross section study of 34 developed and developing countries for the period 1952-59 found domestic saving to be positively related to national income. Chenery and Eckstein (1970), using cross section data for 16 Latin American 0 and 30%. Landu (1971) in cross section study of 20 Latin

American countries regarded saving ratio on log per capita income for 1956-61-63 and the average of three years and found negative constant term in all cases and the slope coefficient taking value between 0.05 to 0.06. The semi-log specification was supported to capture the non-linearity in the relationship. Further the sample was divided into 8 richer and 12 poorer countries and a linear regression of S/Y on Y/N was performed for each group. The coefficient of Y/N for the richer group was found to be stylistically non-significant while that of poorer group was significant. This confirms that absolute income is an important determinant of saving in poor countries. Singh (1975) examined the aggregate saving behavior in 70 countries (16 developed and 54 under developed) for 1960-65 period and found support to the absolute income hypothesis.

Several authors argued that increased expert earning leads higher domestic saving. Maizels (1968) by using annual data for 11 countries for the period (195-62), found that the export to be significant determination of domestic saving. Lee (1977)extended Maizel's analysis by taking a much larger sample (20 LDc_s and $8Dc_s$) for a longer time period and found expert earning to be significant determinants of domestic saving. The study by Chenery and Eckstein (1970) relating to time series of 16 Latin American countries has similer results. Weisskapt (1972) relating to time series as well as cross section of 17 less developed countries, among others come to similar conclusion. Bhagawati and Srinivasan (1976) found that foreigner trade regime favoring experts oriented cooperate sector and urban areas would include higher saving because these tend to have higher prkopensilities to save as well as Bhagawati 91978) argued that the positive association between export and saving.

Engen and Gale (1977) indicated that tax reforms have very significant effects on saving and output. The effect of fundamental tax reforms may work through many different avenues, but an important goal is to increase saving. The effect on saving of a switch to a flat-rate consumption tax would be influenced by least several factors. First the effect on saving would depend on the magnitude of the tax burden places on saving in the current system. Second, it would be determined by the response of the rate of return on capital and the sensitivity of saving to the changes is it's after tax return. Third, the effect would

be contingent upon the redistributed of tax burdens across group with different propensilities to save including any wind fall gain and losses created in the transition to the new system. The uncertainties the households face and the role of precautionary saving is important components for evaluating these issues. These issues of the study were examined using a general equilibrium, overlapping-generation and stochastic life cycle simulation model for the 1971 to 1994 period of as date.

Development economists have usually regarded taxation as an extremely potent investment for increasing the rate of saving in the underdeveloped countries. Stawley Please (1967) however, argued that increase in tax revenues was largely spent on government consumption. This in conjunction with the dampening effect of taxation in private sector initiations to production increase may cause as reduction in national saving. The study by Landau (Mikesell and Zinsen: 1973) relating to Latin American countries provided support employed three alternatives specification with different combinations of variables- the first relates aggregate saving ratio to tax ratio, the second government saving ratio to tax ratio and per capita income and found that in all of these cases in which the aggregate saving ratio is the dependent variable, the tax has negative effect on saving. On the other hand, as Mikesell and Zinser (1973) discussed in their survey article, the studies by Bhatia Krishnamurty, Morss and Shing among other authors do not provide the support to the hypothesis. The empirical finding thus does not reveal a consistent and distinct pattern of relationship between saving and taxation. It should be recognized that the result obtained on the basis of statistical aggregate usually, employed should be taken with some reservation because as Mikesell and Zinser (1973) argued, government expenditure is most cases were mistakenly classified into current and capital expenditures.

The major findings of the study are stated, first the variance of predictable movements in consumption that are due to movement in the precautionary term are of the same order of magnitude as those due to movement in the real interest rate. Second, movement in consumption due to precautionary saving are negatively correlated with movement in consumption due to the real interest rate. This finding can rationalize the puzzling low

correlated between aggregate consumption growth rates and the real interest rate. The importance of precautionary saving for understanding economic fluctuations seems large. For example, consider a positive, temporary shock to government spending that lowers precautionary saving. Then, precautionary saving and the real interest rate work in opposite direction on consumption. So that government spending has a large impact on economic activity.

Studies on Investment:

Economic development is transforming the lives of millions of people throught-out the developing world. The share in its benefits is largely determined by, now; a country manages its investment resources. This concept is about that it is investment process viewed from the experience of development for more than thirty five years.

Specially investments in the form of specific projects, how to identify the most promising projects in each sectors, how to prepare them, how to carry them through to successful completion, how to operate and maintain them? The project, some time described as the, “Cutting edge of development” has become and important means of marshaling a country’s resources human and material for investing in development. According to lesson of the world bank experience, we should threat that the project up process to investment and decisions at the natural level, where projects are aggregated into a national investment plan and a framework of macroeconomic policies is put in place; at the sector level, where sector investment strategies and priorities along with supporting policies, are elaborated, and at the project level where specific project are identified, prepared and implemented.(* 1 For consumption or variety, we shall also refer to the world bank as "the Bank". Its former name is the International Bank for Reconstruction and development.)

In the years after World War II a new found concern with the raising the living standard of the two third of mankind is the developing world led to international co-operation for development on an unprecedented scale. International leading agencies were established

and program of bilateral aid lunched to transfer resources and provide technical assistance to developing countries.

The studies of Campell R McConnel say: investment spending is guided by the profit motive; the business sector buys capital goods only when it expects such purchases to be profitable.

We must now move from micro to macro, that is, from a single firm's investment decision to an understanding of the total demand for investment for investment goods by the entire business sector. Evenly firm in the economy has estimated that expected rate of net profit from all element investment project and these data have been collected. These estimates con now be cumulated by asking; how many dollars worth of investment projects entail and expected rate of net profit of say, 16% or more? 14% or more?, 12% or more?

We find that thee are no prospective investment which will yield an expected net profit of 16% or more. But there are $5 billions of investment opportunities with an expected rate of net profit between 14% to 16% an additional of $5 billion yielding between 12% to 14%. Still on adding additional $5 billion yielding 10% to 12%, next $5 billion yield 0% to 2%.

The conception of investment decision allows us to anticipate an important aspect of macro economic policy. We shall find in our discussion of monetary policy that by changing the supply of money government can alter the interest rate. This is done primarily to change the level of investment spending.

The analysis of investment and its relation with growth has been one of the most strategic aspects of development planning. With a view to test the theoretical presumption regarding the relationship between investment and growth many authors have resorted to empirical studies in context of both the developed as well as developing countries. Modigliani's Eork (1970) based on a mixed sample of 36 countries shamed a strong

relation between output growth and the proportion of a country's income invested. A similar result was obtained by Somners and Suits (1971) taking a sample of 100 countries for the year 1966 and regressing rate of growth of C_pN_p on investment ratio and population growth. The result shows that the growth rate of GNP is influenced positively by the fraction of GNP invested and negatively by the population growth. The same pattern of result on evident even when the sample is divided into two sub-samples of rich and poor countries in the basis of per capita income level.

Robinson (1971), taking 39 less developed countries for the period 1958-66 found that the growth rate significantly influenced by the investment ratio. The coefficients of investment ratio took values ranging between 0.08 to0.19 and were statistically significant. In his specification he has included as an additional exclamatory variables but it did not appear to be significant.

Similarly, Thirwall (1974) also found significant positive relation between the growth of income and investment ratio in a sample of 68 developed and developing countries for the period 1958-68. This study also worked with the sub-samples and found that the image of investment on growth was higher in the developed countries group than in the developing countries group. From the above review of empirical work it thus seems that there is a significant positive relationship between growth and investment.

Similarly the Barro (1991) study indicated that in a world of integrated capital markets the price of credit (i.e. short term expected real interest rate) is determined to equate the world aggregate national saving. In this study, annual observation of variables used for ten countries usually from 1957 to 1990, the expected real interest rate is determined to equate total investment demand and desired saving that makes small modification to the framework in B/X uses in this study. The ratio of real gross domestic investment demand to real GDP for country 'i' at time 't' depends on a 'q' variables:

$$(I/Y)_{it} = \sim_{oi} + \sim_{1}\log(q_{i\cdot t-1}) + \text{error term}$$

The world perspective explains a good deal of the common experience of real interest ratio for the developed countries and this common experience comprises a large part of the variations of real interest rate for each country individually over the last three decades. The framework of a single world credit market leaves unexplained the divergence of each country's real interest rate from the average of rates across the countries. Although these individual country components are substantial and often persistent over time, these components do not relates systematically to observable variables. Such as stock returns, investment ratio or monetary and fiscal policies. For the various countries shifts to the Willingness to save, which he relates to change in oil prices and to fiscal and monetary policies, more investment and real interest rates in opposite direction from the above, it is clear that Barro study supported the theoretical proportion of the saving-investment classical equality with respect to the rate of interest effects.

Like earlier studies, clearly (1999) also included the financial factors as key explanatory variable along with liquidity status of firm investment. This study used 1317 US firm as sample over the 1988 to1994 period in order to examine the sensitivity of firm investment decision to liquidity status. Firms are classified according to financial statement variables that are related to their ability to raise external finance. An objectives multivariate classification index and factor used to determine firms finance status and this status is allowed to vary from one period to the next. The captures desired cross section properties of a large number of firma and successfully classified firms that increase or decrease dividends 74% of the time. Additionally, a Bootstrag methodology is used to determine significance across different from categories. The following regression equation was estimated using fixed firm and year effects.

$$I/K_{it} = B_M/B(MB)_{it} + BCF/K(CF/K)_{it} + U_{it}$$

Where, 'I' represents investment in plant and equipment during period 't'. 'K' is the beginning of period book values for net property, plant and equipment; CF represents current period cash flow to the firms as measure d by net income plus depreciation plus the change in deferred taxes and M/B represents the firm's common equity market-to-

book ratio based on the previous year's actual market value at year-end. Fixed effects estimation maintains separate intercepts for each firm and for each year in order to account for unobserved relationship between investment and the independent variable and to capture business cycle influences. Large sample evidence, demonstrates that the investment decision of firm with high credit worthiness are significantly more sensitive to the availability of internal funds than are firms that less credit worthy.

The major finding of this panel of worthy is as follows: first, despite the presence of liquidity constraint, it is hard to find evidence that cash flow adds significant explanatory power to the investment regression. Second, financing constraints are also not necessary to obtain these cash flow effects in this model. It is possible to construct simple examples where investment equations, even in the absence of financial friction. Third, in the context of these general equilibrium models, the correlation between investment, cash flow and sales is quite artificial and a reflection of the underling technology shocks. In a related pointed, he also found that it is possible to observe cash flow effects solely due the misspecification includes and by fitting a linear equation to a non linear decision rule.

Studies on Capital Market:

Capital market refers to the long term finance which plays a significant role in economic development on country. There are various factors which affect capital market. A strong association was shown between capital accumulation and growth found by Pesmazeglu (1972) in a sample of 43 countries over the period of 1957-68 by using econometric models. However, the Campbell and Hamao (1992) study was directed towards the predictability of monthly excess return on US and Japanese equity portfolio over the US Treasury bill rate to study the integration of capital markets in these two companies. During the period 1971-1990 similar variables help to forecast excess return in each country.

There are main ways in which this system can be used in empirical works. Either one assume that certain factors are observable or one on assume that factors are unobservable

but the number of factors are small relative to the number of assets and forecasting variables.

By the study, they have found that international capital market integrates by comparing the predictable component of excess stock return in US and Japan. The main result of this study are as follows: first in both countries it is generally possible toe forecast excess stock return relative to the US treasury bill rates using similar sets of domestic variables. The domestic dividend price ratio has a generally positive effect on excess stock returns, while the relative short rate has a dividend price ratio relative to the US. Dividend price ratio is a powerful forecasting variable for Japanese return in 1980's while there is weaker evidence that Japanese variables helps to explain US excess stock return. Third, the movement of expected excess return on the US and Japanese market as not well explained by a model where assets have constant betas on a single "international factor" provided by a worlds stock index return whose risk price change overtime. Finally in the 1970's expected excess stock returns in the US and Japan are positively correlated. This common movement of expected excess return is suggestive of at least partial integration of US and Japanese stock market. These results are consistent with the view that an important determinant of expected stock returns is the changing price market. However, they do not wish to over sale the strength of evidence.

Similarly, the Jorion and Goetman (1999) study also indicated that the long term estimates of expected return on equity are typically derived from US data only. The standard data on capital appreciation index of 34 markets for the 1921 to 1996 have collected from Morgan Stanley Capital International Perspective (MSCIP) for developed markets and the international finance corporation (IFC) for emerging markets. Decomposing the total return in stocks (R_s) into capital return (CR_s) and income return (IR_s) and the Treasury bill rate (RT_B) into the inflation component and the real rate. It can be written as:

$$\text{Equity premium} = R_s - R_{TB}$$
$$= (CR_s + IR_s) - (IP - K^*)$$
$$= (CR_s - \text{inflatial}) + (IR_s - \text{Real Rate})$$

This methodology measures the capital return in excess of inflation, which is the first bracketed term. To the extent that cross sectional variables in the second bracketed term are small, this allows comparisons of equity premium across countries because of wide differences in inflation across time and country; they primarily focus in WPI – deflated returns. Return in dollars, as a common currency should give similar result over the long run if exchange rate moves in time with inflation differentials i.e. if purchasing power parity holds.

The main lesson from their long term data is that globe capital market has been systematically subject to dramatics changes over this country. Major disruptions have afflicted merely all the market in their sample, with the exception of a few such as united state. Market have been closed or suspected due to financial crises, war, expropriations are political upheaval.

Another examination of Boutchkova and Megginson (2000) examined the growth on global Capital Market Valuation, trading and security issuance over the past two decades. According to them one of the means of analyzing privatization and the raise of global capital market was econometric model.
Their research documents the following key points.

1. The fraction to total domestic credit provided by the banking sector as a percent of GDP has remained virtually constant (125%) since 1990 for the world as a whole as well as for most major countries groping. During that same 1990 to 1998 period, stock market capitalization as % of GDP increased from 52 to 82% for the world as whole and from 56 to 95% for high income countries.
2. Share issued privatization (SIP) contributed significantly to the nearly 11-fold increase, from $3.4 trillion to $ 35.0 trillion, in the total capitalization of the world's stock market that occurred between 1983 and 1999.
3. Privatization has significantly improves stock market liquidity during the last ten years.

4. Privatized firms are the most valuable companion in the most developing countries.
5. SIP has transformed international equity issuance and investment banking practices.
6. Academic research has now clearly established that in most countries. STP investors earn significantly positive excess return on the shares they purchase over both short and long term holiday periods.
7. Privatizations have dramatically increased the no. of shareholder in many countries. However this study does not consider other aspect rather than privatization on relation to capital market.

Review of Nepalese Study:

Nepal is the least development and developing country. So the concept of saving investment and capital market is in initial stage that is why there is no enough research in these topics. But there are some research work regarding the saving, investment and capital market. A study by Mahat (1981) briefly examined the state of capital market and development of financial institution if country based on the time series data. The growth of financial institution has been examines both in terms of the growth in their assets. Their role in national economy has been evaluated in terms of some indicators such as total financial institution ratio, asset/GDP ratio etc. the role was examined in term of the shares of various sources as % of the change in total gross assets. For this purpose, sources and uses of funds tables of industries have been prepared. The temporal coverage of the study was 1972 to 1975. The method followed to derive the sources and uses of the funds has been the usual one. i.e. taking the first difference of the balance sheets for consecutive financial tears, the population of RS 563 million as at 1975 while the sample of the study was 54 companies. Acceding for a paid up capital or Rs. 504 million as at 1975, thus covering nearly 84% of the paid up capital of the population as has been based on primary and supplementary information was sought from personal review.

This study indicated that Nepal's situation where the industrial sector had very little access to private saving. The availability of industrial security was nearly absent. The

development of financial institution that links the surplus spending units with the deficit spending ones was in the sedimentary stage. Mow a days, a very few that short term deposit should finance only. Short term loan is being questioned because it is based on the simplistic assumption that all deposits will be withdrawn at the date of the maturity not on the behavioral pattern of it that is Farley stable. Even apart from this, the problems do not appear theory because of certain favorable factor. Firstly there have been conspicuous shift in the structure of bank deposit in favor of fixed deposits. Secondly term finance by banks has been provided legal sanction since 1974. Thirdly there is readiness on the part of the NRB to lend commercial banks to maintain their liquidity requirement besides providing loan under refinance scheme during normal condition. Finally the resources being mobilized by financial institution like provident fund and NIC are basically long term in nature and hence can be utilized for long term in nature and hence can be utilized for long term investment. Besides there are various other ways in which short term saving can be transformed into long term investment with the development of security market. Studying the uncovered areas, incorporating new data with the large sample period in many areas an adopting more satisfactory method of estimation can improve these efforts of Mahat.

A study by Poudyal (1988a) analyzed a large part of this study concerned with estimation of parameters and projections of selected macro-entities and therefore, the statistical technique of regression analysis, both simple and multiple, linear and non-linear and with or without various are restored to a number of cases. A study by Poudyal (1998) analyzed foreign trade, aid and development in Nepal. Firstly, it analyzed the behavior and determinants of the micro-economic variables such as investment, saving, exports and imports; and secondly, it developed simple micro-economic model to estimate the saving gap and the trade gap for identifying the nature of constraints to development without lagged variables were resorted in numbers of cases for the 1964/65 to 1981/82 periods. The appropriate parts of this study only review here.

With these Poudyal obtained the following results for investment and saving function:

I. Estimates at current prices

$Y=2544 + 5.28I$

(4.87)* (27.25)* ... (2.32)

$R^{-2}=0.98$ DW=1.49 F=742.59

$Y_t=3278+3.54\ I_t+0.77\ I_{t-1}+0.05\ I_{t-2}+0.38\ I_{t-3}+0.75\ I_{t-4}+0.15\ I_{t-5}$ ...(2.33)

(3.27)* (2.04)* (0.67) (0.05) (0.36) (0.57) (0.07)

$R^{-2}=0.97$ DW=1.56 F=98

$I=783.55 + 0.08\ \Delta Y + 2.27\ F$ ... (2.34)

(5.77)* (1.02) (12.28)*

$R^{-2}=0.94$ DW=1.16 F=125.82

$I=992.43 + 0.09\ \Delta Y + 4.31\ M_t$ ...(2.35)

(15.27)* (2.41)** (25.17)*

$R^{-2}=0.98$ DW=1.64 F=514.96

$S/N= -3.12 + 0.11\ Y/N$ ...(2.36)

(0.27) (11.87)*

$R^{-2}=0.89$ DW=0.75 F=140.79

$S/Y=10.43 + 0.19\ Y/N –0.40\ T/Y$ ...(2.37)

(12.80)* (1.92)** (1.85)**

$R^{-2}=0.11$ DW=1.22 F=2.04

$S=-2.50 + 0.11\ Y$ ...(2.38)

(2.15)** (15.49)*

$R^{-2}=0.93$ DW=0.75 F=239.99

II. Estimates on constant prices

$$Y=74.43 + 3.54\ I \qquad \ldots(2.39)$$
(8.68)* (10.56)*
$R^{-2}=0.87$ DW=1.41 F=111.58

$$S/N= -1.21 + 0.20\ Y/N \qquad \ldots(2.40)$$
(0.71) (1.54)
$R^{-2}=0.07$ DW=0.96 F=2.36

$$S/Y= 0.023 + 0.006\ Y/N - 0.23\ T/N \qquad \ldots(2.41)$$
(6.05)* (0.94) (7.07)*
$R^{-2}=0.81$ DW=0.52 F=29.67

$$I=11.16 + 0.1\ \Delta Y + 2.32\ F \qquad \ldots(2.42)$$
(6.05)* (0.94) (7.07)*
$R^{-2}=0.81$ DW=0.52 F=29.67

$$I=14.65 + 0.19\ \Delta Y + 3.32\ M_t \qquad \ldots(2.43)$$
(7.97)* (0.83) (5.55)*
$R^{-2}=0.69$ DW=0.88 F=18.69

The figures in the parentheses are t-values; * and ** indicate that the results are significant at 1 percent and 5 percent level of significance respectively; and Y,I,N,S and T represent the gross domestic product, aggregate investment, population in millions, aggregate saving and tax revenue respectively.

The above results indicates that the GDP influenced not only by the current values of investment but also by past values while saving positively affected by GDP, and negatively affected by tax revenue. Investment significantly influenced by GDP and foreign aid. This study was also partially published in the Economic Journal of Nepal

(Poudyal: 1988 b). From the above, the Poudyal study may be improved by studying the hitherto uncovered areas, including more satisfactory specifications, incorporating new data in many areas, including more satisfactory specifications, incorporating new data in many areas, deflating data by the relevant deflectors and adopting more satisfactory method of estimation.

Wagle (2000) also analyzed trends of saving, investment and capital formation in Nepal for the 1984/85 to 1998/99 periods. With these, Wagle obtained the following results:

I. Estimates at current prices

$GCP_C = 14472.82 + 3.96\ I_C$ ...(2.44)

(1.01) (11.49)* $R^2=0.91$

$GCP_C = 23068.86 + 1.24\ GDS_C + 2.35\ I_C + 2.77\ GCF$ ...(2.45)

(4.11)* (0.81) (0.41) (3.18)* $R^2=0.98$

$GCS_C = -448.14 + 0.13\ GDP_C$ ...(2.46)

(0.20) (10.22)* $R^2=0.89$

$GCP_C = 14786.34 + 1.68\ GDS_C + 3.03\ I_C$ ...(2.47)

(0.99)* (0.56) (1.79) $R^2=0.91$

$GCS_C = -147.90 + 2.46\ FA$ ...(2.48)

(8.95)* (0.06) $R^2=0.86$

$GCS_C=3768.70 + 1.40\ T$ ...(2.49)

(1.57) (8.02)* $R^2=0.83$

$GFCF=1865.65 + 0.58\ GDS_C + 0.50\ I_C$ ...(2.50)

(2.49)** (2.83) (4.35) R^2=0.99

II. Estimates in Real Terms

GDP_R=21966.83 + 2.87 I_R ...(2.51)

(3.22)* (6.28)* R^2=0.75

GDS_R= - 1408.47 + 0.15 GDP_R ...(2.52)

(0.72) (4.79)* R^2=0.64

I_R=2421.63 + 1.53 GDS_R ...(2.53)

(1.70) (8.75) R^2=0.85

I_R=6808.74 + 0.71 FA ...(2.54)

(6.89)* (5.26)* R^2=0.68

GCF= - 37909.96 + 5.01 I_R ...(2.55)

(16.70)* (32.38)* R^2=0.99

GCF= - 26788.26 + 7.75 GDS_R ...(2.56)

(3.92)* (9.12)* R^2=0.88

GCF= - 76012.86 + 1.80 GDP_R ...(2.57)

(10.22)* (14.83)* R^2=0.95

The figures in the parentheses are t-value; * and ** indicate that the results are significant at 1 percent and 5 percent level of significance respectively; and GDP, I, GDS, GCF, T and FA stand for gross domestic product, investment, gross domestic saving, gross capital formation, gross foxed capital formation, tax revenue and foreign aid respectively.

The above results supported the theoretical propositions. The equation (2.44), (2.45), (2.47) and (2.51) are quite strong and showed that GDP was influenced by investment, saving and gross capital formation with the theoretically correct signs. However, the equations (2.46), (2.48), (2.49) and (2.52) indicated that gross domestic saving was significantly affected by GDP and tax revenue. The foreign aid coefficient was not significant with the theoretically correct signs. Similarly, the expressions (2.50), (2.55), (2.56) and (2.57) showed that gross domestic saving investment, and GDP coefficient were significant while the equation (2.53) and (2.54) indicated that investment coefficient significant explaining variations in saving and foreign aid. The results of this were quite similar to the findings of the Poudyal study other than the coefficient of tax revenue.

From the above, it is clear that this study can be improved upon by studying more variables, incorporating new data, deflating data by the relevant deflators with clear specification of deflators in methodology and adopting more satisfactory method of estimation.

Apart from the studies reviewed above, there are also other studies, which are worth mentioning here. Hamal and Upaddhyay (1986) in their study analyzed the two main policies of bank concerning interest rate and expansion of banking services in wider geographical areas. High interest rates have made banks deposits attractive. Branch expansion, in conjunction with the interest rate, has made feasible the opening of bank accounts for a greater number of rural people and has tended to increase transactions. Similarly, Rajbanshi (1987) in his study has rightly pointed out that in Nepal, here the average propensity to save (as percentage of GNP) is very miserable and an attempt to mobilize saving should aim at both factors, i.e., to increase the ability as well as the willingness to save. Furthermore, it should be able to provide all types of opportunities and means to save at ease.

On the other side, another study (Sharma: 1996) pointed out that securities market in Nepal has witnessed a sharp growth during the past couples of years. The volume of trading has increased. The size of the market has been widened. The number of investing

population has grown up in aggregate. The tendency of raising capital from general public is rising. Most importantly the market conciseness has developed so that investors have to think about risks, returns and availability of timely corporate information regarding the investment. These studies have only theoretical explanation rather than econometric analysis.

2.1.4 Conclusion

Saving is one of the most important and perhaps the chief source of investment. It is important, to understand the various determinants of saving and its behavior in course of development. Most of the empirical studies are, however devoted to testing saving hypothesis against cross-section data on. Principle factors in economic development. It is capital formation, which helps remove market imperfection by the creation of economic and social overhead capital. Thus, the capital formation is necessary pre-requisite of economic growth.

The general conclusion that emerges from these studies is that saving, investment and capital market are determined not by a single factor rather these are functions of number of interdependent variables. From the above discussion, it is clear that the different authors including economists, financial theorists, The overall picture that emerges from the review from empirical literature is that the Keynesian absolute income hypothesis, which postulates a positive relationship between saving and the level of income, provided a satisfactory explanation of saving behavior.

On the other hand, the empirical literature, considerable attention has been paid to analyzing the relationship between growth rate and investment, and identifies the various determinates of investment. The findings, in general, reveal strong positive association between the rate of growth and the investment. This may be also indicative of the fact that a certain stage has to be reached before the investment rates play an important role in the growth of outputs. However, it is found that thee is significant positive relationship between GDP and investment. The lagged values of investment are also found to be

important in determining GDP, but it is the current value, which has the largest impact. This would that fresh investment activates the on going projects that directly or indirectly contribute raises the level of GDP.

Similarly, the capital market is concerned with long term finance. Development and expansion of capital market are essential for the rapid economic growth of the country. It depends upon the industrial development of the country. A capital market is complex of institutions and mechanism through which the saving of the people are mobilized and placed at the disposal of sending units. The development at macro level of the national economy has positive impact in the capital formation capacity of the economy. Capital formation is regarded as one of the most important and management scientists and practicing business executives have found the behavior of saving, investment and capital market in different ways.

An another similar research performed by Tula Raj Basyal (1992) analyzed the Factors affecting the mobilizing of saving in Nepal. Firstly he has mentioned that in terms of per capita income Nepal is one of the lowest country in the world. Nepal is beset with many characteristic features of underdevelopment, which are working as impediments to further growth and development. In terms of per capita income Nepal is one of the lowest country in the world, the share of the agricultural sector in the GDP and labor force employment is very high and the industrial sector is at its infancy. Due mainly to the low level of GDP, the consumption ratio is substantially large. This generally leads to reduction in the level of saving and the need for increased reliance on foreign saving to finance development. This results in sharp rise in external debt/GDP ratio which reached around 50 percent in 1992 from a low of 2.0 percent in 1975. Therefore, in order to achieve high and sustained rates of economic growth, Nepal especially is very much in need of a substantial rise in the level of domestic resources to finance the required investments besides bringing about the enhancement in the quality of such investments.
The extent of savings gap in Nepal is provided in table-1.

Saving Determinants:

A. Domestic saving

In the absence of time series data for the corporate and household saving separately, saving determinants are identified (through OLS) basically for the domestic and also for the private and public saving on the basis of the following equations, the sample period being 1975-1991.

Equation 1.1

GDS/pop=gross domestic saving/population (per capital GDS)

GDPN/pop=nominal GDP/population (per capital GDPN)

SF/pop=foreign saving/population (per capital SF)

R=real interest rate on one year fixed deposit

BANK=number of commercial bank branches.

*research officer, Nepal Rasta bank

The regression results are as follows:

GDS/pop=-142.150+0.168GDPN/POP-0.922SF/POP+0.561r+0.604BANK

(-1.88) (2.17)* (-2.03)* (0.24) (2.43)**

R^{-2}=0.97, DW=2.03, F=16.29

Equation 1.2

GDS^{+}= a+b (GDPN)+c(SF)+d(r) +e(BANK)

The regression results appear below:

GDS=-2,204.133+0.166GDPN-0.882SF+11.281r+9.460BANK

(-2.10) (2.09)* (-1.84)* (0.274) (2.071)*

R^{-2}=0.84, DW =1.95, F=21.65

Equation 1.3

$GDS^{+}=a+b(PCGDPN)+c(SF)+d(r)+e(GDPN/M2)$

Where,

PCGDPN=per capita nominal GDP

GDPN/M2=income velocity of money.

The regression results are as follows:

GDS=-1,660.182+4.472PCGDPN-1.143SF+11.743r-
236.981GDPN/M2

(-0.67) (3.49)** (-2.77)** (0.27) (0.94)

R^{-2}=0.82, DW=2.21,F=19.54

Equation 1.4

GDS= a+b (PCGDPN)+c(SF)+d(P)+e(GDPN/M2)

Where,

P=change in consumer price index.

The regression results are produced below

GDS=-1,517.690+4.483PCGDPN-1.147SF-12.815P-
237.440GDPN/M2

(-0.61) (3.50)** (-2.78)** (-0.28) (-0.94)

R^{-2}=0.82, Dw=2.21,F=19.55

Equation 2

$Pvtsav^{+}$= a+b(g)+c(SF)+d(pblsav)+e(M2/GDPN)

Where,

Pvtsav=private saving

G=real GDP growth rate

Pblsav=public saving

M2/GDPN=financial deepening ratio

The regression results appear as below:

Pvtsav=-1,322.563+112.734g+0.061SF-
1.987pvlsav+181.457m2/GDPN

(-0.81) (1.35) (0.44) (-3.47)** (2.14)*

R^{-2}=0.83, DW=1.51,F=20.56

Equation 3

$Pvlsav^{+}=a+b(GDPN)+c(AF)+d(p^{e})$

Where,

AF = foreign assistance

p^{e} = expected inflation

the regression results appear as below:

$pblsav = 120.13+0.052GDPN-0.621AF-80.760p^{e}$

(0.23) (2.09)* (-2.47)** (-1.86)*

R^{-2}=0.51, DW=1.32,F=6.45

\+ In RS million

** Significant at 5 percent level

Note: figures in parentheses below the coefficients denote t-statistics.

Equation 1.1 estimates the per capita saving function. The estimated coefficients for per capital nominal GDP and number of bank branches satisfy the sign conditions and statistical significance at10 percent and 5 percent level respectively. Although the real rate of interest based on the change in consumer price index is positively associated with the per capita GDS, The relationship is not statically significant. The per capita foreign savings are found to have affected GDS negatively and at 10 percent statistical significance.

Equation 1.2, 1.3 and 1.4 estimate GDS in nominal from. on the basis of equation 1.2,GDS is found to be positively associated with nominal GDP, real interest rate and the number of bank branches whereas foreign saving has negative impact on GDS. All the relationship are statically significant at 10 percent level expect for the real deposit interest rate. Equation 1.3 shows statistically significant (at 5 percent level) positive relationship

with per capita income GDP and negative relationship with foreign saving. Although the real deposit interest rate coefficient is positive, it is not statistically significant. The income velocity of money (GDPN/M2) has an expected coefficient sign but not statistically significant one. It is theoretically assumed the faster GDP/M2 falls, the more rapid is the pace of financial development, and consequently, the process of domestic resource mobilization is also expected to be speeded up. Conversely, if the ratio rises, the financial development process is constrained, with the resultant effects on domestic resource mobilization.

Equation 1.4 shows statistically significant positive coefficient for per capita nominal GDP and negative coefficient for foreign saving. The functional relationship with respect to the rate of inflation as measure by the consumer price index has satisfactory sign condition, but it is not statistically significant as in the case with the coefficient of GDP/M2.

The private saving function, as estimated in equation 2, shows statistically signi8ficant negative relationship with public saving. The coefficient of M2/GDP is also positively significant at 10 percent level. it thus shows inverse relationship with the public saving and positive relationship with the degree of financial deepening as measured by M2/GDP. Although private saving is also positively associated with real GDP growth and foreign saving, the coefficients are not statistically significant.

The equation 3 shows that the public saving is negatively and also significantly associated with the foreign assistance. Expected inflation has negative impact on public saving and the coefficient is significant at 10 percent level. The GDPN has positive effect on public saving, as the coefficient is also significant at 10 percent level.

Although the value of R^{-2}, DW and F are not as expected, the overall relationship among the variables gives some useful information helpful for understanding the interrelationship among the factors bearing on the domestic resource mobilization effort.

B. Financial Saving:

Financial saving determinants in Nepal are most appropriately specified as follows:

Equation

Fin. sav = a+b(GDPN/POP)+C(BANK)+d (r^{pe})

Where,

Fin.sav= financial saving/GDP

GDPN/POP=nominal GDP/POPULATION (per capita GDPN)

BANK= number of commercial bank branches

r^{pe}=real interest rate on one year fixed deposit (based on the expected inflation)

The regression rules are as follows:

finsav=1.878+0.002GDPN/POP+0.043BANK+0.193r^{pe}

(1.84)* (4.63)*** (8.04)*** (1.52)

R^{-2}=0.97, DW=1.44, F=208.47

***Significant at 1 percent level.

*Significant at 10 percent level.

1/inflation is measured as a change in CPI it is more relevant to consumption and hence saving.

According to the above equation, which estimates the financial saving ratio, the estimated coefficients of per capita nominal GDP and the number of commercial bank, branches both satisfy the sign conditions and are also statistically significant at1 percent level. The real rate of interest based on the expected inflation also satisfies the sign condition although it is not statistically significant (significant at 15.2 percent level only.) Thus, per capita nominal GDP, bank branch expansion and he real rate of interest; all have positive relationships with the financial saving ratio.

Major Findings

The saving relationships as identified for Nepal provide that gross domestic saving has significantly positive association with bank branch expansion policy. Bank branch expansion is also positively and significantly associated with financial saving

mobilization. The foreign saving, on the other hand, has significantly negative relationship. But foreign saving has positive but statistically insignificant relationship with the private saving. The public saving, on the other hand has statistically significant negative coefficient with the foreign assistance as it puts less pressure for the government to increase domestic saving. It can, therefore, be assumed that with the increased foreign saving, the government would be less inclined to collect more taxes. But in the event the government dissaving still rises, yet it is less compelled to raise resources domestically. This decreases the total saving as the governments dissaving rises more as compared to the private sectors raises in saving in response to the increased foreign saving. The private sector saving is negatively and significantly associated with the government saving because higher tax level reduces the private sectors saving while it improves the government saving. The per capita nominal gross domestic product is also found to have had a statistically significant positive Impact GDS as well as on financial saving. The coefficient of real growth rate has an expected sign for private sector but the relationship is insignificant. Government saving has had a significantly positive association with the nominal gross domestic product. This shows the significance of the GDP in the determination of saving.

Although real rate of interest is not found to have statistically significant positive coefficient, the expected inflation has had a significant negative impact on public saving as government expenditure rise to meet the rising cost due to inflation. The real rate of interest based on expected inflation has a positive, though not spastically strong, relationship with financial saving.

The m_2 /GDP ratio has expectedly significantly positive impact on the private sector saving. The GDP/$m_2$which is expected to fall with financial development, has negative coefficient for GDS, meaning thereby that the increase in velocity is associated with low level of financial development with its consequent negative impact on saving. But the relationship could not be found to be a statistical significance.

From the above we can conclude that increased effort should be made to mobilize domestic resource and decrease the dependence on foreign saving. But improvement in domestic resource mobilization should not result in the reduce level of private sector saving as it is likely jeopardize the private sector investment, unless dependence on foreign saving is raised further. Foreign assistance should also not be instruments to lessen the domestic resource mobilization endeavor on the part of the government. The best option for the government would be reduce and maintain the fiscal deficit at the prudent level besides curtailing government consumption significantly. The reform and privatization of the public enterprises could provide additional resources to enhance its investment in socio-economic infrastructure, besides controlling the drain on resources due to their deteriorating financial performance. Private investment in economically most productive sectors of the economy should be encouraged and all obstacles to the flow of resources towards such sectors should be removed through appropriate policy changes. It is not recommended for the government to invest in those sectors and areas where private sectors investment is forthcoming; as such policy could crowd out private sectors investment and force the private sectors to invest in unproductive assets like real estate and gold. From all the considerations like the balance of payments, crowding out effect, efficiency in financial inter-mediation, rate of return and resource use efficiency, it is very essential for the government to control its dissaving. The basic question, however, is how best the resources could be put to their optimum use, whatever be the source of these resources. But the availability of foreign assistance should not give complacence to the government and reduce effort for increasing domestic resource mobilization, curtailment of productive of unproductive expenditure and excessive consumption, better project selection and improved fiscal discipline. This again reinforces the need to maintain government saving and establish an environment in productive pursuits of the economy. There is also a strong need for rising the level of per capita nominal GDP, bank branch expansion and maintenance of the real rate of interest at an attractive level in order to be able to attract a greater percentage of national income in the from of financial saving in the economy. Another similar research by Tularaj Basyal (1992) on Development in domestic saving mobilization in Nepal analyzed the factors affecting the mobilization of saving in Nepal. Firstly he mentions that in terms of per capita income Nepal is one of the

lowest in the world. She is best with many characteristics features of underdevelopment which also work as impediments to further growth and development. the per capital GNP in 1990 was US$170,average annual growth rate percent between 1965-90 was 0.5 ,the agricultural sector alone contributed around 60 percent of GDP and employed 80 percent of labor force, whereas the industrial sector, which accounted for not more than 10 percent of GDP. Provided employment for less than 5 percent of manpower. Due mainly to the low level of GDP, the consumption ratio was very high ,generally leading to reduction in the level of saving and the need for increased reliance on foreign saving to finance development.

As evident from the table -1 Nepal had very low levels of domestic saving ratio (8 percent),the exports of goods and services ratio (12 percent),and a significantly large negative resource balance (gross domestic saving minus gross domestic investment).

At 10 percent in1990.in such a background, in the quest for increasing the rate of economic growth and fulfilling the growing aspirations of the people through higher level of investment relative to saving, Nepal experienced sharp rise in the external outstanding debt/GNP ratio, with the ratio jumping to 53.0percent in 1990 from 10.4 percent in 1980,a surge of more than four times . Total external debt as a percentage of exports of goods and service was also notably high, at 402.6 percent, in 1990.

Table 1.stucture of demand

1. Per capital GNP, $(1990) 170

2. Average Annual Growth Rate (%)(1965-90) 0.5

3. Structure of demand (distribution of GDP,%)

	1965	1987	1988	1989	1990
(a) General Govt. Consumption	-	11	10	11	12
(b) Private consumption	100	78	80	82	80
(c) Gross domestic investment	6	21	20	19	18
(d) Gross domestic saving	0	11	20	7	8
(e) Exports of goods & non factor services	8	13	13	13	12
(f) Resource balance	-6	-10	-10	-12	-10

4. (a) total external debt as a percentage of exports of goods and services:

1980	85.5
1990	402.6

4(b) total external debt as a percentage of GNP:

1980	10.4
1990	53.0

Source: world development report (various issues), World Bank.

Therefore, in order to achieve high and sustained rates of economic growth, Nepal especially is very much in need of substantial rise in the level of domestic resources to finance the required investments besides enhancement in the quality of such investments. Infecting Nepal, during the past three decades, investment relative to saving was maintained at an unsustainably high level. In particular, the level of investment increased sharply during the 1980s.with more than half off all domestic investment financed sources for investment. Excess reliance on borrowing to meet increasing government expenditure to limited revenue mobilization thus resulted in increasing debt stock and debt servicing obligations.

Foreign capital was very dominant in Nepal plan financing. During the fifth (1976-1980), the sixth (1981-1985) and the seventh (1986-1990) plan periods, foreign grants and loans financed the total development expenditure of the government to the extent of 47.3 percent, 48.1 percent, and 59.5 percent respectively. This shows the distinctly upward trend in the reliance on foreign resources and consequently, the downward share of the revenue surplus in meeting the development expenditure. A large chuck of the development expenditure was meant for government consumption, resulting in relatively lower level of government investment out of the given development expenditures. The share of investment in development expenditure ranged between 47.0 percent in 1991 to 74.7 percent in 1981, with the average share at 63.8 percent during the period 1975-1991.the deteriorating level of revenue surplus as a percentage of development expenditure, which slumped to 19.8 percent in 1991 from 47.8 percent in 1975, also

signified the declining performance of the government revenue vies a vis regular expenditures. As the average share of revenue surplus as a percentage of development expenditure for the entire period was 28.1 percent, the rest 71.9 percent of the development expenditure had to be financed through borrowing leading to enhanced internal as well as external indebtedness of the government.

The share of total foreign assistance in Nepal reached 7.0 percent of GDP in 1991 from 2.9 percent in 1976, with the share of bilateral and multilateral sources as percentage of GDP being at 1.9 percent and 1.0 percent in 1976, and 2.8 percent and 4.2 percent in 1991 respectively. This shows a significant rise in the multilateral sources of assistance as compared to the bilateral source over the period. Similarly, the grants/GDP share, on the other hand rose from 0.6 percent in 1975 to 5.4 percent in 1991. As a percentage of total foreign assistance also, the respective shares of grants and loans were 73.1 percent and 26.9 percent in 1975.

Over the period, the share of grants decelerated and that of the loans spurted with their shares at 22.2 percent and 77.8 percent respectively in 1991. Bilateral grants and loans, which formed 65.4 percent of the total foreign assistance in 1976 slipped to 40.1 percent in 1991, whereas the multilateral component rose from 35.6 percent to 59.9 percent during the same period (table-4). Given the increased grants and concessionary elements in the bilateral assistance could put additional constraint on the budget and economy of the recipient country if the resources are not put to their maximum use.

The substantial rise in the public investment, from 3.3 percent of GDP in 1975 to 7.1 percent in 1991 as compared to the slower increase in the private investment, from 11.2 percent in 2975 to 13.0 percent in 1991, is also reflected in the increased total expenditures of the government during the period 1975-1991. As a percentage of GDP, regular expenditure increased to 7.2 percent in 1991 from 3.3 percent in 1975 whereas the development expenditure marked a substantial increment, with the share rising from 5.8 percent in 1975 to 15.2 percent in 1991. The total expenditure of the government has accordingly shot up to 22.4 percent of GDP in 1991 from 9.1 percent in 1975.

The government revenue on the other hand, rose modestly, from 6.1 percent of GDP in 1975 to 10.2 percent in 1991, resulting in an overall budget deficit of 12.2 percent of GDP in 1991 from 3.0 percent in 1975.

Among the sources of financing the overall budget deficit, the share of grants went down to 16.9 percent of total deficit from its share of 56.0 percent in 1975. However, external loans, which financed 20.6 percent of the deficit in 1975, recorded a phenomenal rise over the years and financed 48.8 percent in 1991.
Internal loans, which financed 19.8 percent of deficit in 1975, shared 35.5 percent of the deficit in 1991. Over the 17 years period (1975-1991), as average percentages of GDP, regular expenditures shared 5.7 percent and development expenditure 11.5 percent (total expenditure 17.2 percent). The government revenue financed only 8.7 percent , resulting in an overall deficit of 8.5 percent of GDP, with the foreign grants, external debt and internal financing contributing 2.5 percent, 3.5 percent of the overall budget deficit during the period.

As a direct consequence of the increasing reliance on foreign assistance in general and foreign loans in particular to meet the widening overall budget deficit as detailed above, the external debt stock of the government rose from Rs.346.1 million (2.1 percent of GDP) in 1975 to a whopping Rs. 58460.9 million (55.5 percent of GDP) in 1991.External debt stock as a percentage of the exports of goods and services rose from 21.9 percent in 1975 to 382.1 percent in 1991. This means a compounded annual increment rate of 19.6 percent during the period. Besides, external debt servicing as a percentage of the exports of goods and services also witnessed significant rises, with a low 0.7 percent in 1975 to 7.1 percent in 1991.

With the impending maturity of additional loans in the near future, the debt servicing is likely to be a serious problem unless significant domestic resource mobilization effort is carried out, while at the same time, maintaining a prudent level of budget deficit and enhancing the resource allocative efficiency substantially through pursuance of suitable macro economic policies. In addition to the external debt, the internal debt as percentage

of GDP also rose markedly, from 3.1 percent in 1975 to 19.2 percent in 1991. Despite such phenomenal increment in the internal debt stock, the share of internal debt in total debt stock fell from 59.8 percent in 1975 to 25.7 percent in 1991, with the corresponding share of external debt stock rising from 40.2 percent in 1975 to 74.3 percent in 1991. This is an indication of the tremendous leap in the external debt stock of the government during the period.

As regard the terms and conditions of foreign capital as outlined in table 10, in 1990, the average interest rate was 0.9 percent, maturity period 40.2 years, grace period 10.3 years, and a grant element of 79.2 percent. Out of the total external debt, short term debt was 1.2 percent, confessional debt 89.2, percent and multilateral debt 77.9 percent. There is no private, non guaranteed long term debt obligation of Nepal.

Another study conducted by Rajiv Kumar Sharma (2004) upon the title of "Saving investment and capital market in Nepal is seems to be relevant to review here since the study is old it is concluded that the role of saving in economic development revealed that there is positive relationship between saving and GDP. The saving with GDP is examined using unlagged as well as almon lag specifications at current prices and in real terms too. That result shows that saving significantly influenced by GDP. The result supports to the Wagle's study as well as theoretical propositions of economics. Similarly relationship between investment and economic development reveal that there is positive relationship of investment with GDP. The relationship between investment and GDP is examined using unlagged as well as Almon Lag Specification at current prices and in real terms too. The results show that GDP is significantly determined by investment. The important point to be noted here is that the findings of this aspect of the study is similar to the finding of the study made by F. Modigliani, P.M. Sommers and D.B. Suits, Robbinson, A.P. Thirlwall, S.R. Poudyal and Sharad Wagle. These findings are also consistent with the theory of economics.

Similarly, another study conducted by Prakash Sapkota (2007) upon the title "Saving, Investment and Capital Formation in Nepal (A Macro Prospective) is also seems to be relevant to review here. The major findings of the study are followings:

- The level of GDP highly up on investment in current price and saving in real terms but saving investment and capital formation play a vital role in GDP.
- The level of saving is significantly determined by national income compare to other variables and it has the positive relation with foreign Aid and exports and saving is significantly influenced by foreign Aid and exports.
- Saving has positive relationship with tax revenue but has negative relationship between interest rate and deposits.
- The investment has positive relationship with foreign Aid and import. Nepalese investment is significantly determined by imports but investment and level of interest rate has negative relationship.
- Capital formation has positive relationship between investment and GDP. There is positive relationship of investment with GDP, saving, capital formation, foreign Aid and imports and negative relationship with interest rate on lending of commercial banks.
- The relationship of capital formation with interest rate on lending indicated that there is negative relationship between them. This result represented that the interest rate on lending has negative impact on capital formation.
- Capital formation is positively related to investment, saving and GDP and negatively related to interest rate on lending on commercial bank.

Through there are various studies in the context of developed and big capital market, their applicability is yet to be seen in the context of smaller and underdeveloped capital markets. There are various studies already conducted on saving, investment and capital markets in Nepal. Many changes have taken place in and outside Nepal after completion of these studies. Nepal has also followed a policy of liberalization, privatization and globalization. Considering the above-mentioned studies in the context of Nepal, it has now become necessary to find out whether their findings are still valid. Thus, the study of saving, investment and capital market in Nepal may be very rewarding.

CHAPTER THREE

RESEARCH METHODOLOGY

Research methodology is a way to systematically solve the research problem. It refers to the various sequential steps that are to be adopted by a researcher during the course of studying the problem with certain objectives.

This chapter has been divided into six sections. Section 1 presents the research design of the study while the section 2 deals with the nature and sources of data. Section 3 consists of the selection of enterprises whereas section 4 explains the method of analysis employed in the study.

3.1 RESEARCH DESIGN

Research design is the plan, structure and the strategy of investigation conceived so as to obtain answers to research questions and to control variance (Kerlinger: 1986, 275). The research design refers to the entire process of planning and carrying out a research study (Woeff and Pant: 2000, 53). The required data have been collected from the various sources covering a period of 25 years, i.e., from 1982/83 to 2007/08 at macro perspective while 5 years. To conduct the study, descriptive cum analytical research approach has been adopted. Descriptive approach has been utilized mainly for conceptualization of the problem. Analytical approach has been followed mainly to analyze the relationship among saving, investment, capital market and other related variables.

3.2 NATURE AND SOURCES OF DATA

This study is based on secondary data only. Primary data are neglected because this study is at macro level. The necessary data and information at macro level have been collected on macro-economic variables such as saving, investment capital formation, gross domestic product, national income, tax revenue, foreign aid, export and other related variables used in this study from the various publication and the data available in the

records of Central Bureau of Statistics of HMG/N. The major sources of data and information are as follows:

- Economic Survey, FY 2003/04, 2004/05, 2005/06, 2006/07 and 2007/08 Ministry of Finance, HMG/N.
- National Account of Nepal 2008, CBS, HMG/N.
- Various Plan Documents, National Planning Commission, HMG/N.
- Quarterly Economic Bulletin, Nepal Rastra Bank, Various Issues.
- Statistical Pocket Book 2007, CBS, HMG/N.
- Website of NEPSE Ltd.: http://www.nepalstock.
- Previous Research studies, Dissertation and Articles on the subject.

3.3 POPULATION AND SAMPLE OF STUDY

Data of Nepal Rastra Bank on macro economic variables such as saving, Investment, capital formation, gross domestic product, national income, tax revenue, foreign aid, export and other related topics of past 25 years are the population and sample of the study.

3.4 METHOD OF ANALYSIS

Analysis is the careful study of available facts so that one can understand and draw conclusion from them on the basis of establishment principles and sound logic (Cottle et al.: 1988, 29). A large part of this study is concerned with estimation of parameters of selected macro entities. The statistical techniques of regression analysis, both simple and multiple; linear non linear; and with or without variables are resorted to a number of cases. Various possible alternative specifications are also attempted where necessary in each case in order to obtain the best result; the empirical results have been estimated in this study by using annual data for the 1982/83 to 2007/08. Both at current prices and in real terms and with and without the entire-periods of study divided into sub-periods. All

the macro-economic variables have been converted into real terms by means of national's urban consumer price index and then regression run.

A. The Econometric Models

This study attempts to assess the role of saving, investment and capital formation on economic development by estimating various models. The theoretical statement of the models is that the gross domestic product (GDP) may be regarded as subject to the constraints of saving (S), investment (I) and capital formation (CF) as indicated by Wagle (2000, 32). The theoretical statement maybe framed as under:

$$GDP = f(S.I.CF) \quad ..(3.1)$$

This equation to be estimated has therefore been specified as under:

$$GDP = a + b_1S + b_2I + b3CF + U_i \quad ...(3.2)$$

Where, U_i = Error term or disturbance

Although the lag models are extensively used in econometric analysis, all economic problems may not correspond to the assumption to monotonically decreasing lag pattern, there are some situations where the effect of the lagged independent variable may follow cyclical pattern, the coefficient increasing gradually before reaching a peak and then decrease. This type of lag pattern can be taken care of by using the Almon (1965) Polynomial Lag Model. The Almon Lag Scheme is expressed as a linear function of the current and the K previous values of X, namely,

$$Y_t = \alpha + \beta X_t + \beta X_{t-1} + \beta X_{t-2} + \ldots\ldots\ldots\ldots + \beta X_{t-k} + U_t \quad .....(3.3)$$

Where the coefficient β_0 is known as the short run, or impact multiplier because it measures the change in the mean value of Y following a unit change in X in the same periods, and β_1, β_2, β_3, ... β_t are called delay or interim multipliers because they

measure the impact on mean Y of a unit change in X in various previous time periods. The sum of β'S $\sum_{i=0}^{k} i$ is called the long run, or total, or distributed lag multiplier. Equation (3.3) can be written more compactly as:

$$Y_1 \sim + \sum_{i=0}^{k} {}_i X_{t-1} + U_t$$

Where the lagged effect of X is postulated up to K periods. In the present study, the distributed lag models discussed above to analyze some important macro economic relationship, which have vital bearing on the Nepalese economy. The relationship between GDP and saving, investment and capital formation is analyzed the framework of Almon Polynomial Lag Scheme, as these relation are expected to follow an invested V-type lag pattern. For applying the Almon Lag Acheme between the variables specified, 5 years as the length of lag and approximate β_i by a third degree polynomial. The reason for this choice of lag length is that periodic plans (expect the second) in Nepal are worked out for time horizon of 5 years.

On the other side, to analyze the determinants of saving, investment and capital formation in Nepal, the theoretical statement of models are specified as for the earlier studies (Poudyal: 1988a and Wagle: 2000). Saving may be regarded as subject to the constraints of various macro-economic variables. As an approximation to the theory, the formation may be written as:

S= f (Y) ...(3.5)

S= f (GDP) ...(3.6)

S= f (F,X) ...(3.7)

S= f (T, WR_D) ...(3.8)

$$S = f(I, CF) \quad ...(3.9)$$

Where Y=National income, F=Foreign aid, X=Aggregate exports, T=Tax revenue, WR_D= Weighted Average Interest Rate on deposit of commercial banks.

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

$$S = a + b_1 Y \quad ... (3.10)$$

$$S = a + b_1 GDP \quad ...(3.11)$$

$$S = a + b_1 F + b_2 X \quad ...(3.12)$$

$$S = a + b_1 T + b_2 WR_D \quad ...(3.13)$$

$$S = a + b_1 I + b_2 CF \quad ...(3.14)$$

To determine whether the macro-economic variables are related to investment, the theoretical functions may be stated as:

$$I = f(S, CF) \quad ...(3.15)$$

$$I = f(F) \quad ...(3.16)$$

$$I = f(M) \quad ...(3.17)$$

$$I = f(WR_L) \quad ...(3.18)$$

Where, M=Aggregate imports, WR_L= Weightage average interest rate on lending of commercial banks. In equation:

$$I = a + b_1 S + b_2 CF \quad ...(3.19)$$

$$I = a + b_1 F \quad ...(3.20)$$

$$I = a + b_1 M \quad ...(3.21)$$

$$I = a + b_1 WR_D \quad ...(3.22)$$

Since capital formation is a major function of capital market, it is an indicator of the capital market and hence taken as a dependent variable in the regression models, capital formation may be influences by investment, saving, gross domestic product and weightage average interest rate on lending rate on lending of commercial banks, the theoretical statement formed above may be stated as under:

$$CF = f(I) \quad ...(3.23)$$

$$CF = f(S) \quad ...(3.24)$$

$$CF = f(GDP) \quad ...(3.25)$$

$$CF = f(WR_L) \quad ...(3.26)$$

The equations are:

$$CF = a + b_1 I \quad ...(3.27)$$

$$CF = a + b_1 S \quad ...(3.28)$$

$$CF = a + b_1 GDP \quad ...(3.29)$$

$$CF = a + b_1 WR_L \quad ...(3.30)$$

All the expressions stated above are used to estimate at current prices and in real terms too. While estimating the above equations in real terms, the macro-economic variables have been deflated by using national urban consumer price index. Similarly, to examine the relationship of saving, investment and capital formation with financial ratios Nepalese enterprise at micro perspective the decision about the aggregate level of dependent variables, V may be regarded as subject to the constraints of risk, return, and other variables.

B. Statistical Tools Used:

In this process of estimating above models, various statistical tools has been used, e.g., coefficient of multiple determination (R^2), standard error of estimate (SEE), student's t-statistics, F-statistics. In this study, the statistical parameter is calculated with the help of computer via SPSS for the models prescribed above. A brief explanation of statistical tools employed in this study is as follows:

Coefficient of Multiple Determinations (R^2)

The coefficient of multiple determination is a measure of the degree (extent or strength) of linear association for correlation between two variables, on of which happens to be independent and other being dependent variable(s). In other words, R^2 measure the percentage total variation in dependent variable explained by explanatory variables. The coefficient of determination can have value ranging from zero to one (i.e. $0>R^2<1$). If R^2 equal to 0.90, which indicates that the independent variables used in regression model, explain 90 percent of the total variation in the dependent variable. A value of one con our 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 (a)

It is known that the numerical constant which determines the distance of the fitted line directly above or below the origin (i.e., Y-intercept). The value of the constant, which is the intercept of the model, indicates the average level of dependent variable when

independent variable(s) is (are) zero. In other words, it is better to understand that 'a' (constant) indicates the mean or average effect on dependent variable if the entire variable omitted from the model.

Regression Coefficient (b_1, b_2, b_3, ...)

The regression coefficient of each independent variable indicates the marginal relationship between that variable and value of dependent variable, holding constant the effect of all other independent variables in the regression affect the values of dependent variable's estimate. It is also know that the numerical constant which determines the change in dependent variable per unit change in independent variables. (i.e., slope of the line).

Standard Error of Estimate (SEE)

With the help of regression equations perfect prediction is practically impossible. Standard error of an estimate is a measure of the reliability of the estimating equation, indicating the variability of the observed points around of regression line, i.e., the extent of which observed values differ from their predicted values on the regression line. The smaller the value of SEE, the closer will be the dots to the regression line and better the estimates based on the equation for this line. If SEE is zero, then there is no variation about the line and the correlation will be perfect. Thus, with the help of SEE, it is possible to ascertain how good and reprehensive the regression line is as a description of the average relationship between two series.

Student's t-Statistics

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 situations a sample is termed as small if $n \leq 30$. It should be clearly understood that exact sample techniques (Tests) can be used, even for large samples but large samples theory cannot be used for small samples (Gupta: 1995, 1208). For applying t-distribution, the t-value are calculated first and compared with the critical values at a certain level of significance for given degree of

freedom. If the computed value of 't' exceeds the table value (say $t_{0.05}$), it is known that the difference is significant at 5 percent level of significance but if t-values are less than the corresponding critical values of the 't' distribution, the difference is not treated as significant.

F-Test

The Fiaher's F-distribution is defined as a distribution of the ratio of two independent chi-square variables each divided by the corresponding degrees of freedom. It is clear that F-distribution has a single mode. Note that the shape of F-distribution depends on the value of degrees of freedom and the value of F lies between zeros to infinity. The F-test, sometimes called variance ratio test, is based on F-distribution. In order to test goodness of fit of the regression models, F-test is used.

Weighted Arithmetic Mean

If some items in a distribution are more important than others, than this point must be borne in mind, in order that average computed is representative of the distribution. In such cases, proper weightage is to given to various items-the weights attached to each item being proportional to the importance of the item in the distribution. Let W_1, W_2,..... W_n be the weights attached to variable value X_1, X_2,..... X_n respectively. Then the weighted a thematic mean, usually denoted by

In this study, weighted arithmetic mean of interest rates on deposits and lending of commercial banks are calculated in order to analyze the relationship of interest rates with macro-economic variables.

$$\overline{X}_w = \frac{W_1X_1 + W_2 + .. + W_nX_n}{W_1 + W_2 + .. + W_n} = \frac{\sum WX}{\sum W}$$

CHAPTER- FOUR

PRESENTATION AND ANALYSIS OF DATA

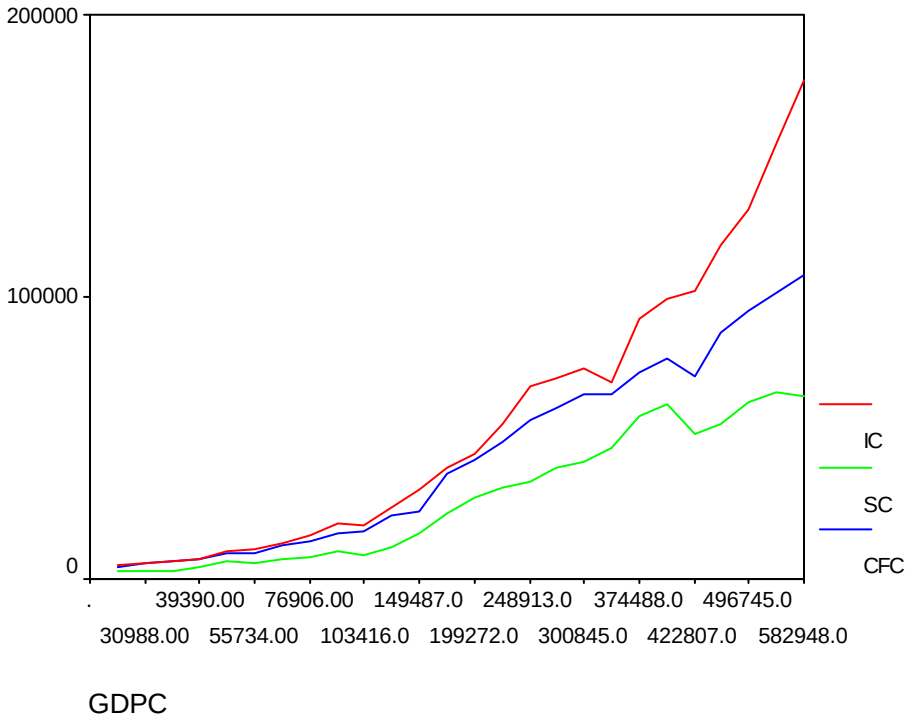
This chapter is the backbone of the research. In this chapter, the secondary data are presented in systematic manner. This chapter consisting of three sections is fully devoted to analyzing the various issues at macro perspectives. Section 1 examines the role of saving, investment and capital formation on economic development. The analysis of determinants of saving, investment and capital formation has been described in section 2. Tables and graphs are presented in the same section if they are necessary.

4.1 ROLE OF SAVING, INVESTMENT AND CAPITAL FORMATION ON ECONOMIC DEVELOPMENT

One of the most important indicators of economic development is the growth rate of GDP. Even there are some other indicators of economic development; the overall effect of development efforts is examined in terms of growth in GDP. Although the growth rate GDP alone does not truly reflect the level of economic progress, it is widely used as a measure of economic development (Wagle: 2000, 35). The empirical results are estimated by using annual data for the period 1982/83 to 2007/08. Because of the non-availability of important price indices such as, saving deflector, investment deflector and other important deflector, it has not been possible to estimate the specific relations in constant prices. However, as an alternative, though not a satisfactory way to do, values of all variables have been converted into real terms by using national urban consumer price index. The results thus obtained are compared with those obtained by using current prices data, at the end of the section.

Estimates at Current Prices

First of all, the time series linear results of the model show the role of saving, investment and capital formation on economic development is presented in graph 4.1 and table 4.1.



Graph 4.1: Time Series Line of Gross Domestic Product (GDP), Investment (I), Saving (S) and Capital Formation (CF) at Current Prices

Sources: Appendix no:-1

Table 4.1

Regression of Gross Domestic Product (GDP_C) on Saving (S_C), Investment (I_C) and Capital Formation (CF_C) at Current Prices for Various Models

Regression Equation: $GDP_{C=} a + b_1 S_C + b_2 I_C + b_3 CF_C$ ...(4.1)

S.N	Dependent Variable	Intercept a	Regression Coefficient of			R^2	SEE	F
			S_C	I_C	CF_C			
I.	GDP_C	-5464.30 (0.548)	-0.414 (0.287)	-	5.634 (5.934)*	0.97	28800	575
II.	GDP_C	16989.475 (1.698)	4.030 (5.823)*	1.689 (6.135)**	-	0.98	28218	599
III.	GDP_C	3385.332 (0.311)	-	0.687 (1.646)**	4.254 (6.153)*	0.98	27289	641

Source: Appendix 1

Notes :(1) Figures in the parentheses are t-values while *& ** represent that the results are significant at 1percent and 5 percent level of significant respectively.

The overall results presented in Expression I to III of Table 4.1 are encouraging. The signs of all the coefficients are as expected. It presents the usual simple linear relationship between GDP and saving, investment and capital formation. These results show the customary strong saving, investment and capital formation effect on GDP. In the Expression I, one rupee increase in saving leads to the about Rs. -0.414 increase in GDP at current prices holding other variables constant. The same is notices to be Rs. 4.030 in Expression II. The coefficient of multiple determinations is quite high (i.e., R^2 = 0.98 approximately). It means that 98 percent of total variation in GDP had been explained by the regression model (i.e., the explanatory variables of regression model). On the other side, one rupee increase in investment resulted in only Rs. 1.689 increase in GDP, holding saving and capital formation constant. The same is notices to be Rs. 0.687 in Expression III. Similarly, one rupee increase in capital formation leads to the about Rs. 5.634 increase in GDP, holding all other independent variables constant. The same is notices to be Rs. 4.254 in Expression III. The t-values of the coefficient of saving and

capital formation of all Expression are statistically significant while the regression coefficient of investment for Expression II is only statistically significant.

The regression Expressions presented above show the strong role played by saving and capital formation and weak role played by investment.

If the data are observed by single regression line then the single effect of saving, Investment and capital formation on GDP in current prices for the period 1982/83 to2007/08 can be explained through the Table 4.2

Table 4.2

Single Regression of Gross Domestic Product (GDP_C) on Saving (S_C), Investment (I_C) and Capital Formation (CF_C) at Current Prices for Various Models

Regression Equation: $GDP_{C=} a + b_1 S_C + b_2 I_C + b_3 CF_C$ ...(4.2)

S.N	Dependent Variable	Intercept a	Regression Coefficient of			R^2	SEE	F
			S_C	I_C	CF_C			
1	GDPc	1946.453 (.126)	8.022 (21.439)*	-	-	0.94	44853	459
II	GDPc	46198.369 (3.465)**	-	3.196 (22.166)*	-	0.95	43453	491
III	GDPc	-5499.763 (0.562)	-	-	5.365 (34.579)*	0.98	28244	1195

Sources: Appendix no:-1

Notes :(1) Figures in the parentheses are t-values while *& ** represent that the results are significant at 1percent and 5 percent level of significant respectively.

The overall results occurs from table 4.2 is very interesting. The individual effect of saving on GDP at current prices indicates that Rs. One rupee increase in saving leads to Rs. 8.022 increase in GDP, and vice versa. The coefficient of multiple determination 0.94

is quite high which indicates that 94% of the total variation is explained by the regression model. Similarly the effect of other variables like investment and capital formation can be explained from the above table 4.2.

It may now be interesting to see the results when entire-periods of the study are divided into four sub-periods for the regression model. Table 4.2 presents the regression result of gross domestic product on saving, investment and capital formation at current prices for various time- periods.

Table 4.3

Regression of Gross Domestic Product (GDPc) on Saving (Sc), Investment (IC) and Capital Formation (CFC) at Current PRices for Various Time-Periods

Regression Equation: $GDP_C = a+b_1S_C+b2I_C+b_3CF_C$ 4.3

Time-Periods	Intercept	Regression			R^2	SEE	F
1982/83-1989/90	1232.963 (0.152)	-3.759 (1.766)	2.453 (0.472)**	5.124 (0.893)	0.97	3782	97
1990/91-1997/98	40574.127 (3.485)*	2.236 (0.954)	2.079 (1.457)	1.116 (0.004)	0.97	10134	89
1998/99-2007/08	167507.628 (1.226)	-4.940 (1.589)	4.963 (0.042)	6.787 (1.985)	0.89	31203	26
1982/83-2007/08	7027.945 (0.602)	1.555 (0.894)	.980 (1.843)	2.772 (1.543)	0.98	27408	424

Source: Appendix 1

Notes :(1) Figures in the parentheses are t-values while *& ** represent that the results are significant at 1percent and 5 percent level of significant respectively.

The results are presented in table 4.3 indicates that the estimated coefficients have expected of investment for all the periods expect the 1982/83 to 2007/08 period. The goodness of fit of model is also satisfactory. It means that these results are very similar to the earlier discussion in this section.

Similarly, it may be interesting to see the results when applying the Almon Lag Scheme. Saving, investment and capital formation contribute to GDP in a lagged pattern. Now, perform the Almon Lag Scheme to test the lag structure of the effects of saving, investment and capital formation in GDP. The results come out as shown in Table 4.4

Table 4.4

Regression of Gross Domestic Product (GDP_C) on Saving (S_C), and its one to five year lag values; GDP_C on Investment (I_C), and its one to five year lag values; and GDP_C on Capital Formation (CF_C), and its one to five year lag values at Current Prices for periods of 1982/83 to 2007/08

Regression Equations:

$GDP_C = a + b_1S_{Ct} + b_2S_{Ct-1} + b_3S_{Ct-2} + b_4S_{Ct-3} + b_5S_{Ct-4} + b_6S_{Ct-5}$ ...(4.4)

$GDP_C = a + b_1I_{Ct} + b_2I_{Ct-1} + b_3I_{Ct-2} + b_4I_{Ct-3} + b_5I_{Ct-4} + b_6I_{Ct-5}$ ...(4.5)

$GDP_C = a + b_1CF_{Ct} + b_2CF_{Ct-1} + b_3CF_{Ct-2} + b_4CF_{Ct-3} + b_5CF_{Ct-4} + b_6S_{Ct-5}$ ...(4.6)

Eq	**a**	**b_1**	**b_2**	**b_3**	**b_4**	**b_5**	**b_6**	**R^2**	**SEE**	**F**
4.4	31048 (4.19)*	3.941 (3.59)*	-4.137 (2.44) **	5.352 (2.99) **	1.528 (0.84)	-1.587 (0.90)	3.793 (3.22) **	0.99	19075	442
4.5	52425 (4.02)*	2.614 (1.84)	-2.333 (1.15)	-0.461 (0.22)	3.169 (1.49) **	-1.053 (0.49)	2.499 (1.34)	0.95	40741	94
4.6	11180 (1.37)*	3.003 (3.78)*	-2.41 (2.19) **	0.248 (0.19)	0.845 (0.62)	-1.020 (0.772)	3.002 (2.73) *	0.98	20921	440

Source: Appendix 1

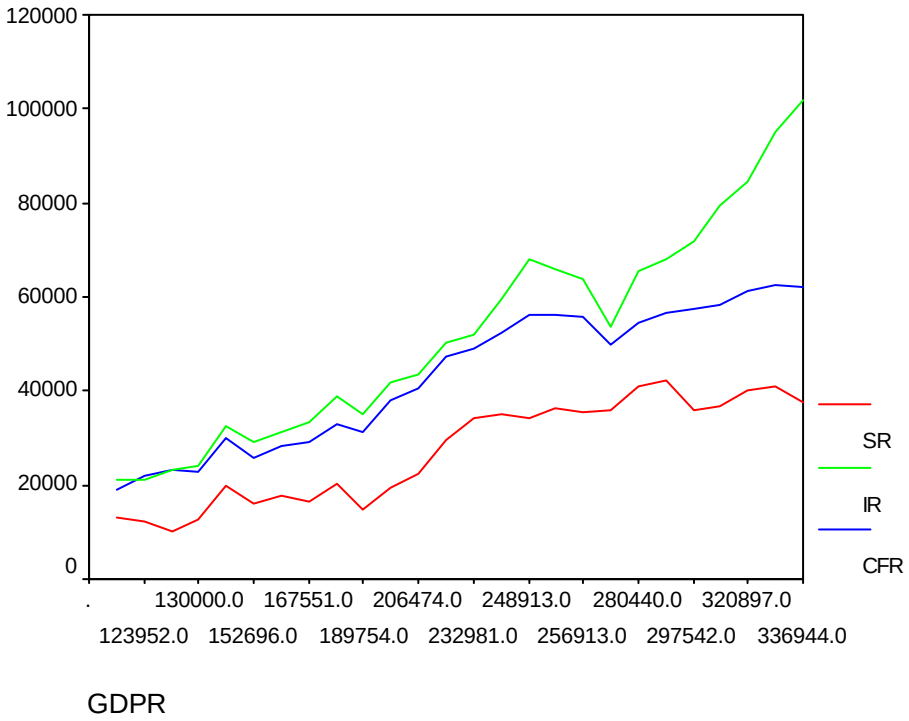
Notes: (1) Figures in the parentheses are t-values while *& ** represent that the results are significant at 1percent and 5 percent level of significant respectively.

Eq represents equations.

The negative coefficients of saving, investment and capital formation of different year lag values are statistically insignificant. It means that GDP is influenced not only by the current values of saving, investment and capital formation but also by past values. However, current values of saving, investment and capital formation have the highest and significant impact in GDP.

Estimates in Real Terms

It may now be interesting to see the results when values of all the variables have been deflected into real terms by means of national urban consumer price index. The time series linear regression results of the model showing the role of saving, investment and capital formation in economic development presented in Table 4.5 for various time-



periods.

Graph: 4.2: Time Series Line of Gross Domestic Product (GDP), Investment (I), Saving (S) and Capital Formation(CF) at Real Terms

Sources: Appendix no:-2

Table 4.5

Regression of Gross Domestic Product (GDP_R) on Saving (S_R), Investment (I_R) and Capital Formation (CF_R) in Real Terms for Various Time-Periods

Regression Equation: $GDP_{R=} a + b_1 S_R + b_2 I_R + b_3 CF_R$ ...(4.7)

S.N	Intercept a	Regression Coefficient of			R^2	SEE	F
		S_R	I_R	CF_R			
1982/83-1989/90	47145.754 (1.085)**	-3.217 (1.824)	7.993 (1.920)**	-3.138 (0.542)	0.85	9200	14.37
1990/91-1997/98	78483.933 (1.468)**	-0.331 (0.153)	7.853 (0.039)	3.237 (0.725)**	0.91	6705	24.51
1998/99-2007/08	5368.197 (0.165)	-3.394 (0.043)	0.300 (1.451)**	4.771 (5.028)	0.95	4787	66
1982/83-2007/08	48949.212 (3.789)*	1.351 (1.204)	1.305 (4.248)*	1.571 (1.359)	0.96	13426	202

Source: Appendix 2

Notes :(1) Figures in the parentheses are t-values while *& ** represent that the results are significant at 1 percent and 5 percent level of significant respectively.

More precisely, during the 1982/83 to 1989/90 periods, the estimated coefficients have expected signs for saving, investment and capital formation but these are statistically not significant. During the 1990/91 to 1997/98 period, the estimated coefficients have expected signs for saving, investment and capital formation that are statistically not significant. On the other side, during the 1998/99 to 2007/08 periods, all the estimated regression coefficients have expected signs but the coefficient of saving is only significant. Lastly, during the 1982/83 to 2007/08 periods (i.e., entire period of the study), all the coefficients have expected signs for saving, investment and capital formation. The coefficients are, however, statistically not significant.

Similarly, it may be interesting to see the results when applying the Almon Lag Scheme, it is hypothesized the saving, investment and capital formation contribute to GDP in lagged pattern. The estimate of Almon Lag Scheme to test the lag structure of the effects of the saving, investment and capital formation on GDP in Real terms are presented in Table 4.6.

Table 4.6

Regression of Gross Domestic Product (GDP_R) on Saving (S_R), and its one to five year lag values; GDP_R on Investment (I_R), and its one to five year lag values; and GDP_R on Capital Formation (CF_R), and its one to five year lag values at Real Terms for periods of

1982/83 to 2007/08

Regression Equations:

$$GDP_R = a + b_1S_{Rt} + b_2S_{Rt-1} + b_3S_{Rt-2} + b_4S_{Rt-3} + b_5S_{Rt-4} + b_6S_{Rt-5} \quad ...(4.8)$$

$$GDP_R = a + b_1I_{Rt} + b_2I_{Rt-1} + b_3I_{Rt-2} + b_4I_{Rt-3} + b_5I_{Rt-4} + b_6I_{Rt-5} \quad ...(4.9)$$

$$GDP_R = a + b_1CF_{Rt} + b_2CF_{Rt-1} + b_3CF_{Rt-2} + b_4CF_{Rt-3} + b_5CF_{Rt-4} + b_6S_{Rt-5} \quad ...(4.10)$$

Eq	**a**	**b_1**	**b_2**	**b_3**	**b_4**	**b_5**	**b_6**	**R^2**	**SEE**	**F**
4.7	75638.15 (8.450)**	1.826 (1.93)	0.283 (0.22)	0.819 (0.69)	0.719 (0.60)	-0.105 (0.08)	2.623 (2.72) *	0.95	14492	86
4.8	84448.23 (9.24)**	1.890 (2.54) **	0.524 (0.79)	-0.04 (0.06)	0.162 (0.1)5	0.836 (0.80)	1.292 (1.52)	0.92	17930	55
4.9	34104.82 (3.77)**	2.727 (3.185) *	0.425 (0.383)	-0.84 (0.72)	-0.154 (0.13)	0.249 (0..22)	2.293 (2.56) **	0.96	12153	124

Source: Appendix 2

Notes :(1) Figures in the parentheses are t-values while *& ** represent that the results are significant at 1percent and 5 percent level of significant respectively.

Eq represents equations.

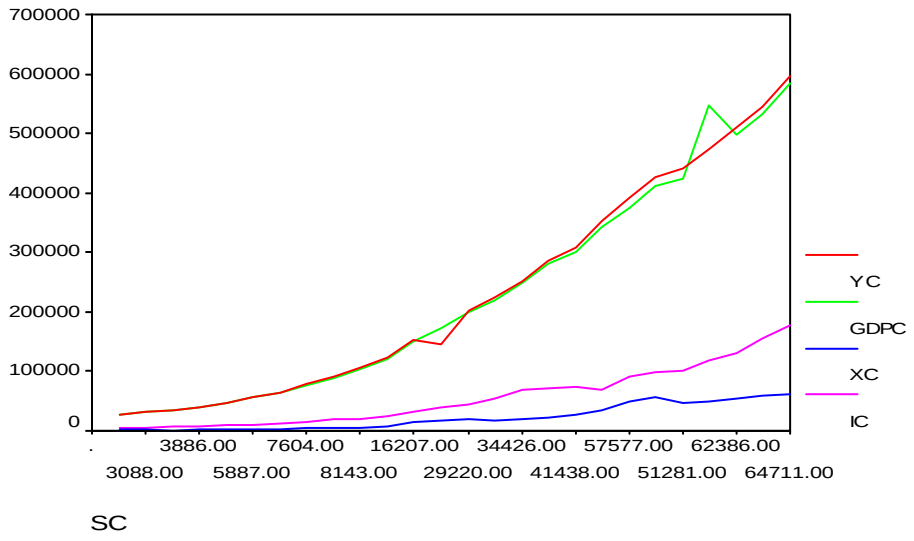
The time series linear regression results show a positive relationship between GDP and saving, investment and capital formation at current prices and in real terms as well. The lagged values of saving, investment and capital formation are also found to be important in determining GDP, but the current values have the largest impact. As a whole, this section suggests that the saving, investment and capital formation play significant role in determining the level of GDP.

4.2 ANALYSIS OF DETERMINANTS OF SAVING, INVESTMENT AND CAPITAL FORMATION

The determinants of saving, investment and capital formation have been studied through regression analysis. The empirical results are estimated in this section by using annual data for the 1982/83 to 2007/08 period. The results obtained in real terms are compared with those obtained by using current prices data as well.

Determinants of Saving:

In order to assess the determinants of saving, the time series linear regression of saving on its determinants is presented below:



Graph: 4.3: Time Series of Line of Determinants Saving at Current Prices

Sources: Appendix no:-1

I. Estimates at Current Prices

(i) $S_C = 1382 + 0.117Y_C$ ..(4.11)

(24.104)*

$R^2 = 0.95$ SEE=4873 F=581

(ii) $S_C = 1448 + 0.118\ GDP_C$ ..(4.12)

(21.439)*

$R^2 = 0.94$ SEE=5450 F=459

(iii) $S_C = 2325 + 0.369CFc + 0.451Xc$ ..(4.13)

(4.388)* (3.421)*

$R^2 = 0.98$ SEE=3390 F=613

(iv) $S_C = 6068 + 1.015Xc$ ..(4.14)

(26.188)*

$R^2 = 0.96$ SEE=4499 F=685

(v) $S_C = 85.7317 + 0.649CFc$ ..(4.15)

(28.987)*

$R^2 = 0.97$ SEE=4077 F=840

(vi)Sc=-2341-0.188Ic+0.953CFc ..(4.16)

(3.735)** (11.444)

$R^2 = 0.98$ SEE = 3286 F=653

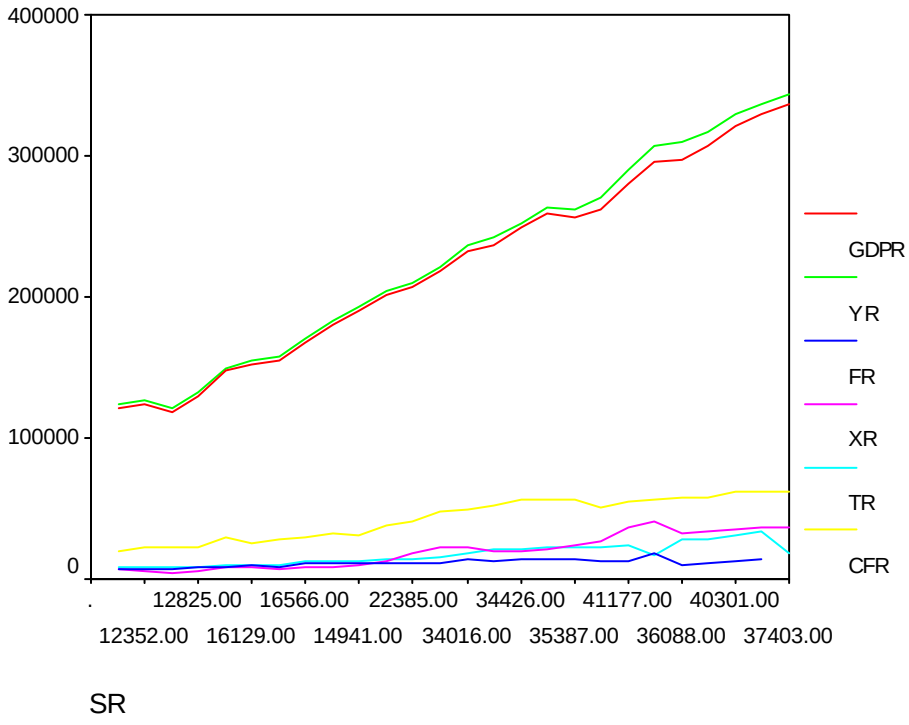
(vii)SC=24664+1.086TC-2059WRD .. (4.17)

(1.79) (5.45)* (1.61)

$R^2 = 0.94$ SEE=5836 F=185

Notes :(1) Figures in the parentheses are t-values while *& ** represent that the results are significant at 1percent and 5 percent level of significant respectively.

II. Estimates in Real Terms:



Graph: 4.4: Time Series Line of Determinants of Saving at Real Terms

Sources: Appendix no:-2

(i) S_R= -3802+0.135Y_R (4.18)

(11.835)*

R^2= 0.84 SEE=4010 F=140

(ii)S_R= -4360+0.141GDP_R (4.19)

(11.886)*

R^2= 0.84 SEE=3995 F=141

(iii) S_R=7787+0.442F_R.+0.728X_R (4.20)

(1.074)** (7.390)*

R^2= 0.85 SEE=3864 F=76

(iv)S_R= 25600 + 0.9T_R - 754WRD (4.21)

(2.25) (3.53) (1.84)

(iv) S_R= -6485 -0.125I_R +0.930C_R ..(4.22)

(2.468) (10.064)*

R^2= 0.94 SEE=2495 F=200

Notes :(1) Figures in the parentheses are t-values while *& ** represent that the results are significant at 1percent and 5 percent level of significant respectively.

The dependent variables, namely, S_C and S_R, respectively denotes the gross domestic saving at current prices and gross domestic saving in real terms. Similarly, the independent variables, namely, Y_C, GDP_C, F_C, X_C, T_C, I_C, CF_C, and WR_D respectively, denotes national income, gross domestic product, foreign aid, exports, tax revenue, aggregate investment, capital formation at current prices and weightage interest rate on deposits of commercial banks while Y_R, GDP_R, F_R, X_R, T_R, I_R, CF_R mean same as above in real terms.

The over all results presented in Expressions (4.11) to (4.22) are encouraging the signs of all the coefficients are as expected. The coefficients are also statistically significant except the coefficient of investment and capital formation and the goodness of fit of the model is also satisfactory.

With respect to the linear relationship between aggregate saving and aggregate income, the results as indicated by Expressions (4.11) and (4.18) supports the Keynesian absolute income hypothesis. Regarding the linear relationship between aggregate saving and gross domestic product, it may be stated that results as indicated by Expressions (4.12) and (4.19) support the findings of earlier study by Sapkota (2007). The Expressions (4.13) and (4.20) indicated that the saving is positively influenced by foreign aid and exports. These results are similar significant results of the present study may be attributable to the increased the study period. Similarly, the Expressions (4.17) and (4.21) indicated that the

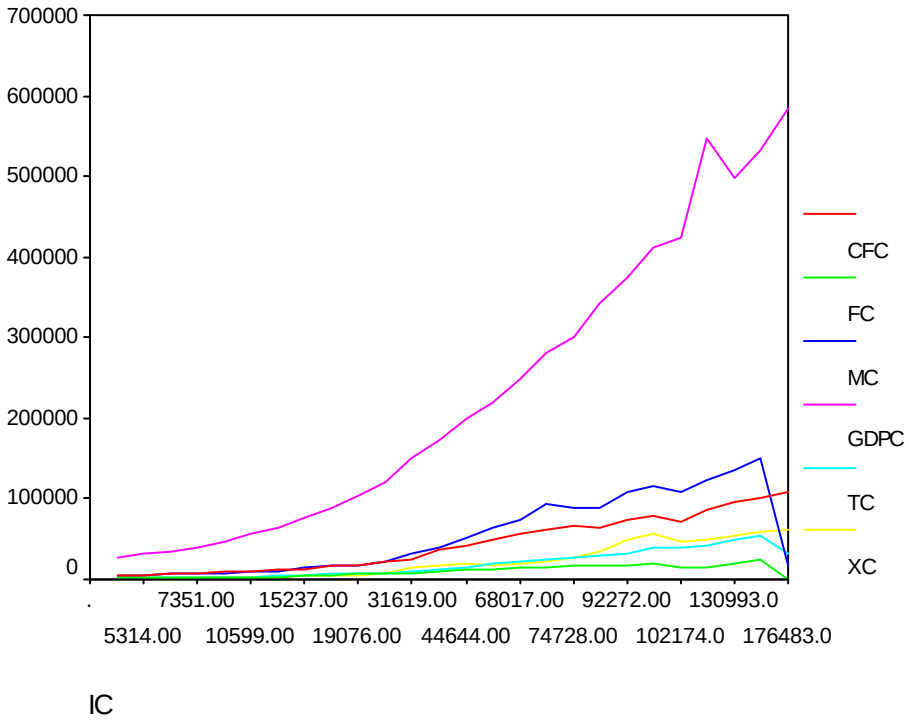
saving is positively effected by tax revenue while it is negatively affected by weighted average interest rate on deposits of commercial banks. These results are more or less similar to the earlier study by Sapkota (2007). The results are, however, contradictory to the results of another earlier study by Poudyal (1988a). The contradiction may be due to differences in specification of the models. On the other side, the results presented by Expression (4.16) and (4.22) indicated that the saving is positively influenced by investment and capital formation.

Among others, the overall results suggest that saving is affected by national income, GDP, foreign aid, exports, tax revenue, investment, capital formation and weightage average interest rate in deposits of commercial banks. It means that increase interest rate leads to reduction in saving. This result does not support the hypothesis that the increase in the real interest rates is expected to induce people to save more due to flow of data for the 1982/83 to 2007/08 period. The aggregate saving has growing trends while weighted average interest rate on deposits of commercial banks has declining trends over the years.

Determinant of Investment

The analysis of investment behavior and its relation with macro-economic variables has been one of the most strategic aspects of development planning. Even since the time of classical economists to present day, it has received a good deal of theoretical and empirical attention. In order to assess investment behavior and its determinants, the estimated regression Expressions based on time series data are presented below:

Estimates at Current Prices



Graph: 4.5: Time Series Line of Determinants of Investment at Current Price

Sources: Appendix no:-1

(i) I_C= -12751 -2.010 S_C + 2.92CF_C ..(4.23)

(3.735)** (8.244)*

R^2= 0.96 SEE=10750 F=381

(ii) I_C= -17167 + 6.769 F_C ..(4.24)

(22.745)*

R^2= 0.95 SEE=12953 F=517

(iii) I_C= 40051 + 0.561 M_C ..(4.25)

(2.378)*

R^2= 0.15 SEE=55345 F=5.65

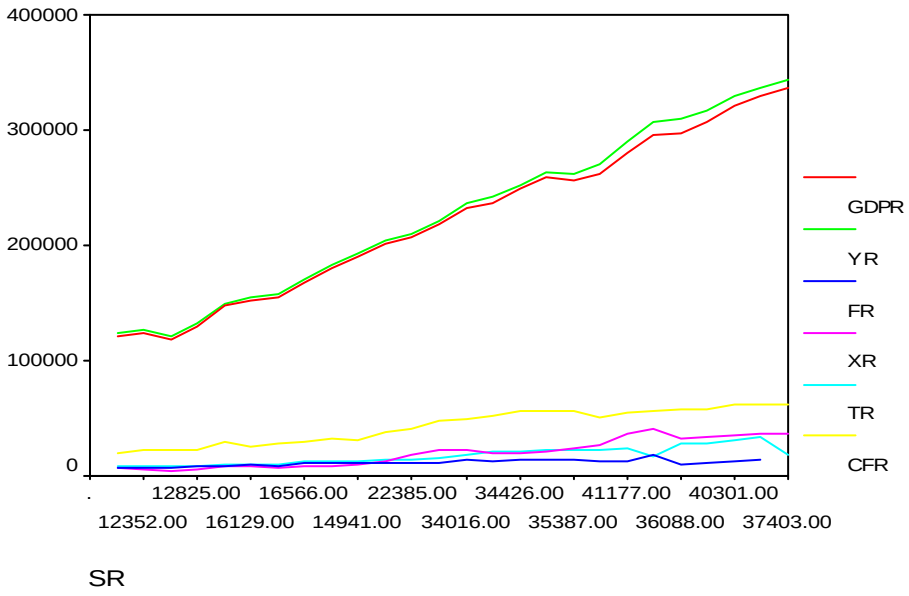
(iv) I_C= 249548 - 13426 WR_L ..(4.26)

(8.67)* (6.86)*

R^2= 0.66 SEE=29595 F=47

Notes :(1) Figures in the parentheses are t-values while *& ** represent that the results are significant at 1percent and 5 percent level of significant respectively.

I. Estimated in Real Terms:



Graph: 4.6: Time Series Line of Determinants of Investment at Real Terms

Sources: Appendix no:-2

(i) I_R= -25657 -1.67 S_R + 2.876 CF_R ..(4.27)

(2.468) (5.696)*

R^2= 0.86 SEE=9111 F=83

(ii) I_R= -24885 + 6.818 F_R ..(4.28)

(5.907)*

R^2= 0.57 SEE=16322 F=34

(iii) I_R= 46023 + 0.259 M_R ..(4.29)

(1.433)*

R^2= 0.40 SEE=24541 F=2.053

(iv) I_R= 129711 - 5392 WR_L ..(4.30)

(4.84)*

R^2= 0.49 SEE=16857 F=23

Notes :(1) Figures in the parentheses are t-values while *& ** represent that the results are significant at 1percent and 5 percent level of significant respectively.

In the above Expressions, the signs of coefficients are all as per a priori expectation except the coefficient are all as per a priori expectation expect the coefficient of weightage average interest rate on lending of commercial banks. The coefficients of capital formation, foreign aid and imports are statistically significant at 1 percent level of significant in all cases while the coefficients of saving and weightage average interest rate on lending of commercial banks are not significant in all the cases.

Investment is positively affected by saving and capital formation as indicated in Expressions (4.23) and (4.27). Moreover, the overall fit of the model has gone poor in Expression (4.27) as compared to expression (4.23). Investment is also significantly influenced by foreign aid an indicated in Expression (4.24) and (4.28). The results of present study are more or less similar to the results of earlier studies by Poudyal (1988a) , Wagle (2000) and Sapkota (2007).

Imports have significantly influenced on investment as indicated by Expressions (4.25) and (4.29).

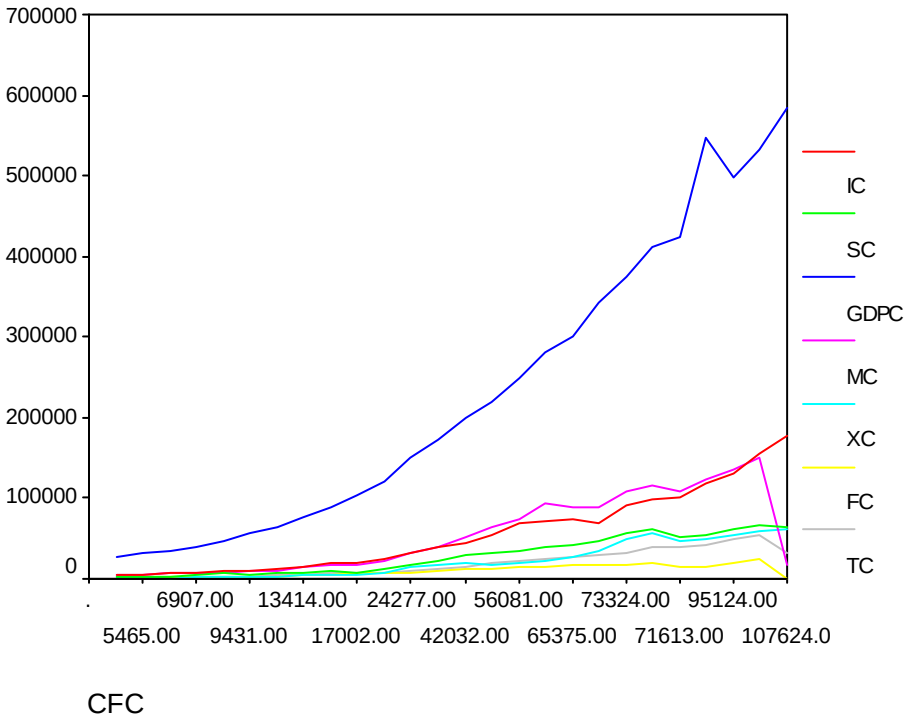
Investment is negatively affected by weighted average interest rate in lending of commercial banks as lending of commercial banks as indicated by Expressions (4.26) and (4.30). The regression coefficient of the weighted average interest on lending of

commercial banks has significant and the negative sign. One has, therefore, reason to believe that increase in interest rate leads to reduction in investment.

Determination of Capital Formation:

Development and expression of capital market are essential for the rapid economic growth of the country (NPC: 1998, 167). Development of capital market depends upon the industrial development of the country. The developments in micro level of the national economy have positive impact on the capacity of the economy. Capital market if Nepal has given the positive signal to development (SEBO/N: 2000, 1). since capital market as a dependent variable for the regression models. The time series regression results of the models showing the capital formation behavior and its determinants are presented below:

I. Estimates at Current Prices:



Graph: 4.7: Time Series Line of Determinants of Capital Formation at Current Prices

Sources: Appendix no:-1

(i) $CF_C = 10064 + 0.59\ I_C$ ..(4.31)

(22.058)*

$R^2 = 0.95$ SEE=8056 F=486

(ii) $CF_C = 1315 + 1.497\ S_C$ ..(4.32)

(28.987)*

$R^2 = 0.97$ SEE= 6192 F=840

(iii) $CF_C = 2028 + 0.183\ GDP_C$ ..(4.33)

(34.579)*

$R^2 = 0.98$ SEE=5212 F=1195

(iv) $CF_C = 164652 - 8405\ WR_L$ ..(4.34)

(5.62)*

$R^2 = 0.57$ SEE=22644 F=32

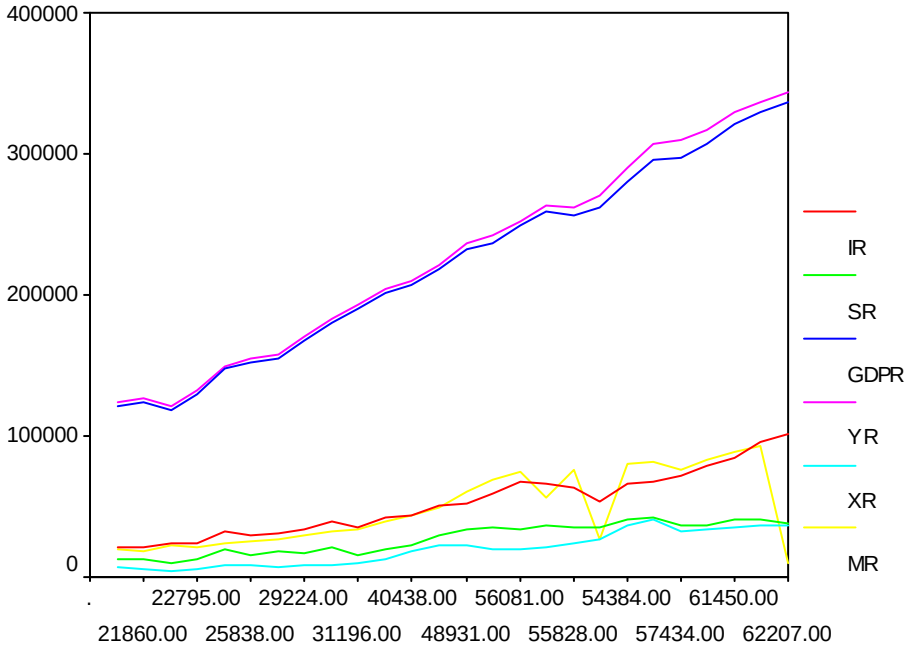
(v) $CF_C = 3594 + 0.256\ I_C + 0.893\ S_C$ …(4.35)

(8.244)* (11.444)*

$R^2 = 0.992$ SEE =3180 F=1626

Notes :(1) Figures in the parentheses are t-values while *& ** represent that the results are significant at 1percent and 5 percent level of significant respectively.

II. Estimates on Real Terms:



Graph: 4.8: Time Series Line of Determinants of Capital Formation at Real Terms

Sources: Appendix no:-2

(i) $CF_R = 16574 + 0.506\ I_R$ ..(4.36)

(11.486)*

$R^2 = 0.84$ SEE=5514 F=131

(ii) $CF_R = 8515 + 1.294\ S_R$ ..(4.37)

(18.043)*

$R^2 = 0.93$ SEE=3682 F=325

(iii) $CF_R = -749 + 0.198 GDP_R$ ..(4.38)

(18.607)*

$R^2 = 0.93$ SEE=3578 F=346

(iv) CF_R= 81897 -2692WR_L ..(4.39)

(3.21)*

R^2= 0.3 SEE=29595 F=47

Notes :(1) Figures in the parentheses are t-values while *& ** represent that the results are significant at 1percent and 5 percent level of significant respectively.

All the Expressions are strong and provide the coefficients of investment, saving and gross domestic product that are statistically significant with the theoretically correct signs in all the cases.

Capital formation is positively influenced by investment as indicated by Expressions (4.31) and (4.36). These results are similar to the earlier study by Sapkota (2007) to some extent.

Capital formation is also significantly affected by saving indicated by Expressions (4.32) and (4.37). Moreover, the overall fit of the model has gone poor in Expression (4.37) as compared to the Expression (4.32). This result is more or less similar to earlier study by Sapkota (2007).

Capital formation is also positively affected by gross domestic product as indicated by the Expressions (4.33) and (4.38). This result is also more or less similar to the earlier study by Wagle (2000). On the other side, it is negatively related with weighted average interest rate on lending of commercial banks as indicated by the Expression (4.34) and (4.39). These results are in contradiction with the theoretical propositions of the offer of real interest rates is expected to induce people to capital formation more due to flow of data. In Nepal, the aggregate capital formation has increasing trends while weighted average interest rate on lending of commercial banks has declining trends over the years,

The results of presents study are more or less similar to the results of earlier studies. Most of the Expressions have better values of t, R^2 and F. The better results of the present study may be attributed to the increased study period. While going through the result

presented in this section, the question may arises as to why some of the results are contradicts with the findings of earlier studies. In this connection, it is worthwhile to note that the nature and sources of data and the specification of the models may themselves be responsible for the difference in the results.

4.3 MAJOR FINDINGS

The major findings of macro analysis of Saving, Investment and Capital Formation In Nepal is stated as follows:

1. The study of role of savings on economic development revealed that there is positive relationship between saving and GDP. The relationship of saving with GDP is examined using unlagged as well as Almon Lag Specifications at current prices and in real terms too. This result shows that savings significantly influenced by GDP. This result supports to Wagle (2000) and Sapkota (2007) studies as well as theoretical proposition of economics.
2. The study of relationship between investment and economic development revealed that there is positive relationship of investment with GDP. The relationship between investment and GDP is examined using unlagged as well as Almon Lag Specification at current prices and in real terms too. The results show that GDP is significantly determined by investment. The important point to be noted here is that the finding of this aspect of the study is similar to the findings of the study made by F.Modigliani, P.M. Sommers and D.B. Suits, Robinson, A.P. Thirlwall, S.R. Poudyal, Sharad Wagle and Prakash Sapkota. These findings are also consistent with the theory of economics.
3. The study of the role of capital formation on economic development indicated there is positive relation between capital formation and GDP. The relationship of capital formation with GDP is also examined at current prices as well as in real terms with and without Almon Lag Specifications. The results show that capital formation has significant effect on GDP. The finding of this aspect of the study is

similar to the findings of the study made by J.Pesmazoglu and Sharad Wagle as well as theoretical propositions.

4. The current values and past values of savings, investment and capital formation have positive impact on economic development but the current values have the largest impact. On the other side, the strong role-played by saving and capital formation while weak role-played by investment.
5. The study of the relationship between saving and national income represented that there is positive relationship of saving with national income. The results show that saving is significantly determined by national income. The results show that saving is significantly The finding of this study supports to the Keynesian absolute income hypothesis as well as the study made by H.S Houthakker, H.B.Chenery and P.Eckstein, L.Landau, S.K.Singh, S.R. Poudyal and Prakash Sapkota.
6. The study of the relationship of saving with foreign aid and exports found that there are positive relationship between saving and foreign aid, and exports. The results represent that saving is significantly influenced by foreign aid and exports. The result is similar to the findings of study made by S.R.Poudyal, Sharad Wagle and Prakash Sapkota.
7. There is positive relationship observed between saving and tax revenue. The results show that saving is significantly determined by tax revenue. This result supports to the findings of the study made by K.Krishnamutry and P.Saibaba, S.K.Singh, E.M. Engen and W.G.Gale, Sharad Wagle and Prakash Sapkota.
8. There is negative relationship exists between saving and interest rate on deposits. The results show that saving in negatively influenced by interest rate. The important point to be noted here is that the finding of this aspect of the study is similar to the findings of the study made by J.G. Williamson, and P.O. Gourinchas and J.A.Parker and contradicts with the study by K.R.Gupta and Brown.
9. The relationship among saving, investment, and capital formation is observed positive in all cases. These results indicated that saving is positively determined by investment and capital formation. This results support to the finding of the

study made by Sharad Wagle and Prakash Sapkota as well as the theoretical proposition.

10. Saving is positively related to national income, GDP, foreign aid, exports tax revenue, investment and capital formation; and negatively related to interest rate on deposits of commercial banks.
11. The study of the relationship between investment and foreign aid revealed that the positive relationship between them. These results represented that investment is significantly determined by foreign aid. The finding of this study is more or loss similar to the findings of the study made S.R.Poudyal, Sharad Wagle and Prakash Sapkota.
12. The relationship between investment and imports is observed positive is all cases. The results indicate that investment is significantly determined by imports. The important point to be noted here is that the findings of this aspect of the study is similiar to the findings of the study made by S.R. Poudyal and Prakash Sapkota.
13. The study of relation between investment and interest rate on lending represented that there is negative relationship between them. This result showed that the investment is negatively determined by interest rate on lending. The result of present study is in contradiction with the theoretical proposition of economics. The reason is that the aggregate investment has growing trends while interest rate on lending has declining trends over the years.
14. There is a positive relationship of investment with GDP, saving, capital formation, foreign aid and imports; and negative relationship with interest rate on lending of commercial banks.
15. The study of the relationship of capital formation with interest rate on lending indicated that there is negative relationship between them. This result represented that the interest rate on lending has negative impact on capital formation. This finding contradicts with the theory of economics due to the flow of interest rate on lending on lending and capital formation in opposite directions over the years.
16. Capital formation is positively related to investment, saving and GDP; and negatively related to interest rate on lending of commercial banks.

CHAPTER – FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Introduction

This is the final chapter that involves summary, conclusions and recommendations of the research work. The facts and findings from primary and secondary data analysis are presented in this chapter. Besides summarizing and concluding research work, recommendations are made to concerned persons and organizations.

5.1 SUMMARY

An efficient capital market is a pre-requisite of economic development and the development of capital market in a country is dependent upon the availability of saving, proper organization of intermediary institutions to bring the investor and business ability together for mutual interest. An ideal capital market is one where long-term finance is used as a handmaid to serve the needs of productive industry. It is a medium through which scattered saving and invisible resources are converted into actual investment. The development of a sound capital market with its constituent financial constitution is one of the mechanisms, which enables the efficient transformation of saving (Mahat: 1981, 7). Such a financial development also tends to raise, in general, the rates of saving and investment by providing positive incentives to both savers and investors(Patrick: 1966). Capital market makes available the long term finance at a reasonable rate of return for any proposition, which offer a prospective yield sufficient to make borrowing worthwhile, given the ruling rate of interest.

This study mainly aims at examining the behavior of saving, investment and capital formation at macro perspective in the context of Nepal. Its specific objectives are: (1) to examine the role of saving, investment and capital formation on economic development;

(2) to analyze determinants of the major macro-economic variables such as, saving, investment and capital formation.

This study is based on secondary data only, for the purpose of the study, the necessary data on saving, investment, capital market and other related variable were collected for the 1982/83 to 2007/08 period at macro level. The necessary data and information at macro level have collected from Statistics Department of Nepal Rastra Bank, Balwatar, Kathmandu.

Summary of Findings:

- There is positive relationship between savings and GDP and savings are significantly influenced by GDP.
- There is positive relationship between investment and GDP and GDP is significantly determined by investment.
- There is positive relation between capital formation and GDP and capital formation has significant effect on GDP.
- The current values and past values of savings, investment and capital formation have positive impact on economic development. The strong role is played by saving and capital formation while weak role played by investment.
- There is positive relationship of savings with national income and savings is significantly determined by national income.
- There are positive relationship between savings and foreign aid, and exports. Saving is significantly influenced by foreign aid and exports.
- There is positive relationship observed between saving and tax revenue.
- There is negative relationship exists between saving and interest rate on deposits and shows that saving in negatively influenced by interest rate.
- Savings is positively determined by investment and capital formation.
- Saving is positively related to national income, GDP, foreign aid, exports tax revenue, investment and capital formation and negatively related to interest rate on deposits of commercial banks.

- The relationship between investment and foreign aid revealed that the positive relationship occurs between them showing that investment is significantly determined by foreign aid.
- Investment is significantly determined by imports with positive relationship between them.
- The relationship between investment and interest rate on lending represented that there is negative relationship between them The result of present study is in contradiction with the theoretical proposition of economics.
- There is a positive relationship of investment with GDP, saving, capital formation, foreign aid and imports; and negative relationship with interest rate on lending of commercial banks.
- The study of the relationship of capital formation with interest rate on lending indicated that there is negative relationship between them. This result represented that the interest rate on lending has negative impact on capital formation.
- Capital formation is positively related to investment, saving and GDP; and negatively related to interest rate on lending of commercial banks.

5.2 CONCLUSION

The analysis of data which are taken from different sources relating to saving investment and capital formation of macro level of 25 years, the following conclusion can be stated as below:

- Saving investment and capital formation play a vital role in GDP and the level of GDP highly depends upon investment in current price and saving in real terms.
- The level of saving is significantly determined by national income compare to other variables and it has the positive relation with foreign Aid and exports.
- Saving has positive relationship with tax revenue where as there is negative relationship between interest rate and deposits.

- The investment has positive relationship with foreign Aid and export. Nepalese investment is significantly determined by imports but investment and level of interest rate has negative relationship.
- Capital formation has positive relationship between investment and GDP. There is positive relationship of investment with GDP, saving, capital formation, foreign Aid and imports and negative relationship with interest rate on lending of commercial banks.
- The relationship of capital formation with interest rate on lending indicated that there is negative relationship between them. This result represented that the interest rate on lending has negative impact on capital formation.
- Capital formation is positively related to investment, saving and GDP and negatively related to interest rate on lending on commercial bank.

Moreover, in Nepal, GDP seems to be in increasing trend but it is very low, import is in increasing trend but export is in decreasing trend. The level of inflation is in increasing trend but interest is in decreasing trend. Investment is in decreasing trend and mainly focused on import business, capital formation has relatively low increasing trend. By observing these conclusions economic development of Nepal is being worst comparing to other countries and its own past history.

The expressions used in macro analysis have estimated at current prices as well as in real terms. Using the national urban consumer price index has deflated the formation on economic development; and the analysis of determinants of saving; investment and capital formation were accomplished by using various regression models.

5.3 RECOMMENDATIONS

Based on the research work, the researcher has reached the following recommendations.
Based on the above findings and conclusion, certain recommendations can be made here so that the concern authorities. Future researchers, academicians, banker, Government officers, Policy Maker, Economists can get some insight information on the present

conditions on above topic. It is considered that this research will be fruitful for them to improve the present condition as well as for further research. The major recommendations of this study are as under:

- To increase the level of GDP there should be high investment on long term investment because the study shows that larger the investment higher be the level of GDP.
- Level of national saving of a country is depends upon the level of GDP, foreign Aid, exports tax revenue investment and capital formation so government should make and focus on such policies to raise the level of saving.
- In order to generate more capital for the development of the economy, more capital formation and investment to be made for the government to focus on the development of infrastructure by investing huge amount as capital formation.
- In order to raise per capita income there should be the higher savings because there is positive relationship between savings and GDP.
- To raise savings, national income should be higher in the economy because there strong positive relationship between national income and level of saving.
- To raise the level of savings there should be high foreign Aid and export so for the development of economy, government and policy maker should make the policy to raise, the export and foreign Aid.
- The development of economy fluctuate due the fluctuation in tax revenue as the government changed so every government should make the policy to collect high tax revenue as far as possible and such policies should be able to avoided the leakage of tax revenue.
- For the economic development there should high investment as capital formation so level of interest should be lowered so that every investment is attracted for the investment.
- In Nepal, level of investment is largely depends up on the level of foreign Aid such case increase the dependency so as far as possible government should take such things in consideration and should be able to increase independency for the nationality and existence.

- While the rate of interest is decreased, the level of investment is secured to increase. So to increase micro and macro level investment interest rate should be lowered.
- Level of investment of Nepal is significantly influenced by imports. All the investment which are made in large company focus on import business. Although this increase investment in short runs may be harmful in long run. So rather than increasing import all policy makers should focus to increase the entrepreneurship in nation.

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APPENDIX –I

Sc = Basic datas relating to saving

Ic = Investment

CFc = Capital formation

GDPs = Gross Domestic Product

Yc = Nationa lncome

Mc= Import

TRc= Tax Renew

Fc= Foreian Aid

Xc= Exports

For the period of 1982/83 to 2007/08 in Current Prices

Year	Sc	Ic	CFc	GDPc	Yc	TRc	Fc	Xc	Mc
1982-83	2887.0	6628.0	6575.0	33761	34458	2421.1	2075.8	1132.0	6314.0
1983-84	3886.0	7351.0	6907.0	39390	40015	2737.0	2547.0	1703.0	6511.6
1984-85	6239.0	10184.0	9386.0	46587	47248	3151.2	2676.5	2740.6	7742.1
1995-86	5887.0	10599.0	9431.0	55734	56443	3659.3	3401.6	3078.0	9341.2
1986-87	7321.0	12898.0	11825.0	63864	65067	4372.4	3314.4	3191.5	10905.3
1987-88	7604.0	15237.0	13414.0	76906	78481	5752.8	5078.5	4114.6	13869.6
1988-89	10150.0	19415.0	16392.0	89270	90811	6287.2	5666.9	4295.3	16253.7
1989-90	8143.0	19076.0	17002.0	103416	105350	7283.9	6427.1	5106.2	18324.9
1990-91	11514.0	25074.0	22780.0	120370	122517	8176.3	6446.1	7387.5	23226.3
1991-92	16207.0	31619.0	24277.0	149487	152202	9875.6	7800.4	13705.8	31940.0
1992-93	23172.0	39653.0	37278.0	171492	144705	11662.5	9235.6	17266.5	39205.6
1993-94	29220.0	44644.0	42032.0	199272	203135	15371.5	11557.1	19293.4	51570.8
1994-95	32465.0	55231.0	48370.0	219175	223992	19660.0	11249.4	17639.2	63679.5
1995-96	34426.0	68017.0	56081.0	248913	252479	21668.0	14289.0	19881.1	74454.5
1996-97	39162.0	71084.0	60794.0	280513	285173	24424.3	15031.9	22636.5	93553.4
1997-98	41438.0	74728.0	65375.0	300845	306870	25939.8	16457.1	27513.5	89002.0
1998-99	46563.0	70061.0	65269.0	342036	352917	28752.9	16189.0	35676.3	87525.3
1999-00	57577.0	92272.0	73324.0	374488	392613	33152.1	17523.9	49822.7	108504.9
2000-01	62018.0	99301.0	78031.0	411275	427447	38865.1	18797.4	55654.1	115687.2
2001-02	51281.0	102174.0	71613.0	422807	441182	39332.8	14384.8	46944.8	107389.0
2002-03	54778.0	118020.0	87024.0	546675	472869	42587.0	15885.5	49930.6	124352.1
2003-04	62386.0	130993.0	95124.0	496745	509700	48175.7	18912.4	53910.7	136277.1
2004-05	66336.0	154132.0	101094.0	533538	543902	54104.9	23657.3	58705.7	149473.6
2005-06	64711.0	176483.0	107624.0	582948	595675	31474.5	29413.2	62824.0	17102.7
2006-07	66223.0	193562.0	109841.0	598296	613486	32395.6	30124.8	63645.0	18343.9
2007-08	68345.0	200432.0	114978.0	601778	624378	34012.3	30913.6	63942.9	19824.7

Source: Nepal Rastra Bank "Economic Bulletin"

APPENDIX -II

Basic data Relating to Saving, Investment, Capital formation, Gross Domestic product,
National income, Tax revenue, Foreign Aid, Exports and Imorts
For the period of 1982/83 to 2007/08 in Real term

SR = Saving
IR= Investment
CFR = Capital formalias
GDBR = Gross domestic product
YR = National Income
TRR = Tax Revenue
FR = Foreign Aid
XR = Export
MR = Imports

Year	SR	IR	CFR	GDPR	YR	TRR	FR	XR	MR	Remarks
1982-83	10130	23256	23074	118460	120905	8495	7284	3972	22194	
1983-84	12825	24261	22795	130000	132062	9033	8408	5623	21490	
1984-85	19806	32330	29797	147895	149994	10004	8497	8700	24578	
1985-86	16129	29038	25838	152696	154638	10025	9566	8433	25592	
1986-87	17684	31155	28263	154261	157167	10561	8006	7709	26341	
1987-88	16566	33196	29224	167551	170983	12533	11064	8964	30217	
1988-89	20423	39064	32982	179618	182718	12650	11402	8642	32704	
1989-90	14941	35002	31196	189754	193303	13365	11793	9369	33624	
1990-91	19254	41930	38094	201288	204878	13673	10779	12354	38840	
1991-92	22385	43673	40438	206474	210224	13640	10774	18931	44116	
1992-93	29406	50321	47307	217607	221707	14800	11720	21912	49753	
1993-94	34016	51972	48931	232981	236478	17895	13454	22460	60036	
1994-95	35097	59709	52292	236946	242154	21254	12162	19069	68843	
1995-96	34426	68017	56081	248913	252479	21668	14289	19881	74455	
1996-97	36228	65758	56239	259494	263805	22594	13906	20940	56543	
1997-98	35387	63816	55828	256913	262058	22152	14054	23496	76005	
1998-99	35708	53728	50053	262293	270642	22050	12415	27359	27121	
1999-00	41177	65580	54384	280440	290177	24594	13000	36960	80493	
2000-01	42098	68007	56547	295596	307350	16535	18550	41452	82104	
2001-02	36088	71903	57434	297542	310473	27680	10123	33036	75573	
2002-03	36788	79261	58444	306698	317574	28601	10669	33533	83514	
2003-04	40301	84621	61450	320897	329266	31122	12217	34826	88035	
2004-05	40999	95261	62481	329780	336186	33442	14623	36162	92390	
2005-06	37403	102007	62207	336944	344300	18192.26	17002	36312	9886	
2006-07	35623	104122	59086	321837	330009	17426	16205	34236	9868	
2007-08	34605	101485	58217	304698	316141	17221	15653	32376	10038	

Source: Appendix 1 and 4

APPENDIX -III

Structure of Weighted Interest Rates on Deposits (WRD) and Leading of Commercial Banks (% per Annuam)

WS = Weightage of Saving deposit
WF = Weightage of Fixed deposits
WA = Weightage of Loan on Agricultural Sector
WI = Weightage of Loan on Industrial Sector
WC = Weightage of Loan on Commercial Sector
Wse = Weighage of Loan on Service Sector (exportbil and overdraft)

RS = Average Interest rate on Saving deposit
RF = Average Interest rate on fixed deposit
RA= Average Interest rate on Agricultural sector
RI = Average Interest rate on Industrial sector
RC = Average Interest rate on Commercial sector
Rse = Average Interest rate on Service sector

Year	WS	RS	WF	RF	WS.RS + WF.RF	WA	RA	WI	RI	WE	RC	Wse	Rse	WRL
1982-83	0.24	8.50	0.76	10.0	9.64	0.03	12.0	0.26	14.40	0.69	15.0	0.02	15.0	14.75
1983-84	0.25	9.25	0.75	10.50	10.19	0.05	12.0	0.21	14.40	0.72	15.0	0.02	15.0	14.72
1984-85	0.27	9.25	0.73	10.50	10.16	0.04	12.0	0.27	14.40	0.63	15.0	0.06	15.0	14.72
1985-86	0.29	8.50	0.71	10.50	9.92	0.04	15.0	0.39	15.00	0.52	15.0	0.05	15.0	15.00
1986-87	0.29	8.50	0.71	10.50	9.92	0.04	15.0	0.40	15.00	0.48	15.0	0.08	15.0	15.00
1987-88	0.29	9.25	0.71	10.89	10.41	0.09	17.0	0.43	15.50	0.42	19.0	0.06	17.25	17.25
1988-89	0.30	9.00	0.70	10.91	10.34	0.15	15.5	0.41	16.50	0.37	19.0	0.07	17.25	17.23
1989-90	0.31	9.00	0.69	10.60	10.10	0.17	15.5	0.42	17.00	0.37	19.5	0.04	17.5	17.69
1990-91	0.32	8.75	0.68	10.66	10.05	0.17	15.5	0.42	17.00	0.38	19.5	0.03	17.5	17.71
1991-92	0.33	9.50	0.67	10.06	9.88	0.16	18.0	0.36	18.50	0.45	19.0	0.03	18.5	18.64
1992-93	0.38	9.50	0.62	11.19	10.55	0.18	17.5	0.37	18.50	0.41	18.0	0.04	17.75	18.08
1993-94	0.43	7.25	0.57	7.08	7.15	0.13	14.0	0.44	15.00	0.38	15.75	0.05	14.37	15.12
1994-95	0.48	7.50	0.52	7.29	7.39	0.17	14.25	0.44	16.00	0.37	15.5	0.05	14.75	15.51
1995-96	0.46	7.75	0.54	8.58	8.20	0.07	15.25	0.51	16.25	0.36	16.75	0.06	16.00	16.34
1996-97	0.45	7.50	0.55	8.67	8.14	0.10	15.25	0.48	16.50	0.37	16.25	0.05	16.37	16.28
1997-98	0.44	7.50	0.56	7.83	7.68	0.09	15.00	0.49	15.35	0.37	15.75	0.05	15.75	15.49
1998-99	0.47	6.87	0.53	7.47	7.19	0.10	14.75	0.49	14.00	0.36	14.0	0.05	12.87	14.02
1999-00	0.50	5.25	0.50	6.22	5.74	0.10	13.25	0.49	13.00	0.35	12.75	0.06	12.63	12.92
2000-01	0.52	5.00	0.48	5.47	5.23	0.09	13.50	0.49	11.00	0.35	11.50	0.07	11.87	11.46
2001-02	0.53	4.38	0.07	4.75	2.65	0.09	13.0	0.46	10.25	0.34	11.50	0.07	11.62	10.31
2002-03	0.56	3.42	0.44	4.53	3.91	0.08	12.50	0.47	11.25	0.37	11.75	0.06	10.87	9.75
2003-04	0.58	3.71	0.42	4.31	3.96	0.08	12.0	0.45	11.13	0.36	11.92	0.05	10.54	98.32
2004-05	0.60	3.38	0.40	3.54	3.44	0.07	12.00	0.43	12.38	0.34	11.0	0.04	8.87	8.34
2005-06	0.60	3.35	0.40	3.49	3.41	0.08	11.25	0.46	10.75	0.32	11.0	0.03	9.37	8.02
2006-07	0.72	3.98	0.48	3.32	4.46	0.08	11.12	0.45	10.75	0.34	11.25	0.03	9.34	8.06
2007-08	0.81	4.13	0.51	3.58	5.17	0.09	10.00	0.44	11.12	0.35	12.0	0.04	9.39	8.06

Source: Nepal Rastra Bank (Quarterly Economic Bulletin)

APPENDIX-IV
National Urban Consumer Price Index
(Base Year 1995/96-100)

Year	Index
1982/83	28.5
1983/84	30.3
1984/85	31.5
1985/86	36.5
1986/87	41.4
1987/88	45.9
1988/89	49.7
1989/90	54.5
1990/91	59.8
1991/92	72.4
1992/93	78.8
1993/94	85.9
1994/95	92.5
1995/96	100
1996/97	108.1
1997/98	117.1
1998/99	130.4
1999/00	134.8
2000/01	138.1
2001/02	142.0
2002/03	148.9
2003/04	154.8
2004/05	161.8
2005/06	173
2006/07	185.9
2007/08	197.5

Source: *Nepal Rastra Bank (Quarterly Economic Bulletin)*