CHAPTER 1
INTRODUCTION

1.1 General Background

Bank is defined as a place where the transactions of money take place. In other words, bank is an institution or individual who is always ready to receive money on deposits to be return against the cheque of their deposits, Which deals in money, receiving it on deposits from customers, honoring customer's drawings against such deposits on demand, collection cheques for customers and lending or investing surplus deposits until they are required for repayment. Generally, an institution established by law, which deals with money and credit is called bank. A bank simply carries out the work of exchanging money, providing loan, accepting deposit and transferring the money. This world cannot run without banks. Bank plays a significant and vital role in the economic development of the country. Bank is a mobilizing institution, which accepts deposit from various sources, and invests such accumulation resources in the field of agriculture, trade, commerce; industry and tourism etc The bank word is derived from Italian word Banca, Italian joint fund Monte and French word Banque which means to provide cash loan or exchange. Bank fills the gap between the searcher and provider of the fund. It also provides sufficient back support for the growth and expansion of trade of the country, which eventually helps to develop the economic condition of the country.

Commercial Banks are considered second types of banks. These banks are established to improve people's economic welfare and facility, to provide loan to the agriculture, industry and commerce and to offer banking services to the people and the country. These banks have been playing a great role for the economic development of the country directly or indirectly. The services made by these banks are very important. For instance, the functions of banks are: to provide loan, to accept deposits, to perform task related to the agencies and the tasks concerned to the general utility. Commercial banks are the heart of the financial system. They hold the deposits of individuals, government establishment and business units. They make funds available through their lending and investing activities to borrower: individuals, business firms and government establishments. These banks are the suppliers of finance for trade and industry and play a vital role in the economic and financial life of the country. By investing the saving in the productive areas, they help in the formation of capital.

Every Business firm needs capital to operate the business. Capital is the blood of the business. A business firm or enterprises cannot run their business without capital. Enterprises whether they are government owned or privately owned have to make pertinent capital structure decision in identifying exactly how much capital is needed to run their operation smoothly. There are many methods for the firm to raise its required funds. But the most basic and important instruments are stocks and bonds. The firm's mix of different securities is known as its capital structure.

Capital structure is considered as the mix of debt and equity and to operate in long run prospect. A firm must concentrate in its proportion. A firm can raise required fund by issuing various types of financial instruments. Investors and creditors being the key supply of capital, they hold greater degree of risk and hence have claims over firm's assets and cash flow. Similarly debt holders are also a sources of financing fund and they have risk considering firm's cash flow is uncertain and there is probability that it may default in it's obligations to pay off it's interest and principle. In the other hand, if a firm issue preference share, those shareholders have the priority in payment of dividend before common shareholders but after debt holders. Since the percentage of preference dividend is fixed as the percentage of interest to debt, it is preferably paid off only after interest payment. Common shareholders as are the owner of the firm; they are paid from cash remaining after all payment is being made. Since the common share i.e. equity fluctuate in the market more than the preference share and debt, there is more risk.

The term capital structure refers to the proportion of debt and equity capital. The capital structure concept has an important place in the theory of financial Management. The financing decision of a firm relates to choice of proportion of debt and equity to finance the investment requirement. A proper balance between debt and equity is necessary to ensure a trade-off between risk and return to the shareholders. A capital structure with reasonable proportion of debt and equity capital is called optimal capital structure. However, it can be expected that is the capital structure decision affect the total value of the firm should select such a financing mix. Which maximize the shareholder wealth? Optimum capital structure may define as the capital structure or combination of debt and equity that leads to the maximum value of the firm.

The cost of capital concept occupies a pivotal place in the theory of financial management as a criterion of allocating capital. The cost of capital refers to the

discount rate that would be used UN determining the present value of the estimated future cash proceeds and eventually deciding whether the project's worth undertaking or not (Bagges, 1963). The concept of cost of capital is significant not only as investment criteria but can also be used to evaluate the financial performance of the top management (Bhattacharya, 1970). In addition, the cost of capital concept helps management in moving towards its target capital structure or and optimal capital structure provided, there exists relationship between the two. The capital and cost of capital both are important in maximizing the wealth of the shareholder. The cost of capital concept helps management in moving towards its target capital structure or and optimal capital structure provided, there exists relationship between the two. The capital and cost of capital both are important in maximizing the wealth of the shareholder.

The firm's objective to maximize the wealth of the shareholder or return and equity is not meet by the Nepalese companies because in most of the companies there is no existence of debt in their capital structure and equity capita; so only one source of financing while in some cases the proportion of debt is very high which crests the excess burden to the firm use of debt financing in the capital structure is very poor in banking sector. 'Most of companies have debt capital relatively very higher than equity capital; consequently most of them are operating at losses to the extent that payment of the interest on loan has been serious issues. Most of the losses are after changing interest on loan (Shrestha, 1993).

From the above discussion, it is cleared that capital structure concept is not taken seriously by Nepalese companies. Therefore optimal capital structure does not exist at all. Cost of capital concept is not clear in Nepalese companies because it is impossible to minimize the average cost of capital with out proper combination of capital structure component in financing of the firm. Determining the cost of capital is major problem in Nepalese companies. "It is in fact, an important measuring variable in the financing process of various companies for expanding the volume of companies. Management is not able to analysis cost of capital properly in their firm for investment decision making.

1.2 Overview of Sample Banks

Standard Chartered Bank Nepal Limited

Standard Chartered was formed in 1969 through a merger of two banks The Standard Bank of British South Africa, founded in 1863, and the Chartered Bank of India, Australia and China, founded in 1853. Both companies were keen to capitalize on the huge expansion of trade and to earn the handsome profits to be made from financing the movement of goods between Europe, Asia and Africa. From the early 1990s, Standard Chartered has focused on developing its strong franchises in Asia, Africa and the Middle East. It has concentrated on consumer, corporate and institutional banking and on the provision of treasury services - areas in which the Group had particular strength and expertise.

Since 2000 the Bank has achieved several milestones with a number of strategic alliances and acquisitions, which have extended the customer and geographic reach and broadened the product range that Standard Chartered offers. Bank set up 7 new ATMs. Bank is in the process of adding eight more ATMs in Kathmandu Valley within the next three months. After setting up of all these ATMs the total number ATMs go up to 25. At the end of FY 2065/66 your bank have 32 branches as against 15, of which 10 branches in Kathmandu valley and the rest outside. The centers to be covered around Nepal will go up from 11 as at close of 2064/65 to 21.The Bank is planning shift its entire information technology related offices to a new location at Thamel. This would be named as NSBL IT Centre. The Bank is committed to the communities and environment. The Bank's focus in this area is in the field of health, education, youth and environment.

Nabil Bank Limited

Nabil Bank Limited (Nabil) commenced its operation on 12 July 1984 as the first joint venture bank in Nepal. Dubai Bank Limited, Dubai (Later acquired by Emirates Bank International Limited, Dubai) was the first joint venture partner of Nepal. Currently, NB (International) Limited. Ireland is the foreign partner. Nabil Bank Limited had the official are Nepal Arab Bank Limited till 31st December 2001.Nabil is the pioneer in introducing many innovative products and marketing concept in banking sector of Nepal with 15 branches and 2 counters in all major cities. It is the only Bank having

its presence at Tribhuvan International Airport, only international airport of the country.

Also, the number of outlets in the country is the highest among the joint venture and private banks operating in Nepal. Success of Nabil is a milestone in the banking history of Nepal as it paves the way for the establishment of many commercial banks and financial institutions. Nabil provides a full range of commercial banking services through its outlets spread across the nation and reputed correspondent banks across the globe. Moreover, Nabil has a god name in the market for its highly personalized services to the customers.

Nepal Investment Bank Limited (NIBL)

Nepal Investment Bank ltd. (NIBL), previously Nepal Indosuez Bank ltd., was established in 1986 as a joint venture between Nepalese and French partners. The French partner (holding 50% of the capital) was Credit Agricole Indosuez, a subsidiary of one the largest banking groups in the world. With the decision of Credit Agricole Indosuez to divest, a group of companies comprising of bankers, professionals, industrialists and businessmen, in April 2002, acquired 50% of the holdings of Credit Agricole Indosuez in Nepal Indosuez Bank. The name of the bank was changed to Nepal Investment Bank ltd. upon approval of the Bank's Annual General Meeting, Nepal Rastra Bank and Company Registrar's office.

The shareholding structure comprises of:

- A group of companies holding 50% of the Capital
- Rastriya Banijya Bank holding 15% of the Capital.
- Rastriya Beema Sansthan holding 15% of the Capital.
- The general public holding 20% of the Capital.

Himalayan Bank Limited (HBL)

Himalayan Bank was established in 1993 in joint venture with Habib Bank Limited of Pakistan. Despite the cut-throat competition in the Nepalese Banking sector, Himalayan Bank has been able to maintain a lead in the primary banking activities-Loans and Deposits. It is the first commercial bank of Nepal with maximum share holding by the Nepalese private sector. Besides commercial activities, the Bank also offers industrial and merchant banking.

Himalayan Bank's policy is to extend quality and personalized service to its customers as promptly as possible. All customers are treated with utmost courtesy as valued clients. The Bank, as far as possible, offers tailor made facilities to its clients, based on the unique needs and requirements. To extend more efficient services to its customers, Himalayan Bank has been adopting innovative and latest banking technology. This has not only helped the Bank to constantly improve its service level but has also kept it prepared for future adaptation of new technology. Himalayan Bank is committed to be a "BANKING WITH A DIFFERENCE".

1.3 Statement of the Problem

Bank plays a significant role in the economic development of the country by extending credit to the people. Although banking industry in Nepal is making remarkable progress and growth, it's not without the problems. At the present context, the main problem faced by the business sector as well as bank is the unstable political and economic condition of the country. At the same time, there are very few profitable sectors where a bank can invest. This has forced the banks to lower down their interest rates to discourage deposit and, the same period, to encourage loan and advances. This has decelerated the pace of economic development.

Another problem facing by the banking industry is the lack of sound investment policy of the commercial banks. The success and prosperity of a bank relies heavily upon the successful utilization of the collected resources that is deposit. Successful formulation and effective implementation of investment policy is the prime requisite for the successful performance of a commercial bank.

Actually, commercial banks are not properly utilizing their resources that is making loan and advances and lending for a profitable project. This is due to the lack of knowledge on financial risk, interest rate risk, business risk, liquidity risk etc. Granting loan against insufficient deposit, overvaluation of goods pledged, high percentage of non-performing loan, risk averting decision regarding loan recovery and negligence in recovery of overdue loan are some of the basic lapses and the result of unsound investment policy sighted in the banks. That condition will lead the commercial banks to the position of liquidation. Government owned banks are the perfect examples for this. This has created the perfect environment for mushrooming of private commercial banks. Still, only a handful of commercial banks have satisfactory

investments that are good performing loans. Following are the major problems that show in the study.

1. Weather the capital structure effects the growth of selected banks?

2. Weather there is effective relationship between cost of capital and capital structure in the selected banks?

3. Whether the cost of capital declines with the increase in leverage in the capital structure?

4. Whether capital structure affects the cost of capital of the Nepalese Joint Venture banks?

5. What are the factors that affect the cost of capital?

1.4 Objectives of the Study

The major objective of this study is to analyze the effect of the capital structure on cost of capital in the context of Nepal.However the following specific objectives are set in this study.

1. To analysis the effect of capital structure on the growth rate of selected banks.

2. To examine relationship between capital structure and cost of capital of selected banks.

3. To test the effect of leverage on the bank's cost of capital.

4. To analyze the factor that affects the bank's cost of capital

1.5 Limitation of the Study

The study is subject to the following limitation:

1. The study is mainly based on secondary data.

2. The study is based on the data of 5 years only.

3. Out of the numerous affecting factors only those factors related with investment activities are considered.

4. Out of 32 commercial banks, only 4 banks are taken into account to do the comparative study.

5. This study is concerned with capital structure and cost of capital of selected listed banks.

1.6 Organization of the Study

The study has been organized into five chapters. They are as follows:

Chapter One: deals with major issues to be investigated along with background of the study, overview of the banks, statement of the problem, and objectives and limitation of the study.

Chapter Two: includes a discussion on the conceptual framework and review of the major empirical works as well as review of Nepalese studies. The conceptual considerations and review of related literature conducted in this chapter provides a framework with the help of which the study has been accomplished.

Chapter Three: describes the research methodology employed in the study. This chapter deals with research design, nature and sources of data, and data analysis tools.

Chapter Four: consists of presentation and analysis of data, which deal with the empirical analysis of the study.

Chapter Five: indicates the summary, conclusions and recommendations of the selected listed bank.

CHAPTER 2
REVIEW OF LITERATURE

2.1 The Conceptual Framework

To discuss briefly about the theoretical concept regarding the cost of capital, financial leverage and the theories of capital structure.

2.1.1 Concept of Cost of Capital

Cost of capital is the minimum amount, which must be paid annually or at any periodical internal (other than principal) to the investor or creditor. It is minimum required rate of return of an investment which must be earned by a project remain unchanged its value or wealth.

The “term cost of capital” is used in different senses. In the past it was frequently used to refer to the cost of specific sources of capital, such as the cost of debt, the cost of equity etc. when used in this sense, the term carried the implication that, in order to accept to reject the proposed projects, their profitability should be evaluated on different cost bases depending on the specific sources of funds used to finance particular project. It has been however recognized recently that this position contained a basic fallacy. A firm’s decision to use debt capital to finance its projects not only adversely affects its potential for using debt in the future by proportionately lowering its equity base, but also creates financial risk to the shareholder. Such risk in turn will influence the cost of equity, which moves upward. Similarly, a firm’s decision to use equity capital for financing its projects would enlarge its potential for borrowing in the future. Because if this connection between the method of financing and their costs. It has been now agreed that the term cost of capital should be used in the composite sense i.e. weighted average cost of capital (Barges, 1963).

It is this average cost which is used as an acceptance criterion to be applied to investment projects. An investment project, for acceptance, must earn minimum rate of return equal to the marginal weighted average cost of capital. In this sense, the cost of capital represents a standard for allocating the firm’s funds in the most optimum manner. In theory it is the rate of return of a project that will leave the market value of the shares unchanged.

The cost of capital is an important element as basic information in capital investment decision. The cost of capital can be looked in slightly different prospective (Joy, 1977). In the operational term, it refers to the discount rate or minimum rate of return that a firm must earn on its investment for the market value of the firm to remain unchanged. In economic term, there are two approaches to define the cost of capital. Firstly it is the cost of acquiring the funds required to finance to the proposed project that is the cost of capital is the borrowing rate. Secondly, in terms of lending rate, it may refer to the opportunity cost of fund for the firm, that is what firm could have earned by investment funds elsewhere. A project will be accepted if it has positive net present value, in the present value method, when the future cash inflows are discounted at the cost of capital. In internal rate of return method, the project will be accepted if it has a rate of return greater than the cost of capital. In spite of these, the cost of capital is the standard against which the prospective investment project is compared. Hamptom John J. (Hampton, 1977) define the cost of capital as the rate of return the firms required from am investment in order to increase the value of the firm in the market place. Van Horne (Van Horne,1990) preferred to say about the cost of capital in the following words," the cost of capital in terms of discount rate to serve as vehicle to judge the alternatives of an investment opportunity." Cost of capital, also known as capitalization rate, discount rate, hurdle rate, cutoff rate, minimum rewired rate of return, opportunity cost etc. that equates the net cost proceeds, the firm receives with the present value of the capital supplies.

As discussed, the cost of capital concept id of vital significance in the financial decision making of a firm, but there are number of problem attached to it. The first problem concern the measurement of the cost of specific sources of capital, and it is necessarily. The cost of specific source of finance may by defined (Pandey).

As the discount that equates the present value of the funds received by the firm, net of under-writing and other costs, with the present value of expected outflows. These outflows may be interest payment, repayment of principal or dividends. Thus, the explicit cost of specific sources of financing can be determined by solving the following equation for K

$$I = \frac{C1}{(1+K)1} + \frac{C2}{(1+K)2} + \ldots\ldots\ldots + \frac{Cn}{(1+K)n}$$

$$I = \sum_{t=1}^{n} \frac{Ct}{(1+K)t} \quad \text{----------} \quad 2.1$$

Where,

I = outflows of funds at period 0;

Ct = cash flow at time t;

N = Time duration over which the funds are provided,

K = cost of capital

It is clear from the above equation that the cost of capital is the minimum rate of return, which the firm must through the environment, which equates the cash outflows with the cash inflows, of on investment. The cost of each component of capital is the component cost of capital and overall cost of financing of an organization is known as weighted or composite cost of capital. Capital component includes various types of debt, preference share, and equity capital (including retained earning and other general resources and surplus). Therefore, any net increase in assets must be financed by an increase by an increase in one or more capital components. The symbols of the component cost of capital under this study are as follows:

K_d = before tax component cost of debt

$K_d(1-T)$ = after tax component cost of debt, where T is the marginal tax rate

K_{ps} = component cost of preferred stock

K_r = component cost of retained earnings

K_e = component cost of equity capital

K_o = weighted / overall cost of capital

2.1.1.1 Cost of Debt Capital

The cost of funds raised through debt in the firm of debenture or loan from financial institutions can be called cost of debt. It is easy to calculate because amount of interest is known and fixed by the agreement between lender and the firm component cost of debt rate is calculated by dividing the amount of interest by the total amount of loan provided or it is the ration of interest and principal i.e.

$$K_d = \frac{\text{Total amount of Interest}}{\text{Total amount of principal}}$$

Where,

P = net proceed from sale of debenture (or loan)

The above equation provides the before tax annual interest rate. The cost of debt is tax deductible. Thus, after tax cost of debt is less than before tax. It is equals to the before tax cost of debt times one minus corporate tax rate i;e

After tax cost of debt = k_d (1-T) ---------- 2.3

2.1.1.2 Cost of Perpetual Debt

Perpetual debt refers to the issue of debenture, which will not be redeemed during the life of the company. The cost of perpetual debt can be calculated as shown above.

2.1.1.3 Cost of Redeemable Debt (Maturity Year)

In the case of calculation of cost of redeemable debt, account has to be taken, in addition to interest payments, of the repayment of the principal. It is calculated by using following formula:

$$K_d = \frac{int + (Rv-Po)/n}{(Rv-Po)/2} (1-t) \text{ ---------- } 2.4$$

$$P_o = \frac{Int_1+I_1\ldots}{(1+Kd)^1} + \frac{Int_2 + I_2}{(1+Kd)^2} + \ldots\ldots + \frac{Int_n + I_n}{(1+Kd)^n}$$

Where,

Int = annual interest

Rv = redeemable value

T = tax rate

Po = net proceed from sale of security

I = Installment

2.1.1.4 Cost of Preference Share Capital

The cost of preference share capital may be defined as the dividend expected by preference shareholders. Preference stock has some characteristics of common stock and some of band. Dividend of the preference stock is fixed and in cost calculation, it is treated as debt. The cost of preferred stock is a function of its stated dividends like the rate of interest. The computation of the cost of preference shares is conceptually difficult as compared to the cost of debt. In the case of debt, as shown above the interest rate is the basis of calculating costs because payment of specific amount of interest is a legal commitment on the part of the firm. There is no such obligation in regard to preference dividend. It is true that a fixed dividend rate is stipulated on preference. It is also true that holder of such shares have a preferential rights as regards payment of dividend as well as return of original investment, as compared to the ordinary shareholders. There are two types of preference shares: irredeemable and redeemable.

2.1.1.4.1 Cost of Irredeemable Preference Shares

The cost of irredeemable preference shares, which has no specific maturity date, is given. It is calculated by using the preference share valuation model given below:

$$P_{so} = \frac{D_p}{(1+Kps)^1} + \frac{D_p}{(1+K_{ps})^2} + \text{---} + \frac{D_n}{(1+Kps)^n} \quad \text{---------- 2.5}$$

Where,

P_{so} = market price of preferred stock

D_p = dividend paid to the preferred stock

K_{ps} = cost of preferred stock

The cost of preference capital equals to:

$K_{ps} = K_p/P_s$ ---------- 2.6

Equation slightly modified in the presence of flotation cost

$$K_{ps} = \frac{D_p}{P_{so}(1-f)} \text{ -- ---------- 2.7}$$

2.1.1.4.2 Cost of Redeemable Preference Capital

The explicit cost of preference shares in such a situation is the discount rate that equates the net proceeds of the sale of preference shares with the present value of the future dividends and principal repayment. The appropriate formula to calculate cost is given below

$$P_o(1-f) = \frac{D_1}{(1+Kp)^1} + \frac{D_2}{(1+Kp)^2} + \frac{D_n}{(!+Kp)^n} + \frac{P_n}{(1+Kp)^n}$$

$$P_o(1-f) = \sum_{t=1}^{n} \frac{D_n}{(1+Kp)^t} . + \frac{P_n}{(1+Kp)^n}$$

Where,

P_o = expected sale price of preference shares

F = flotation cost a percentage of Po

D = dividends paid on preference shares

D_n = repayment of preference share capital amount

2.1.1.5 Cost of Equity Capital

The cost of equity is defined as the minimum rate of return that a firm must earn on the equity financed portion of its investment in order to leave unchanged the market price of its stock. Measurement of cost of common stock is more difficult and controversial. Common stock and the retained earning are the parts of equity capital. Common stock means proceeds received from the issue of equity. But a retained earning is the retained portion of earnings of the firm.

2.1.1.5.1 Cost of Retained Earning (Internal Equity)

Cost of retained earning is the opportunity cost of the shareholders because when the firm decided to retain the current earning in the firm, the shareholders give up their cash dividend. Thus, they accept that the firm should earn the same rate of return on retained earning as it earning on common equity. That means, the cost of retained earning (K_r) is equal to the rate of return on common stock (k_e). Thus in the absence of flotation cost, the cost of retained earning and the cost of common stock is same.

2.1.1.5.2 Common stock (external equity)

Cost of new common equity is the rate of return, which is required by the shareholder. Due t flotation cost, the cost of common stock is greater than the cost of retained earnings.

2.1.1.5.3 Approaches to Calculate the Cost of Equity

a) Gorden Model or Dividend Yield Approach

The model can be used to estimate that the rate of return investors required on equity dividend are expected to grow at a constant rate for ever and the rate of return on equity, K_e, is greater than growth rate, G of dividends.

Gorden model is as follows;

$K_e = d_1/P_o + g$ ---------- 2.9

Where,

K_e = cost of internal equity

D_1 = year end expected dividend

P_o = current market price of common stock

G = growth rate of dividend

b) Earning Model Or Earning Yield Approach

According to this model, the cost of equity capital, K_e, is equivalent to the rate, which must be earned incremental issue of ordinary share so as to maintain the present value of investment intact. In other word, cost of equity capital is measured by earning price ratio *(*Ezara, Soloman*,* Theory Of Financial Management, New York: Columbia University Press, 1969), i.e.

$K_e = E_o/P_o$---------- 2.10

Where,

E_o = current earning per share;

P_o = current market price per share

c) Cost Of New Common Equity

$Ke = D_1/P_o(1-f) + g$

$=D_1/P_n + g$ ---------- 2.11

Where,

P_n = Net price paid to the stock

D_1 = year end expected dividend

F = flotation cost

G = growth rate

K_e = cost of equity

d) Capital Assets Pricing Model (CAPM)

Sharpe and Linter developed this model in 1960. The model explained the relationship between the expected return, unavoidable risk and the valuation of securities. The greater the unavoidable risk of security, the greater is the return expected by the investor from the security. Hence, in case the security doesn't provide adequate return commensurate with its unavoidable risk, the security will not find favor with the investor and thus its market value will fall.

With reference to the cost of capital prospective, the CAPM describes the relationship between the required rate of return or the cost o equity capita and the nondiversifiable or relevant risk of the firms as reflected in its index of nondiversificable risk i.e. beta symbolically (Khan And Jain Financial Management , New Delhi: Tata McGraw Hall Publishing Co. Ltd 1992).

$K_e = Rf + (Km + Rf)b$ ---------- 2.12

Where,

K_e = cost of equity capital

Rf = the rate of return required on risk-free assets/security/investment

Km = the required rate of return on market portfolio of assets. That can be

Viewed as the average rate of return on assets.

2.1.1.6 Weighted Average Cost of Capital

The weighted average or composite cost of capital is the weighted average of the cost of various sources of capital. Weight is the proportion of each of the sources used in the capital structure. In financial decision making, the term cost of capital is used in the composite sense because a firm's decision to use debt capital to finance its project will lower its cost but also make more risky. The increased risk to the shareholders will increase the cost of equity. Thus the cost of capital should be used in composite sense (Barges A. Op. Cit,).

The equation form of the weighted average cost of capital is given below:

$K_o = W_dK_d + W_{ps}K_{ps} + W_rK_r + W_eK_e$ ---------- 2.13

Where,

Wr, Wps, Wr & We are the proportion of debt, preferred stock, and retained earning and new equity respectively. The weight can be expressed in book value or market value but the use of market value weight is more appropriate because it represents the current costs.

2.1.2 Financial Leverage

Leverage refers to the use of assets or sources of funds, which involve fixed cost or returns. As a result, the return to the owner s is affected as also their risk. There are two types of leverage: financial and operating.

The financial leverage implies the employment of source of funds, involving fixed return so as to cause more than a proportionate change in earning per share (EPS) due to change in operating profit.

The operating leverage refers to the use of the fixed operating cost to magnify the effect of a given change in the sales revenue on the earnings per share. It affects the total risk of the firm.

The term leverage may be defined as the use of those sources of fund s in the business for which the firm has to pay fixed charges, irrespective to the earnings of the firm. Weston and Brigham (Fred Weston and Brigham, 1981) financial leverage as the ration of total debt to total assets or the total value of the firm. Financial leverage refers to the response of shareholders income to change in EBIT (earning before interest and tax) and is created by debt or preferred stock financing with fixed interest and dividend payment (Lawarandce, and Haley, 1983). There are two types of leverage, (Joy, Op. cit.,) financial and operating. In financial management, leverage associated with investment activities called operating leverage and leverage associated with financing activities is called financial leverage.

The use of fixed charges sources of funs, such as debt and preference capital along with the owner equity in the capital structure are described as financial leverage or “Trading on equity” (Martin, 1963). It is derived from the fact that it is the owners equity measured by ordinary share capital and reserve and surpluses that is used as a basis to raise debt and preference capital, the equity that is traded participation in company’s profit and therefore, debt holder will insist on protection in values represented by owners’ capital (Ibid).

Under the favorable condition, the use of debt and preferred stock for financing provided income advantages over common stock of the firm, if it doesn’t measure the risk. Thus, a company employs it in intending to earn more on the fixed charges funds than their costs. The surplus will increase the return on equity. Due to the interest and principal payment is contractual obligation of the firm; the debt financing I more risky from the viewpoints of shareholders. Therefore, debt offers the greater income advantages as well as risk.

2.2 Theories of Capital Structures

The capital structure concept has an important place in the theory of financial management. The term capital structure, also known as financial structure of financial plan or leverage. The financial decision of a firm is one of the tools for achieving firm's objectives of shareholders wealth maximization. The term capital structure refers to the proportion of debt and equity capital. Thus, the financial decision of a firm relates to choice of proportion of debt and equity to finance the investment requirement a proper balance between risk and return to the shareholders. Capital structure with reasonable proportion of debt and equity capital is called optimal capital structure. However, it can be expected that if the capital structure decision affected the total value of the firm, a firm should select such a financing mix, such maximize the shareholders wealth. The optimal capital structure and its implication are more noticeable.

The importance of an appropriate capital structure is, thus, obvious. There is a viewpoint that strongly supports the existence of close relationship between leverage and value of a firm. There is an equally strong body of opinion, which believes that financing-mix or the combination of opinion, which believes that financing –mix or the combination of debt and equity has no impact on the shareholders wealth and decision on financial structure is irrelevant. In other words, there is nothing such as optimum capital structure (Khan and Jain, 1992). In theory, capital structure can affect the value of the company by affecting either its expected earning or cost of capital or both. While it is true that financing- mix cannot affect the total earning of a firm as they are determined by the investment decision, it can affect the share of earnings belonging to the shareholders. But the leverage can largely influences the value of firm through the cost of capital.

Different views refuting and supporting the effect of capital structure/ leverage on cost of capital or value of the firm have published by the financing expert. This section is devoted to discuss these theories to some extent views regarding relationship between capital structures. These theories are defined in the study

(1) Net Income Approach

(2) Net Operating Income Approach

(3) Traditional Approach

(4) Modigliam- Millers Approach.

2.2.1 Net Income Approach

David Durand proposed the Net Income Approach. This approach states that firm can increase its value or lower the cost of capital by using the debt capital (David, 1959). According to NI approach, there exists positive relationship between capital structure and valuation of firm and change in the pattern of capitalization bring about corresponding change in the overall cost of capital and total value of the firm. Thus, with an increase in the ratio of debt to equity, overall cost of capital will decline and market price of equity stock as well as value of firm will rise (David, 1959). The converse will hold true if ratio of debt to equity tends to decline. The approach assumes no change in the behavior of both stockholders and debt holders as to the required rate of return in response to a change in the debt-equity ratio of the firm. They want to invest since debt holder are exposed to lesser degree of risk, assumed of a fixed rate of interest and are given preferential claim over the profit and assets, the debt holders' required rate of return is relatively lower than that of equity holders. So, the debt financing is relatively cheaper than equity. For this reason, at constant cost of equity (Ks) and cost of debt (Kd), the overall cost of capital (K) declines with the increased proportion of the debt in the capital structure. This suggests that higher the level of debt, lower the overall cost of capital and higher the value of firm.

It means that a firm attends an optimal capital structure when it uses 100% debt financing. Running a business with 100% debt financing, however, is quite uncommon in the real world. The firm can achieve optimal capital structure by making judicious use of debt and equity and attempt to maximize the market price of its stock.

In sum, as per NI approach, increase in ratio of debt to total capitalization brings about corresponding increase in total value of firm and decline in cost of capital. On the contrary, decrease in ratio of debt to total capitalization causes decline in total value of firm and increase cost of capital. Thus, this approach is appeared as relevancy theory. This approach is based on the following assumptions:

1. The cost of equity and debt remain constant to the acceptable range of leverage.
2. The corporate income taxes do not exist.
3. The cost of debt rate is less than the cost of equity.
4. The increasing leverage brings about no deterioration in the equity of net earnings so long as borrowing is consigned to the amount below the acceptable limits.

Graphically, the effect of leverage on the firm's cost of capital and the total market value of the firm is shown below.

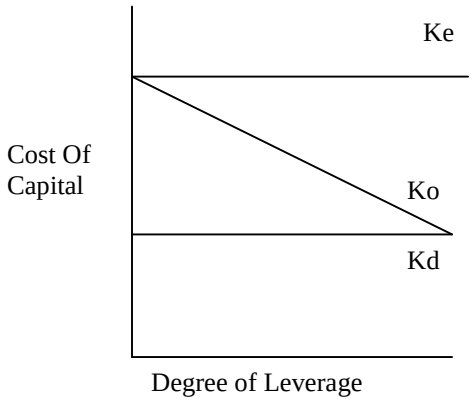

Figure 1: The Effect of Leverage on the Capital Structure

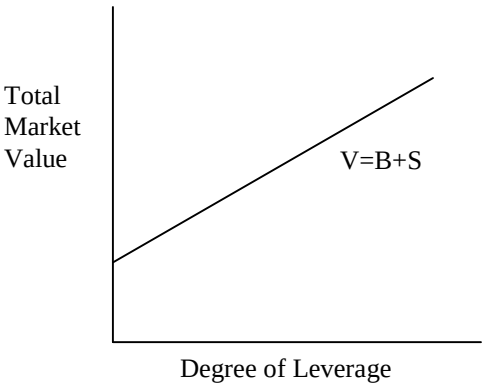

Figure 2: The Effect of Leverage on the Total Market Value of the Firm

Figure 1 shows a continuous decrease in K with the increase in debt-equity ratio, since any decrease in K directly contributes to the value of the firm; it increases with the increase in the debt-equity ratio (figure 2). Thus the financial leverage, according to the NI approach is an important variable in the capital structure decision of a firm. Under the NI approach, a firm can determine an optimal capital structure. If the firm is unleveled the overall cost of capital will be just equal to the equity capitalization rate.

In brief, the essence of the net income approach is that the firm can lower its cost of capital by using debt. The approach is based on the assumption that the use of debt does not change the risk perception of the investor. Consequently, the interest rate of debt (K_d) and the equity capitalization rate (K_s) remain constant to debt. Therefore, the increased use of debt results in higher market value of shares and as a result, lower overall cost of capital (K).

2.2.2 Net Operating Income Approach (NOI)

NOI approach is another behavioral approach suggested by Durand David. This approach is diametrically opposite from the NI approach with respect to the assumption of the behavior of equity holders and debt holders. The essence of this approach is that the leverage/capital structure decision of the firm is irrelevant. The

overall cost of capital is independent of the degree of leverage; any change in leverage will lead to change in the value of the firm and the market price of the shares. Net operating approach is slightly different from NI approach, unlike the NI approach in NOI approach, the overall cost of capital and value of firm are independent of capital structure decision and change in degree of financing. Leverage does not bring about any change in the value of firm and cost of capital.

The main difference between NI and NOI approach is the base that investors use to value the firm. Under NOI approach, the Net operating income, i.e., the earning before interest and tax (EBIT), instead of net income is taken as the base. Like the NI approach, the NOI approach also assumes a constant rate of K_d, which means that the debt holders do not demand higher rate of interest for higher level of leverage risk. However, unlike the assumption of NI approach, NOI approach assumes that the equity holders do react to higher leverage risk and demand higher rate of return for higher debt-equity ratio. This approach says that the cost of equity increases with the debt level and the higher cost of equity offset the benefit of cheaper debt financing, resulting no effect at all on overall cost of capital (K).

The NOI approach is based on following assumptions:

1. The market capitalizes the value of the firm as a whole. Thus, the split between debt and equity is not important.
2. The market uses an overall capitalization rate, K to capitalize the net operating income. K depends on the business risk. If the business risk is assumed to remain unchanged, K is constant.
3. The use of less costly debt funds increases the risk of shareholders. This causes the equity-capitalization rate to increase. Thus, the advantages of debt are offset exactly by the increase in the equity capitalization rate, Ks.
4. The debt-capitalization rate, Kd is constant.
5. The corporate income taxes do not exist.

The function of Ks under NOI approach can be expressed in equation as follows;

$$K_S = K + (K - K_d)\, B/S$$

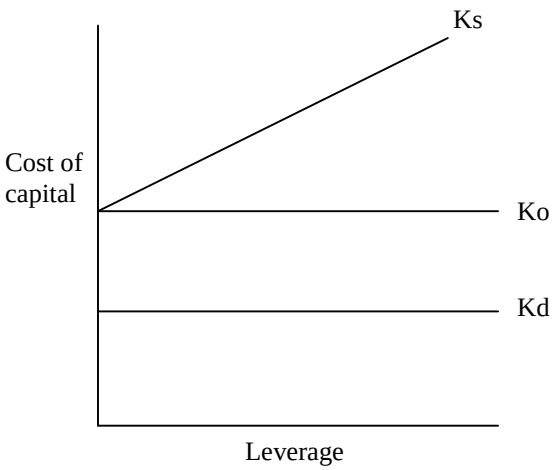

Figure 3: The Effect of Leverage on Cost of Capital

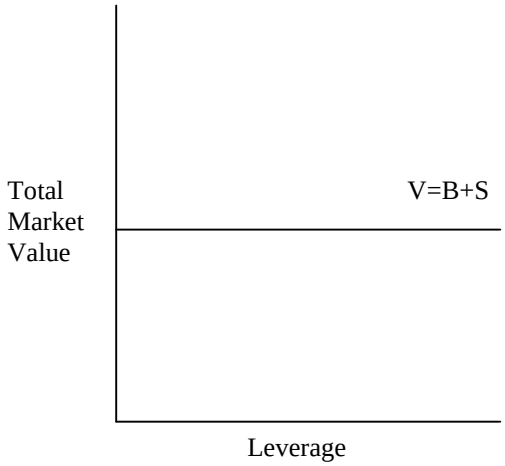

Figure 4: The Effect of Leverage on Total Market Value of the Firm

The relationship between financial leverage and K, K_s, and K_b has been graphically depicted in following figures.

In the figure 3, it is shown that the curve K and K_d are parallel to the horizontal X-axis and Ks is increasing continuously. This is because K and K_d remain constant under all the circumstances but the Ks increases with the degree of increase in the leverage. Thus, there is no single point or range where the capital structure is optimum. We know obviously from the figure 4 that under the NOI approach, as low cost of debt is used, its advantage is exactly offset by increase in cost of equity in such a way that the cost of capital remains constant. By this, value of the firm also remains constant. At the extreme degree of financial leverage, hidden cost becomes very high hence the firm's cost of capital and its market value are not influenced by the use of additional cheap debt fund (Gitman Lawrence, 1988).

2.2.3 Traditional Approach

The traditional view of capital structure, which is also known as an Intermediate approach, is a compromise between the Net Income Approach and the Net Operating Income Approach. It states that when a company starts to borrow, the advantages outweigh the disadvantages. The cheap cost of debt, combined with its tax advantage, will cause the WACC to fall as borrowing increases. However, as gearing increases, the effect of financial leverage causes shareholders to increase their required return (i.e., the cost of equity rises). At high gearing the cost of debt also rises because the chance of the company defaulting on the debt is higher (i.e., bankruptcy risk). So at higher gearing, the WACC will increase.

According to this view, the value of firm can be increased or the cost of capital can be reduced by a judicious mix of debt and equity capital, and that an optimum capital structure exists for every firm. This approach very clearly implies that the cost of capital decreases within the reasonable limit of debt and then increases with leverage. Thus, an optimum capital structure exists, and it occurs when the cost of capital is minimum or the value of firm is maximum. The statement that debt funds are cheaper then equity funds carries the clear implication that the interest rate of debt plus the increased yield on the common stock, together on the weighted basis will be less than yield (cost of equity) which existed on the common stock before debt financing (Barges, Alexander, 1963). That is the weighted average cost of capital will decrease with the use of debt up to a limit.

According to the traditional position, the manner in which the overall cost of capital reacts to changes in capital structure can be divided into three stages (Soloman, Ezra, 1963).

First stage: Increasing Value

The first stage starts with the introduction of debt in the firm's capital structure. In this stage, the cost of equity (K_s) either remains constant or rises slightly with debt because of the added financial risk. But it does not increase fast enough to offset the advantage of low cost debt. In other words, the advantage arising out of the use of debt is so large that, even after allowing for higher cost of equity, the benefit of the use of the cheaper sources of funds are still available. As a result the value of the firm (V) increases as the overall cost of capital falls with increasing leverage.

During this stage cost of debt (K_d) remains constant or rises only modestly. The combined effect of all these will be reflected in increase in market value of the firm and decline in over all cost of capital (K).

Second Stage: Optimum Value

In the second stage, further application of debt will raise cost of debt and equity capital so sharply as to offset the gains in net income. Hence, the total market value of the firm would remain unchanged. While the firm has reached a certain degree of leverage, increase in it has a negligible effect on the value of the firm or overall cost of capital of the firm. The increase in the degree of leverage increases the cost of equity due to the added financial risk that offsets the advantage of low cost debt.

Within the range of such debt level or at a specific point, the value of the firm will be maximum or the cost of capital will be minimum.

Third Stage: Declining Value

Beyond the acceptable limit of leverage, the value of the firm decreases with the increase of the leverage or the overall cost of capital increases with the additional leverage. This happens because investors perceive a high degree of financial risk, which increases the cost of equity by more than enough to offset the advantage of low cost debt.

The overall effect of these three stages is to suggest that the cost of capital is a function of leverage, i.e. first falling and after reaching minimum point or range it would start rising. The relation between cost of capital and leverage is graphically shown in figure 5.

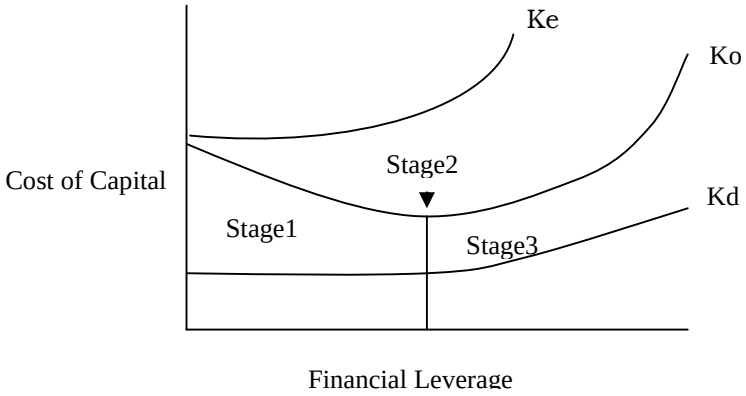

Figure 5: Effect of leverage on cost of capital under traditional theory

In the figure 5, it is assumed that Ks rise at an increasing rate with leverage, whereas Kd is assumed to rise only after significant leverage has occurred. At first, the weighted cost of capital, K, declines with leverage because the rise in Ks does not entirely offset the use of cheaper debt funds. As a result, K declines with moderate use of leverage. After a point, however, the increase in Ks more than offset the use of cheaper debt funds in the capital structure, and K begins to rise. The rise in K is supported further once Kd begins to rise. The optimal capital structure is point X. thus the traditional position implies that the cost of capital is not independent of capital structure of the firm and that there is an optimal capital structure.

2.2.4 Modigliani-Miller Approach (MM approach)

The Modigliani-Miller thesis (Modigliani and Miller, June 1958) relating to the relation is akin to net operating income approach. MM approach, supporting the net operating income approach, argues that, in the absence of taxes, total market value and cost of capital of the firm remain invariant to the capital structure changes. They make a formidable attach on the transitional position by offering behavioral justification for having the cost of capital, K, remain constant through all degree of leverage (ibid, 272). MM contend that cost of capital is equal to the capitalization rate of a pure equity stream of income and the market value is ascertained by capitalizing its expected income at the appropriate discount rate of its risk class. MM position is based on the idea that no matter how you divide up the capital structure of a firm among debt, equity and other claims, there is a conversion of investment value. However, the following assumptions regarding the behavior of the investors and the capital market, the actions of the firms and the tax environment are crucial for the validity of the MM hypothesis.

1. Perfect capital markets: The implication of perfect capital market is that securities are infinitely divisible, investors are free to buy and sell securities, investors can borrow without restrictions on the same terms and conditions as firms can, there are no transaction costs and investors are rational and behave accordingly.
2. Firms can be grouped into homogenous risk classes. Firms would be considered to belong to a homogeneous risk class as their expected earnings, adjust for scale differences have identical risk characteristics. The share of the homogeneous firm would be perfect substitute for one another.
3. Firms distribute all net earning to the shareholders, i.e., divided payout ration is 100 percent.
4. There are no taxes. This assumption is removed later.
5. The assumption of perfect information and rationality, all investors has the same exception of firm's net operating income with which to evaluate the value of any firm.

The MM cost of capital hypothesis can be best expressed in terms of their proposition I and II. (Modigliani and Miller, 1969)

Proposition I

Given the above assumptions, MM argues that, for the same risk class, the total market value is independent of the debt-equity mix and is given by capitalizing the expected net operating income by the rate appropriate to the risk class. This is their proposition I. In equation this can be expressed as follows:

$$Value\ of\ the\ Firm \quad = \quad Market\ Value\ \ of\ \ Debt\ (B) + Market\ Value\ of\ \ Equity\ (S)$$

$$= \frac{Expected\ net\ operating\ income}{Expected\ overall\ capitalization\ rate}$$

$$= \frac{EBIT}{EBT}$$

For an unlevered firm,

$$V_u = \frac{EBIT}{K_S}$$

Where,

K = Ks in case of unlevered firm.

Proposition I can be expressed in terms of the firm's overall capitalization rate, K, which is the ratio of Net operating income (EBIT) to the market value of all its securities. That is:

$$K = \frac{NOI}{S + B}$$

$$= \frac{NOI}{V}$$

K can also be expressed as

$$K = \frac{K_S(S)}{S + B} + \frac{K_d(B)}{S + B}$$

It means K is the weighted average of the expected rate of return of equity and debt capital of the firm since the cost of capital is defined as the expected net operating income divided by the total market value of the firm and since MM conclude that the total market value of the firm is unaffected by the financing mix, it follows that the

cost of capital is independent of the capital structure and is equal to the capitalization rate of a pure equity stream of its class *(Pande, I.M., 1981).*

The overall cost of capital function as hypotheses by MM is shown in figure below

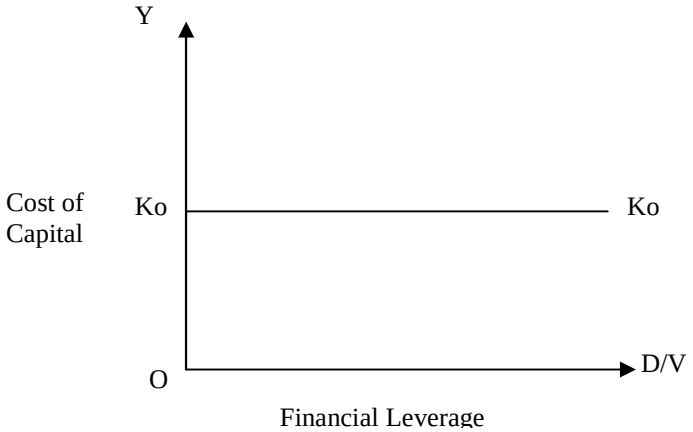

Fig: 6 The Cost of Capital under the MM hypothesis

Thus two firms identical in all respects except for their capital structure cannot command different market values nor have different cost of capital. But if there is a discrepancy in the market values or the cost of capital, arbitrary will take place, which will enable investors to engage in personal leverage to restore equilibrium in the market (Pandey, 1981).

Proposition II

MM Proposition II, which defines the cost of equity, follows from their proposition I and shows the implications of the net operating approach. The proposition II states that the cost of equity rise proportionately with the increase in the financial leverage in order to compensate in the form of premium for bearing additional risk arising from the increasing leverage (Pradhan, 1992). The equation for the cost of equity can be derived from the definition of the average cost of capital.

$$K = \frac{K_S(S)}{S+B} + \frac{K_d(B)}{S+B}$$

$$K_S = \frac{K(B+S)}{S} - \frac{K_d(B)(B+S)}{(S+B)S}$$

$$K_S = K(I + \frac{D}{S}) - \frac{K_d(D)}{S}$$

The equation states that for any firm in a given risk class the cost of equity, Ks, is equal to the constant average cost of capital, K, plus a premium for the financial risk, which is equal to debt-equity ratio times the spread between the constant average cost of capital and the interest rate. As the proportion of debt increases, the cost of equity increases continuously even though K and K_d are constant. The crucial part of the MM hypothesis is that K will not rise even if very excessive use of leverage is made. This conclusion could be valid if K_d remains constant for any degree of leverage. But in practice Ks increases with leverage beyond a certain acceptable level of leverage. However, MM maintains that even if Ks is a function of leverage, K will remain constant as K_s will increase at a decreasing rate to compensate. This can be shown as

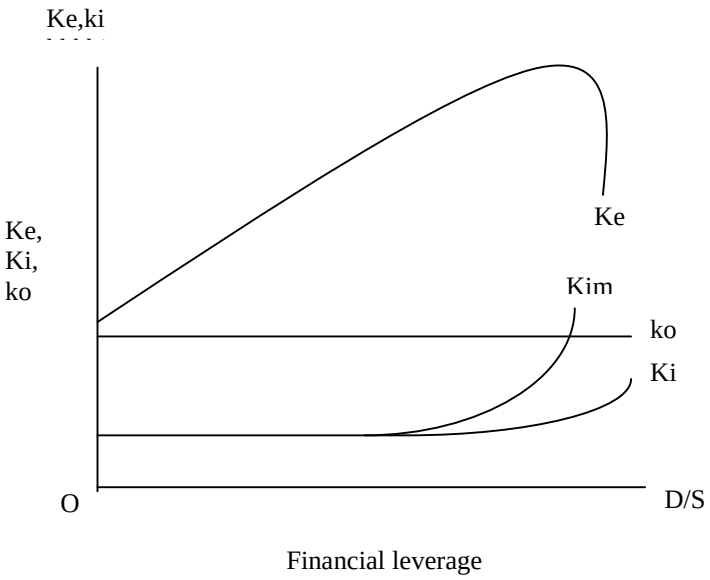

Fig: 7 Behaviors of Ko, Ki and Ke under M-M Hypothesis

It is clear from the figure that K_s will increase till the marginal rate of interest (Kim) is below the cost of capital. As soon as the marginal rate of interest cuts the cost of capital, Ks will start falling.

2.3 Review of Related Empirical Studies

In this section, the previous studies related to the capital structure and cost of capital is reviewed. It consists of thesis done by previous Master's Level Student as well as other research works, journals and article written by different writers related to the capital structure and cost of capital of the firm.

2.3.1 The Modigliani and Miller' First Study

In their first study, MM used the previous works of Allen and Smith in support of their independence hypothesis. Allen's study consisted of an analysis of the relation between security yield and financial structure for 43 large electric utilities, which is based on average figure for the years 1947 and 1948, while smith designed his study of 42.

In the first part of their work MM tested their proposition I, the cost of capital is irrelevant to the firm's capital structure by correlation after tax cost of capital with leverage B/V. They found that the correlation co-efficient is statistically insignificant and positive in sign. The regression line does not consist of curvilinear "U" shaped cost of capital key of traditional view, when the data are shown in setter diagram.

In the second part of their study, they tested their proposition II the expected yield on common share is linear function of debt to equity ratio. The second part of their study is consistent with their views i.e. if the cost of borrowed funds increases, the cost of equity will decline to offset this increase.

MM conducted the second study in 1963 correcting their original hypothesis for corporate income taxes and expected cost of capital to be affected by leverage for its tax advantages or not, for this they conducted the mathematical analysis regarding the effect of leverage and other variable on the cost of capital, they found that the leverage factors are significant only because of the tax advantage involved.

2.3.2 The Davenport Study

Davenport (Davenport, May 1971) tested the cost of capital hypothesis using British data. Regression equations were estimated for chemicals, food and metal manufacturing industries for 1961, 1962 and 1963.

He had concluded that the results of his study don't support the M-M contention that the overall cost of capital is independent of the proportion of debt and preference share in the capital structure of the firm. They supported the traditional view of cost of capital schedule with respect to leverage. He stressed the problem of holding constant growth the prospects and the future risk evaluation and raised the question whether an industry was the best sample classification or whether firms might not with advantage are classified into growth and risk classes. Another point stressed is

that the choice of years over which cross section regression are run is crucial as it related to the problem of growth and risk variables.

2.3.3 The Western Study

The main contribution of western's study is the specification improvement of the cost of capital model. He introduced firm size (measured by assets) and growth (per share income over a ten year period)

As additional explanatory variables in his model. He found the regression coefficient of leverage to be positive and significant, when he used M-M model for his sample of 54f utilities in 1959. However, when the, multiple regressions were run, the following results were obtained.

X = 5.91 – 0.0265d +0.0A –0.0822E R2 =0.5268

(0.0079) (0.0001) (0.0024)

Where,

d = the market value of debt ration

A = the size of the firm interns of total assets

E = the earning per share growth over a period of 10 years.

The correlation coefficient is significant and the regression coefficient of leverage is negative and significant. When the influence of growth is located, leverage is found to be negatively correlated with the cost of capital. Western concluded that the apparent lack of influence of leverage on the overall cost of capital observed of Modiglain and Miller was due to negative correlation of leverage with earning growth. When the net effects were measured, the cost of capital was found to be significantly negatively correlated both with the leverage and growth.

He also tested M.M.'s proposition II. When he used their model, his result were found to be consistent with their i.e. cost of equity was a liner function of leverage, however, when he included growth and size variables the following results are obtained:

Z = 6.75-0.0029h+0.1352E

(0.0153) (0.0002) (0.0454) R2 = 0.4032

h = 39.59 –1.16E

(0.29)

R2 = -0.48

These results show that growth and leverage negatively correlated with Z – the ratio of shareholder net income after taxes and market value, of common stock and when growth is included on the regression equation, coefficient of leverage become s in significant. Thus, the results are consistent with the traditional view.

2.3.4 The Wippern – Study

Wippern has also conducted a test of the relationship between leverage and the cost of capital by running regression on the data of 50 firms from seven manufacturing industries in the years 1956,1958,1961 and 1963 *(Wippern, Dec. 1966)*. He tried to eliminate the principle problem of empirical study on the alternatives in determining the relationship between leverage and cost of capital. He urged that the leverage either the ratio of debt to equity at book values of at market values both of these measures contains important conceited basis. He therefore, used a different measure of leverage. VIZ. I/e =25, where 'I' is the current level of fixed charges; E is the most recent years cash flow operating income determined from a logarithmic regression of income on time over ten years period and 25, is equal to two standard error around the regression line. He has also included uncertainty variables in his test equation to account for the enter firm differences. He therefore has been assumed in past investigation that homogeneity of business risk could be achieved by comparing firm in the same industry classifications. Besides these, he employed some proxy measures based on objectively determined data, and argues that the capitalization rate equates future earning to current market prices are not directly measurable. The following equation was used to cost of capital hypothesis:

$Y = a + b_1$leverage $+ b_2$ growth $+ b_3$ payout $+ b_4$ log of size $+$

$b_5 \ldots\ldots\ldots + b_{10}$ industry dummy variables.

Y =earning / price ratio

He concluded that shareholder wealth could be enhanced by a judicious use of debt financing.

2.3.5 Sharma and Rao Study

Sharma and Hanumanta Rao (Sharma and Rao, Sep. 1969) also tested the M-M hypothesis. They followed their 1966 article with little modification and employed two stages least square method on the data of 30 Indian engineering firms for three years. They argued that estimate of cost of capital arrived at through this model will be accurate only when their hypothesis on debt and dividends are correct, this is an essential condition for the employment if this model. Calculate of variables were done in exactly the same ways that done by M-M with two expectation. They experimented with total assets and sales for deflecting the variables and the results were meaningful when fixed assets were used as the deflator. They argued that when the growth rates of total asses or fixed assets were used as the growth variable, the result was somewhat inconsistent with economic reasoning. They, therefore, took the earning growth rate as the growth variables because this would take into account growth of earning due to both the utilization of existing capacity and the addition of operating capacity.

They found the co-efficient of debt variables to be more that t, the cooperate income tax rate; they introduce debt as a separate independent variable. The equation they used is,

$$V/f = a_1(X r + t R / F) + a_2^1 / F + a_3 (Xr – tR/ F) D /F + M$$

Where,

V = value of the firm

Xr – tR = expected tax adjusted earning

AXR – ItR = growth rate of tax adjusted earning calculate as a line three years average growth rate of tax adjusted earning times

current tax adjusted earning;

D = debt

F = fixed assets used as a deflator to reduce hetroscedasticity.

They also used two stage least square (2SLS) as method of arriving at the true expected future earnings.

They conducted that debt has tax advantages also. Thus this paper support that the investor prefers corporate to personal leverage and therefore the value of the firm rises up to a leverage rate considered prudent.

2.4 Review of Related Nepalese Studies

2.4.1 Adhikari Study

Adhikari (Adhikari, April 1991) conducted the empirical study of M –M proposition in the Nepalese context. He used simple as well as multiple regression equation to test the relationship between cost of capital and capital structure with other explanatory variables. His study was based on the five listed companies for the period of 1976-77 to 1988-89. For the testing purpose he used the following equations:

$K_o = a_1 + b_1 l_1 + b_2 \text{logs} + b_3 g + b_4 D/p + b_5 E.V. + b_6 liq$

Where,

Ko = average cost of capital

L = leverage I

S = size

G = growth

D/P = dividend payout ratio

Liq = liquidity

E.V. = earning variability

Using the above equation on his study, he concluded that the traditional proposition, cost of capital is the function of leverage is accepted and again stated that the result is not enough to establish the relationship between cost of capital and capital structure because coefficient of determination was very small.

He also tried to test the M-M hypothesis that the use if leverage can lower the cost of capital, due to the tax deductibility of interest charges and concluded that there were no changes in the result between the previous and later.

His last study was based on the cost of equity and debt equity ratio and other explanatory variables. The model used by him was as follows:

Ko = a1+ b1 l1 + b2 logs + b3 g + b4 D/p

In this study used above model, he concluded that the result was not enough to establish the relationship between cost of equity and capital structure.

2.4.2 Khanal Study

Mr. Khanal has conducted the study (Khanal, 1992) on the capital structure of Nepalese companies. He selected samples from industries public enterprise of Nepal and used financial ratio and correlation analysis as the tool of analysis. He concluded that the capital investment and earning were not correlated. Most of the public enterprises were in loss position. Debt equity ratio was not satisfactory. Financial performances of these companies were not good. He suggested that the management should reduced government subsidy and donation. They should improve their performance efficiency.

2.4.3 Khatri Study

Khatri (Khatri, 1998) conducted the empirical study of M-M proposition in the Nepalese context. Khatri took 12 random selections of various enterprises of sectors out of 75 listed companies in Nepal stock exchange using secondary data from 1980 –1996. He used simple and multiple regression models and found that regression coefficient sectors while negative for manufacturing and trading sector. Making overall 28 observations for all given descriptive statistics of the variables, average cost of capital is found to be negatively correlated with leverage, size, growth,

dividend payout ratio in case of manufacturing and trading sector. This indicates that negative sign of correlation coefficient between average cost of capital with use of leverage. However in case of banking and insurance sector; cost of capital is found to be positively correlated with leverage employing that cost of debt financing is greater than cost of internal sources of fund. As such there is negative relationship with size, liquidity and payout ratio and positive with growth and earning variability.

2.4.4 The Shrestha study

Mr. Shrestha conducted the study of capital structure management of selected public enterprises and use ration analysis as the tool of analysis. He found that the selected public enterprises under the study have a very confusing capital structure since the corporation are not guided by objectives based financial plans and polices. He further added that in many instance adhocism become the basis of capital structure and most of them wan t to eliminate debt if possible relieve financial obligation. There were neither the public enterprises nor HMG development criterion in determining capital structure and this is the reason as to why debt equity ratio became a tick- list problem.

2.4.5 Rima Devi Shrestha Study

Rima Devi Shrestha has conducted a study on the topic 'Focus on Capital Structure of selected and listed public companies.' She used data from 19 companies which covered different sectors such as manufacturing, finance, utility service and other allied areas. She had found that most of these companies have debt capital relatively very higher than equity capital. Consequently most of them are operating at losses to the extent that payment of interest on loan has been serious issues. Most of the losses are after charging interest on loan. She has suggested that the government has to consider the public enterprises in evaluating the relationship between use of debt and its impact on overall earning of public enterprises. So government should be sure in knowing how return will be maximized by using debt capital. It should develop a suitable capital structure guideline to make public enterprises aware of its responsibility to repay the debt schedules. Government has to analyze cost and risk return trade off. Thus, capital structure needs to be made more determinate by realistic analysis of cost. Lastly, she concluded that policy makers have to be careful in developing the suitable capital structure guidelines in making public enterprises as well as listed companies to be aware of financial accountability.

2.5 Concluding Remarks

Capital structure refers to the combination of long-term sources of funds, such as debentures, long-term debt, preference share capital and equity share capital including reserves and surpluses (i.e. retained earning) Capital structure is the composition of debt and equity securities that comprise a firm's financing of its assets. Both debt and equity securities are used in most large corporations. The choice of the amount of debt and equity is made after a comparison of certain characteristics of each kind of securities of internal factors related to the firms' operations and of external factor that can affect the firm and it is mix of long term and equity maintained by the firm. Capital Structure is used to represent the proportionate relationship between debt and equity. Equity includes paid up share capital, share premium and reserve and surplus. Capital structure refers to the proportion of long-term debt and equity capital and the particular forms of capital chosen to finance the assets of the firm.

The cost of capital is an important element as basic information in capital investment decision. The cost of capital can be looked in slightly different prospective. In the operational term, it refers to the discount rate or minimum rate of return that a firm must earn on its investment for the market value of the firm to remain unchanged. In economic term, there are two approaches to define the cost of capital. Firstly, it is the cost of acquiring the funds required to finance to the proposed project that is the cost of capital is the borrowing rate. Secondly, in terms of lending rate, it may refer to the opportunity cost of fund for the firm, that is what firm could have earned by investment funds elsewhere. A project will be accepted if it has positive net present value, in the present value method, when the future cash inflows are discounted at the cost of capital. In internal rate of return method, the project will be accepted if it has a rate of return greater than the cost of capital. In spite of these, the cost of capital is the standard against which the prospective investment project is compared.

The review of the studies on capital structure and cost of capital shows that the many researchers research on M-M hypothesis and their results concluded that the cost of capital is the function of leverage. The foreign studies Davenport, Western, Wippern, Sharma and Rao study supported the traditional belief and Nepalese studies Adhakari follows also traditional approach.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Introduction

The research methodology refers to the various sequential steps to be adopted by a researcher in studying a problem with certain objectives in view (Kothari, Delhi 1994). The purpose of this chapter is to discuss the method of research followed in this study. The approach followed is to regress the cost of capital to the leverage and other explanatory variables. In other word research methodology describes the method and process applied in the entire aspect of the study. A focus is given to research questions, the model used, definitions of variables, samples selection and size, source of data.

3.2 Research Design

Research design is the arrangement of condition for collection and analysis of data to achieve this study descriptive and analytical research design has been used. This study is based on secondary data and information. The financial statement reports of the company and the relevant subject will be included in the study.

3.3 Population and Sample

There are all together 26 commercial banks functioning in Nepal which is the size of the population. Out of them, 4 leading private commercial banks; Nepal Investment Bank Limited, Himalayan Bank Limited, Standard chartered Bank Limited and Nabil Bank Limited are considered as sample to carry out this thesis.

3.4 Techniques used in Data Collection

This study is basically based on secondary data, which is derived from data of selected companies. These data have been collected from financial statement of listed companies published by Nepal Stock Exchange Ltd, Kathmandu. Other sources of data are financial reports annual reports, periodical reports, and other information provided by the companies. This study is based on the historical data of 5-years period.

3.5 Tools and Techniques of Analysis

Mainly the financial and statistical tools such as ratio analysis, mean, standard deviation, coefficient of variation, correlation, simple and multiple regression have been employed to achieve the objective of the study. The evaluation of data will be carried out to the pattern of data available.

3.5.1 Financial Tools

Financial analysis is the process of identifying the financial strength and weakness of the firm by properly establishing relationship between the items of the balance sheet. In this study ratio analysis is used as the financial tool for the data analysis.

3.5.1.1 Ratio Analysis

Ratio analysis is a technique of analyzing and interpreting financial statements to evaluate the performance of an organization by creating the ratios from the figures of different accounts consisting in balance sheet and income statement. The qualitative judgment concerning financial performance of a firm can be carried out with the help of ratio analysis. Even though there are many ratios, only those ratios have been covered in this study, which are related to investment operation of the bank. This study contains following ratios:

3.5.1.1.1 Long Term Debt to Total Debt

The long-term debt to total debt ratio measures the percentage of long-term debt to total debt used in the companies. So, it is the percentage of long-term debt among the total debt employed by the company. The Long Term Debt to Total Debt is calculated as:

$$LongTermDebttoTotalDebt\,Ratio = \frac{Long\ Term\ Debt}{Total\ Debt} \times 100$$

3.5.1.1.2 Debt to Total Assets

This ratio measures the extent to which borrowed funds have been used to finance the company's assets. It is related to calculate total debt to the total assets of the firm. The total debt includes long-term debt and current liabilities. The total assets consist of permanent assets and other assets. It is calculated as

$$Debt\ \ to\ Total\ \ \ Asset\ \ \ Ratio\ \ \ =\ \ \frac{Total\ \ \ Debt}{Total\ \ \ Assets}\ \ \times\ \ 100$$

The lower total debt to total assets ratio indicates that the creditors claim in the total assets of the company is lower than the owner's claim and vice versa.

3.5.1.1.3 Debt to Equity Ratio

The debt-equity ratio measures the long-term components of capital structure. Long-term debt and shareholder's equity are used in financing assets of the companies. So, it reflects the relative claims of creditors and shareholders against the assets of the firm. Debt to Equity ratio indicates the relative proportions of debt and equity. The relationship between outsiders claim and owners' capital can be shown by debt-equity ratio. It is calculated as:

$$Debt\ to\ Equity\ Ratio\ \ =\ \ \frac{Long\ Term\ Debt}{Shareholder's\ Equity}\ \ \times\ \ 100$$

This ratio is also known as debt to net worth ratio. A high debt equity ratio indicates that the claims of the creditors are greater than that of the shareholders or owners of the company.

3.5.1.1.4 Interest Coverage Ratio

This ratio indicates the ability of the company to meet its annual interest costs or it measures the debt servicing capacity of the firm. It is determined by using following formula:

$$Interest\ Coverage\ Ratio\ \ =\ \ \frac{Earning\ \ Before\ Interest\ and\ Tax}{Interest}$$

Hence, higher Interest Coverage ratio indicates the company's strong capacity to meet interest obligations. A firm always prefers Interest Coverage ratio because low Interest Coverage ratio is a danger signal. Lower Interest Coverage ratio means the firm is using excessive debt and does not have an ability to offer assured payment of interest to the creditors.

3.5.1.1.5 Return on Total Assets

Return on total assets ratio measures the profitability of bank that explains a firm to earn satisfactory return on all financial resources invested in the banks' assets. The ratio explains net income for each unit of assets. The return on total assets ratio is calculated using the formula below:

$$\textit{Return on Total Assets} = \frac{\textit{Net Profit After Tax}}{\textit{Total Assets}}$$

Higher ratio indicates efficiency in utilizing its overall resources and vice versa. From the point of view of judging operational efficiency, rate of return on total assets is more useful measure.

3.5.1.1.6 Return on Shareholders' Equity

Shareholders are the owners of the company. To measure the return of shareholders, we use return on shareholders' equity. This ratio analyze whether the company has been able to provide higher return on investment to the owners or not. This ratio is calculated as:

$$\textit{Return on Shareholders' Equity} = \frac{\textit{Net Profit After Tax}}{\textit{Shareholders' Equity}}$$

A company's owners always prefer higher ratio of return on shareholders' equity. And higher ratio represents the higher profitability of the firm and vice versa.

3.5.1.1.7 Earning Per Share (EPS) Analysis

The profitability of bank from the point of view of the ordinary shareholders is earning per share. The ratio explains net income for each unit of share. Earning per share of an organization gives the strength of the share in the market. It shows how much of the total earnings belong to the ordinary shareholders. EPS is calculated as below

$$\textit{Earning Per Share (EPS)} = \frac{\textit{Net Income}}{\textit{No. of Share Outstanding}}$$

3.5.1.1.8 Dividend per Share (DPS) Analysis

Dividend per share is calculated to know the share of dividend that the shareholders receive in relation to the paid up value of the share. A large number of present and potential investors may be interested in the dividend per share, rather than the earning per share. Therefore, an institution offering a high dividend per share is regarded as efficient in fulfilling shareholders expectations, which will also enable o increase the value of an institution.

Dividend per share is the earning distributed to ordinary shareholders divided by the number of ordinary shares outstanding, i.e.

$$DPS = \frac{Total \quad Dividend}{No \ . of \ \ Ordinary \quad \ Shares}$$

3.6 Models

The method of analysis used in this study includes simple as well as multiple regression models to test the relationship between capital structure and cost of capital. The models used in the study are as follows.

3.6.1 Model – I

In this model, the average cost of capital regressed against each of the selected explanatory variable such as leverage, size, growth, dividend payout ratio, earning variability and liquidity. The equations are

Ko = a + b1L1---------- 3.1

Ko = a + b2Logs----------3.2

Ko = a + b3G----------3.3

Ko = a + b4DPR----------3.4

Ko = a + b5E.V.----------3.5

Ko = a + b6Liq.----------3.6

Where,

Ko = Average cost of capital
L1 = Leverage 1
Logs = Size
DPR = Dividend payout ration
G = Growth
E.V. = Earning variability
Liq. = Liquidity

The above models assume the following reasonable prior expected signs of beta co-efficient.

B1, b2, b4, b5, b6 < 0 and b3 > 0

3.6.2 Model – II

In this model the cost of capital is regressed against leverage together with other explanatory variable. The theoretical statement of the model is that the cost of capital would depend on leverage, size, growth, dividend payout ration, earnings variability, and liquidity. In other words, the cost of capital is function of leverage, size, growth, dividend payout ration, earnings variability, and liquidity.

The theoretical statement framed above may be stated as

Ko = F(L, S, G, DPR, E.V., Liq.)

The equation of the model is

Ko = a + b1L1 + b2Logs + b3G + b4DPR + b5E.V. + b6 liq. ----------3.7

The notation and the expected sign of beta co-efficient are similar as above.

3.6.3 Model III

In this model, the cost of equity is regressed with each of the explanatory variables such as leverage, size, growth, dividend payout ration, earning variability, and liquidity.

The equations are as follows

Ke = a + b1L2---------- 3.9

Ke = a + b2Logs----------3.10

Ke = a + b3G----------3.11

Ke = a + b4DPR----------3.12

Ke = a + b5E.V.----------3.13

Ke = a + b6Liq. ----------3.14

Where,

Ke = cost of equity
L2 = Leverage 2

Other notations are similar as above.

3.6.4 Model IV

This model is used to test the M-M hypothesis proposition II, the cost of equity is linear function of leverage. In this model, the cost of equity regressed against leverage together with other explanatory variables. The equation of the multiple regression is as follows

Ke = a + b1L2 + b2Logs + b3G + b4DPR + b5E.V. + b6Liq---------- 3.15

Symbols are similar as above
The above models are tested by using the pooled data of the selected companies.

3.7 The Specification of the Variables

The empirical definitions of the variables employed and rational for their inclusion are given below.

3.7.1 The average cost of capital (Ko)

The average cost of capital is the dependent variables. It is calculated by dividing the expected earnings by the average of the high and low market values of the equity share plus the book value of preference shares and debt. The expected earnings are approximated by calculating the weighted average of two year after-tax net operating income (net income + interest) including the cross-section year. The weights assigned to the after-tax net operating income are 2 and 1 respectively for the cross-section year and the previous years.

Leverage

Leverage is used in this study the following two measures or ways:

$$L_1 = \frac{LTD + STD}{LTD + STD + EC}$$

$$L_2 = \frac{LTD + STD}{EC}$$

Where,

LTD = Long term debt

STD = short term debt

E.C. = Equity capital

PC = Preference capital

M-M in their study included preference capital in debt to calculate leverage. This procedure has been questioned by Barges (Barges, 1963) because nonpayment of preference dividend does not present risk of bankruptcy as is the case with pure debt. We however use two measures of leverage, once including preference capital in the numerator, while other excluding it from here.

3.7.2 Size (Logs)

The natural logarithm of the capital employed at the balance sheet, value is used as a measure of the firm size. Capital employed comprises share capital (equity and preference), plus reserves and surpluses, plus long term loans, plus short term loans. This measure is preferred over other measures of size, viz. total assets, fixed assets, sales or employment, because it represents firms investment and also its magnitude indicates the confidence and attitude of investors towards the firm in providing financial resources. It has been suggested that in the empirical works the size is correlated with valuation. (Crockett and Friend., Dec 1967). Therefore, size has been

included as a control variable in the regression models used in this study. The larger size firms are expected to have higher market value.

3.7.3 Growth (G)

Weston showed in his empirical work (Weston, 1963) the growth being correlated to the leverage variable, would tend to influence the relationship between the cost of capital and leverage. Growth in assets should normally be followed by increase in the earning capacity of the business. At least, it indicates the potentiality for increase in earning. This also determines the technological improvement and is considered a sign of managerial efficiency (Pandey: p.80) Thus it is included as a proxy for expected growth, i.e.

$$G = \frac{EPS_{past} + EPS_{present}}{EPS_{present}}$$

EPS = Earning per Share

3.7.4 Dividend Payout Ratio (D/P)

A widely held belief is that the share holders give more weight age to dividends than on the retention of earning. (Gramam, Dodd and Cottle, 1962) This implies a negative correlation between the cost of capital and the pay out ratio. But this belief is not founded on a prior reasoning as retained earnings are reflected in share price, and can be realized as capital gains by selling the share.

The pay out ratio is calculated by dividing cross-section years ordinary shares divided by the cash flow earnings of the shareholders in the cross-section year, i.e.,

D/E = dividend per share/earning per share

3.7.5 Earning Volatility (EV)

A firm's optimal debt level is a decreasing function of the volatility of its earnings. Higher the volatility of earning lower would be debt ratio. In this study the volatility is measured as percentage change in operating income.

3.7.6 Liquidity ratio (Liq.)

To account for the short-term risk of the firms, liquidity ratio has been included in the models. It is calculated by dividing current assets by current liabilities.

$$\text{Liquidity ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

3.7.7 Cost of Equity (Ke)

The cost of equity dependent variable is measured by dividing the shareholders expected weighted average of two years after tax net income (NI) by the market value of the ordinary share of the cross-sectional year. The weight assigned to the after tax net income are 2 and 1 respectively for the cross-section year and previous years.

Chapter 4
ANALYSIS AND INTERPRETATION OF DATA

4.1 General Background

This is the most important chapter of the study. In this chapter the data collected will be analyzed and presented mathematically. All the above-mentioned financial and statistical tools will be used to present the data.

4.2 Results of Financial Analysis

Financial tools are used to shows that the banks are in good or bad condition. Financial tools like ratio analysis and financial statement analysis are used in this study.

4.2.1 Ratio Analysis

Ratio analysis is a powerful tool of financial analysis, which helps in identifying strength and weakness of business concerns. Ratios analysis is the expression of the relationship between the mutually independent figures. It is an important way to state meaningful relationships between components of financial statements.

4.2.1.1 Long Term Debt to Total Debt Ratio

The relationship between long term debt and total debt has a decisive impact on the financial structure of the companies. This relationship indicates what percentage of total debt is covered by long-term debt of the firm. Normally firms use short-term and long-term debt. Current liabilities and provisions are also needed during the operation of the firm. Simply dividing long-term debt by the total debt can derive the relationship between the long-term debt and total debt of the firm. The total debt includes all types of borrowed fund, current liabilities and provisions. If the firm uses large amount of short term loans and occur current liabilities and provision in the larger amount, the percentage of long term debt on total debt will be low and vice versa. The higher ratio of long term debt to total debt indicates the higher claim of long term debt holders upon the total debt and the lower ratio indicates the higher portion of short term loans and current liabilities in the total debt of the firm. The amount of short-term loans and current liabilities used depends upon the liquidity of that firm. This relationship of long term debt and total debt is presented in the following table along with the percentage change in that ratio to show the movement of trend

individually. In addition the average (standard) ratios are also calculated to compare with each other.

Table -1
Long Term Debt to Total Debt Position (in Percentage)

F/Y	SCB	NABIL	NIB L	HBL
2005/06	6.45	15.86	18.47	20.3
2006/07	6.97	14.07	21.38	23.22
2007/08	8.89	17.36	27.25	22.93
2008/09	12.07	21.97	29.29	26.14
2009/10	10.7	24.4	21.95	19.08
Average	9.016	18.732	23.67	22.334

Sources: Appendix 1

In the table 1 calculation shows that the ratio of long-term debt to total debt of SCB constituted 12.07% in fiscal year 2008/09. This means the contribution of long-term debt in total debt is 12.07 % and the remaining portion is contributed by the current liabilities. Same as in fiscal year 2005/06, 2006/07, 2007/08 and 2009/10 are 6.45%, 6.97%, 8.89% and 10.7% respectively. The bank has 9.02 % of average long-term debt to total debt ratio.

In the case of NABIL bank, it shows the ratio in year 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 are15.86 %, 14.07%, 17.36 %, 21.97% and 24.4 % respectively. Average ratio is 18.73%.

Similarly, in the case of NIBL the ratio in fiscal year 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 are 18.47%, 21.38%, 27.25%, 29.29% and 21.95% respectively. And its average ratio is 23.67%.

In the case of EBL, the ratio in fiscal year 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 are20.3%.23.22%, 22.93%, 26.14%, and19.08% respectively and its average ratio is 22.33%.

4.2.1.2 Debt to Total Assets Ratio

Debt to total assets ratio express the relationship between creditors fund and total assets. It is also the leverage ratio, which is generally called the debt ratio. This type of capital structure ratio is a variant of debt equity ratio. Calculating debt to total assets is one calculation approach of the debt to capital ratio. Debt includes all loans

and Total assets include all types of assets of the firm. It measures the percentage of total funds provided by creditors.

Table -2
Debt-Asset Ratio (in Percentage)

F/Y	SCB	NABIL	NIB L	HBL
2005/06	6.04	14.46	17.46	37.14
2006/07	6.47	12.72	19.83	39.61
2007/08	8.28	15.9	25.44	42.86
2008/09	11.18	20.31	27.29	49.64
2009/10	9.9	22.79	20.44	17.76
Average	8.374	17.236	22.09	37.402

Sources: Appendix 2

The table 2 shows the debt to assets ratio of SCB in the year 2005/06 is 6.04%. it indicate that in total assets creditors provide 6.04% of amount. Same as in year 2006/07, 2007/08, 2008/09 and 2009/10 are 6.47%, 8.28%, 11.18% and 9.9% respectively. Average ratio is 8.37%.

Same as in NABIL It shows 14.46%, 12.72%, 15.9%, 20.31%, and 22.79% in the year 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 respectively. We can see that ratio is very fluctuating highest debt is use in year 2009/10. Average ratio is 17.24%.

Similarly, the debt to assets ratio of NIBL is 27.29% in year 2008/09. Which means it has 27.29% of amount provided by creditors. In year 2005/06, 2006/07, 2007/08, and 2007/8 are 17.46%, 19.83%, 25.44%, 20.44% respectively. Average ratio of it is 22.09%.

Again, in the case of HBL, it shows the debt to total assets ratio in the year 2005/06,2006/07,2007/08,2008/09and2009/10are37.14%,39.61%,42.86%,49.64%,and 17.76% respectively. Average ratio is 37.402%.

4.2.1.3 Debt to Equity Ratio

The debt-equity ratio measures the long-term components of capital structure. It reflects the relative claims of creditors and shareholders against the assets of the firm. Debt to Equity ratio indicates the relative proportions of debt and equity. The relationship between outsiders' claims and owners' capital can be shown by debt-equity ratio.

Table -3
Comparative Debt -Equity Ratio (in Percentage)

F/Y	SCB	NABIL	NIB L	HBL
2005/06	95.5	163.51	317.42	359.26
2006/07	89.51	131.9	273.46	396.14
2007/08	121.79	189.41	383.41	359.544
2008/09	151.04	269.13	400.95	382.07
2009/10	132.92	347.29	295.68	255.63
Average	118.152	220.248	334.184	350.5288

Sources: Appendix 3

From the table 3, the debt to equity ratio of SCB in the year 2008/09 is151.04%. 2005/06, 2006/07, 2007/08 and 2009/10 are 95.5%, 89.51%, 121.79% and 132.92% respectively. Average ratio is 118.15%.

Same as in NABIL It shows 163.51%, 131.9%, 189.41%, 269.13%, and 247.29% in the year 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 respectively. We can see that ratio is very fluctuating highest debt is use in year 2008/09. Average ratio is 220.25%.

Similarly, the debt to equity ratio of NIBL is in year 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 are 317.42%, 273.46%, 383.41%, 400.92%and 295.68% respectively. Average ratio of it is 334.18%.

Again, in the case of HBL, it shows the debt to equity ratio in the year 2005/06,2006/07,2007/08,2008/09and2009/10are359.26%,396.14%,359.54%,382.07%,and 255.63% respectively. Average ratio is 350.53%.

4.2.1.4 Interest Coverage Ratio

The interest coverage ratio is useful tool to measure long-term debt serving capacity of the firm. It is also called interest earned ratio. Interest is fixed charges of the companies, which is charged in long-term and short-term loans. Generally, Interest coverage ratio measures the debt serving capacity of a firm and it is concerned with long-term loans. It shows how many times the interest charges are covered by EBIT out of which they will be paid. This ratio uses the concept of net profit before tax because interest is tax deductible or tax is calculated after paying interest on loan. This ratio examines the interest paying capacity of the firm by how many times the interest charges are covered by EBIT. Interest coverage ratio is calculated dividing

EBIT by interest. So, it is necessary to analyze EBIT and interest. This ratio is useful to measure long-term debt serving capacity of the firm.

Table - 4
Comparative Interest Coverage Ratio

F/Y	SCB	NABIL	NIB L	HBL
2005/06	3.8	3.32	1.71	1.86
2006/07	4.14	4.11	1.94	1.93
2007/08	4.01	3.51	2.03	2.04
2008/09	3.03	2.79	2.06	1.93
2009/10	4.03	2.44	2.15	1.52
Average	3.802	3.234	1.978	1.856

Sources: Appendix 4

In the table 4, the average ratio of SCB is which implies the number of times the interest covered by its EBIT. The interest coverage ratio of SCB shows a fluctuating trend. The interest coverage of SCB in FY 2005/06 is 3.8 times, which increases to 4.14 times in 2006/07 and 4.01, 3.03, 4.03 times in 2007/08, 2008/09, 2009/10 respectively.

In case of NABIL, the interest coverage ratio is 3.32, 4.11, 3.51, 2.79, and 2.44 times in the FY 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 respectively. And average ratio is 3.23.

Similarly, in the case of NIBL the ratios are 1.71, 1.49, 2.03, 2.06, 2.15 times in the FY 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 respectively and the average ratio is 1.98.
In case of HBL, the interest coverage ratio 1.86, 1.93, 2.04, 1.93, 1.52 times is in the FY 2005/06, 2006/07, 2007/08, 2008/09, and 2009/10 respectively.

4.2.1.5 Return on Total Assets

Return on total assets ratio measures the profitability of bank that explains a firm to earn satisfactory return on all financial resources invested in the banks' assets. The ratio explains net income for each unit of assets. Higher ratio indicates efficiency in utilizing its overall resources and vice versa. From the point of view of judging operational efficiency, rate of return on total assets is more useful measure.

Table - 5
Position of comparative Return-Total Assets (in Percentage)

F/Y	SCB	NABIL	NIB L	HBL
2005/06	2.27	2.72	1.15	2.05
2006/07	2.71	3.02	1.43	2.00
2007/08	2.56	2.84	1.64	3.09
2008/09	2.42	2.47	1.82	2.98
2009/10	2.46	2.01	1.79	1.76
Average	2.484	2.6122	1.57	2.376

Sources: Appendix 5

The table 5 shows the comparative position of return on total assets of the four commercial banks. From the table, the ROA of SCB in the year's 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 are 2.27, 2.71, 2.56, 2.42, and 2.46% respectively. The average ratio is 2.48%.

Similarly, the ROA of NABIL in the year's 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 are 2.72, 3.02, 2.84, 2.47, and 2.01% respectively. Average ROA is 2.61%.

Again, from the above table, the ROA of NIBL is1.15, 1.43, 1.64, 1.82and 1.79 %in the years 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 respectively. The average return is 1.57%.

Again, The ROA of HBL in the year's 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 are2.05, 2.00, 3.09 2.98 and1.79% respectively and the average return is 2.38%.

4.2.1.6 Return on Shareholders' Equity

Shareholders' fund represents that part of long-term source of funds, which is collected by issuing equity shares and preference shares. Shareholders are actually the owners of the company. Shareholders have ultimate claim in the return of the company. To measure the return earned by shareholders, return on shareholders equity (ROSHE) is used or this ratio is calculated to find out the profitability on the owners' capital or investment. Shareholders get the return after paying the fixed interest charge to the creditors and tax to the government. Earning after tax (EAT) is the profit of the shareholders. Therefore this ratio is calculated on the basis of EAT. In this study, the sampled companies have not employed the preference share thus it includes only return on shareholders' equity. The high ROSHE represents the high

profitability of the firm and vice versa. So, high ROSHE is desirable from the point of view of the owners of the firm.

Table - 6
Return on Shareholders' Equity (in Percentage)

F/Y	SCB	NABIL	NIB L	HBL
2005/06	35.96	30.75	20.94	19.87
2006/07	34.07	31.29	19.67	20.00
2007/08	37.55	33.88	24.77	25.9
2008/09	32.68	32.76	26.7	22.9
2009/10	32.97	30.64	25.94	25.3
Average	34.646	31.864	23.604	22.794

Sources: Appendix 6

Table 6 exhibits Return on Shareholder's Equity of sampled companies. In case of SCB, in the fiscal year 2005/06, the ratio is 35.96% that implies that one rupee investment by shareholders' equity earned 35.96 paisa in one-year. In the fiscal year 2006/07 it is decreased by to 34.07%. Similarly in the fiscal year 2007/08, 2008/09 and 2009/10 the ratios are 37.55%,32.68/%,and 32.97% .The average ratio is 34.65%.

Similarly, in the case of NABIL, ROE is in year 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 are 30.75, 31.29, 33.88, 32.76, and 30.64% respectively. Average ratio is 31.86%.

In the case of NIBL, in the fiscal year 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 the ratios are 20.94, 19.67, 24.77, 26.70, and 25.94% respectively. The highest ratio is 26.70%in the year 2008/09 and lowest ratio is 19.67% in the year 2006/07.Average ratio is 23.60%.

Again, in HBL, in the fiscal year 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 the ratios are 19.87, 20.00, 25.90, 22.90 and 25.30% respectively. And its average ratio is 22.79%.

4.2.1.7 Earning Per Share (EPS) Analysis

The profitability of bank from the point of view of the ordinary shareholders is earning per share. The ratio explains net income for each unit of share. Earning per share of an organization gives the strength of the share in the market. It shows how much theoretically belongs to the ordinary shareholders.

Table -7
Position of comparative EPS

F/Y	SCB	NABIL	NIB L	HBL
2005/06	143.55	92.61	51.70	49.85
2006/07	143.92	105.46	39.50	47.91
2007/08	175.81	129.21	59.35	59.24
2008/09	167.37	136.08	62.57	60.66
2009/10	131.91	108.35	57.89	62.74
Average	152.512	114.542	54.202	56.92

Sources: Appendix 7

The earnings per share of SCB are 143.55, 143.92, 175.81, 167.37 and 131.91 in the years 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 respectively. The average EPS is 152.51. The overall trend is very fluctuating. The highest EPS is 175.81 in the year 2007/08.

Again, the EPS of NABIL in 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 are 92.61, 105.46, 129.21, 136.08 and 108.35 respectively. Average EPS is 114.54.

And, the earnings per share of NIBL in the years 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 are 51.70, 39.50, 59.35, 62.57, and 57.89 respectively. And the average EPS is 54.202.

Similarly, the earnings per share of HBL in the years 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 are 49.85, 47.91, 59.24, 60.66 and 62.74 respectively. And the average EPS is 56.92.

4.2.1.8 Dividend per Share (DPS) Analysis

Dividend per share is evaluated to know the share of dividend that the shareholders receive in relation to the paid up value of the share. Dividend per share is the earning distributed to ordinary shareholders divided by the number of ordinary shares outstanding,

Table - 8
Position of comparative DPS

F/Y	SCB	NABIL	NIB L	HBL
2005/06	110	65	15	0
2006/07	120	70	12.5	11.58
2007/08	130	85	20	30
2008/09	80	100	5	15
2009/10	80	60	7.5	25
Average	104	76	12	16.316

Sources: Appendix 8

The dividends per share of SCB are Rs.110, Rs.120, Rs.130, Rs.80, and Rs.80 in the year 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 respectively. The average DPS is Rs.104. The highest DPS paid is Rs.130 in the year 2007/08.

Same as, NABIL shows a DPS of Rs.65, Rs.70, Rs.85, Rs.100, and Rs.60 respectively. Average DPS is 76. It paid a highest dividend of Rs. 100 in year 2008/09.

Again, NIBL shows a DPS of Rs.15.00, Rs.12.50, Rs.20.00 Rs.5.00 and Rs.7.50 in the years 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 respectively. The average DPS is Rs.12.00. It paid a highest dividend of Rs.20.00 in the year 2007/08 and the lowest dividend Rs.5.00 in the year 2008/09.

Similarly, HBL shows a DPS of Rs.0, Rs.11.58, Rs.30, Rs.15 and Rs.25 in the years 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 respectively. The average DPS is Rs.16.32.

4.3 Results of Statistical Analysis

In this study, statistical tools are used to data analysis. Statistical methods can be used to summarize or describe a collected data. This is called descriptive statistics. In addition, patterns in the data may be modeled in a way that accounts for randomness and uncertainty in the observations and then used to draw inferences about the process of population being studied; this is called inferential statistics. Since the descriptive statistics are powerful tools to have ideas of distributions of the variables, some of the most frequently used statistics like mean, standard deviation.

4.3.1 Descriptive Statistics of the Variables

First of all means, standard deviation and the correlation are determined, the means and standard deviation are presented in table 9 and correlation coefficients are presented in table 11.

Table- 9
Mean and Standard Deviation of the Variables

Variables	No. of Observations	Mean	St.dev
Ko	20	0.048	0.007
L1	20	0.92	0.07
Size(Log S)	20	10.13	0.30
Growth	20	0.035	0.17
DPR	20	0.46	0.25
Liq	20	0.76	0.24
E.V	20	0.16	0.17
Ke	20	0.09	0.08

From the table 9 mean and standard deviation of the eight variables evaluated and analyzed in this study. The eight variables are cost of capital, Leverage, Size, DPR, Liquidity ratio, Growth, E.V and cost of equity. This study conducted with five years data of four banks; they are Standard Chartered Bank Limited, Nabil Bank Limited, Nepal Investment Bank Limited and Himalayan Bank Limited. Therefore we have altogether twenty observations. The mean of cost of capital is 0.048 and St.dev is 0.007. The mean of Leverage is 0.92 and its St.dev is 0.07. The mean of Size is 10.13 and St.dev is 0.30. The mean of Growth is 0.03 and St.dev is 0.17. Similarly, the mean of DPS is 0.46 and its St.dev is 0.25. Again, mean of Liquidity is 0.76 and St. dev is 0.24. Mean of earning volatility is 0.16 and its St.dev is 0.17. Finally, the mean of cost of equity is 0.09 and St.dev is 0.08.

Table-10
Individual Variables

Banks	Ko	L1	Size	DPR	Liq	Growth	E.V	Ke
SCB	0.05	0.89	10.18	0.69	0.77	-0.007	0.77	0.07
Nabil	0.06	0.91	10.05	0.66	0.92	0.04	0.92	0.08
NIBL	0.08	0.99	9.99	0.23	0.91	0.05	0.91	0.06
HBL	0.07	0.94	10.31	0.28	0.43	0.05	0.43	0.07

From table 10 that average cost of capital NIBL in our study period is 8 % which is higher than the average of SCB, Nabil and HBL. The average cost of capital of SCB is 5%, Nabil average is 6 % and HBL average is 7 %.SCB has the lowest average cost of capital among four banks.

The average of Leverage is 99% of NIBL which is the highest than other banks and the lowest is 89 % of SCB. Nabil and HBL have 91% and 94 % respectively.

Size of the four listed banks SCB, Nabil, NIBL and HBL have the average of size are10.18, 10.05, 9.99 and 10.31 respectively. HBL has the highest size i.e.10.31 and the lowest size is 9.99 of NIBL.

Dividend payout ratio of SCB is 69 % which is the higher than other selected banks. Nabil has 66 %, NIBL has 23% and HBL has 28 %. NIBL has the lowest DPR among four banks.

The average of Liquidity ratio of SCB is 0.77 times, Nabil, NIBL, HBL‘s average of Liq. are 0.92, 0.91 and 0.43 times respectively. The highest average of liquidity ratio is 0.92 times of SCB and the lowest liquidity ratio is 0.43 times of HBL.

The average growth of HBL and NIBL are 5 % which is the highest than other banks and the lowest average is -0.7% of SCB. Similarly Nabil has growth rate is 4%.

Earning variability of SCB, Nabil, NIBL, and HBL are 77, 92, 91, 43% respectively. The highest average of E.V is 92% of Nabil and the lowest average of E.V is 43% of HBL.

The costs of equity of four selected banks are 7, 8, 6, and 7% of SCB, Nabil, NIBL and HBL.SCB and HBL have same cost of equity i.e. 7%. The highest average of cost of equity is 8% of Nabil and the lowest is 6% of NIBL.

4.3.2 Cost of Capital and Leverage

The cost of capital for a firm is a weighted sum of the cost of equity and the cost of debt. It is minimum required rate of an investment which must be earned by a project remain unchanged its value or wealth. Leverage refers to using borrowed funds, or debt so as to attempt to increase the returns to equity. Financial leverage takes the

form of a loan or other borrowing, the process of which are reinvested with the intent to earn a greater rate of return than the cost of interest.

4.3.2.1 Correlation Coefficient between Variable

Table 11 indicates the correlation between the variables in listed banks.

Table- 11
Correlation Matrix of the variables

Variables	L1	Log S	Growth	DPR	Liq.	E.V
Ko	-0.352 (0.128)	-0.069 (0.771)	0.113 (0.636)	0.451* (0.046)	0.509 (0.22)	0.418 (0.418)
L1		-0.131 (0.583)	0.081 (0.735)	-0.252 (0.284)	-0.154 (0.518)	-0.074 (0.756
Log S			-0.173 (0.465)	-0.170 (0.474)	-0.316 (0.175)	0.245 (0.299)
Growth				0.100 (0.675)	-0.034 (0.888)	0.226 (0.338)
DPS					0.360 (0.119)	-0.317 (0.173)
Liq.						0.115 (0.628)

P-value is given in the bracket
**Correlation is significant at the 0.01 level (2- tailed)
*Correlation is significant at the 0.05 level (2- tailed)
Sources: Appendix 9

The table shows the correlation between each of the variables. Our main concern is the correlation between cost of capital and other variables taken one at a time. The cost of capital is negatively correlated with leverage and Log S and positively correlated with growth, DPR, Liquidity and E.V. The negative correlation between cost of capital and leverage indicate an increase in the portion of debt in a capital structure the cost of capital decline s. same is the case with other variables with negative correlation as well. The positive correlation between cost of capital and growth which indicates that growing banks are needed greater amount of capital. As they seek more and more capital, as a result cost of capital is increased. In our figure but growth rate isn't very significant i.e.11.28%. The negative correlation between

cost of capital, leverage and Log S where negatively with leverage and Log S both are very insignificant i.e. 35.21% and 6.93% respectively.

The leverage has positively correlated with Growth but negatively correlated with logs, DPR liquidity and E.V. The leverage and growth have positively related which is very significant i.e.8.08 % this indicates increasing in growth of companies, decreasing in leverage of companies. The leverage has negatively relation with size. It indicates that as an increase in size of the companies, the leverage of companies will decrease by 13.06%.

Size has negatively correlated with growth and positively correlated with DPR, Liq. and EV. Larger size of companies tends to pay significantly high percentage of dividend to shareholders, which is indicated by figure. This indicates larger size of companies have less risk.

The growth has negatively correlated with Liq. but positively correlated with DPR and EV. This mean increase in DPR and E.V. will increase the growth of firm where as large size and high leverage will decrease the growth rate of firm. The correlation between growth and DPR, Liquidity and E.V. is 1.00%, 3.38% and 24.5%.
DPR has negatively with earning variability and positively correlated with liquidity. The correlation between DPR and liquidity is 36%.E.V. is 31.7%.Its P-value is 0.360 and -0.173 respectively.

Earning variability has positively correlated with liquidity. The correlation between E.V and liquidity is 11.55%. Its P-value is 0.628.

The important point to be noted here is that the relation of cost of capital to the leverage, other being held constant, clearly shows that it has negative correlation thus, supports theoretical expectation made in previous chapter.

4.3.2.2 Simple Regression Analysis of the Variables

The simple regression (model I) results for the pooled data of the sample banks for our companies are presented in table 12. There are four companies under this head. The observation is undertaken for five years each. So there are 20 observations, each independent variable is regressed against cost of capital separately.

Table 12
Simple regression Result with average cost of capital
As Dependent variable (Model –I)

Model	Observation no.	Constant a	Beta coefficient	R2	S.E. of beta coefficient	T-value	P-value
$Ko=a+b_1L_1$	20	0.081	-0.37	0.114	0.025	-1.520	0.146
$Ko=a+b_1Logs$	20	0.130	-0.08	0.121	0.05	-1.574	0.133
$Ko=a+b_3 G$	20	0.047	0.08	0.037	0.10	0.830	0.417
$Ko=a+b_4DPR$	20	0.041	0.015	0.256	0.006	2.486	0.023
$Ko=a+b_5 Liq$	20	0.037	0.014	0.211	0.006	2.195	0.042
$Ko=a+b_6 EV$	20	0.046	0.010	0.052	0.010	0.993	0.334

Sources: Appendix 10,11,12,13,14,15

Now, we try to analyze the regression results. The regression of average cost of capital on leverage is concerned; beta-coefficient is negative which indicates that using higher degree of leverage can lower average cost of capital. In other word, percentage increase in leverage reduces the cost of capital by -0.37. The T- value is also not satisfactory. So we can infer that there is reasonable evidence to suggest that leverage does have an effect on cost of capital. T-value is -1.520. Moreover the co-efficient of determination (R2 = 0.114) should be considered satisfactory. It means that the regression model explains about11.4% of variation in cost of capital by leverage variable.

Likewise we can analyze the impact of other independent variables as well. With respect to the regression of average cost of capital on size, the results concluded that as the size of the firm decreases, the cost of capital decreases and the beta coefficient is also negative and t-value is -1.574 but the P-value exhibit that it is not significant at 0.05 level as the P-value is 13.3%. The value of R2 is 0.121.

The regression of average cost of capital on growth of the companies indicates that increasing growth can lead to increase on cost of capital of companies as the value of beta coefficient is 8%. T-value is 0.830. The value of R2 is 0.037 i.e. 3.7%. P-value of 0.417 i.e. insignificant.

The regression co-efficient of average cost of capital on dividend payout ratio is positive. The beta constant is 15%. P-value of 0.023 exhibits that the coefficient is statistically significant at 0.05 levels. The value of R2 is 25.6%.

The regression co-efficient of average cost of capital on liquidity ratio is positive. The beta constant of Liq. is 14% that is positive. The value of R2 is 21.1% and P-value is 0.042 exhibits that is significant.

The beta co-efficient of E.V is positive hence there is positive relation between cost of capital and E.V .P-value of 0.334 exhibits that is not statistically significant at 0.05 level. The value of R2 indicates 5.2%.

The main concern of this study is with the performance of the leverage variables. The beta co-efficient of leverage, size are negative. However, the co-efficient are not statically significant for all. But the result is closer to the traditional approach.

4.3.2.3 Multiple Regression Analysis

To avoid the biases and weakness of the simple regression equation, multiple regression (model II) is used and the results of this model is given in table13 for the banks.

Table 13

Multiple Regression Result (model-II)

Reg. Equation Ko = a +b1L1+b2Log S +b3 G+b4 DPR +b5 Liq+b6 EV

Variables	Beta coefficient	St. error	T-value	P-value	Status
Constant (a)	0.152	0.67	2.273	0.042	Significant
L1	-0.009	0.005	-1.805	0.096	Insignificant
Log S	-0.023	0.028	-0.845	0.415	Insignificant
Growth	0.000	0.009	-0.065	0.949	Insignificant
DPR	0.015	0.007	2.268	0.043	Significant
Liq.	0.020	0.007	0.269	0.793	Insignificant
E.V	0.020	0.010	2.037	0.64	Insignificant

R2	0.606
F	2.636
P-value	0.067

Sources: Appendix 16

The co-efficient of the regression equation can be interpreted as follows:
The constant of 0.152 has virtually no meaning. Mathematically it means that at zero level of all the independent variables the cost of capital is 0.152. But this is outside our observed range, as we have no observation of cost of capital at zero level of any variables. So this intercept term doesn't have meaning of its own. The negative beta-coefficient of leverage means that a percentage rise in leverage causes a reduction in cost of capital by -0.009. Holding constant the other variables. Similarly the co-efficient of other observation range we can't extend this estimate very far from the range of observed values. The co-efficient of multiple determination R2 = 0.606 indicates that 60.6% of the total variation in cost of capital has been explained by the regression model. This should be a satisfactory level of explanation for the model as a whole. Furthermore, the F- statistics for the regression is 2.636. The t-values of leverage are -1.805 which is in negative. From this statistics we can infer that leverage doesn't have an affect on cost of capital. The beta-coefficient is negative for leverage size, and the beta coefficient are positive for growth, DPR, liquidity and EV. mean that a percentage rise in these variables causes increase in the cost of capital. There are entire coefficient are not significant. Therefore, the results are not strong enough to establish the relationship between cost of capital and capital structure. Likewise the figures of other variables infer according to their signs and value the R2 of our multiple regression models is 60.6%. Which should be considered as satisfactory. Our regression model satisfactory explains the variation in cost of capital. So regression model provides of statistically insignificant explanation of variation in cost of capital.

4.3.3 Cost of Equity and Leverage

Cost of equity is the minimum rate of return a firm must offer shareholders to compensate for waiting for their returns and for bearing some risk. The cost of equity capital for a particular company is the rate of the return on investment i.e. required by the company's ordinary shareholders. The returns are expected future returns, not historical returns, and so the returns on equity can be expressed as the anticipated dividends on the shares. Leverage generally refers to using borrowed funds or debt so as attempt to increase the returns to equity. Financial leverage takes the form of a loan or other borrowings (debt), the proceeds of which are reinvested with the intent to earn a greater rate of return than the cost of interest. Leverage allows greater potential returns to the investor than otherwise would have been available.

4.3.3.1 Correlation Analysis

The purpose of this section is to determine the empirical relationship between cost of equity and debt equity ratio (leverage). Regarding this, the M-M position is that the cost of equity increases linearly with leverage. On the other hand, tradition belief is that cost of equity either remains constant or rises slightly with moderate level of the debt and after word increase with leverage at an increasing rate. Thus, both these holes that value of the equity increases with leverage. The possibility explored in this section is that, up to some level of debt, the increases in shareholder earnings may out weight financial risk and as result. The cost of equity may decline with leverage. In other to help in regression analysis zero order correlation between the variables be presented in table 14 for banks.

Table 14
Correlation Matrix of the variables

Variables	L1	Log S	Growth	DPR	Liq.	E.V
Ke	-0.561* (0.10)	-0.144 (0.545)	-0.022 (0.928)	0.104 (0.663)	-0.022 (0.926)	-0.171 (0.472)
L1		-0.131 (0.583)	0.081 (0.735)	-0.252 (0.0284)	-0.154 (0.518)	-0.074 (0.756)
Log S			-0.173 (0.465)	-0.170 (0.474)	-0.316 (0.175)	0.245 (0.299
Growth				0.100 (0.675)	-0.034 (0.888)	0.226 (0.338)
DPR					0.360 (0.119)	-0.317 (0.173)
Liq.						0.115 (0.628)

P-value is in the bracket
**Correlation is significant at the 0.01 level (2-tailed)
*Correlation is significant at the 0.05 level (2-tailed)
Sources: Appendix 17

The table 14 indicates that in listed companies, cost of equity is negatively correlated with L1, size, growth, liquidity and E.V and positively with DPR. The positive correlation between cost of equity and leverage indicate and decrease in the portion of debt in a capital structure the cost of equity inclines same is the case with other

variables with positive correlation as well. The cost of equity has negatively correlated with liq. i.e. 2.2%. The positive correlation between cost of equity and growth which indicates growing companies are required more capital as a result cost of equity is increased the leverage is positively correlated with DPR and negatively with size, growth, Liquidity and E.V. The negative correlationship between EV indicates the decrease in firm's earning due to decrease in debt financing, which is very insignificant i.e. 17.10%.

The leverage has positively correlated with Growth but negatively correlated with logs, DPR, liquidity and E.V. The leverage and growth have positively related which is very significant. i.e. 8.08%. The leverage has negatively relation with size. It indicates that as an increase in size of the companies, the leverage of companies will decrease by 16.06%.

Size of the firm is negatively correlated with growth, DPR and liquidity. The size is positively correlated with E.V. Its P-value is of growth, DPR, Liq. and E.V are 0.465, 0.474, 0.175, and 0.299 respectively.

The growth has correlated positively with DPR and EV. Growth has negatively correlated with liquidity. The correlation between growth and DPR, Liquidity and E.V is 1.00%, 3.38% and 22.61%.

DPR has positively correlated with liquidity and negatively correlated with E.V. The correlation between DPR and liquidity and E.V. is 35.10% and 31.73%.

Lastly, E.V is positively correlated with Liquidity. The correlation between E.V and liquidity is 11.55%.And its P-value is 0.628 so it is insignificant.

Thus, above correlation matrixes clearly show the cost of equity is in both positively and negatively related with leverage which suggests that the cost of equity decline with leverage when it's negatively related but it is increase in leverage notion leads to increases in cost of equity capital.

4.3.3.2 Simple Regression Analysis

In other to validate relationship between cost of equity and other explanatory variables the simple regression (model IV) are estimated the results of these equations are presented in table 15

Table15

Simple Regression Result with Cost of Equity as Dependent Variable

(Model IV)

Model	Observation no.	Constant (a)	beta coefficient	R2	S.E. of beta coefficient	T-value	P-value
$Ke = a + b_1 L_1$	20	0.736	-0.710	0.315	0.247	-2.875	0.010
$Ke = a + b_1 Logs$	20	0.466	-0.037	0.019	0.063	-0.593	0.560
$Ke = a + b_3 G$	20	0.089	-0.010	0.019	0.113	-0.092	0.928
$Ke = a + b_4$ DPR	20	0.073	0.034	0.000	0.077	0.443	0.663
$Ke = a + b_5$ Liq	20	0.095	-0.007	0.000	0.080	-0.094	0.926
$Ke = a + b_6$ EV	20	0.102	-0.084	0.29	0.114	-0.735	0.472

Sources: Appendix 18,19,20,21,22,23

From the table 15, the regression of cost of equity on leverage is concern; beta coefficient is negative, which indicates that the cost of equity decreases as leverage increases by -0.710. However, the co-efficient of determination R2 is 31.5% and t-value is -2.875 so both are significant.

As we can see the regression of cost of equity on size, the result leads to the conclusion that cost of equity decreases as size decreases. R2 is 1.9%. However, the coefficient is not statistically significant with P-value of 0.560.

Beta coefficient is negative with respect to the growth, indicates that cost of equity decreases as companies achieving growth. The coefficient is statistically significant with P-value of 0.928.R2 is 0.019 which is significant.

The regression of cost of equity payout ratio indicates that the cost of equity increases companies pay higher dividend or shareholders prefer current dividend. However, the P-value is insignificant at 0.663 which is greater then critical P-value of 0.005. R2 is 0.000.

With respect to the regression of cost of equity on liquidity the results suggests that the cost of equity increase as liquidity decreases. But the result is insignificant with P-value of 0.926 which is greater than the critical value of 0.005. Its R2 is 0.000 which is significant.

Beta coefficient is negative in case of earning variability, which indicates that cost of equity decreases as operating profit increases and co-efficient of earning variability is significant. R2 is 0.029 which is significant.

4.3.3.3 Multiple Regression Analysis

To make more reliability in the analysis multiple regression (model V) is done and the result of the model is represented in the table 16 for the listed banks.

Table 16

Multiple Regression Results (model-V)

Reg. Equation Ke=a+b1 L2+b2 LogS+b3 G+B4 DPR +b5 Liq+b6 E.V

Variables	Beta coefficient	St. error	T-value	P-value	Status
Constant (a)	1.527	1.010	1.513	0.156	Insignificant
L1	-0.832	0.312	-2.670	0.20	Insignificant
Log S	-0.061	0.079	-0.774	0.454	Insignificant
Growth	0.22	0.117	0.185	0.857	Insignificant
DPR	-0.040	0.109	-0.367	0.720	Insignificant
Liq	-0.044	0.092	-0.478	0.642	Insignificant
E.V	-0.097	0.157	-0.618	0.548	Insignificant

R2	0.424
F	1.264
P-value	0.344

Sources: Appendix-24

It can be observed from table 16 that the beta coefficient of leverage is negative, indicates that the cost of equity decreases as leverage decreases. The coefficient of multiple determination R2 =.0.424 indicate that the regression model has explained 42.40% of total variation in cost of equity. This is slightly satisfactory level of explanation for the model as a whole. Furthermore, the f-statistics for the regression is 1.264.The P-value for the regression is 0.3444 which is less than critical of 0.05.

The beta co-efficient of size and implies that cost of equity decreases as size increases. The beta coefficient is insignificant with P-value of 0.454.

With respect to the growth, the coefficient is positive that suggest the cost of equity increases as companies achieve growth. But the coefficient is insignificant with P-value of 0.857.

The beta coefficient of DPR suggests that investors have preference for current dividend because beta coefficient is negative. It is insignificant with P-value of 0.720.

Beta coefficient of Liq. is negative suggests that cost of equity increase as short term risk decrease. It is insignificant with P-value of 0.642.

The coefficient of E.V positive, suggests that cost of equity is decrease as business risk decrease. It is insignificant with P-value of 0.548.

4.4 Major Findings of the Study

The percentage of total debt of the firm covered by long-term debt is indicated by Long-term debt to Total Debt ratio. SCB has 9.016% of average long-term debt to total debt ratio. Similarly NABIL, NIBL and HBL have average ratio of 18.73%, 23.67% and 22.33% respectively. In all the four cases, the total debt is contributed by current liabilities to a large extent. The analysis of all four Banks reveals the fluctuating trend of long-term debt to total debt ratio. Among the four, SCB has used minimum long-term debt in comparison to Nabil, NIBL and HBL.

The percentage of total assets of the firm covered by LTD is indicated by LTD to total assets ratio. SCB has 8.37% of long term debt to total assets. Same as NABIL, NIBL and HBL have average ratio of 17.24%, 22.09% and 37.40% respectively. Among four banks, the LTD to total assets of SCB has minimum long term debt to total assets and highest one is 37.40% of HBL.

The analysis shows that these banks have either no debt or very low percentage of debt in comparison to equity capital. Debt to equity ratio of SCB, Nabil, NIBL and HBL is 118.15%, 220.25%, 334.18% and 350.53%.SCB has the lowest debt equity and highest one is 350.53% of HBL.

The analysis shows that all the sample companies SCB, Nabil, NIBL and HBL are able to pay the interest amount. Among the four, SCB has the highest interest coverage ratio of 3.80 and HBL has the lowest ratio of 1.86, same as interest coverage ratio of Nabil and NIBL are 3.23 and 1.98 respectively. It shows that the firm is able to pay the interest amount.

In comparison, Nabil seems to have the highest average return on asset of 2.61%. The average of SCB, NIBL and HBL are 2.48%, 1.57% and 2.38 % respectively. The lowest average return on asset is 1.57% of NIBL.

The Return on Shareholder's Equity of SCB, Nabil, NIBL and HBL is to be fluctuating. The average return of SCB is 34.65% which indicates that the shareholders earned 34.65 paisa investing rupee one. Same as Nabil, NIBL and HBL, have 31.86%, 23.60% and 22.79% respectively. By analyzing the average return, we can conclude that return earned by the shareholders' equity of HBL is least i.e. 22.79% and the return of SCB is highest among four companies i.e. 34.65%.

The earning per share explains net income for each unit of share. It shows the market position of the market. The average earning per share of SCB is Rs. 152.44. The average earning per share of Nabil is Rs. 114.54. The average earning per share of NIBL is Rs. 54.20. Similarly, the average earnings per share of HBL is Rs. 56.92. Among the four, SCB has the highest earning per share.

Dividend per share is the earning distributed to ordinary shareholders. The analysis shows among the four Banks SCB has paid the highest average dividend of Rs 104 and NIBL has paid the least of Rs. 12, same as dividend pay out ratio of Nabil and HBL are Rs.76 and Rs.16.32 respectively.

In Descriptive Statistics Analysis of the variables it shows highest cost of capital is 8% of NIBL, highest L_1 is 99% of NIBL, highest size is 10.18 of SCB. Same as it show highest growth is 5% of NIBL and HBL, the highest DPR is 69% of SCB, the highest Liquidity is 0.92 times of Nabil and the highest Earning volatility is 92% of Nabil and the highest cost of equity is 8% of Nabil.

Correlation Coefficient between variables shows clearly positively relationship between Cost of Capital and Leverage. The cost of capital has negatively relationship with size, leverage. With remaining variables it has positively relationship. The correlation between cost of capital and leverage, size, growth, DPR, liquidity and E.V. is 35.21%, 6.93%, 11.28%, 45.13%, 50.94% and 41.78% respectively.

Simple Regression analysis shows negative relationship between cost of capital and leverage. It indicates the cost of capital will decrease by 37%as leverage increases. The coefficient of determination R2 is 11.4%. Similarly it also shows negative relationship with size with beta coefficient of 8%. Cost of capital has positive relationship with Growth, DPR, Liq. and E.V with beta coefficient of 8%, 1.5%, 1.4% and 1% respectively. The co-efficient of determination R2 value for size, growth, DPR, liquidity and E.V is 0.121, 0.037, 0.256, 0.211 and 0.052 respectively. The

variable gives us the information about increasing and decreasing position of leverage. The firm same as if beta coefficient is increase cost of capital also increase which can see in that analysis.

Multi-Regression results also shows that leverage and size have negative with cost of capital with beta coefficient of 0.009 and 0.023 respectively. The P-value of leverage is 0.042 which is significant and P-value of size is 0.096 which is insignificant. T-value of leverage and size are negative i.e. -1.805 and -0.845.Cost of capital has positive relationship with Growth, DPR, liquidity and E.V.P-value exhibits that the results are significant with leverage and DPR and insignificant for other variables. R2 60.6 % of total variation in cost of capital has been explained by regression model.

Correlation Analysis show the cost of equity is in both positive and negative related with leverage which indicates that when leverage is negative, cost of equity declined. As oppose incremental of leverage brings increment in cost of equity. The cost of equity has negatively relationship with size, leverage, growth, liquidity and E.V. With remaining variables it has positively relationship. The correlation between cost of equity and leverage, size, growth, DPR, liquidity and E.V. is 56.10%, 14.39%, 21.71%, 10.39%, 2.21% and 17.07% respectively.

Simple Regression Analysis shows the negative relationship with leverage, size, growth, Liquidity and E.V is -0.710, -0.037, -0.010, -0.007and -0.087 respectively and positive relationship with DPR is 0.0.034. Its P-value is 0.010, 0.560, 0.928, 0.663, 0.926 and 0.472 respectively which exhibits that leverage and E.V are significant and others are insignificant. R2 is 0.315, 0.019, 0.019, 0.000, 0.000 and 0.029 respectively.

Multiple Regression Analysis show in certain cases the cost of equity will decrease up to a point. Cost of equity is negatively related with leverage, size, DPR, Liquidity and E.V is -0.832, -0.061, -0.040, -0.044 and -0.097 respectively and positively related with 0.22.Their P-value are 0.156, 0.20, 0.454, 0.857, 0.720, 0.642 and 0.548 respectively and all of them are insignificant. P-value is 0.344 which is insignificant. F value is 1.264. R2 is 0.424 of total variation in cost of equity has been explained by regression model.

Chapter 5
SUMMARY CONCLUSION AND RECOMMENDATIONS

This chapter is a complete suggestive package, which contains summary, conclusion and recommendation. This chapter also highlighted some selected actionable conclusions and recommendation on the basis of the major findings, which are derived from the analysis of SCB, Nabil, NIBL and HBL. Summary covers the brief explanation to all the chapters of the study and shows the actual facts that have been taken from the analytical section. And the analysis is performed with the help of financial and statistical tools. Conclusions are based on the principal findings of the study representing the strengths and weakness of the performance of the commercial banks. Recommendations are presented in the form of suggestions, which are prepared on the basis of findings.

5.1 Summary

This paper has analyzed the relationship between cost of capital and capital structure and cost of capital and the relationship between cost of equity and the debt ration leverage using listed Nepalese banks data published by NEPSE. For that purpose, six different determinants of capital structure and cost of capital of business firms are taken. Those are leverage, growth, liquidity ratio, earning variability, size (logs) and dividend payout ratio. In this study M-M preposition were used as the average cost of capital. Preposition I is based on an implicit assumption regarding investors attitude towards financial risk arising from the use of debt in the capital structure of a firm. M-M her contented that investor would required a higher return on equity (i.e. the earning yield) for increased financial risk. M-M proposition II described the behaves of earning yield with financial risk of leverage and states that earning yield required by investors is an increasing linear function of financial risk or leverage. In contrast to M-M hypothesis the traditional view is that cost of capital structure and the earning yield is wither constant or rises slightly with financial risk or leverage within “acceptable” limit of debt.

This study used simple as well as multiple regression equipment to accomplish the objectives. It employed the simple regression equation to examine the relationship of cost of capital with each of the selected explanatory variables and the multiple regression equation was used to examine the relationship between cost of capital and leverage and cost of equity and debt ratio.

This study covered four listed banks those are Standard Chartered Bank Limited, Nabil NIBL and HBL. For the purpose of the study, the necessary data on capital structure and other related variables were collected from security Board that is published by NEPSE.

5.2 Conclusion

Bank is defined as a place where the transactions of money take place. In other words, bank is an institution, which deals in money, receiving it on deposits from customers, honoring customer's drawings against such deposits on demand, collection cheques for customers and lending or investing surplus deposits until they are required for repayment. Generally, an institution established by law, which deals with money and credit is called bank. Commercial Banks are considered second types of banks. These banks are established to improve people's economic welfare and facility, to provide loan to the agriculture, industry and commerce and to offer banking services to the people and the country. These banks have been playing a great role for the economic development of the country directly or indirectly. The services made by these banks are very important. Commercial banks are the heart of the financial system. They hold the deposits of individuals, government establishment and business units. They make funds available through their lending and investing activities to borrower: individuals, business firms and government establishments.

The capital structure decision is crucial for any business organization. The decision is important because of the need to maximize returns to various organizational constituencies and also because of the impact such a decision has on an organization's ability to deal with its competitive environment.

Correlation coefficient between variables shows negative relationship between cost of capital and leverage. It advises that cost of capital can be decrease by increasing the portion of debt finance in the capital structure. Its relationship with size is negative and others variables are positive.

This study shows simple regression has negative relationship between cost of capital and leverage, size and positive relationship with growth, DPR, liquidity and E.V. P-value of DPR and liquidity is significant and others variables are insignificant.

Multiple regressions show the negative relationship between cost of capital and leverage, size and growth, DPR, liquidity and E.V are positive. P-value of leverage

and DPR is statistically significant and rests of all variables are insignificant. R2 is 60.6%. Its F value is 2.636.

The results of Correlation Analysis shows that the cost of equity is positively related with leverage which indicates that when leverage increase cost of equity declines. It also have negative relationship with size, growth, liquidity and positively related with E.V.P-value of correlation is significant with leverage and E.V and others variables are insignificant.

Simple regression of cost of equity is negatively related with leverage, size, growth, liquidity and E.V and positively related with DPR. Its P-value is significant with leverage and insignificant with others variables.

The result of the multiple regression of cost of equity on selected explanatory variables reverted that the sign of beta coefficient for leverage, size, DPR, liquidity and EV. were negative and positive for growth. However, coefficients of all variables were insignificant,

Finally to summarize the main conclusion, the present study does not support the M-Ms independent hypothesis. It indicates that the cost of capital can be affected by the use of debt in capital structure. However, the result was slightly supporting the traditional belief. The cost of equity, in some case increases with leverage and in some case decreases with leverage. It was also difficult to support from the traditional belief. Anyway we get the following

- The cost of capital is declining function of leverage.
- The cost of equity first declines with leverage and then rises.

5.3 Recommendations

From the above finding and analysis, followings recommendations can be advanced to overcome the issues related to capital structure and cost of capital of the joint venture banks. Therefore the following recommendations should be brought into highlight to overcome inefficiency, weakness and to develop present fund mobilization and investment policy of the banks.

1. Nepalese listed companies have lack of theoretical and particle knowledge regarding capital structure and cost of capital concept. Theories developed by the scholars have able to attract the Nepalese investors. Thus, over all structure scenarios of the firm are in confusing state.

2. We may recommend that firm have to properly analyze and evaluate the investment proposal and determine whether it is beneficial of not. After making investment decision the management of the firm should be clear about the investment. It means that knowledge of capital structure and cost of capital pays vital role in investment. The analysis of cost of capital is very important in project appraisal because of the increasing cutthroat competition and critical Nepalese.

3. The management of the company always well informed about the sources of capital, their reliability, their cost and possible terms and conditions that can be made by the lender at the time of acquiring knowledge and existing atmosphere of the capital market.

4. The manager should not have to take any financial decision randomly and always keep in mind the view of cost of capital concept and theories of capital structure, which help the manage in taking correct decision.

5. Profit is a key of success of any business. The bank also cannot survive without the profit. So, they should keep in the mind for profit maximization. But in long term business bank also should be concern with the shareholder's wealth maximization as they are investor of the bank.

6. Today is an age of competition. Bank should be survived within these competitions. Therefore for attraction of the deposit, they should brought different attractive programmed , facilities , technology etc. like ATM, credit cards, 365days banking service, prompt service etc. In other words Bank needs to employ better marketing strategy in order to reap handsome benefit and to sustain for long period.

7. It is suggested to all the sample banks that they should use well-trained manpower. Well trained manpower will provide better services to the bank and

customer. They will try to increase the operating efficiency of the bank, so the banks have to conduct "Training School" for their personal.

8. The banks should provide social services. The banks should aware the people in remote areas like HIV Aids, in education sector, in environment and in health. They should aware the people that how can we protect from that disease, taught them how much the education is important for our daily life and the clean environment keeps us healthy.

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Appendices

Appendix-1

Banks	Fiscal Year	Long term debt	Total debt	Ratio	Percentage
SCB	2005/06	1428.5	22146.32	0.0645	6.4503
	2006/07	1416.38	20311.16	0.0697	6.9734
	2007/08	2136.31	24022.2	0.0889	8.8931
	2008/09	3196.49	26480.34	0.1207	12.0712
	2009/10	3301.01	30852.3	0.1070	10.6994
NABIL	2005/06	2421.37	15264.6	0.1586	15.8626
	2006/07	2186.42	15528.7	0.1408	14.0799
	2007/08	3551.51	20454.98	0.1736	17.3626
	2008/09	5536.24	25196.34	0.2197	21.9724
	2009/10	8464.09	34687.16	0.2440	24.4012
NIBL	2005/06	2314.18	12526.45	0.1847	18.4743
	2006/07	3227.32	15093.89	0.2138	21.3816
	2007/08	5426.83	19914.71	0.2725	27.2504
	2008/09	7530.29	25712.73	0.2929	29.2862
	2009/10	7944.23	36186.51	0.2195	21.9536
HBL	2005/06	4757.16	23437.86	0.2030	20.2969
	2006/07	6107.43	26302.94	0.2322	23.2196
	2007/08	6350.2	27694.21	0.2293	22.9297
	2008/09	8201.13	31372.64	0.2614	26.1410
	2009/10	6423.87	33662.54	0.1908	19.0831

Appendix-2

Banks	Fiscal Year	Long term debt	Total Asstes	Ratio	Percentage
SCB	2005/06	1428.5	23642.06	0.0604	6.0422
	2006/07	1416.38	21893.58	0.0647	6.4694
	2007/08	2136.31	25776.33	0.0829	8.2879
	2008/09	3196.49	28596.68	0.1118	11.1778
	2009/10	3301.01	33335.79	0.0990	9.9023
NABIL	2005/06	2421.37	16745.48	0.1446	14.4598
	2006/07	2186.42	17186.33	0.1272	12.7219
	2007/08	3551.51	22329.97	0.1590	15.9047
	2008/09	5536.24	27253.39	0.2031	20.3139
	2009/10	8464.09	37132.76	0.2279	22.7941
NIBL	2005/06	2314.18	13255.5	0.1746	17.4583
	2006/07	3227.32	16274.06	0.1983	19.8311
	2007/08	5426.83	21330.14	0.2544	25.4421
	2008/09	7530.29	27590.84	0.2729	27.2927
	2009/10	7944.23	38873.31	0.2044	20.4362
HBL	2005/06	4757.16	12810.15	0.3714	37.1359
	2006/07	6107.43	15420.17	0.3961	39.6068
	2007/08	6350.2	14817.83	0.4286	42.8551
	2008/09	8201.13	16521.14	0.4964	49.6402
	2009/10	6423.87	36175.53	0.1776	17.7575

Appendix-3

Banks	Fiscal Year	Long Term Debt	Shareholders' Equity	Ratio	Percentage
SCB	2005/06	1428.5	1495.74	0.9550	95.5046
	2006/07	1416.38	1582.42	0.8951	89.5072
	2007/08	2136.31	1754.13	1.2179	121.7874
	2008/09	3196.49	2116.35	1.5104	151.0379
	2009/10	3301.01	2483.54	1.3292	132.9155
NABIL	2005/06	2421.37	1480.88	1.6351	163.5089
	2006/07	2186.42	1657.63	1.3190	131.9004
	2007/08	3551.51	1874.99	1.8941	189.4149
	2008/09	5536.24	2057.05	2.6913	269.1349
	2009/10	8464.09	2437.2	3.4729	347.2875
NIBL	2005/06	2314.18	729.05	3.1742	317.4240
	2006/07	3227.32	1180.17	2.7346	273.4623
	2007/08	5426.83	1415.43	3.8341	383.4050
	2008/09	7530.29	1878.11	4.0095	400.9504
	2009/10	7944.23	2686.8	2.9568	295.6763
HBL	2005/06	4757.16	1324.17	3.5926	359.2560
	2006/07	6107.43	1541.75	3.9614	396.1362
	2007/08	6350.2	1766.18	3.5954	359.5443
	2008/09	8201.13	2146.5	3.8207	382.0699
	2009/10	6423.87	2512.99	2.5563	255.6266

Appendix-4

Banks	Fiscal Year	EBIT	Interest	Ratio
SCB	2005/06	1049.4	275.81	3.8048
	2006/07	1052.26	254.13	4.1406
	2007/08	1242.51	303.1	4.0993
	2008/09	1429.15	471.73	3.0296
	2009/10	1665.08	413.06	4.0311
NABIL	2005/06	940.02	282.95	3.3222
	2006/07	1001.32	243.54	4.1115
	2007/08	1255.16	357.16	3.5143
	2008/09	1550.76	555.71	2.7906
	2009/10	1847.76	758.44	2.4363
NIBL	2005/06	557.68	326.2	1.7096
	2006/07	688.23	354.55	1.9411
	2007/08	995.87	490.95	2.0285
	2008/09	1408.9	685.53	2.0552
	2009/10	2134.96	992.16	2.1518
HBL	2005/06	912.11	491.54	1.8556
	2006/07	1084.51	561.96	1.9299
	2007/08	1321.21	648.84	2.0363
	2008/09	1484.81	767.41	1.9348
	2009/10	1253.2	823.74	1.5214

Appendix-5

Banks	Fiscal Year	Net Profit After Tax	Total Assets	Ratio	Percentage
SCB	2005/06	537.8	23642.06	0.0227	2.2748
	2006/07	593.2	21893.58	0.0271	2.7095
	2007/08	658.69	25776.33	0.0256	2.5554
	2008/09	691.66	28596.68	0.0242	2.4187
	2009/10	818.9	33335.79	0.0246	2.4565
NABIL	2005/06	455.31	16745.48	0.0272	2.7190
	2006/07	518.63	17186.33	0.0302	3.0177
	2007/08	635.26	22329.97	0.0284	2.8449
	2008/09	673.96	27253.39	0.0247	2.4729
	2009/10	746.8	37132.76	0.0201	2.0112
NIBL	2005/06	152.67	13255.5	0.0115	1.1517
	2006/07	232.15	16274.06	0.0143	1.4265
	2007/08	350.54	21330.14	0.0164	1.6434
	2008/09	501.39	27590.84	0.0182	1.8172
	2009/10	697	38873.31	0.0179	1.7930
HBL	2005/06	263.05	12810.15	0.0205	2.0534
	2006/07	308.28	15420.17	0.0200	1.9992
	2007/08	457.46	14817.83	0.0309	3.0872
	2008/09	491.82	16521.14	0.0298	2.9769
	2009/10	635.89	36175.53	0.017577904	1.7578

Appendix-6

Banks	Fiscal Year	Net Profit After Tax	Shareholders' Equity	Ratio	Percentage
SCB	2005/06	537.8	1495.74	0.3596	35.9554
	2006/07	539.2	1582.42	0.3407	34.0744
	2007/08	658.69	1754.13	0.3755	37.5508
	2008/09	691.66	2116.35	0.3268	32.6817
	2009/10	818.9	2483.54	0.3297	32.9731
NABIL	2005/06	455.31	1480.88	0.3075	30.7459
	2006/07	518.63	1657.63	0.3129	31.2874
	2007/08	635.26	1874.99	0.3388	33.8807
	2008/09	673.96	2057.05	0.3276	32.7634
	2009/10	746.8	2437.2	0.3064	30.6417
NIBL	2005/06	152.67	729.05	0.2094	20.9410
	2006/07	232.15	1180.17	0.1967	19.6709
	2007/08	350.54	1415.43	0.2477	24.7656
	2008/09	501.39	1878.11	0.2670	26.6965
	2009/10	697	2686.8	0.2594	25.9416
HBL	2005/06	263.05	1324.17	0.1987	19.8653
	2006/07	308.28	1541.75	0.2000	19.9955
	2007/08	457.46	1766.18	0.2590	25.9011
	2008/09	491.82	2146.5	0.2291	22.9126
	2009/10	635.89	2512.99	0.2530	25.3041

Appendix-7

Banks	Fiscal Year	Net Income	No. of share outstanding	Ratio
SCB	2005/06	537.8	3.7464	143.5511
	2006/07	539.2	3.7464	143.9248
	2007/08	658.69	3.7464	175.8195
	2008/09	691.66	4.1325	167.3708
	2009/10	818.9	6.2078	131.9147
NABIL	2005/06	455.31	4.9165	92.6086
	2006/07	518.63	4.9165	105.4876
	2007/08	635.26	4.9165	129.2098
	2008/09	673.96	4.9165	137.0813
	2009/10	746.8	6.8922	108.3544
NIBL	2005/06	152.67	2.9529	51.7017
	2006/07	232.15	5.8774	39.4988
	2007/08	350.54	5.9059	59.3542
	2008/09	501.39	8.0135	62.5682
	2009/10	697	12.0392	57.8942
HBL	2005/06	263.05	5.3625	49.0536
	2006/07	308.28	6.435	47.9068
	2007/08	457.46	7.722	59.2411
	2008/09	491.82	8.1081	60.6579
	2009/10	635.89	10.1351	62.7414

Appendix-8

Banks	Fiscal Year	Total Dividend	No. of shares	Ratio
SCB	2005/06	412.1	3.7464	109.9989
	2006/07	449.57	3.7464	120.0005
	2007/08	487.03	3.7464	129.9995
	2008/09	330.6	4.1325	80.0000
	2009/10	496.63	6.2078	80.0010
NABIL	2005/06	319.58	4.9165	65.0015
	2006/07	344.16	4.9165	70.0010
	2007/08	417.91	4.9165	85.0015
	2008/09	491.65	4.9165	100.0000
	2009/10	413.53	6.8922	59.9997
NIBL	2005/06	44.3	2.9529	15.0022
	2006/07	73.47	5.8774	12.5004
	2007/08	118.12	5.9059	20.0003
	2008/09	40.07	8.0135	5.0003
	2009/10	90.29	12.0392	7.4997
HBL	2005/06	0	5.3625	0.0000
	2006/07	74.51	6.435	11.5789
	2007/08	231.66	7.722	30.0000
	2008/09	121.61	8.1081	14.9986
	2009/10	253.38	10.1351	25.0002

Appendix-9

Correlations

		Ko	L1	Logs	Growth	DPR	Liq	E.V
Ko	Pearson Correlation	1.000	-.352	-.069	.113	.451*	.509*	.418
	Sig. (2-tailed)		.128	.771	.636	.046	.022	.067
	N	20.000	20	20	20	20	20	20
L1	Pearson Correlation	-.352	1.000	-.131	.081	-.252	-.154	-.074
	Sig. (2-tailed)	.128		.583	.735	.284	.518	.756
	N	20	20.000	20	20	20	20	20
Logs	Pearson Correlation	-.069	-.131	1.000	-.173	-.170	-.316	.245
	Sig. (2-tailed)	.771	.583		.465	.474	.175	.299
	N	20	20	20.000	20	20	20	20
Growth	Pearson Correlation	.113	.081	-.173	1.000	.100	-.034	.226
	Sig. (2-tailed)	.636	.735	.465		.675	.888	.338
	N	20	20	20	20.000	20	20	20
DPR	Pearson Correlation	.451*	-.252	-.170	.100	1.000	.360	-.317
	Sig. (2-tailed)	.046	.284	.474	.675		.119	.173
	N	20	20	20	20	20.000	20	20
Liq	Pearson Correlation	.509*	-.154	-.316	-.034	.360	1.000	.115
	Sig. (2-tailed)	.022	.518	.175	.888	.119		.628
	N	20	20	20	20	20	20.000	20
E.V	Pearson Correlation	.418	-.074	.245	.226	-.317	.115	1.000
	Sig. (2-tailed)	.067	.756	.299	.338	.173	.628	
	N	20	20	20	20	20	20	20.000
*. Correlation is significant at the 0.05 level (2-tailed).								

Appendix- 10

Model Description

		Type of Variable
Equation 1	Ko	dependent
	L1	predictor & instrumental
	Logs	instrumental
	Growth	instrumental
	DPR	instrumental
	Liq	instrumental
	E.V	instrumental
	Ke	instrumental
MOD_1		

Model Summary		
Equation 1	Multiple R	.337
	R Square	.114
	Adjusted R Square	.065
	Std. Error of the Estimate	.007

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Equation 1	Regression	.000	1	.000	2.310	.146
	Residual	.001	18	.000		
	Total	.001	19			

Coefficients						
		Unstandardized Coefficients				
		B	Std. Error	Beta	t	Sig.
Equation 1	(Constant)	.081	.022		3.626	.002
	L1	-.037	.025	-.337	-1.520	.146

Appendix- 11

Model Description		
		Type of Variable

Equation 1	Ko	dependent
	Logs	predictor & instrumental
	L1	instrumental
	E.V	instrumental
	Ke	instrumental
	Liq	instrumental
	DPR	instrumental
	Growth	instrumental
MOD_1		

Model Summary		
Equation 1	Multiple R	.348
	R Square	.121
	Adjusted R Square	.072
	Std. Error of the Estimate	.007

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Equation 1	Regression	.000	1	.000	2.476	.133
	Residual	.001	18	.000		
	Total	.001	19			

Coefficients						
		Unstandardized Coefficients				
		B	Std. Error	Beta	t	Sig.
Equation 1	(Constant)	.130	.053		2.471	.024
	Logs	-.008	.005	-.348	-1.574	.133

Appendix- 12

Model Description		
		Type of Variable
Equation 1	Ko	dependent

	Growth	predictor & instrumental
	L1	instrumental
	E.V	instrumental
	Ke	instrumental
	Logs	instrumental
	Liq	instrumental
	DPR	instrumental
MOD_1		

Model Summary		
Equation 1	Multiple R	.192
	R Square	.037
	Adjusted R Square	-.017
	Std. Error of the Estimate	.007

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Equation 1	Regression	.000	1	.000	.690	.417
	Residual	.001	18	.000		
	Total	.001	19			

Coefficients						
		Unstandardized Coefficients				
		B	Std. Error	Beta	t	Sig.
Equation 1	(Constant)	.047	.002		28.342	.000
	Growth	.008	.010	.192	.830	.417

Appendix- 13

Model Description		
		Type of Variable
Equation 1	Ko	dependent
	DPR	predictor & instrumental

	L1	instrumental
	E.V	instrumental
	Ke	instrumental
	Logs	instrumental
	Liq	instrumental
	Growth	instrumental
MOD_1		

Model Summary		
Equation 1	Multiple R	.506
	R Square	.256
	Adjusted R Square	.214
	Std. Error of the Estimate	.006

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Equation 1	Regression	.000	1	.000	6.182	.023
	Residual	.001	18	.000		
	Total	.001	19			

Coefficients						
		Unstandardized Coefficients				
		B	Std. Error	Beta	t	Sig.
Equation 1	(Constant)	.041	.003		13.183	.000
	DPR	.015	.006	.506	2.486	.023

Appendix- 14

Model Description		
		Type of Variable
Equation 1	Ko	dependent
	Liq	predictor & instrumental
	L1	instrumental

	E.V	instrumental
	Ke	instrumental
	Logs	instrumental
	DPR	instrumental
	Growth	instrumental
MOD_1		

Model Summary		
Equation 1	Multiple R	.459
	R Square	.211
	Adjusted R Square	.167
	Std. Error of the Estimate	.007

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Equation 1	Regression	.000	1	.000	4.816	.042
	Residual	.001	18	.000		
	Total	.001	19			

Coefficients						
		Unstandardized Coefficients				
		B	Std. Error	Beta	t	Sig.
Equation 1	(Constant)	.037	.005		7.493	.000
	Liq	.014	.006	.459	2.195	.042

Appendix- 15

Model Description		
		Type of Variable
Equation 1	Ko	dependent
	E.V	predictor & instrumental
	L1	instrumental
	Ke	instrumental

	Logs	instrumental
	Liq	instrumental
	DPR	instrumental
	Growth	instrumental
MOD_1		

Model Summary		
Equation 1	Multiple R	.228
	R Square	.052
	Adjusted R Square	.000
	Std. Error of the Estimate	.007

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Equation 1	Regression	.000	1	.000	.986	.334
	Residual	.001	18	.000		
	Total	.001	19			

Coefficients						
		Unstandardized Coefficients				
		B	Std. Error	Beta	t	Sig.
Equation 1	(Constant)	.046	.002		20.198	.000
	E.V	.010	.010	.228	.993	.334

Appendix- 16

Model Description		
		Type of Variable
Equation 1	Ko	dependent
	Logs	predictor & instrumental
	L1	predictor & instrumental
	Growth	predictor & instrumental
	DPR	predictor & instrumental
	Liq	predictor & instrumental

	E.V	predictor & instrumental
	Ke	predictor & instrumental
MOD_2		

Model Summary		
Equation 1	Multiple R	.778
	R Square	.606
	Adjusted R Square	.376
	Std. Error of the Estimate	.006

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Equation 1	Regression	.001	7	.000	2.636	.067
	Residual	.000	12	.000		
	Total	.001	19			

Coefficients						
		Unstandardized Coefficients				
		B	Std. Error	Beta	t	Sig.
Equation 1	(Constant)	.152	.067		2.273	.042
	Logs	-.009	.005	-.396	-1.805	.096
	L1	-.023	.028	-.211	-.845	.415
	Growth	.000	.009	-.013	-.065	.949
	DPR	.015	.007	.520	2.268	.043
	Liq	.002	.007	.061	.269	.793
	E.V	.020	.010	.473	2.037	.064
	Ke	.000	.021	.005	.019	.985

Appendix- 17

Correlations								
		Ke	L1	Logs	Growth	DPR	Liq	E.V

Ke	Pearson Correlation	1.000	-.561*	-.144	-.022	.104	-.022	-.171
	Sig. (2-tailed)		.010	.545	.928	.663	.926	.472
	N	20.000	20	20	20	20	20	20
L1	Pearson Correlation	-.561*	1.000	-.131	.081	-.252	-.154	-.074
	Sig. (2-tailed)	.010		.583	.735	.284	.518	.756
	N	20	20.000	20	20	20	20	20
Logs	Pearson Correlation	-.144	-.131	1.000	-.173	-.170	-.316	.245
	Sig. (2-tailed)	.545	.583		.465	.474	.175	.299
	N	20	20	20.000	20	20	20	20
Growth	Pearson Correlation	-.022	.081	-.173	1.000	.100	-.034	.226
	Sig. (2-tailed)	.928	.735	.465		.675	.888	.338
	N	20	20	20	20.000	20	20	20
DPR	Pearson Correlation	.104	-.252	-.170	.100	1.000	.360	-.317
	Sig. (2-tailed)	.663	.284	.474	.675		.119	.173
	N	20	20	20	20	20.000	20	20
Liq	Pearson Correlation	-.022	-.154	-.316	-.034	.360	1.000	.115
	Sig. (2-tailed)	.926	.518	.175	.888	.119		.628
	N	20	20	20	20	20	20.000	20
E.V	Pearson Correlation	-.171	-.074	.245	.226	-.317	.115	1.000
	Sig. (2-tailed)	.472	.756	.299	.338	.173	.628	
	N	20	20	20	20	20	20	20.000

*. Correlation is significant at the 0.05 level (2 tailed).

Appendix- 18

Model Description		
		Type of Variable
Equation 1	Ke	dependent
	L1	predictor & instrumental

	Ko	instrumental
	E.V	instrumental
	Logs	instrumental
	Liq	instrumental
	DPR	instrumental
	Growth	instrumental
MOD_1		

Model Summary		
Equation 1	Multiple R	.561
	R Square	.315
	Adjusted R Square	.277
	Std. Error of the Estimate	.070

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Equation 1	Regression	.041	1	.041	8.268	.010
	Residual	.089	18	.005		
	Total	.129	19			

Coefficients

		Unstandardized Coefficients				
		B	Std. Error	Beta	t	Sig.
Equation 1	(Constant)	.736	.226		3.263	.004
	L1	-.710	.247	-.561	-2.875	.010

Appendix- 19

Model Description		
		Type of Variable

Equation 1	Ke	dependent
	Logs	predictor & instrumental
	L1	instrumental
	Ko	instrumental
	E.V	instrumental
	Liq	instrumental
	DPR	instrumental
	Growth	instrumental
MOD_1		

Model Summary		
Equation 1	Multiple R	.138
	R Square	.019
	Adjusted R Square	-.035
	Std. Error of the Estimate	.084

Coefficients						
		Unstandardized Coefficients				
		B	Std. Error	Beta	t	Sig.
Equation 1	(Constant)	.466	.637		.733	.473
	Logs	-.037	.063	-.138	-.593	.560

		Sum of Squares	df	Mean Square	F	Sig.
Equation 1	Regression	.002	1	.002	.352	.560
	Residual	.127	18	.007		
	Total	.129	19			

Appendix- 20

Model Description

		Type of Variable
Equation 1	Ke	dependent
	Growth	predictor & instrumental
	L1	instrumental
	Ko	instrumental
	E.V	instrumental
	Logs	instrumental
	Liq	instrumental
	DPR	instrumental
MOD_1		

Model Summary		
Equation 1	Multiple R	.138
	R Square	.019
	Adjusted R Square	-.035
	Std. Error of the Estimate	.084

Appendix- 21

Model Description		
		Type of Variable
Equation 1	Ke	dependent
	DPR	predictor & instrumental
	L1	instrumental
	Ko	instrumental
	E.V	instrumental
	Logs	instrumental
	Liq	instrumental
	Growth	instrumental
MOD_1		

			Mean Square	F	Sig.	
Equation 1			.008	1.264	.344	
			.006			

		Unstandardized Coefficients				
		B	Std. Error	Beta	t	Sig.
Equation 1	(Constant)	.089	.019		4.618	.000
	Growth	-.010	.113	-.022	-.092	.928

Model Summary		
Equation 1	Multiple R	.104
	R Square	.011
	Adjusted R Square	-.044
	Std. Error of the Estimate	.084

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Equation 1	Regression	.001	1	.001	.197	.663
	Residual	.128	18	.007		
	Total	.129	19			

Coefficients						
		Unstandardized Coefficients				
		B	Std. Error	Beta	t	Sig.
Equation 1	(Constant)	.073	.041		1.800	.089
	DPR	.034	.077	.104	.443	.663

Appendix- 22

Model Description		
		Type of Variable
Equation 1	Ke	dependent
	Liq	predictor & instrumental
	L1	instrumental
	Ko	instrumental
	E.V	instrumental
	Logs	instrumental
	DPR	instrumental

	Growth	instrumental
MOD_1		

Model Summary		
Equation 1	Multiple R	.022
	R Square	.000
	Adjusted R Square	-.055
	Std. Error of the Estimate	.085

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Equation 1	Regression	.000	1	.000	.009	.926
	Residual	.129	18	.007		
	Total	.129	19			

Coefficients						
		Unstandardized Coefficients				
		B	Std. Error	Beta	t	Sig.
Equation 1	(Constant)	.095	.064		1.489	.154
	Liq	-.007	.080	-.022	-.094	.926

Appendix- 23

Model Description		
		Type of Variable
Equation 1	Ke	dependent
	E.V	predictor & instrumental
	L1	instrumental
	Ko	instrumental
	Logs	instrumental
	Liq	instrumental
	DPR	instrumental
	Growth	instrumental
MOD_1		

Model Summary

Equation 1	Multiple R	.171
	R Square	.029
	Adjusted R Square	-.025
	Std. Error of the Estimate	.083

Coefficients

		Unstandardized Coefficients				
		B	Std. Error	Beta	t	Sig.
Equation 1	(Constant)	.102	.026		3.909	.001
	E.V	-.084	.114	-.171	-.735	.472

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Equation 1	Regression	.000	1	.000	.009	.472
	Residual	.129	18	.007		
	Total	.129	19			

Appendix- 24

Model Description		
		Type of Variable
Equation 1	Ke	dependent
	Ko	predictor & instrumental
	L1	predictor & instrumental
	Logs	predictor & instrumental
	Growth	predictor & instrumental
	DPR	predictor & instrumental
	Liq	predictor & instrumental
	E.V	predictor & instrumental
MOD_2		

Model Summary		
Equation 1	Multiple R	.651
	R Square	.424
	Adjusted R Square	.089
	Std. Error of the Estimate	.079

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Equation 1	Regression	.055	7	.008	1.264	.344
	Residual	.074	12	.006		
	Total	.129	19			

Coefficients						
		Unstandardized Coefficients				
		B	Std. Error	Beta	t	Sig.
Equation 1	(Constant)	1.527	1.010		1.513	.156
	L1	-.832	.312	-.658	-2.670	.020
	Logs	-.061	.079	-.226	-.774	.454
	Growth	.022	.117	.045	.185	.857
	DPR	-.040	.109	-.121	-.367	.720
	Liq	-.044	.092	-.129	-.478	.642
	E.V	-.097	.157	-.198	-.618	.548