Chapter-1

1. Introduction

1.1 Background of the study

Every organization needs long term financing and short term financing for different purposes. The term capital refers to the long term funds of the firm. Basically, all the items on the liability side of firms' balance sheet, excluding current liabilities, are sources of capital. There are basically two sources of capital – equity and debt capital, whose composition is known as capital structure. Equity capital includes common stock, paid in capital, reserve and surplus and retained earnings. Joint Stock Company cannot be established without equity financing. Preferred stock is neither purely debt nor equity. It is said to be hybrid. However, it is said to be equity from legal point of view since the company is not obliged to pay dividends on preferred stock but there is no unanimous practice for its treatment. Similarly, debt capital includes debenture, bonds and long term loan. A firm may employs substantial amount of debt capital because of tax deductibility of interest payment, flexibility, and lower effective cost. However, excess amount of debt exposes high risk. Since, both debt and equity possess different characteristics, there has always been the question on what the appropriate capital structure for the organization is. In choosing an appropriate capital structure the financial manager should consider a number of factors. It is because the capital structure decision affects weighted average cost of capital (WACC), value of the firm and risk position of the firm. Therefore, a firm should try to find out the structure, which minimizes the WACC and risk and maximizes the value of the firm.

Capital composition matters to most firms in free markets, but there are differences. Companies in non-financial industries need capital mainly to support funding such as to buy property and to build or acquire production facilities and equipment to pursue new areas of business. While this is also true for banks, their main focus is somewhat

different. By its very nature, banking is an attempt to manage multiple and seemingly opposing needs. Banks provide liquidity on demand to depositors through the current account and extend credit as well as liquidity to their borrowers through lines of credit (Kashyap et al., 1999). Owing to these fundamental roles, banks have always been concerned with both solvency and liquidity. Given the central role of market and credit risk in their core business, the success of banks depend on their ability to identify, assess, monitor and manage these risks in a sound and sophisticated way. Llewellyn (1992) confirmed that competitive and regulatory pressures are likely to reinforce the central strategic issue of capital and profitability and cost of equity capital in shaping banking strategy.

In order to assess and manage risks, banks must have effective ways of determining the appropriate amount of capital that is necessary to take up unexpected losses arising from their market, credit and operational risk exposures. In addition to this, profits that arise from various business activities of the banks need to be evaluated relative to the capital necessary to cover the associated risks. These two major links to capital – risk as a basis to determine capital and the measurement of profitability against risk-based capital allocations – explain the critical role of capital as a key component in the management of bank portfolios.

1.2 Statement of the problem

This research study has addressed the problems associated with the capital structure and financing of the banks are reflected by the following questions.

a. What are the dynamics involved in the determination of capital structure of banks in Nepal?

b. Does profitability, corporate tax, growth, assets structure and bank size influence financing or capital structure decision of bank in Nepal?

c. Which techniques are used by Nepalese financial managers in selecting appropriate capital structure of the bank?

1.3 Objectives of the study

The main objective of the study is to test the effect of different explanatory variables on capital structure decision of bank. The specific objectives are :

d. To identify the major determinants of capital structure of banks in Nepal

e. To examine the influence of profitability, corporate tax, growth, assets structure and bank's size on bank's financing or capital structure decision.

f. To evaluate the selection procedure adopted by the Nepalese financial managers to select appropriate capital structure for the bank.

1.4 Significance of the study

There has been a great deal of research in the area of international accounting and finance (Remmers et al., 1974; Rajam and Zingales, 1995; Prasad et al., 1996) on the international differences in capital norms (Aggarwal, 1981), the impact of national culture on the capital of firms (Park, 1998) and the relationship between capital and ownership structure (Kester, 1986; Thompson and Wright, 1995). Numerous studies have investigated the capital structure of firms in various sectors of the economy; such as manufacturing firms (Long and Matlitz, 1985; Titman and Wessels, 1988), electric-utility companies (Miller and Modigliani, 1966), non-profit hospitals (Wedig et al., 1988) and agricultural firms (Jensen and Langemeier, 1996). One of the main conclusions of empirical studies is that industrial classification is an important determinant of capital structure.

The capital structure of banks is, however, still a relatively under-explored area in the banking literature. Currently, there is no clear understanding on how banks choose their capital structure and what factors influence their corporate financing behaviour. Houston et al. (1997) found that lending at large banks is less subject to changes in cash flow and capital. Jayaratne and Morgan (1999) found that shifts in deposit supply affect lending at small banks that do not have access to the large internal capital market. Akhavein et al. (1997) also pointed to the fact that large banks tend to decrease their capital and increase their lending after mergers. Bank size seems to allow banks to operate with less capital and, at the same time, engage in more lending. There is a correlation between debt ratio and firm size, growth, asset tangibility, risk, and corporate tax. Given the unique financial features of banks and the environment in which they operate, there are strong grounds for a separate study on capital structure determinants of banks.

1.5 Research Propositions

1. *P 0: There is no significant relationship between leverage ratio and profitability.*

   P 1: There is negative relationship between leverage ratio and profitability

   Bevan and Danbolt (2002) state that more profitable firms should hold less debt, because high levels of profits provide a high level of internal funds. Consistent with the pecking order theory, work of Titman and Wessels (1988), Rajan and Zingales (1995) and Antoniou et al, (2002) in developed countries, Booth et al, (2001), Pandey (2001), Um (2001) in developing counties all find a negative relationship between leverage ratios and profitability. Myers (1984) emphasizes that internal funds and external funds are used hierarchically. Myers (1984) refers to this as a pecking order theory which states that firms prefer to finance new inverstment, first internally with retained earnings, then with debt, and finally with an issue of new equity. Bevan and Danbolt (2002)

state that more profitable firms should hold less debt because high levels of profits provide a high level of internal funds.

2. *P 0: There is no significant relationship between leverage ratio and business risk.*

   P 2: There is negative relationship between leverage ratio and business risk

   Both agency and bankruptcy cost theories suggest the negative relation between the capital structure and business risk. The bankruptcy cost theory contends that the less stable earnings of the enterprises, the greater is the chance of business failure and the greater will be the weight of bankruptcy costs on enterprise financing decisions. Similarly, as the probability of bankruptcy increases, the agency problems related to debt become more aggravating. Thus, this theory suggests that as business risk increases, the debt level in capital structure of the enterprises should decrease (Taggart, 1985). Studies carried out in western countries during 1980s show the contradictory evidence in this regard (Martin and others, 1988). The studies carried out in India and Nepal also show the contradictory evidence on the relation between the risk and debt level. Sharma (1983) and Chamoli (1985) show the evidence against and Garg (1988) and Paudel (1994) do for the relation consistent with the bankruptcy and agency cost theories. Income variability is measure of business risk. Since higher variability in earnings indicates that the probability of bankruptcy increases, we can expect that firms with higher income variability have lower leverage. We will use the ratio of the standard deviation of EBIT over total assets as a measure of income variability.

3. *P 0: There is no significant relationship between leverage ratio and asset structure.*

   P 3: There is positive relationship between leverage ratio and asset structure

g. Wiwattanakantang (1999. Thailand) and Um (2001, Korea) suggests that Firms with high levels of tangible assets will be in a position to provide collateral for debts. If the company then defaults on the debt, the assets will be seized but the

company may be in a position to avoid bankruptcy. It is expected, therefore, that companies with high levels of tangible assets are likely to default and will take on relatively more debt resulting in a positive relationship between tangibility and financial leverage.

4. *P 0: There is no significant relationship between leverage ratio and size of the firm.*

   P 5: There is positive relationship between leverage ratio and size of the firm.

   Antoniou et al, (2002) argue that several studies find that the size of a firm is a good explanatory variable for its leverage ratio. Bevan and Danbolt (2002) also argue that large firms tend to hold more debt, because they are regarded as being "too big to fail" and therefore receive better access to the capital market. Hamaifer et al, (1994) argue that large firms are able to hold more debt rather than small firms, because large firms have higher debt capacity. Pandey (2001) also find a significant positive relationship between leverage ratios and firm size in developing countries.

5. *P 0: There is no significant relationship between leverage ratio and growth.*

   P 6: There is positive relationship between leverage ratio and growth.

   Um (2001) argues that growing companies' funding pressure for investment opportunities is likely to exceed their retained earnings and, according to the 'pecking order' are likely to choose debt rather than equity. Thus, if the information asymmetry theory is pertinent in Nepal, a positive relationship is expected between financial leverage and growth. Booth et al, (2001) argue that this relation is generally positive in all countries in their sample, expect for South Korea and Pakistan. Pandey (2001) finds a positive relationship between growth and both long-term and short-term debt ratios in Malaysia.

Table 1-1 Tabular Presentation of Proposition

Determinants	Measures	Expected effect in Capital Structure
Profitability (P)	Net Profit	Negative
Business Risk (R)	Risks defined by Basel II	Negative
Asset Structure (A)	Ratio of Capital Fund to Risk Weighted Assets (%)	Positive
Size (S)	Share on Aggregate deposit and saving of nation	Positive
Growth (G)	Percentage change in Share on Aggregate deposit and saving of nation	Positive

1.6 Variables of the study

This section presents how the micro and macro factors affect the capital structure of a firm with reference to the relevant capital structure theories stated earlier.

1.6.1 Profitability (P)

The static trade-off hypothesis pleads for the low level of debt capital of risky firms (Myers 1984). The higher profitability of firms implies higher debt capacity and less risky to the debt holders. So, as per this theory, capital structure and profitability are positively associated. But pecking order theory suggests that this relation is negative. Since, as stated earlier, firm prefers internal financing and follows the sticky dividend policy. If the internal funds are not enough to finance financial requirements of the firm, it prefers debt financing to equity financing (Myers 1984). Thus, the higher profitability of the enterprise implies the internal financing of investment and less reliance on debt financing. Most of the empirical studies support the pecking order theory. The studies of Titman and Wessels (1988), Kester (1986), Friend and Hasbrouck (1989), Friend and Lang (1988), Gonedes and others (1988) show the negative relation between the level of debt in capital structure and profitability. Indian and Nepalese studies also show the same evidence as foreign studies do (Baral 1996).

Only a few studies show the evidence in favor of static trade-off hypothesis contention.

1.6.2 Business Risk (R)

Both agency and bankruptcy cost theories suggest the negative relation between the capital structure and business risk. The bankruptcy cost theory contends that the less stable earnings of the enterprises, the greater is the chance of business failure and the greater will be the weight of bankruptcy costs on enterprise financing decisions. Similarly, as the probability of bankruptcy increases, the agency problems related to debt become more aggravating. Thus, this theory suggests that as business risk increases, the debt level in capital structure of the enterprises should decrease (Taggart 1985). Studies carried out in western countries during 1980s show the contradictory evidence in this regard (Martin and others 1988). The studies carried out in India and Nepal also show the contradictory evidence on the relation between the risk and debt level. Sharma (1983) and Chamoli (1985) show the evidence against, and Garg (1988) and Paudel (1994) do for the relation consistent with the bankruptcy and agency cost theories.

1.6.3 Asset Structure (A)

Asset structure is an important determinant of the capital structure of a new firm. The extent to which the firm's assets are tangible and generic would result in the firm having a greater liquidation value (Harris and Raviv, 1991; Titman and Wessels, 1988). Studies have also revealed that leverage is positively associated with the firm's assets. This is consistent with Myers (1977) argument that tangible assets, such as fixed assets, can support a higher debt level as compared to intangible assets, such as growth opportunities. Assets can be redeployed at close to their intrinsic values because they are less specific (Williamson, 1988; Harris, 1994). Thus, assets can be used to pledge as collateral to reduce the potential agency cost associated with debt usage (Smith and Warner, 1979; Stulz and Johnson, 1985). Feri and Jones (1979), Marsh (1982), Long and Matlitz (1985) and Allen (1995) provide empirical evidence

of a positive relationship between debt and fixed assets. The empirical evidence suggests a positive relation consistent with the theoretical arguments between asset structure and leverage for large firms (Van der Wijst and Thurik, 1993; Chittenden et al., 1996; Michaelas et al., 1999).

1.6.4 Size (S)

The bankruptcy cost theory explains the positive relation between the capital structure and size of a firm. The large firms are more diversified (Remmers and others 1974), have easy access to the capital market, receive higher credit ratings for debt issues, and pay lower interest rate on debt capital (Pinches and Mingo 1973). Further, larger firms are less prone to bankruptcy (Titman and Wessels 1988) and this implies the less probability of bankruptcy and lower bankruptcy costs. The bankruptcy cost theory suggests the lower bankruptcy costs, the higher debt level. The empirical studies carried out during the 1970s, as suggested by this theory, also show the positive relation between the size of firms and capital structure (Martin and others 1988). But results of some empirical studies do not agree with this theoretical relation.

1.6.5 Growth (G)

The agency cost theory and pecking order theory explain the contradictory relation between the growth rate and capital structure. Agency cost theory suggests that equity controlled firms have a tendency to invest sub-optimally to expropriate wealth from the enterprises' bondholders. The agency cost is likely to be higher for enterprises in growing industries which have more flexibility in their choice of future investment. Hence, growth rate is negatively related with long-term debt level (Jensen and Meckling 1976). This theoretical result is backed up by the empirical studies carried out by Kim and Sorensen (1986), and Titman and Wessels (1988) but Kester study rejected this relation (1986). Pecking order theory, contrary to the agency cost theory, shows the positive relation between the growth rate and debt level of enterprises. This is based on the reasoning that a higher growth rate implies a higher demand for funds, and, ceteris paribus, a greater reliance on external financing through the preferred source of debt (Sinha 1992). For, pecking order theory contends that management

prefers internal to external financing and debt to equity if it issues securities (Myers 1984). Thus, the pecking order theory suggests the higher proportion of debt in capital structure of the growing enterprises than that of the stagnant ones. Chung (1993), Chaplinsky and Niehaus (1990) showed the evidence contrary to the pecking order theory.

1.7 Organization of the study

The study on the determinant of capital structure in selected Nepalese banks will be presented in five different chapters. Chapter 1 is the introduction. In this chapter, the general background of the study, the statement of problem, the objectives of the study, limitation of the study and variables of the study are discussed in details. Chapter 2 includes review of literature. In this chapter, the study on theoretical background, previous study related to this study are done and explained in brief. Without doing details literature review one cannot start their research. In this section, the theories related to capital structure are explained. Similarly, few previous studies are also taken into consideration while doing research. The studies are all related to capital structure and its determinants. Most of them are directly concerned to banking sector and few are related to other financial sectors and services. Chapter 3 includes research methodology. It consists of methodology adopted to achieve the objective i.e. research questions, the models, specification of the variables, sample selection and data collection. Chapter 4 consists of data presentation and analysis. It deals with analysis and interpretation of the data by using statistical and financial models described in chapter three. Chapter 5 includes summary, conclusion and recommendation.

Chapter-2

2. Review of Literature

2.1 Conceptual Review

The term capital refers to the long-term funds of the firm. All of the items on the liabilities side of firm's balance sheet, excluding current liabilities, are sources of capital. The total capital can be divided into two components: debt capital and equity capital. Debt capital includes all long term borrowing incurred by the firm. Debenture, bonds, long-term loan etc are major sources of debt or borrowed capital. A firm employs substantial amount of debt capital because of tax deductibility of interest payment, flexibility, and lower effective cost. However excess amount of debt exposes high risk. On the other hand, equity capital consists of the long term fund provided by the firm's owners, the stockholders. In other words, equity capital includes common stock, paid in capital (or share premium), reserve and surplus, and retained earnings. Joint stock company cannot be established with no equity financing. In Nepal, the promoters must hold at least one share for the incorporation of Joint Stock Company in accordance with Company Act 2053. Preferred stock is neither purely a debt nor equity. Since it contains the characteristics of both debt and equity, it is said to be a hybrid. So there is no unanimous practice about the treatment of preferred stock. However, it is said to be equity from legal point of view since the company is not obliged to pay dividends on preferred shares.

Capital structure is the proportions of debt instruments and preferred and common stock on a company's balance sheet (Van Horne, 2004). A mix of a company's long-term debt, specific short-term debt, common equity and preferred equity is called capital. The capital structure is how a firm finances its overall operations and growth by using different sources of funds. Debt comes in the form of bond issues or long term notes payable, while equity is classified as common stock, preferred stock or retained earnings. Short-term debt such as working capital requirements is also

considered to be part of the capital structure. A company's proportion of short and long-term debt is considered when analyzing capital structure. When people refer to capital structure they are most likely referring to a firm's debt-to-equity ratio, which provides insight into how risky a company is. Usually a company more heavily financed by debt posses greater risk, as this firm is relatively highly levered. A company's capitalization (not to be confused with market capitalization) describes the composition at a company's permanent or long-term capital, which consists of a combination of debt and equity. A healthy proportion of equity capital, as opposed to debt capital, in a company's capital structure is an indication of financial fitness. (*www.investopedia.com*)

From above discussion we came to know that the two principal sources of long term financing are equity and debt capital. The composition of these two long term financing is known as capital structure. Under normal economic condition, the earnings per share can be increased using higher leverage. But leverage also increases the financial risk of the shareholders. As a result, it can be said whether or not the value of the firm will increase with leverage. In other words, a great deal of controversy has been developed on whether the capital structure affects value of the firm or not. Even a casual review of the literature brings one quickly to the key question of whether or not capital structure matters. Can a company affect its valuation and its required return by changing the financing mix? There are different theories of capital structure which are discussed below in the following section. To present the analysis as simply as possible the following assumptions have been made (Van Horne: 2000: 251 – 252).

h. There are no corporate taxes and no bankrupt costs

i. The dividend payout ratio is 100% that is, the total earnings are paid out as dividend to the shareholders and there are no retained earnings.

j. The total financing remains constant but the ratio of debt to equity for a firm is changed by issuing debt to repurchase or issuing stock to pay off debt.

k. All investors are assumed to have the same subjective probability distribution of future expected earnings before interest and taxes for a given firm.

l. The operating earnings of the firm are not expected to grow.

m. Perpetual life of the firm.

n. The firm's business risk is constant over time and is assumed to be independent on its capital structure and financial risk.

In addition to the above assumptions, the following symbols are used in the analysis of capital structure theories.

S = total market value of the equity

D = total market value of debt

V = total market value of the firm

I = total interest payments

NOI = $\bar{x}$ = Expected net operating income, i.e. earnings before interest and taxes

NI = $\bar{y}$ = Net income or shareholders earnings, NOI – I

Ko = overall cost of capital

Ke = cost of equity

Kd = cost of debt

2.1.1 Net Income Approach (NI)

Net income approach was propounded by David Durand (1952). This theory assumes that the cost of equity remains constant as change in the firms' capital structure. A change in the capital structure will lend to a corresponding change in the overall cost of capital as well as the total value of the firm. As the firm adds more cheaper debt to its capital structure, its cost of capital declines because debt is less risky than equity on the other hand, the overall value of the firm increases. Thus, as the firm increases its leverage by increasing debt in capital structure, the overall cost of capital declines

which ultimately increases the value of the firm. Conversely, a decrease in the leverage will cause an increase in overall cost of capital and decline price of equity shares. This approach is base on some assumptions (Khan and Jain, 1989: 491).

o. There are no taxes

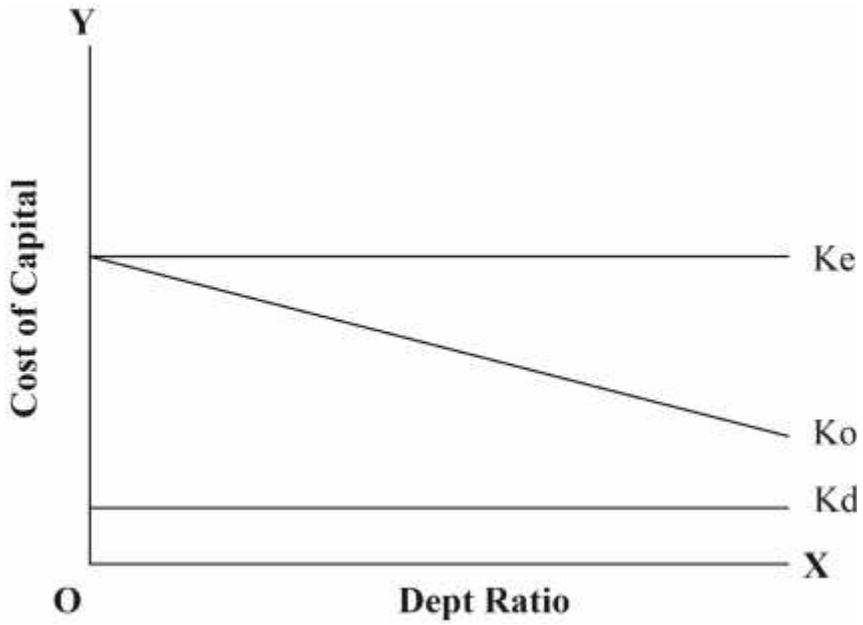
p. The cost of debt is less than the equity capitalization rate or cost of equity

q. The use of debt does not change risk perception of the investors.

According to above assumptions, the NI approach implies that increase in the debt to equity ratio will magnify the shareholders earning and they're by rise in share value of equity and value of the firm.

Thus the firm can maximize its market price of stock or value of the firm by achieving the optimal capital structure by making judicious mix of debt and equity. Graphic representation of the theory is shown in figure below:

Figure 2-1 Relationship between Cost of Capital and Debt Ratio



The figure2-1 shows a continuous decrease in Ko (overall cost of capital) with the increase in debt equity ratio. Since any decrease in the Ko directly contributes to the value of the firm. It increases with the increase in the debt equity ratio. Thus the financial leverage to the NI approach is an important variable in the capital structure decision of a firm. Under NI approach, 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 crucial assumptions that the use of debt does not change the risk perception of the investor. Consequently, the interest rate on debt (Ki) and equity capitalization rate (Ke) remain constant to debt. Therefore, the increased uses of debt result in higher market value of shares and as result, lowers overall cost of capital (Ko).

According to net income approach (Van Horne 2004: 253), the cost of debt capital and the equity capital remains unchanged when leverage ratio varies. As a result, the weighted average cost of capital declines as the leverage ratio increases. This is because when the leverage ratio increases, the cost of debt, which is lower than the

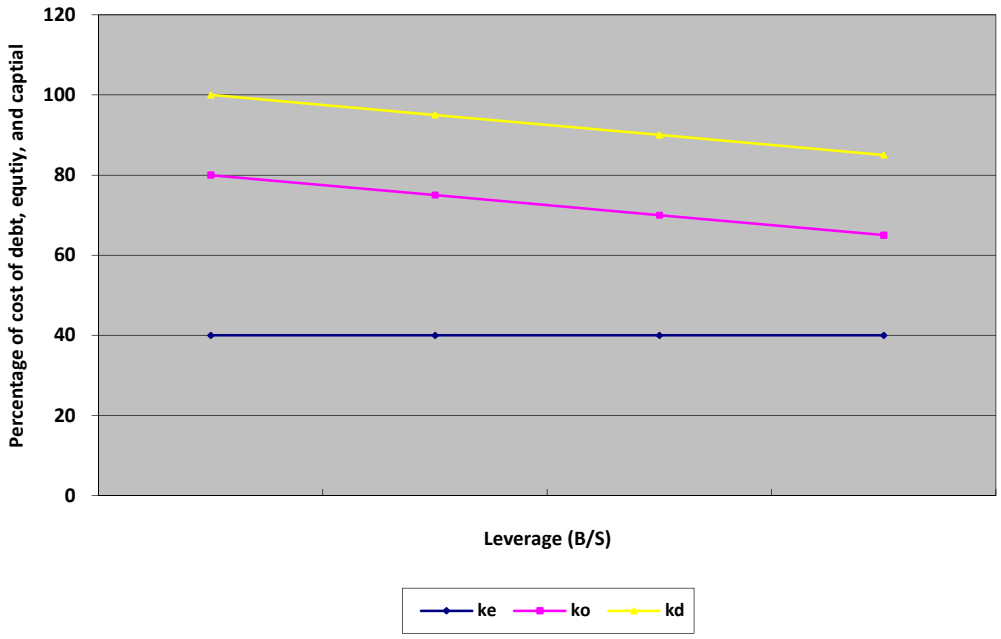
cost of equity, receives a higher weight in calculation of the average cost of capital. Thus, higher leverage results higher value of the firm. Assumptions of this approach are:

r. Change in leverage does not change the risk position / risk perception of investors, as a result, the cost of equity (Ke) and cost of debt (Kd) remain constant with change in leverage.

s. Cost of debt (Kd) is less than cost of equity (Ke)

t. Overall cost of capital (Ko) decreases as leverage increases.

Figure 2-2 Ke, Ko, Kd under Net Income Approach



2.1.2 Net Operating Income Approach

The approach is based on following assumption (Durand, n.d):

u. The market capitalizes the value of the firm as a whole.

v. Overall capitalization rate depends on the business risk and it is independent to its capital structure.

w. The use of cheaper debt does not increase the value of the firm and the advantage of increase in debt is exactly offset by the increase in cost of equity.

x. Cost of debt is constant

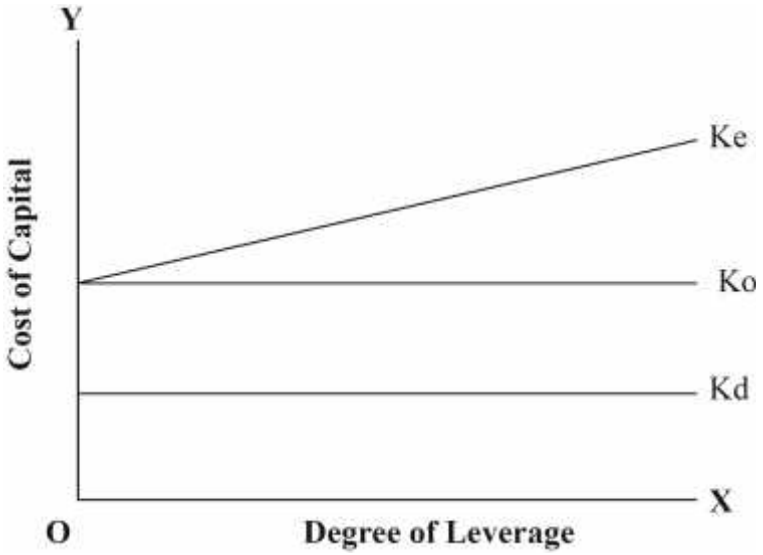
y. Corporate income tax do not exist and

z. Overall cost of capital remains constant.

On the basis of above stated assumptions, another behavioral approach / theory of capital structure suggested by David Durand is net operating income (NOI) approach which is diametrically opposite from the NI approach with respect to the assumption of the behavior of equity holders and debt holders. The essence of the approach is that the leverage / capital structure decision of the firm is irrelevant. Any change in leverage will not lead to any change in the total value of the firm and the market price of the shares, as the overall cost of capital is independent of the degree of leverage. We know Net Operating Income (NOI) is slightly different form NI approach, the overall cost of capital and value of the firm are independent of capital structure decision and change in degree of financial leverage doesn't bring about any change in value of firm and cost of capital. Like NI approach NOI approach also assumes a constant rate of Ki which means that the debt holders do not demand higher rate of interest for higher level of leverage risk. However, unlike the NI approach, the NOI approach assumes that the equity holders do react to higher leverage risk and demand higher rate of return for higher debt-equity ratio. The approach says that the cost of equity increase with debt level and the higher cost of equity offset the benefit of cheaper debt financing, resulting no effect at all on Ko.

The relationship between financial leverage and Ko, Ke and Kd has been graphically depicted in following figures.

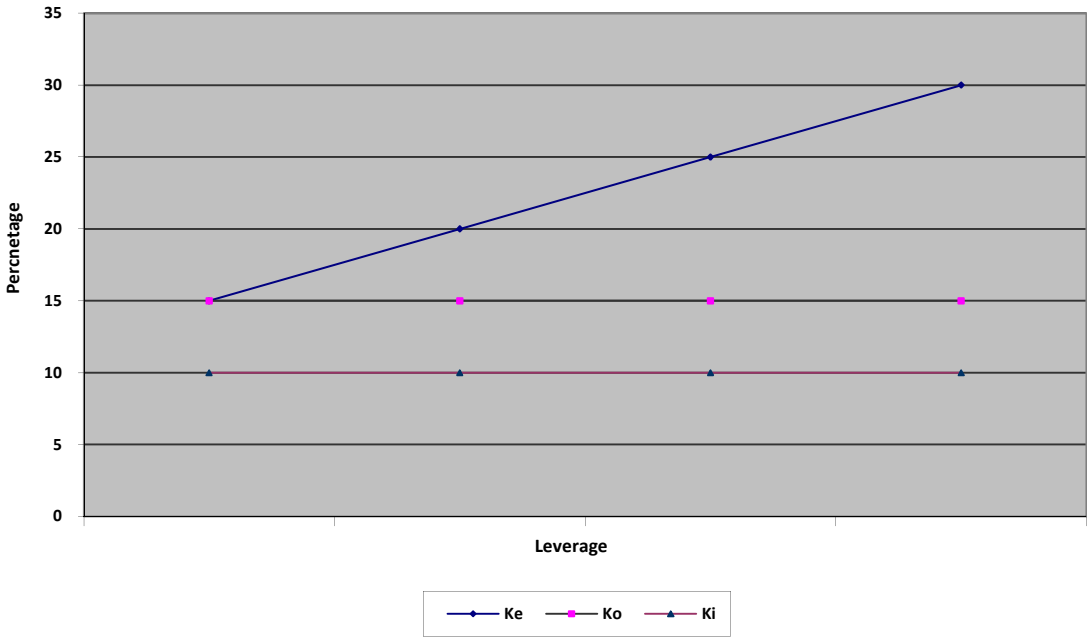
Figure 2-3 Relationship between financial leverage and Ko, Ke and Kd



It may be noted from the figure2-3 shows that the curve Ko and Kd are parallel to the horizontal to the x-axis because Ko and Kd remain constant under all the circumstances. But as the degree of leverage increases, the Ke increases constantly. Thus there is no single point or range where the capital structure is optimum. We know obviously from the figure that under the NOI approach as low cost of debt is used, its advantage is exactly offset by increases cost of equity in such a way that total cost of capital remain constant.

The critical assumption with this approach is that k_o is constant, regardless of the degree of leverage (Van Horne, 2004: 256). The market capitalizes the value of the firm as a whole; as a result, the breakdown between debt and equity is unimportant. An increase in the use of supposedly 'cheaper' debt funds is offset exactly by the increase in the required equity return, k_e. Thus the weighted average degree of ke and ki remains unchanged for all degrees of leverage. As the firm increases its leverage, it becomes increasingly more risky. Investors penalize the stock by raising the required equity return directly in keeping with the increase in the debt-to-equity ratio. As long as ki remains constant, ke is a constant linear function of the debt-to-equity ratio. Because the cost of capital of the firm ko, cannot be altered through leverage, the net operating income approach implies that there is no one optimal capital structure.

Figure 2-4 Capital costs: net operating income approach



2.1.3 Traditional Approach

NI and NOI approach are two extreme theories of capital structure. This traditional approach of the capital structure theory is the intermediate approach of NI and NOI (Khan and Jain, 1982) and more sophisticated version of NI approach (Pandey, 1981). According to this view, the value of the firm can be increased or the cost of capital can be reduced by a judicious mix of debt and equity capital, and that an optimal 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 increase with leverage. Thus, is optimum capital structure exists and it occurs when the cost of capital is minimal or the value of the firm is maximal. The cost of capital declines with leverage because the debt capital is cheaper than equity capital within reasonable or acceptable limit of debt. "The statement that the debt fund is cheaper than equity funds carries the clear implication that the interest rate of debt, plus the increased yield on common together on weighted basis, will be less than the yield (cost of equity) which existed on the common before debt financing (Barges, 1993: 11). That is the weighted average cost of capital will decrease with the use of debt capital.

The behavior of cost of capital and value of the firm, under this approach showed with respect to the changes of capital structure is divided into the following three phases (Solomon, 1969: 94)

First Phase:

The first phase starts with introduction of debt in the firm's capital structure. The cost of equity "Ke" 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. As a result of the use of low cost debt the firm's net income tends to rise, cost of equity capital "Ke" rises with addition of debt but the rate of increase will be less than the increase in net earnings rate.

During this phase cost of debt Kd remains constant or rises only moderately. The combined effect of all these will be reflected in increase in market value of the firm and decline in overall cost of capital (Ko). Under the assumption that Ke remains constant within the acceptable debt limit, the total value of the firm will be;

$$V = B + S = \frac{\bar{x} - K_d B}{K_e} + \frac{K_d B}{K_d}$$

$$= \frac{\bar{x} - K_d B}{K_e} + B$$

$$= \frac{\overline{\bar{x}}}{K_e} + \frac{(K_e - K_d)B}{K_e}$$

Thus so long as debt is within acceptable limit and Ke and Kd remains constant, the value of firm increase at a constant rate (Ke-Kd) / Ke as the amount of debt increases. If equation is solved for $\bar{x}/v$, we get,

$\bar{x}/v$ = Ke – (Ke – Kd) B / V

This implies that within acceptable limit of debt, with Ke>Kd, the average cost of capital will decline with leverage.

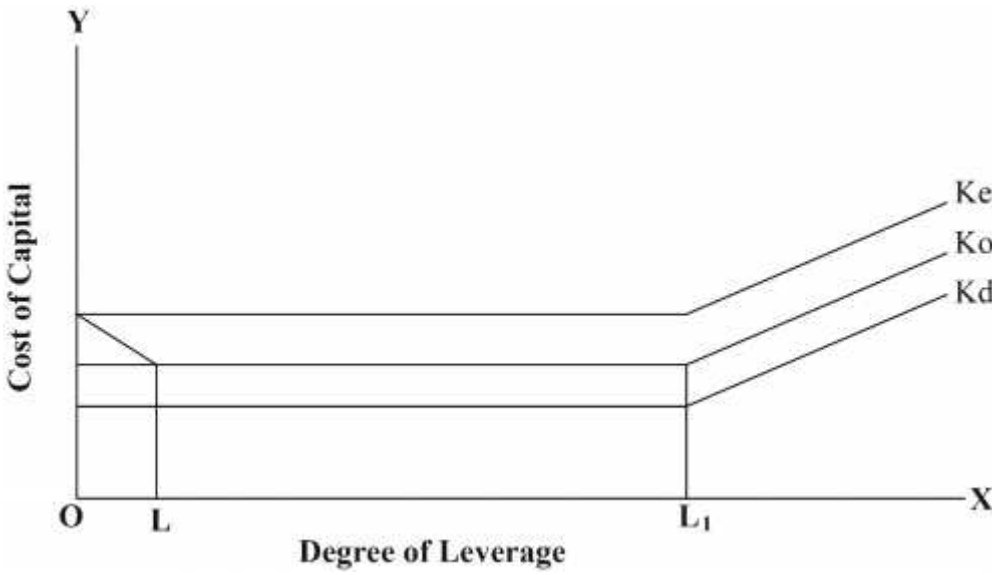
Second Phase:

In the second phase, 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 firm would remain unchanged. While the firm has reached a certain degree of leverage, increase in it have a negligible effect on the value of the firm or overall cost of capital to the firm due to the increase in the cost of equity offsets the advantage to 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 Phase:

Beyond the acceptable limit of leverage, the value of the firm decrease with leverage or the overall costs of capital increase with leverage. This happens because the cost of equity increases by more than enough to offset the advantage of low cost debt. The overall effect of these three phases is to suggest that the cost of capital is a function of leverage. That is first falling and after reaching a minimum point or range it would start rising.

Figure 2-5 Relationship between cost of capital and leverage

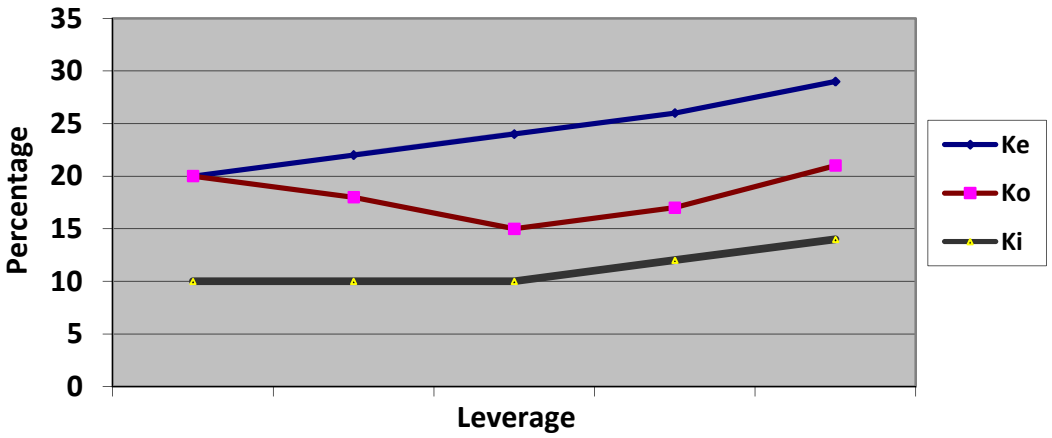


The figure2-5 shows that we can point out which the cost of capital would be minimum. This precise point would occur at that optimum degree of leverage, at which marginal cost of debt is equal to the average overall cost of capital (Solomon, 1969: 94).

The traditional approach to valuation and leverage assumes that there is an optimal capital structure and that the firm can increase the total value of the firm through the judicious use of leverage (Van Horne, 2004: 256). The approach suggests that the firm initially can lower its cost of capital and raise its total value through leverage. Although investors raise the required rate of return on equity, the increase in Ke does not offset entirely the benefit of using “cheaper” debt funds. As more leverage occurs,

investors increasingly penalize the firm's required equity return until eventually this effect more than offsets the use of "cheaper" debt funds.

Figure 2-6 Traditional Approach



2.1.4 MM independent Hypothesis

Modigliani and Miller (MM) in their original position advocate that the relationship between leverage and the cost of capital is explained by the net operating income approach (Van Horne, 2004: 257). They make a formidable attack on the traditional position by offering behavioral justification for having the cost of capital, Ko, remain constant throughout all degrees of leverage. The modern theory of capital structure began with the celebrated paper of Modigliani and Miller published in 1958 (Harish and Raviv, 1991: 297 – 355). 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 of offering behavioral justification for having the cost of capital, Ko, remain constant through all degree of leverage (Van Horne, 1974: 272) 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 (Van Horne, 1974: 273). 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 (Shrivastava). The MM cost of capital hypothesis can be best expressed in terms of their propositions I and II. 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 MM hypothesis (Modegliani and Miller, 1958: 265 – 268)

aa. Capital markets are perfect. Information is costless and readily available to all investors. There are no transactions costs, and all securities are infinitely divisible. Investors are assumed to be rational and to behave accordingly.

bb. The average expected future operating earnings of a firm are represented by subjective random variables. It is assumed that the expected values of the probability distribution of all investors are the same. The MM illustration implies that the expected values of probability distributions of expected operating earnings for all future periods are the same as presented operating earnings.

cc. Firms can be categorized into “equivalent return” classes. All firms within a class have the same degree of business risk. As we shall see later, this assumption is not essential for their proof.

dd. The absence of corporate income taxes is assumed. MM removes this assumption later in 1963 (Modigliani and Miller, 1963: 433).

On the basis of the above stated assumptions, MM derived the following two propositions.

Proposition I

Given the above assumptions, MM argue that, for firms in the same risk class, the total market value is dependent of debt equity combination, and is given by capitalizing the expected net operating income by the rate appropriate to the risk class (Modigliani and Miller, 1963: 268).

This is their proposition I and can be expressed as follows:

$$V(S+D) = \frac{\bar{x}}{K_o} = \frac{NOI}{K_o}$$

Where,

V = the market value of firm

S = the market value of common shares

D = the market value of debt

$\bar{x}$ = the expected net operating income on the assets of the firms

K_o = the capitalization rate appropriate to the risk class of the firms

This proposition can be stated in an equivalent way in terms of the firms average cost of capital, $\bar{x}$ / V, which is the ratio of expected earnings to the market value of all its securities, i.e.,

$$\frac{\bar{x}}{S+D} = \frac{\bar{x}}{v} = \text{Ko}$$

If we defined Kd as the expected return on the firm's debt and Ke as the expected return on the firm's equity, then

$$\bar{x} = \frac{K_o}{V} = \text{Ke (S)} + \text{Kd(D)}$$

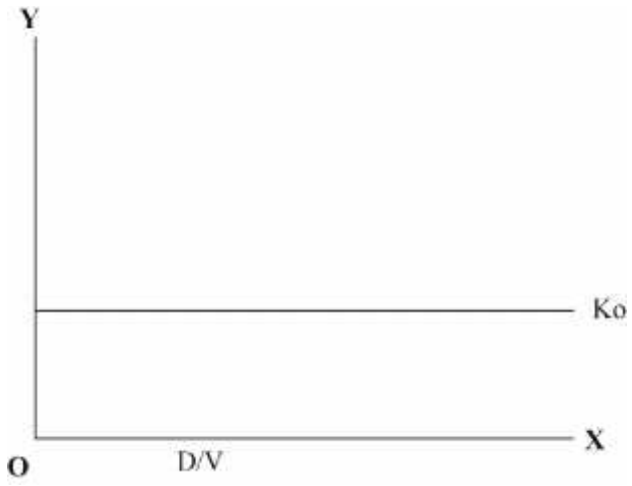
But by definition $K_o = \bar{x}/v$, therefore,

Ko = Ke(S/V) + Kd(D/V)

Equation 2.7 express Ko is shown to the weighted average cost of capital. Since the cost of capital is defined as the net operating income divided by the total market of the firm and since M-M conclude that the total market value of the firm is unaffected by debt equity mix, it follows that the cost of capital is independent of the capital structure and is equal to the capitalization rate of pure equity stream of its class.

The overall cost of capital function as hypothesis by M-M is shown in figure 2.7

Figure 2-7 The cost of capital under the M-M hypothesis



Thus, two firms identical in all respects expects for their capital structure cannot command different market values or have different cost of capital. But if there is 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,1981:37-38).

Proposition II

MM's proposition – II, which defines the cost of equity, follows from their proposition I and shows the implication of the net operating approach, the equation for the cost of equity can be derived from the definition of the average cost of capital.

$$\text{Ko} = k_e\left[\frac{S}{S+D}\right] + K_d\left[\frac{D}{D+S}\right]$$

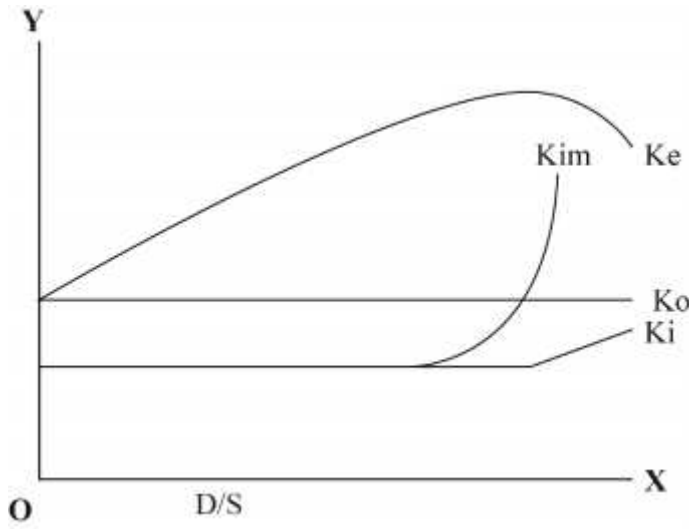
$$\text{Ke} = K_o\left[\frac{D+S}{S}\right] - K_d\left[\frac{D}{S+D}\right]\left[\frac{D+S}{S}\right]$$

$$= K_o\left[1+\frac{D}{S}\right] - K_d\left[\frac{D}{S}\right]$$

$$\text{Kd} \quad = K_o + (K_o - K_e)\frac{D}{S}$$

Equations state that for any firm in a given risk class the cost of equity Ke is equal to the constant to the constant average cost of capital, Ko, 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 interest rate. As the proposition of debt increases the cost of equity increases continuously even though Ko and Kd are constant. The crucial part of M-M thesis is that Ko will not rise even is very excessive use of leverage is made. This conclusion could be valid if Kd remains constant for any degree of leverage. But in practice Kd increases with leverage beyond a certain acceptable level of leverage. However, M-M maintain that even if Kd is a function of leverage, Ko will remain constant as Ke will increase at a decreasing rate to compensate.

Figure 2-8 Behavior of Ko, Kd and Ke under MM hypothesis



It is clear from the figure2-8 that Ke will increase till the marginal rate of interest (Kim) is below the cost of capital. As soon as the marginal interest rate cuts the cost of capital, Ke will start falling.

2.1.5 Basel II

The Basel II accords are a broad set of requirements that have profound implications on some practices within the financial institution.

The need to allocate capital to safe guard financial institutions against unexpected losses arising from credit risk requires that they implement systems for quantifying their exposure to credit risk.

The advanced implementation options of Basel II explicitly require financial institutions to assess the credit exposure for each customer and for each credit facility using the following measures:

ee. Probability of Default (PD) - the probability that a specific customer will default within the next 12 months.

ff. Loss Given Default (LGD) - the percentage of each credit facility that will be lost if the customer defaults.

gg. Exposure at Default (EAD) - the expected exposure for each credit facility in the event of a default.

Once the financial institution is able to assess the PD, LGD and EAD for its customers and for its credit facilities, the calculation of the minimum capital requirement is straightforward. The main challenges faced by financial institutions are the aggregation of the risk-related information needed to assess the PD, LGD and EAD for their customers and the implementation of a risk rating system that can correctly model these parameters and that is statistically valid.

Peldec Decision Systems can help financial institutions comply with these requirements in a number of ways:

hh. Development of an internal customer risk rating model that is compliant with the Foundation IRB and Advanced IRB approaches defined in Basel II.

ii. Provide the systems that collect and analyze the relevant customer-related information.

jj. Implement a system that calculates the minimal capital requirements and provides the necessary reporting, portfolio analysis and portfolio drill-down capabilities.

2.1.5.1 Development of Rating Models Compliant with Foundation or Advanced IRB

Peldec Decision Systems has developed a framework that enables financial institutions to quickly develop a proprietary IRB-compliant risk rating model. The framework includes provisions for leveraging the various sources of customer-related information that the financial institution possesses into a statistically valid, Basel II-compliant internal risk rating model.

2.1.5.2 Providing Systems to Collect and Analyze Customer-related Information

Gathering the necessary risk-related information about a financial institution's customers is one of the key challenges that financial institutions face in complying with Basel II.

Peldec Decision Systems provides state-of-the-art software solutions that address this issue:

kk. ProFin - a next-generation financial statements management and analysis software - financial statements (and financial ratios) are probably the most important risk-related sources of information about commercial customers. Peldec'sProFin provides a central database that stores the financials for all of the financial institutions' customers and provides a vital component of a customer risk rating system.

ll. ProFile - end-to-end commercial credit management software - manages a central database of customer risk-related data that offers a complete view of the relationship between the customer and the financial institution. ProFile manages several risk-related information sources such as judgmental scores assigned by credit analysts and loan officers, information about customer profitability, level of

banking activity and more. ProFile also administers and enforces the credit approval workflow, observing credit approval limits and generating an audit trail.

2.1.5.3 Calculating Minimum Capital Requirements and Managing the Credit Portfolio

Peldec Decision Systems' ProRisk is a credit risk repository that manages and enhances the financial institution's credit risk rating model. ProRisk extracts and stores PD, LGD and EAD for each customer and facility type, figures that are at the heart of the Basel II formulas.

ProRisk also calculates the credit-risk related minimum capital requirements for the financial institution's entire credit portfolio and enables to "drill-down" into the credit portfolio, to identify which customers or segments require the highest levels of capital allocation.

Figure 2-9 Portfolio Credit Risk Management (PRORISK)

2.1.6 Basel II implementation: Capital Adequacy Framework 2007 (Updated July 2008), Nepal Rastra Bank

Prior to 1988, there was no uniform international regulatory standard for setting bank capital requirements. In 1988, the Basel Committee on Banking Supervision (BCBS)

developed the Capital Accord, which is known as Basel I, to align the capital adequacy requirements applicable especially to banks in G-10 countries. Basel I introduced two key concepts. First, it defined what banks could hold as capital, as well as designating capital as Core or Supplementary according to its loss absorbing or creditor-protecting characteristics. The second key concept introduced in Basel I was that capital should be held by banks in relation to the risks that they face. The major risks faced by banks relate to the assets held on balance sheet. Thus, Basel I calculated banks' minimum capital requirements as a percentage of assets, which are adjusted in accordance to their riskiness and assigning risk weights to assets. Higher weights are assigned to riskier assets such as corporate loans, and lower weights are assigned to less risky assets, such as exposures to government.

The BCBS released the "International Convergence of Capital Measurements and Capital Standards: Revised Framework", popularly known as Basel II, on June 26, 2004. This framework was updated in November 2005 and a comprehensive version of the framework was issued in June 2006. Basel II builds significantly on Basel I by increasing the sensitivity of capital to key bank risks. In addition, Basel II recognizes that banks can face a multitude of risks, ranging from the traditional risks associated with financial intermediation to the day-to-day risks of operating a business as well as the risks associated with the ups and downs of the local and international economies. As a result, the new framework more explicitly associates capital requirements with the particular categories of major risks that banks face.

The new capital framework also recognizes that large, usually internationally active banks have already put in place sophisticated approaches to risk measurement and management based on statistical inference rather than judgment alone. Thus, the framework allows banks, under certain conditions, to use their own 'internal' models and techniques to measure the key risks that they face, the probability of loss, and the capital required to meet those losses. In developing the new framework, the Basel Committee wanted to incorporate many elements that help promote a sound and efficient financial system over and above the setting of minimum capital requirements.

With this in mind, the Basel II framework incorporates three complementary ‘pillars’ that draw on the range of approaches to help ensure that banks are adequately capitalized in commensurate with their risk profile. The Basel Committees on Banking Supervision's (BCBS) recommendations on capital accord are important guiding framework for the regulatory capital requirement to the banking industry all over the world and Nepal is no exception.

Realizing the significance of capital for ensuring the safety and soundness of the banks and the banking system, at large, Nepal Rastra Bank (NRB) has developed and enforced capital adequacy requirement based on international practices with appropriate level of customization based on domestic state of market developments. The existing regulatory capital is largely based on the Basel committee's 1988 recommendations.

2.2 Review of Literature

2.2.1 *Determinants of Capital Structure of Banks in Ghana: An Empirical Approach* (Mohammed Amidu, Department of Accounting, University of Ghana Business School, Legon, Accra, Ghana, 2010)

This study builds on Abor (2008) and Abor and Biekpe (2009) in developing a framework for analyzing financing and capital structure decisions facing Ghanaian firms. This study examines the determinants of capital structure of Ghanaian banks. Generally, the variables examined were consistent with the static trade-off and pecking order arguments, with the only exception being risk. However, the inferences associated with this variable were significantly affected by the choice of proxy employed to represent risk.

The study has also highlighted the importance of distinguishing between long and short forms of debt when inferences about capital structure. Given the relatively high proportion of short-term debt financing of banks in Ghana, and banks being a source of capital to other firms, overall leverage of banks is negatively related to operating assets. However, splitting the duration of debt into long and short components, it is found that long-term debt structure is positively and statistically related to operating assets. This is intuitive both from theoretical and duration matching perspectives. The result also shows that short-term debt of banks is negatively related to banks' profitability, risk and asset structure and positively related to bank size, growth and corporate tax. On the other hand, the long-term debt of the banks is positively related to banks' asset structure and profitability and inversely related to bank risk, growth, size and corporate tax.

Apart from risk, the results show that, in all the variables, short-term debt and leverage appear to be moving in the same direction. It could be due to the fact that short-term debt constitutes a significant portion of banks capital.

The study reveals that more than 87% of the Ghanaian banks' assets are financed by debts, of this, short term debts appear to constitute more than three quarters of the capital of the banks. This highlights the importance of short-term debt over the long-term debt in Ghanaian banks' financing.

In conclusion, the empirical evidence from this study suggests that profitability, corporate tax, growth, asset structure and bank size are important variables that influence banks' capital structure. These results are consistent with the theories developed in finance to explain capital structure within the firm, including static trade-off arguments utilizing bankruptcy, agency and tax costs and pecking order arguments. However, there is no support of banks' risk influencing the level of leverage of banks in Ghana. This finding is contra to earlier studies.

Following from these findings, it would be useful to also consider the following directions for future research.

mm. How does risk influences capital structure of banks using value of risk concept; and

nn. The relationship between capital structure and the bank credit.

2.2.2 Determinants of Capital Structure: A Case Study of Listed Companies of Nepal(Keshar J. Baral, Ph.D, 2009)

In this paper, an attempt has been made to examine the determinants of capital structure -size, business risk, growth rate, earning rate, dividend payout, debt service capacity, and degree of operating leverage-of the companies listed to Nepal Stock Exchange Ltd. as of July 16, 2003. Eight variables multiple regression model has been used to assess the influence of defined explanatory variables on capital structure. In the preliminary analysis, manufacturing companies, commercial banks, insurance companies, and finance companies were included. However, due to the unusual sign problem in the constant term of the model, manufacturing companies were excluded in final analysis. This study shows that size, growth rate and earning rate are statistically significant determinants of capital structure of the listed companies.

Out of seven examined explanatory variables-size, business risk, growth, earning rate, dividend payout, debt service capacity and degree of operating leverage, three-size, growth and earning rate- are statistically significant determinants of financial leverage. Beta coefficients associated with corporate size, corporate growth and earning rate are statistically significant at 0.01 level. These variables explain around 72% of variation in financial leverage. The remaining variables incorporated in the model explain only 5% of the variation. These facts conclude that corporate size, growth rate and profitability play a major role in determination of the financial leverage in financial institutions; and business risk, dividend payout ratio, debt service capacity, and degree of operating leverage do a dismal role. Further, statistically insignificant associated with business risk, and debt service capacity; and significant coefficient associated with size, and growth imply that financial institutions do not care of their debt service capacity but do care of the expansion of their business. This may, if not monitored by concerned authority properly and timely, invite the crisis in financial sector in future.

2.2.3 Capital Structure Policy and Determinants: Evidence from the Portuguese Banking Industry (Manuel O. Marques, Associate Professor, 2003)

The paper examines theoretically and explores empirically the problem of the banking firm's capital structure (voluntary) decisions. Data was gathered through a survey conducted to a sample of 89.5 percent of the Chief Executive Officers (CEOs) of Portuguese banks in office during the 1989-1998 periods.

Findings support the notion that Portuguese banks' debt/equity choice do matter. They also indicate that surveyed CEOs show a relative preference for the trade-off capital structure policy model. Survey results are consistent with a number of theoretical propositions typically associated with the determinants of debt-equity choice of non-financial firms. Specifically, evidence supports that factors associated with the role of debt and non-debt tax shields at the bank level, as well as agency and governance conflicts and asymmetric information considerations are relevant for capital structure managerial decision-making of Portuguese banks.

Overall, findings provide support to the notion that the design and the adjustment of the firm's financial structure may be explained within the framework of both theoretical and empirically motivated determinants well established in capital structure literature.

Results allow the establishment of an empirical link between capital structure theory and debt / equity choice of surveyed CEOs. The managerial perspective embodied in the survey suggests that capital structure policy seems to be more affected by incentives structure and governance control rights underlying the different financing instruments, rather than by the aspects related to security design and pricing. We interpret this finding as providing support to the notion that theories which elucidate the debt-equity choice in non-financial firms, seem likewise adequate to explain banks capital structure decisions.

It was documented that capital structure choice, as we hypothesized, shows some (varying) consistency with a number of theoretical propositions. From this we derive the implication that the theories which explain the debt-equity choice in non-financial firms seem also able to accommodate banks' capital structure decisions, once their financial intermediation idiosyncrasies are taken into consideration.

Prevailing ownership structure among Portuguese banks is distant from the prototypical Berle and Means diffusely and publicly held firm that usually underlies a number of capital structure theories. Informational and governance consequences of this fact had to be properly taken into consideration when drawing conclusions from our survey data. Ownership structure, and therefore its informational and governance consequences, appears to be a material element for the understanding of capital structure behavior.

The intuition that capital structure choice is likely to assume the form of a trade-off between costs and benefits associated with such a decision is a well-known useful and appealing concept. Unfortunately, it is manifestly clear that it cannot resolve the central problem of identifying and measuring these costs and benefits, thus leaving undetermined the economic framework that could explain the capital structure conundrum. We believe that there is nothing wrong with the trade-off approach. We also recognize that very important steps have been made in improving our understanding about the influence of behavioral considerations like incentives and governance arrangements of capital structure decisions. The acknowledgement that people, not production functions (or any *invisible hand*), actually make these choices was a significant contribution we owe to Michael Jensen and Bill Meckling, among others. The recognition that there are ownership rights embedded in the securities sold by firms to manage their capital structures was another important step.Yet another was the perception that buyers and sellers of securities typically get separated and that this could affect the costless exercise of ownership rights. Finally, the acceptance that individuals, in making their choices (firms are just real fictions…they do not make decisions!), are unable to behave according to the full rationality paradigm, further

extended our understanding of economic behavior. This accumulated knowledge; however, it is not enough to enable the construction of a comprehensive capital structure theory. In this framework, capital structure decisions should be primarily determined by considerations that relate to incentives and allocation of ownership and control rights. Given that managerial reputation is a central factor in motivating risk-averse corporate managers (Fama and Jensen 1983), we should expect their behavior to be also affected by problems with their human capital specific investments.

In our assessment, the empirical findings obtained from our survey are consistent with this perspective. Managers appear to be primarily concerned with the influence of the incentives associated with the governance arrangements and the control rights allocation determined by capital structure decision-making.Their responses seem to indicate less concern with security design, transaction costs and other *tactical* aspects of the capital structure problem.

This is consistent with Stewart Myers' viewpointthat one possible explanation for the capital structure puzzle might be related with the excessive emphasis put on *financing structure* (he called the tactical level of capital structure), in detriment of *financial structure* (he called the strategic level of capital structure).

Two concluding remarks: The first to acknowledge that we lack a theory with the ability to explain and predict the dynamics of a firm's capital structure choice along its life cycle.This theory should be able to enlighten firm's debt / equity choice such as the decisions to go public and the decisions to go private. The dynamics, over the life cycle of the firm, of crucial factors for capital structure choice determine a complex set of interactions from where it has been difficult to disentangle the individual components. Among those elements is the structure of managerial incentives and therefore managers' motivations and expectations, the organizational form of the firm, as well as its ownership structure. The second relates to restrictions to pure capital structure decisions that are present when share repurchases are restricted, as it is the case in Portugal. We consider this a public policy issue that should deserve, at least,

reconsideration at the European Union legislative level. European legislators emphasize creditor protection to restrict stock buybacks. However, an argument can be made that banks' largest creditors are depositors whose claims typically benefit from the protection of the public deposit insurer. Other banks' debt holders are usually well informed and sophisticated investors whom are able to accurately and efficiently appraise and price default risk. Furthermore, bank debt offerings are often made under private placement arrangements and "sweetened" by rating notations. Moreover, bank insiders if deprived of an effective defense against hostile takeover threats might resort to external control mechanisms (such as anti-takeover charter amendments) and insulate themselves from the discipline of the market for corporate control.

2.2.4 What are the Determinants of the Capital Structure? Some Evidence from Switzerland (Wolfgang Drobetz, University of Basel and Roger Fix, University of St. Gallen, 2003)

The study test leverage predictions of the trade-off and pecking order models using Swiss data. At an aggregate level, leverage of Swiss firms is comparatively low, but the results depend crucially on the exact definition of leverage. Confirming the pecking order model but contradicting the trade-off model, more profitable firms use less leverage. Firms with more investment opportunities apply less leverage, which supports both the trade-off model and a complex version of the pecking order model. Leverage is also closely related to tangibility of assets and the volatility of a firm's earnings. Finally, estimating a dynamic panel model, the researchers find that Swiss firms tend to maintain target leverage ratios. Our results are robust to several alternative estimation techniques.

In this article the researchers test several predictions on leverage using data from a representative sample of Swiss firms. The race between the trade-off theory and the pecking order theory is undecided; in fact, on many issues there is no conflict. The shared predictions are confirmed in our tests. Most important, firms with more investment opportunities apply less leverage, which supports both the trade-off model and a complex version of the pecking order model. Confirming the pecking order model but contradicting the trade-off model, more profitable firms use less leverage. The researchers also find that leverage is also closely related to tangibility of assets and the volatility of a firm's earnings. Using a simple target adjustment model, the researchers report evidence that firms adjust to long-term financial targets. As shown by Shyam-Sunder and Myers (1999), this can well be consistent with a pecking order of financing activities. The results are robust to several alternative estimation techniques.

From a broader perspective, leverage of Swiss firms is comparatively low. This is an interesting observation, given that it is commonly argued that continental European

firms tend to be highly levered. While the results depend on the exact definition of leverage, the researchers conclude that leverage in Switzerland is similar to what has been previously reported by Rajan and Zingales (1995) for Germany, but somewhat lower than in Anglo-American countries. One important reason is that Swiss firms hold large cash positions, which is reflected in the adjusted leverage figures. The researchers also observe that leverage has been slightly decreasing during the last decade.

2.2.5 Capital Structure Determinants: An Empirical Study of Swedish Companies *(Han-Suck Song, 2005)*

This paper analyses the explanatory power of some of the theories that have been proposed in the literature to explain variations in capital structures across firms. In particular, this study investigates capital structure determinants of Swedish firms based on a panel data set from 1992 to 2000 comprising about 6000 companies. Swedish firms are on average very highly leveraged, and furthermore, short-term debt comprises a considerable part of Swedish firms' total debt. An analysis of determinants of leverage based on total debt ratios may mask significant differences in the determinants of long and short-term forms of debt. Therefore, this paper studies determinants of total debt ratios as well as determinants of short-term and long-term debt ratios. The results indicate that most of the determinants of capital structure suggested by capital structure theories appear to be relevant for Swedish firms.

This study investigated the determinants of capital structure of a sample of Swedish firms utilizing panel data analysis. Three different leverage measures based on book values have been applied: total debt ratio, long-term debt ratio, and short-term debt ratio. The empirical evidences provide that there exist significant differences in the determinants of these three leverage measures. While all three forms of debt ratio are significantly related to tangibility, profitability, size, and income variability, non-debt tax shield is only related to the short and long-term forms of debt. Uniqueness and growth are not related to any of the three debt measures.

The most interesting finding in this study is though that there exist significant differences between short-term and long-term debt ratios in three cases. While tangibility is positively related to long-term debt (and total debt as well), it is negatively related to short-term debt. Furthermore, while non-debt tax shield has a positive effect on short-term debt ratio, it is negatively correlated with long-term debt ratio. Finally, while size is positively related to both total debt and short-term debt ratio, it is negatively correlated with long-term debt ratio.

These findings suggest that future analysis of leverage determinants should be based on not only long-term or total debt ratios, but on short-term debt ratios as well. This may be of particular interest and importance for the Swedish case, since short-term debt constitutes a major part of total debt – short-term debt ratio amounts to almost 50% (see table 3 above). Due to data limitations, we have not been able to decompose short-term debt to its basic elements. Only when we have data on for instance trade credit and equivalent, short-term securitized debt and short term bank borrowing, we may find answers to why Swedish firms have such large short-term debt ratios. Indeed, Bevan and Danbolt (2000) argue that a fuller understanding of capital structure and its determinants requires a detailed analysis of all forms of corporate debt. There exist other limitations to this paper as well that should be relaxed in future works. In particular, the data is based on book values and not market figures, which may be a major drawback in some cases, for instance when estimating the effect of expected growth opportunities on leverage, since stock markets usually capitalize the present value of growth opportunities. Finally, applying dynamic panel data regression in future research may make it possible to reveal interesting relationships between short- and long-term leverage, from which important discussions on the relationship between financial systems, corporate debt structure and growth may be based upon.

2.2.6 Determinants of Capital Structure: Evidence from Libya

(FakherBuferna, KenbataBangassa and Lynn Hodgkinson, 2005)

This paper provides further evidence of the capital structure theories pertaining to a developing country and examines the impact of the lack of a secondary capital market by analysing a capital structure question with reference to the Libyan business environment. The results of cross-sectional OLS regression show that both the static trade-off theory and the agency cost theory are pertinent theories to the Libyan companies' capital structure whereas there was little evidence to support the asymmetric information theory. The lack of a secondary market may have an impact on agency costs, as shareholders who are unable to offload their shares might exert pressure on management to act in their best interests.

The findings of this paper contribute towards a better understanding of financing behaviour in Libyan companies. Hypotheses, based on comparing the relationships between long and short term debt and four explanatory variables that represent profitability, growth, tangibility and size, were developed to test which capital structure theories best explained Libyan companies' capital structure. The results suggest that both the static trade-off theory and the agency cost theory are pertinent theories whereas there was little evidence to support the information asymmetry theory. The lack of a secondary market may have an impact on agency costs as shareholders, who are unable to offload their shares, might exert pressure on management to act in their best interests. It is likely that equity agency costs, arising due to conflict between debtholders and shareholders, will be more of a problem for private companies and indeed the relationships supporting the agency cost theory were stronger for private companies. The lack of high-quality databases might constitute the major barrier on conducting capital structure research in Libya. Consequently, there is a need to develop validated databases as more data becomes available in future. Using such databases can help examining and identifying additional variables that could influence the financing behaviour of Libyan companies.

2.2.7 Determinants of Capital Structure Choice: A Survey of European Firms (Franck Bancel and Usha R. Mittoo, University of Manitoba, Canada, 2002)

The study surveyed managers of firms in seventeen European countries on their capital structure choice and its determinants. The main objective of the studywas to explore the link between theory and practice of capital structure. Preliminary analysis of the survey shows some interesting findings. Financial flexibility, credit rating and tax advantage of debt are the most important factors influencing the debt policy while the earnings per share dilution are the most important concern in issuing equity. Evidence also supports that the level of interest rate and the share price are important considerations in selecting the timing of the debt and equity issues respectively. Hedging consideration is the primary factors influencing the selection of the maturity of debt or when raising capital abroad. The study also propose to compare the responses of European managers with those of the U.S. in Graham and Harvey (2001) as well as across countries based on the English, French, German and Scandinavian law.

Two main considerations seem to drive the behaviours of managers facing financial policy decisions: the search for financial flexibility and the impacts on the financial statements. Financial flexibility is a key issue for managers who want their firm to have access to external financing whatever the economic outlook. This financial flexibility is obtained by selecting the timing of the issue based on interest rate levels or market value of equity. This evidence is consistent with the window of opportunity hypothesis discussed in the literature. Our survey also confirms that managers are concerned about the impact of their decisions on financial statements. The concern about earnings per share dilution is rated as an important concern in issuing common stock and is valued as a major advantage in issuing convertible debt. Credit rating and target ratios are also important issues for managers, which mean that they are very sensitive to external bearings. The weighted average cost of capital and tax advantage of debt rate are also important for managers, but these factors do not appear to drive

the determination of European firms capital structure policies of European firms. While the cost of financing is a concern for managers, it does not seem to be a first level constraint. Finally, the study find little evidence that firms follow industry norms of capital structure or that managers use debt or equity for tactical reasons such as to pressure employees or to motivate managers to work harder.

2.2.8 Determinant of Corporate Capital Structure: Australian Evidence

(Carl Chiarella, Toam Pham, Ah Boon Sim and Madeline Tan, 1994)

This study seeks to provide evidence on the importance and significance of capital structure determinants in the Australian context. The analysis was implemented on a sample of 226 Australian Companies from 1977 to 1985. The following results are obtained.

Company non-debt tax shields display a negative relationship with respect to each of the debt ratios. This evidence is consistent with the theory proposed by DeAngelo and Masulis (1980) that firms with non-debt tax shields at their disposal can use these as substitutes for interest tax shields. The evidence canvassed also lends some support to the pecking order hypothesis of Myers and Majluf (1984). Specially, significant negative relationships between profitbality and all debt ratios are found. The implication is that the sample of firms studied prefers to finance investments with internally retained funds before issuing debt. Some evidence of a size effect is present and this indicates that the larger firms in the sample tended to employ more debt in their capital structures. The positive relationship between cash holdings and debt ratios indicates some support for the free cash flow hypothesis of Jensen (1986), although these estimates are not significant. No support for the growth opportunities and collateral value attributes as determinants of debt ratios can be discerned, consistent with Titman and Wessels (1988).

Chapter-3

3. Research Methodology

The research methodology refers to the various sequential steps (along with rationale of each such steps) to be adopted by a researcher in studying a problem with certain objectives in views (Kothari, 1994:98). In other word research methodology describes the method and process applied in the entire part of the study. A focus is given to research questions, the model, and definition of variables, sample selection and size, sources of data and limitation of study.

3.1 Sample Selection

In order to fulfill the research objectives ten commercial banks has been taken in the study. The data of five years, vis. 2007, 2008, 2009, 2010 and 2011 are used. The main sources of the data are NRB's Banking and Financial Statistics, banks' annual reports and secondary data and information have been collected from the various sources. The criteria for selecting banks were;

oo. Commencement of banks for more than ten years;

pp. Availability of data for all five years; and

qq. Private joint stock banks.

There are 30 commercial banks in Nepal (according to NRB) as on Mid-July 2011. Out of them only 17 commercial banks qualify for the study and rest don't provide scope for their studying because they are in operation for less than ten years. A purposive sampling is done to select samples companies that are shown in table below:

Table 3-1 Selection of Sample Banks

Commercial Banks	No. of banks on operation	No. of banks operating for more than 10 years	No. of selected banks
	30	17	10

(Source: Banking and FinancialStatistics, No. 56, Mid-Jan 2011)

3.2 Period of the Study and Selected Banks

The period of the study for selected commercial banks is homogeneous. The data of five years (2007-2011) are included in the study. Table shows the companies included in the study.

Table 3-2 Selected Commercial Banks

Operation	Banks	Head Office
2041/3/29	Nepal Arab Bank Limited (NABIL Bank Limited)	Kathmandu
2042/11/26	Nepal Indosuez Bank Ltd (Nepal Investment Bank	Kathmandu
2043/10/16	Grindlays Bank Ltd (Standard Chartered Bank Nepal	Kathmandu
2049/10/5	Himalayan Bank Limited	Kathmandu
2050/3/23	Nepal SBI Bank Limited	Kathmandu
2050/2/23	Nepal Bangladesh Bank Limited	Kathmandu
2051/7/1	Everest Bank Limited	Kathmandu
2051/11/28	Bank of Kathmandu Limited	Kathmandu
2053/6/28	Nepal Bank of Ceylon Limited (Nepal Credit and Commerce Bank of Ceylon	Siddharthanagar
2055/4/1	Lumbini Bank Limited	Narayangadh

In all, 10 banksqualified and selected for this study. The banks which are in operation for more than a decade can provide reliable data and more accurate assessment of capital structure than new one. Therefore, those ten banks which have completed its decade are selected for the study. The proposed period of the study is from 2007 to 2011. Three dependent variables are considered for the study - leverage; short-term leverage and long-term leverage. Short-term debt is defined as the portion of the bank's total debt repayable within one year. This includes deposits and current

accounts, payable within one year. Long-term debt is the bank's total debt repayable beyond one year. The leverage ratio (LEV) is total debts divided by total capital. The short-term debt ratio (SHORT) is total short-term debt to total capital while the long-term debt ratio (LONG) is the total long-term debt divided by total capital. The explanatory variables include profitability (P), risk (R), asset structure (A), tax (T), size (S) and sales growth (G).The entire variable for this study is based on book value in line with the argument by Myers (1984) that book values are proxies for the value of assets in place.

3.3 Data Collection

This study is basically based on secondary data, which is derived from data of selected commercial banks. These data have collected from annual reports of selected commercial banks, published by respective banks. Other sources of data are financial reports, periodicals and other information provided by the banks as well as Business news and magazines. The literature review has been done as per the information collected from internet as well.

3.4 Nature and Source of Data

The information needed for the study is secondary type. The information collected from Banking and Financial Statistics and annual reports of the selected banks is the sources of secondary data. The most of the study is based on the secondary data and where necessary the primary data is used.

3.5 Analytical Procedure

The first objective of the study is to find out the major determinants of capital structure in Nepal. Similarly another objective of the study is to examine the influence of determinants in capital structure decisions. For this, the secondary data published in bank's balance sheet and income statement as well as data published in Banking and Financial Statistics (No. 56) was consulted.

The final objective of the study is to highlight selection procedure adopted by the banks for capital structure decisions. For this, result of financial data analysis was used.

3.6 Limitation of the Study

There are various limitations while conducting this study. The time, area and unit covered are very limited for the ease of understanding and analyzing. More precisely, the major limitations of the study are:

rr. This research has been conducted to fulfill the requirement of MBS course for prescribed time.

ss. The time frame of the study includes only five consecutive years (2007-2011).

tt. The variables used include only capital structure, growth, profitability, corporate tax, assets structure and bank's size.

uu. Only ten private and joint-venture commercial banks are selected for the study according to their establishment.

vv. Very limited information from the commercial banks.

Chapter-4

4. Data Presentation and Analysis

Data Presentation and Analysis is the fourth chapter of this research study. It is an important phase of the research study. Collecting data is the connecting link to the world of reality for the researcher. The data connecting activity consist of taking ordered information from reality and transferring it into some recording system so that it can later be examined and analyze for patterns. Research as a media can be interpreted as having a content of data and a process of methodology without the data, methodology cannot be utilized to bring us to the conclusion.

The presentation of data is the basis of organization and classification of the data for analysis. After data collecting is completed, the data will be in what researcher call “the raw firm”. The data will still be on questionnaire, data collecting forms and note cards. It is necessary to arrange the data so that it makes some sense to the researcher and so that it can later be presented to the readers of the thesis. Different type of data requires different methods of summary and presentation. There are a number of methods, which can be used to simplify the data. The easiest way to understand data is by examining it in charts, graphs and tables. But even before one can arrange data in tables, it is necessary to rearrange the raw data. The main purpose of analyzing the data is to change it from an unprocessed form to an understandable presentation. The analysis of data consists of organizing, tabulating and performing statistical analysis (Wolfs and Pant, 2000).

The basic objectives of this study have been already highlighted in the first chapter. In order to accomplish the objectives, analytical and explorative research methodology has been followed. This has been described in chapter three. Now in this chapter, the effort has been made to deal with research problems mentioned in chapter one.

4.1 Profitability (P) of the Commercial Banks

Generally, there are two types of profits; operating profit and net profit. Here we are talking about net profit. Banks are such type of organization where others' deposit is invested and earn profit and provide interest on the deposit. So, profit is mandatory in the banks. The commercial banks cannot distribute its dividend unless they meet the standard set by Basel II even if they earn enough profit. So, the relationship between net profit and capital structure according to Basel II is presented below:

Table 4-1 Net Profit and Capital Structure of Selected Commercial Banks

(Rs. in millions)

	Mid-July 2007		Mid-July 2008		Mid-July 2009		Mid-July 2010		Mid-January 2011	
Banks	**Capital Fund**	**Net Profit**	**Capital Fund**	**Net Profit**	**Capital Fund**	**Net Profit**	**Capital Fund**	**Net Profit**	**Capital Fund**	**Net Profit**
NABIL	1874.80	685.60	2057.00	750.40	**2436.20**	**1624.90**	**3129.40**	**1798.70**	3835.70	1041.40
NIBL	1370.80	561.70	1959.00	830.70	3421.10	982.00	3765.20	1422.50	**4171.80**	**1065.20**
SCBNL	1755.30	692.10	2117.20	814.40	2493.40	1028.30	3053.00	1086.80	3371.70	527.90
HBL	**1766.10**	**828.30**	**2146.50**	**1050.80**	2513.00	1182.10	3119.90	871.80	3439.30	0.00
NSBIBL	989.90	394.50	1163.30	255.10	1414.60	337.60	2141.90	406.50	2450.50	196.20
NBBL	-1562.40	576.90	-2783.40	684.30	-1045.90	1994.20	1112.20	1327.70	2133.50	399.70
EBL	963.60	300.00	1601.50	722.80	2066.50	624.10	2203.60	831.80	2759.00	429.80
BOKL	840.20	270.50	982.00	367.60	1342.10	725.80	1741.60	509.60	2073.70	311.80
NCCBL	-308.30	-104.60	200.70	495.60	684.70	410.60	1099.00	457.00	1523.00	95.80
LBL	-622.10	225.50	34.00	328.70	364.10	391.80	1151.50	297.70	1447.70	211.80

(Source: Banking and Financial Statistics, No. 56)

The table4-1 shows thatwe cannot say the bank with the highest net profit always have the highest capital fund. If we compare data of Mid-July 2007, HBL has the highest net profit compare to other banks i.e. NPR 828.30million however the capital fund of Nabil is the highest i.e. NPR 1874million. Similarly, if we compare data of Mid-Jan 2011, NIBL has the highest net profit and the highest capital fund. However, we can observe that with the increase in net profit of individual banks capital fund also increase, remaining all other things constant.

Hence, we can conclude that those banks which have increasing net profit have increasing capital fund as well, remaining all things constant. Generally, net profit is added to the reserve and surplus of the balance sheet, subsequently adding to the capital fund. Therefore, higher net profit results increase in capital fund and net loss results decrease in capital fund. The same is true in the reverse case as well. Similarly, the initial capital introduced at the time of establishment also plays pivotal role in determining amount of capital fund.

Table 4-2 Index Table for the Profit

Banks	Mid-July 2007		Mid-July 2008		Mid-July 2009		Mid-July 2010		Mid-January 2011	
	Index (Base)	Net Profit	Index	Net Profit	Index	Net Profit	Index	Net Profit	Index	Net Profit
NABIL	100	685.60	109.45	750.40	237.00	1624.90	262.35	1798.70	151.90	1041.40
NIBL	100	561.70	147.89	830.70	174.83	982.00	253.25	1422.50	189.64	1065.20
SCBNL	100	692.10	117.67	814.40	148.58	1028.30	157.03	1086.80	76.28	527.90
HBL	100	828.30	126.86	1050.80	142.71	1182.10	105.25	871.80	0.00	0.00
NSBIBL	100	394.50	64.66	255.10	85.58	337.60	103.04	406.50	49.73	196.20
NBBL	100	576.90	118.62	684.30	345.68	1994.20	230.14	1327.70	69.28	399.70
EBL	100	300.00	240.93	722.80	208.03	624.10	277.27	831.80	143.27	429.80
BOKL	100	270.50	135.90	367.60	268.32	725.80	188.39	509.60	115.27	311.80
NCCBL	100	-104.60	-473.80	495.60	-392.54	410.60	-436.90	457.00	-91.59	95.80
LBL	100	225.50	145.76	328.70	173.75	391.80	132.02	297.70	93.92	211.80

(Source: Banking and Financial Statistics, No. 56)

The table4-2 shows that we can analyze with the increase in net profit, capital fund also increases and vice versa, since part of net profit is added to the capital fund as reserves. Similarly, we can observe that index of all banks are very fluctuating.

Here, let us suppose borrowings of the banks as their debt. The borrowings includes amount borrowed from Nepal Rastra Banks, "A" class licensed institute, Foreign Bank and Financial Institute, Other Financial Institute and Bonds/Securities. Now, for the analysis of the relationship between capital structure and debt (Borrowings) amount used by the banks, let us consider another table given below:

Table 4-3 Relationship between Net profit, Borrowings and Leverage Ratio

(Rs. in millions)

Banks	Mid January 2010			Mid January 2011		
	Net Profit	Borrowings	Leverage Ratio	Net Profit	Borrowings	Leverage Ratio
NABIL	**992.2**	**2658.9**	**0.85**	**1041.40**	**1926**	**0.50**
NIBL	**750.9**	**2677.3**	**0.71**	**1065.20**	**2200.8**	**0.53**
SCBNL	513	0	0.00	527.90	400	0.12
HBL	**360.2**	**1000**	**0.32**	**0.00**	**1122.5**	**0.33**
NSBIBL	202.3	2868.7	1.68	196.20	330.4	0.13
NBBL	808.3	0	0.00	399.70	0	0.00
EBL	**383.7**	**300**	**0.13**	**429.80**	**300**	**0.11**
BOKL	**242.9**	**1800**	**1.03**	**311.80**	**1253.4**	**0.60**
NCCBL	294.5	320	0.29	95.80	147.9	0.10
LBL	**250.2**	**14.5**	**0.01**	**211.80**	**25.4**	**0.02**

(Source: Banking and Financial Statistics, No. 54 & 56)

Here,

$$\text{Liquidity ratio} = \frac{Borrowings}{CapitalFund}$$

Till date Nepal Investment Bank Limited, Himalayan Bank Limited, Nepal SBI Banks Limited, Everest Bank Limited and Bank of Kathmandu have issued bonds and securities. According to the Proposition 1, there is negative relationship between leverage ratio and profitability. Bevan and Danbolt (2002) states that more profitable firms should hold less debt because high levels of profits provide a high level of internal funds. Myers (1984) emphasizes that internal funds and external funds are to be used hierarchically. He refers to this as a pecking order theory which states that firms prefer to finance new investment, first internally with retained earnings, then with debt, and finally with an issue of new equity.

The table shows that the mix results: 6 out of selected 10 banks (namely Nabil Bank, Nepal Investment Bank, Himalyan Bank Limited, Everest Bank Limited, Bank of Kathmandu Limited and Lumbini Bank Limited) agree with the proposition i.e. the

increase in leverage ratio results in decrease in profitability (Net profit) of the bank and vice versa; and 4 out of 10 banks do not agree with the proposition.

4.2 Risk (R) of the Commercial Banks

Nepal Rastra Bank recognizes that not all risks can be measured precisely. However, bank should develop a process to estimate risks with reasonable certainties. In order to make a comprehensive assessment of risks, the process should, at minimum, address the following forms of risk.

4.2.1 Credit risk:

Banks should have methodologies that enable them to assess the credit risk involved in exposures to individual borrowers or counterparties as well as at the portfolio level. The credit review assessment of capital adequacy, at a minimum, should cover risk rating systems, portfolio analysis/aggregation, large exposures and risk concentrations. Internal risk ratings are an important tool in monitoring credit risk. Internal risk ratings should be adequate to support the identification and measurement of risk from all credit exposures, and should be integrated into an institution's overall analysis of credit risk and capital adequacy. The ratings system should provide detailed ratings for all assets, not only for problem assets.

4.2.1.1 Credit concentration risk:

Risk concentrations are arguably the single most important cause of major problems in banks. A risk concentration is any single exposure or group of exposures with the potential to produce losses large enough (relative to a bank's capital, total assets, or overall risk level) to threaten a bank's health or ability to maintain its core operations. Lending being the primary activity of most banks, credit risk concentrations are often the most material risk concentrations within a bank. However, risk concentrations can arise in a bank's assets, liabilities, or off-balance sheet items, through the execution or processing of transactions (either product or service), or through a combination of exposures across these broad categories. Credit risk concentrations are based on common or correlated risk factors, which, in times of stress, have an adverse effect on

the creditworthiness of each of the individual counterparties making up the concentration. Such credit concentrations are not addressed in the minimum capital requirements for credit risk. Thus, Banks should have in place effective internal policies, systems and controls to identify, measure, monitor, and control their credit risk concentrations. Banks should explicitly consider the extent of their credit risk concentrations in their assessment of capital adequacy under review process. These policies should cover the different forms of credit risk concentrations to which a bank may be exposed to. Such concentrations include but are not limited to:

ww. Significant exposures to an individual counterparty or group of related counterparty. Banks might also establish an aggregate limit for the management and control of all of its large exposures as a group;

xx. Credit exposures to counterparties in the same economic sector or geographic region;

yy. Credit exposures to counterparties whose financial performance is dependent on the same activity or commodity; and

zz. Indirect credit exposures arising from a bank's CRM activities (e.g. exposure to a similar type of collateral or credit protection provided by single counterparty or same collateral in cases of multiple banking).

A bank's framework for managing credit risk concentrations should be clearly documented and should include a definition of the credit risk concentrations relevant to the bank and how these concentrations and their corresponding limits are calculated. Limits should be defined in relation to a bank's capital, total assets or, where adequate measures exist, its overall risk level. A bank's

Management should conduct periodic stress tests of its major credit risk concentrations and review the results of those tests to identify and respond to potential changes in market conditions that could adversely impact the bank's performance.

4.2.2 Operational risk:

The failure to properly manage operational risk can result in a misstatement of an institution's risk/return profile and expose the institution to significant losses. Gross income, used in the Basic Indicator Approach is only a proxy for the scale of operational risk exposure of a bank and can in some cases underestimate the need for capital. Thus, Banks should develop a framework for managing operational risk and evaluate the adequacy of capital as prescribed by this framework. The framework should cover the bank's appetite and tolerance for operational risk, as specified through the policies for managing this risk, including the extent and manner in which operational risk is transferred outside the bank. It should also include policies outlining the bank's approach to identifying, assessing, monitoring and controlling/mitigating the risk.

4.2.3 Market risk:

The prescribed approach for the computation of capital charge for market risk is very simple and thus may not be directly aligned with the magnitude of risk. Likewise, the approach only incorporates risks arising out of adverse movements in exchange rates while ignoring other forms of risks like interest rate risk and equity risks. Thus, banks should develop a framework that addresses these various forms of risk and at the same time perform stress tests to evaluate the adequacy of capital. The use of internal models by the bank for the measurement of market risk is highly encouraged. Wherever bank's make use of internal models for computation of capital charge for market risks, the bank management should ensure the adequacy and completeness of the system regardless of the type and level of complexity of the measurement system as the quality and reliability of the measurement system is largely dependent on the quality of the data and various assumptions used in the model.

4.2.4 Liquidity risk:

Liquidity is crucial to the ongoing viability of any financial institution. The capital positions can have a telling effect on institution's ability to obtain liquidity, especially

in a crisis. Each bank must have adequate systems for Review Process measuring, monitoring and controlling liquidity risk. Banks should evaluate the adequacy of capital given their own liquidity profile and the liquidity of the markets in which they operate. Banks are also encouraged to make use of stress testing to determine their liquidity needs and the adequacy of capital.

4.2.5 Other risks:

Although the 'other' risks, such as reputational and strategic risk, are not easily measurable, banks are expected to take these into consideration as well while deciding on the level of capital.

4.3 Assets Structure (A) of the Commercial Banks

Every bank should maintain capital fund according to the standard set by Basel II. According to the Basel II, ratio of capital fund to risk weighted assets should be average 10%. So, equity share, right share, bonus share and others are issued to maintain this ratio. According to NRB directive, within 2070 BS every commercial bank should maintain the capital of Rs.2arabs. The most of the existing commercial banks have already increased their capital to Rs. 2arabs.

Table 4-4 Capital Structure to Risk Weighted Assets of Selected Commercial Banks

(Rs. in millions)

Banks	Mid-July 2007		Mid-July 2008		Mid-July 2009		Mid-July 2010		Mid-January 2011	
	Capital Fund	Capital Fund to Risk Weighted Assets (%)	Capital Fund	Capital Fund to Risk Weighted Assets (%)	Capital Fund	Capital Fund to Risk Weighted Assets (%)	Capital Fund	Capital Fund to Risk Weighted Assets (%)	Capital Fund	Capital Fund to Risk Weighted Assets (%)
NABIL	2307.63	12.04	3207.7	11.91	4065.2	11.71	3129.41	11.61	3835.7	11
NIBL	2851.62	12.17	3898.5	11.31	5538.1	12.1	3765.16	11.69	4171.8	10.22
SCBNL	2225.28	15.71	3115.4	16.8	3190.4	14.7	3053	17.78	3371.7	16.24
HBL	2651.37	12.11	3348.7	12.5	3980.7	11.31	3119.88	11.62	3439.3	10.89
NSBIBL	1444.8	13.29	1726	12.54	2048.4	12.18	2141.89	14.14	2450.5	11.58
NBBL	-2707.44	-23.55	-2151.4	-16.49	855.6	6.62	1112.24	12.87	2133.5	11.61
EBL	1676.12	11.19	2387.13	11.34	2875.9	11.04	2203.62	10.56	2759	10.96
BOKL	1265.83	12.38	1635.16	11.47	2067.7	11.91	1741.6	11.45	2073.7	11.52
NCCBL	-574.91	-9.13	734.1	11.22	992	10.93	1099	14.25	1523	13.2
LBL	-435.81	-7.8	366.9	5.99	998.4	17.78	1151.52	24.62	1447.7	26.01

(Source: Banking and Financial Statistics, No.56)

According to the Basel II, Capital Fund should be maintained at the ratio of minimum 10%. Hence, with the increase in risk weighted assets, the capital fund of the banks also increased. This can be verified with the above table as well. If we compare data of Lumbini Bank, with the increase in ratio of capital fund to risk weighted assets, capital fund is also increasing. The same is true in case of Nepal Bangladesh Bank Limited and other banks.

Table 4-5 Relationship between Fixed Assets, Borrowings and Leverage Ratio

(Rs. in millions)

Banks	Mid January 2010			Mid January 2011		
	Fixed Assets	Borrowings	Leverage Ratio	**Fixed Assets**	Borrowings	Leverage Ratio
NABIL	680	2658.9	0.85	893.1	1926	0.50
NIBL	1129.6	2677.3	0.71	1162.9	2200.8	0.53
SCBNL	487.6	0	0.00	511.5	400	0.12
HBL	901.2	1000	0.32	1138.4	1122.5	0.33
NSBIBL	506.5	2868.7	1.68	717.3	330.4	0.13
NBBL	152.5	0	0.00	171.1	0	0.00
EBL	511.7	300	0.13	503.3	300	0.11
BOKL	755.6	1800	1.03	842.9	1253.4	0.60
NCCBL	410	320	0.29	435.2	147.9	0.10
LBL	95.3	14.5	0.01	184.5	25.4	0.02

(Source: Banking and Financial Statistics, No. 54 and 56)

The table4-5 shows that the proposition of the thesis that there is positive relationship between assets structure and leverage ratio is proved to be true. The most of the banks has increased their fixed assets from Mid-Jan 2010 to Mid-Jan 2011, simultaneously increasing the amount of borrowings of the bank. The banks takes more borrowing if they had more assets to support their borrowing; even in the case of default, they can repay their loan without declaring own self bankrupt. This shows that there is positive relationship between assets structure and leverage.

4.4 Size (S) of the Commercial Banks

Bank's size is very contextual. It can be measured according to the amount of deposits, loans, market value of stock, or market share on aggregate deposits and loans of the commercial bank in the Nation. It depends on the objective of the calculation. Generally, bank's size is measured using CAMELS technique.

CAMELS is an acronym for six components of bank safety and soundness: capital protection (C), asset quality (A), management competence (M), earnings strength (E), liquidity risk exposure (L), and market risk sensitivity (S). Examiners assign a grade

of one (best) through five (worst) to each component. They also use these six scores to award a composite rating, also expressed on a one-through-five scale. As a rule, banks with composite ratings of one or two are considered safe and sound while banks with ratings of three, four, or five are considered unsatisfactory.

(Source: Federal Reserve Commercial Bank Examination Manual.)

Here, the contribution in market share in total deposits and loans of commercial bank in Nepal determines the size of the banks.

Table 4-6 Share on deposits of selected banks in contribution made by Commercial bank in Nepal

(Rs. In Millions)

Particulars	**Total Deposits of Banks (Mid-July)**									
	2007	% Share	**2008**	% Share	**2009**	% Share	**2010**	% Share	**2011**	% Share
Total Contribution of Commercial Bank	**337497.2**		**426080.3**		**563604.4**		**630880.8**		**627091.8**	
1. NABIL	23342.4	6.92%	39915	**9.37%**	37348.3	6.63%	46334.8	7.34%	46339.6	7.39%
2. NIBL	24488.9	7.26%	34451.8	8.09%	46697.9	**8.29%**	50094.7	**7.94%**	48381.8	**7.72%**
3. SCBNL	24640.3	7.30%	29743.9	6.98%	35871.8	6.36%	35182.7	5.58%	34094.3	5.44%
4. HBL	29905.8	**8.86%**	31805.3	7.46%	34681	6.15%	37609.4	5.96%	38475.8	6.14%
5. NSBINL	11445.2	3.39%	13715.4	3.22%	27957.2	4.96%	34896.3	5.53%	39801.8	6.35%
6. NBBL	9464	2.80%	10883.7	2.55%	9995.6	1.77%	10052.5	1.59%	10184.9	1.62%
7. EBL	19097.7	5.66%	23976.3	5.63%	33322.9	5.91%	36932.3	5.85%	37139.6	5.92%
8. BOKL	12358.6	3.66%	15832.7	3.72%	18083.9	3.21%	20315.8	3.22%	18855.4	3.01%
9. NCCBL	6500.3	1.93%	7320.2	1.72%	9137	1.62%	10824.7	1.72%	10592.6	1.69%
10. LBL	6024.6	1.79%	5703.7	1.34%	6444.9	1.14%	5758	0.91%	6059.6	0.97%

(Source: Banking and Financial Statistics, No. 56)

The table4-6 shows that in 2007, Himalayan Bank Limited has the largest share in the contribution made in deposits. Similarly in 2009, 2010 and 2011, Nepal Investment Bank Limited has the largest share in the contribution made in deposits by commercial bank in Nepal. This concludes that NIBL is the largest bank in Nepal according to the market share in total deposits of commercial banks in Nepal.

Table 4-7 Share on loan and advances of selected banks in contribution made by Commercial bank in Nepal

(Rs. In millions)

Particulars	Total Loan and Advances of Banks (Mid-July)									
	2007		**2008**		**2009**		**2010**		**2011**	
Total Contribution of Commercial Bank	**228951.9**	% Share	**302913.4**	% Share	**398143**	% Share	**46710 7.2**	% Share	**5051 83.7**	% Share
1. NABIL	15657.1	6.84%	21514.6	7.10%	27816.6	6.99%	32902 .8	7.04 %	3618 7.1	7.16%
2. NIBL	17482	7.64%	27145.5	**8.96%**	36250.4	**9.10%**	40689 .6	**8.71 %**	4279 4.6	**8.47%**
3. SCBNL	10538.1	4.60%	13355	4.41%	13118.6	3.29%	15932 .2	3.41 %	1699 3.6	3.36%
4. HBL	17672	**7.72%**	19985.2	6.60%	25292.1	6.35%	28976 .6	6.20 %	3111 8	6.16%
5. NSBIBL	9846.7	4.30%	12574.9	4.15%	15465.2	3.88%	17887 .2	3.83 %	1988 0.6	3.94%
6. NBBL	8302.8	3.63%	8420	2.78%	8507.9	2.14%	8860. 1	1.90 %	9851. 7	1.95%
7. EBL	14059.2	6.14%	18814.3	6.21%	24366.2	6.12%	28129 .7	6.02 %	3133 2.1	6.20%
8. BOKL	9663.6	4.22%	12692.9	4.19%	14894.7	3.74%	16847 .1	3.61 %	1659 0.3	3.28%
9. NCCBL	5083.9	2.22%	5084.5	1.68%	7141.6	1.79%	8373. 4	1.79 %	9026. 7	1.79%
10. LBL	4938.2	2.16%	5365.7	1.77%	5680.3	1.43%	5479. 7	1.17 %	5660	1.12%

(Source: Banking and Financial Statistics, No. 56)

The table shows that Nepal Investment Bank Limited has the largest share in the % contribution in the total loan and advances of the commercial bank. This concludes that NIBL is the largest bank of Nepal according the market share in the aggregate loan and advances of Nepal.

Now after analyzing the size of the banks, it is also cleared from the table that NIBL has the largest capital as compared to others and has the largest share in the % contributed in the total loan and advances of the commercial banks. It makes clear that size of the banks has positive relationship with capital fund.

4.5 Growth (G) of the Commercial Banks

Growth of the banks can be determined by the increase in share of each bank in national deposit and lending. The contribution made by banks in national level can be obtained by statistics of Nepal Rastra Bank. The numbers of customers depositing their hard earn money and taking loans, number of big organization associated and numbers of projects incorporated by banks determine the share of each banks in national level. According to the proposition of the study the growth of the commercial banks has a positive relationship with leverage ratio.

Table 4-8 Percentage Share of Commercial Banks in national contribution on Deposit and Loan to show growth of individual banks

	Deposit							
	Mid Jan							
	2010		2011		2010		2011	
Total of Commercial Bank	**586357**		**627091.8**		**463575**		**505183.7**	
Name of Banks		% Share		% Share		% Share		% Share
NABIL	44023.2	7.51%	46339.6	7.39%	33792.8	7.29 %	36187.1	7.16%
NIBL	47340.3	8.07%	48381.8	7.72%	41473.8	8.95 %	42794.6	8.47%
SCBL	34354.3	5.86%	34094.3	5.44%	15302.2	3.30 %	16993.6	3.36%
HBL	37021.8	6.31%	38475.8	6.14%	30602.5	6.60 %	31118	6.16%
NSBIBL	28882.5	4.93%	39801.8	6.35%	18327.5	3.95 %	19880.6	3.94%
NBBL	9431.2	1.61%	10184.9	1.62%	9348.8	2.02 %	9851.7	1.95%
EBL	34802.8	5.94%	37139.6	5.92%	28609.6	6.17 %	31332.1	6.20%
BOKL	18727	3.19%	18855.4	3.01%	17363.9	3.75 %	16590.3	3.28%
NCCBL	9715.6	1.66%	10592.6	1.69%	8628.6	1.86 %	9026.7	1.79%
LBL	5906.1	1.01%	6059.6	0.97%	5999	1.29 %	5660	1.12%

(Source: Banking and Financial Statistics, No. 56)

The table4-8 shows that growth of the individual commercial bank according to the contribution made by them in national contribution by commercial banks is very fluctuating. There is only a slight change in contribution. Some of them have decreased their contribution in national economy and some of them increased their contribution.

Table 4-9 Relationship between growth and capital fund

	Deposit				Loan			
	Mid Jan				Mid Jan			
	2010		2011		2010		2011	
Name of Banks	Borrowings	% Share	Borrowings	% Share	Borrowings	% Share	Borrowings	% Share
NABIL	2658.9	7.51 %	1926	7.39 %	2658.9	7.29 %	1926	7.16 %
NIBL	2677.3	8.07 %	2200.8	7.72 %	2677.3	8.95 %	2200.8	8.47 %
SCBL	0	5.86 %	400	5.44 %	0	3.30 %	400	3.36 %
HBL	1000	6.31 %	1122.5	6.14 %	1000	6.60 %	1122.5	6.16 %
NSBIBL	2868.7	4.93 %	330.4	6.35 %	2868.7	3.95 %	330.4	3.94 %
NBBL	0	1.61 %	0	1.62 %	0	2.02 %	0	1.95 %
EBL	300	5.94 %	300	5.92 %	300	6.17 %	300	6.20 %
BOKL	1800	3.19 %	1253.4	3.01 %	1800	3.75 %	1253.4	3.28 %
NCCBL	320	1.66 %	147.9	1.69 %	320	1.86 %	147.9	1.79 %
LBL	14.5	1.01 %	25.4	0.97 %	14.5	1.29 %	25.4	1.12 %

(Source: Banking and Financial Statistics, No. 54 & 56)

The table4-9 shows that the relationship between % share in deposit and loan of the individual bank on national contribution by commercial banks and borrowings are compared. According to the proposition five of the thesis, there is positive relationship between leverage ratio and growth. In other words, the increase in growth of the banks will also increase the borrowings. According the table, it shows the mix results again.

3 out of 10 banks (namely NABIL Bank, Nepal Investment Bank and Nepal SBI Bank) agree with the proposition and rest does not show the relationship as per the thesis.

4.6 Major Findings

After the analysis of data and its presentation, it became clear that Nepalese Commercial Banks do not follow the determinants as mentioned in the propositions to issue debt and shares primarily. It strictly follows BASEL II and NRB directives for the capital structure determination. The details of BASEL II are given below:

There are mainly two major concepts for the implementation of Basel II.

aaa. First, it defined what banks could hold as capital, as well as designating capital as Tier 1 or Tier 2 according to its loss absorbing or creditor-protecting characteristics.

bbb. The second key concept introduced in Basel is that capital should be held by banks in relation to the risks that they face.

1. Qualifying capital according to Basel II consists of Tier 1 (core) capital and Tier 2 (supplementary) capital elements, net of required deductions from capital. Thus, for the purpose of calculation of regulatory capital, banks are required to classify their capital into two parts.

a. Core Capital (Tier 1)

The key element of capital on which the main emphasis should be placed is the Tier 1 (core) capital, which comprises of equity capital and disclosed reserves. This key element of capital is the basis on which most market judgments of capital adequacy are made; and it has a crucial bearing on profit margins and a bank's ability to compete.

The BCBS has therefore concluded that capital, for supervisory purposes, should be defined in two tiers in a way, which will have the effect of requiring at least 50% of a

bank's capital base to consist of a core element comprised of equity capital and published reserves from post-tax retained earnings. In order to rank as Tier 1, capital must be fully paid up, have no fixed servicing or dividend costs attached to it and be freely available to absorb losses ahead of general creditors. Capital also needs to have a very high degree of permanence if it is to be treated as Tier 1.

b. Supplementary Capital (Tier 2)

The Supplementary (Tier 2) Capital includes reserves which, though unpublished, have been passed through the profit and loss account and all other capital instruments eligible and acceptable for capital purposes. Elements of the Tier 2 capital will be reckoned as capital funds up to a maximum of 100 percent of Tier 1 capital arrived at, after making adjustments referred to in 2.4. In case, where the Tier 1 capital of a bank is negative, the Tier 2 capital for regulatory purposes shall be considered as zero and hence the capital fund, in such cases, shall be equal to the core capital.

Elements of Tier 1 Capital:

ccc. Paid up Equity Capital.

ddd. Irredeemable non-cumulative preference shares which are fully paid-up and with the capacity to absorb unexpected losses. These instruments should not contain any clauses whatsoever, which permit redemption by the holder or issuer upon fulfillment of certain condition. Banks should obtain prior approval of NRB for this kind of instruments to qualify as a component of core capital.

eee. Share Premium

fff. Proposed Bonus Equity Share

ggg. Statutory General Reserve.

hhh. Retained Earnings available for distribution to shareholders.

iii. Un-audited current year cumulative profit, after all provisions including staff bonus and taxes. Where such provisions are not made, this amount shall not qualify as Tier 1 capital.

jjj. Capital Redemption Reserves created in lieu of redeemable instruments.

kkk. Capital Adjustment reserves created in respect of increasing the capital base of the bank.

lll. Dividend Equalization Reserves.

mmm. Any other type of reserves notified by NRB from time to time for inclusion in Tier 1 capital

Elements of Tier 2 Capital:

nnn. Cumulative and/or redeemable preference shares with maturity of five years and above.

ooo. Subordinated term debt fully paid up with a maturity of more than 5 years; unsecured and subordinated to the claim of other creditors, free of restrictive clauses and not redeemable before maturity. Since, subordinated term debt is not normally available to participate in the losses; the amount eligible for inclusion in the capital adequacy calculations is limited to 50% of core capital. Moreover, to reflect the diminishing value of these instruments as a continuing source of strength, a cumulative discount (amortization) factor of 20% per annum shall be applied for capital adequacy computations, during the last 5 years to maturity. The banks should obtain written approval of NRB for including any subordinated debt instruments (like Debenture/Bonds) in supplementary (Tier-2) capital.

ppp. Hybrid capital instruments, those instruments which combine certain characteristics of debt and certain characteristics of equity. Each such instrument has a particular feature, which can be considered to affect its quality as capital. Where these instruments have close similarities to equity, in particular when they

are able to support losses on an ongoing basis without triggering liquidation, they may be included in Tier 2 capital with approval from Nepal Rastra Bank.

qqq. General loan loss provision limited to a maximum of 1.25% of total Risk Weighted Exposures. General loan loss provision refers to the provisions created in respect of Pass Loans only and it does not include provisions of rescheduled/restructured and classified loans. The additional loan loss provisions created in respect of Personal Guarantee loans and loans in excess. Single Obligor Limits are specific provisions and hence cannot be included under this category. Such provisions however can be deducted from the gross exposures while calculating risk weighted exposures for credit risk. However, provisions created in excess of the regulatory requirements or provisions which is not attributable to identifiable losses in any specific loans shall be allowed to be included in the General Loan Loss Provision and shall be eligible for Tier II capital subject to a maximum of 1.25% of total risk weighted exposures.

rrr. Exchange equalization reserves created by banks as a cushion for unexpected losses arising out of adverse movements in foreign currencies.

sss. Investment adjustment reserves created as a cushion for adverse price movements in bank's investments falling under "Available for Sale" category.

ttt. Revaluation reserves often serve as a cushion against unexpected losses but may not be fully available to absorb unexpected losses due to the subsequent deterioration in market values and tax consequences of revaluation. Therefore, revaluation reserves will be eligible up to 50% for treatment as Tier 2 capital and limited to a maximum of 2% of total Tier 2 capital subject to the condition that the reasonableness of the revalued amount is duly certified by the internal auditor of the bank.

uuu. Any other type of reserves notified by NRB from time to time for inclusion in Tier 2 capital

Deductions From Core (Tier 1) Capital:

Banks shall be required to deduct the following from the Tier 1 capital for capital adequacy purposes. The claims that have been deducted from core capital shall be exempt from risk weights for the measurement of credit risk.

a. Book value of goodwill.

b. Miscellaneous expenditure to the extent not written off. e.g. VRS expense, preliminary expense, share issue expense, deferred revenue expenditure, etc. However, software expenditure or software development expenditure, research and development expenditure, patents, copyrights, trademarks and lease hold developments booked as deferred revenue expenditure are subject to 100% risk weight and may not be deducted from Tier 1 capital.

c. Investment in equity of financial institutions licensed by Nepal Rastra Bank.

d. All Investments in equity of institutions with financial interest.

e. Investments in equity of institutions in excess of the prescribed limits.

Capital Funds:

The capital fund is the summation of Tier 1 and Tier 2 capital. The sum total of the different components of the tier 2 capitals will be limited to the sum total of the various components of the Tier 1 capital net of deductions as specified in 2.4. In case the Tier 1 capital is negative, Tier 2 capital shall be considered to be "Nil" for regulatory capital adequacy purposes and hence, in such a situation, the capital fund shall be equal to the Tier 1 capital.

Minimum Capital Requirements:

Unless a higher minimum ratio has been set by Nepal Rastra Bank for an individual bank through a review process, every bank shall maintain at all times, the capital requirement set out below:

vvv. A Tier 1 (core) capital of not less than 6 per cent of total risk weighted exposure.

www.A total capital fund of not less than 10 per cent of its total risk weighted exposure.

The capital Adequacy Ratio (CAR) is calculated by dividing eligible regulatory capital by total risk weighted exposure. The total risk weighted exposure shall comprise of risk weights calculated in respect of banks' credit, operational and market risks.

The banks which meet capital requirements do not issue any kind of shares and debt instruments whereas those banks which do not meet capital requirements issue bonus share, right share, debenture and other debt instruments to set the minimum capital requirement prescribed by Nepal Rastra Bank directives.

Since, banks works on saving of the public, it takes only minimum amount of loan and generally it operates in 100% equity capital. So there is increasing trend of issuing right shares and bonus shares rather than issuing debenture and taking loans to meet minimum capital requirements.

Chapter-5

5. Summary, Conclusion and Recommendation

This is the final and very important chapter of the research since this chapter is the extracts of all the previously discussed chapters. This chapter consists of three sections viz. Summary, Conclusion and Recommendations. The summary section deals with the revision of all four chapters-Introduction, Review of Literature, Research Methodology and Data Presentation and Analysis. The conclusion derived from the study is also discussed in this section. Likewise, in recommendation section, various suggestions and recommendations are made based on the findings of the thesis.

5.1 Summary

This study "*Determinants of Capital Structure in Selected Nepalese Banks: An Empirical Study"* has been prepared for the partial fulfillment of the requirements of Master of Business Studies (MBS).The thesis originally start form Nepalese Commercial Banks does follow primarily any theoretical concept for the capital structure decision. The banking industry is growing larger and has become very complex to supervise and regulate in such a complex risk environment. Besides, the bank failures have forced the regulatory authorities to supervise the banking sector. So, the thesis deals with the above mentioned phenomenon and studies ten commercial banks of Nepal.

This study is mainly based on secondary data provided by concerned bank. The main objectives of the research study are to assess capital adequacy position of selected commercial banks does follow primarily any theoretical concept for the capital structure decision are not.

5.2 Conclusion

The study is conducted primarily through secondary data available through NRB and selected 10 commercial banks and to verify the data. Moreover, the analysis of whole data reveals the following conclusion.

In Nepal, the banking sectors are running according to the directives issued by Nepal Rastra Bank. Basel II is the governing principle of the banking sector in Nepal. Most of the banks maintain their capital structure only to maintain minimum capital requirement as mentioned by Basel II. The profitability (P), size (S), growth (G), risk (R) and assets structure (A) are only the secondary determinants of the capital structure in Nepal.

In the presentation and analysis part as well, by studying the data of the various year it is not easy to access the information about capital structure. Some of the banks agree with the proposition and some of them did not. In Nepal, the theory of capital structure which is followed in class does not apply. There is totally different phenomenon to determine capital structure. Most of the banks are running in 100% equity that means they have leverage ratio equal to zero which makes them difficult to establish the relationship between leverage ratio and capital structure. Some of the banks have just started to issue debenture and long term debt.

In conclusion we can establish the following relationship between different variables and capital structure.

xxx. Capital structure and Profitability

yyy. According to the proposition, there is negative relationship between leverage ratio and profitability. According to analysis of the available data, there shows the mix results: 4 out of 10 selected banks agree with the proposition and 6 out of 10 selected banks disagree with the proposition.

zzz. Capital structure and Risk

aaaa. According to the proposition, there is negative relationship between leverage ratio and business risk. There is no support of banks' risk influencing the level of leverage of banks in Nepal. This is as similar to the study of Banks in Ghana.

bbbb. Capital structure and Assets Structure

cccc. According to the proposition, there is negative relationship between leverage ratio and asset structure. The study shows the opposite relationship because most of bank has increased their fixed assets making them strong to take more debt; increasing the debt ratio simultaneously.

dddd. Capital structure and Size

eeee. According to the proposition, there is negative relationship between leverage ratio and size of the bank. After analyzing the size of the banks, it is cleared that the size of the banks has positive relationship with capital fund. Because in this analysis Himalayan Bank Limited is the largest commercial banks in Nepal according to contribution made in national saving and loans and it has increased its size yearly, increasing the size of capital fund along with.

ffff. Capital structure and Growth

gggg. According to the proposition, there is negative relationship between leverage ratio and growth. According to the study, three banks out of ten has grown on its size with reference to % contribution in national saving and loan of commercial banks and also increased their leverage ratio. Rest of the banks does not agree with the propositions.

Whatever relationship is established from the analysis, the main governing determinant for the Nepalese Commercial Banks is BASEL II and NRB directive which are contra to the previous studies. All the banks have adopted Basel II approach for capital determination from Mid-July 2008. Banks maintain their capital structure as per the requirement of the directives. Banks regards all other determinants only as

secondary factors. So the relationships which are true to other case study and thesis seem to be wrong in the case of Nepalese Banks. According to NRB directives, within 2010 A.D. banks should maintain their capital fund for at least 2arabs in Nepalese currency.

5.3 Recommendation

From the study of capital structure of Nepalese Banks and its determinants, it reveals that Nepalese Commercial Banks does not follow primarily any theoretical concept for the capital structure decision. It strictly follows BASEL II for the capital structure decisions. This is to some extend good because it helps to manage risk and maintain capital in easy way. But, ignoring the fact that profitability, risk, growth, size and assets structure of Bank also affect capital structure; some time may creates problems. To maintain the TIER 1 capital of not less than 6% of total risk weighted exposure and total capital of not less than 10% of its total risk weighted exposure, these days banks are issuing bonus shares, right shares and preference share. But banks are ignoring the fact that the profit margin of the banks are increasing in diminishing rate which will eventually decrease the earning per share. It further decreases the demand to the share of those banks which adversely affect the share price of the bank. Not only that most of the banks are running in 100% equity capital which shows that if further TIER 1 capital are issued then it will surely decrease the earning per share.

According to the theories, the stock dividend are given only when there is problem of cash in the organization but it is applied to maintain capital ignoring the fact that banks are having high liquidity. Similarly, banks are utilizing its money on consumer loan and financing which is more risky than other investment, but also banks are promoting consumer loan as there are few sectors to invest their money. .

Hence, to maintain the capital as required by NRB directives and BASEL II, first banks should analyze the factors like profitability, its assets structure, size, growth and business risk as well. Then only according to the result of the analysis banks should

issue right share or bonus share or debenture or take loans to main capital as set by the NRB.

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Articles from www.emeraldinsight.com

Data from www.nrb.org.np

Appendix

ANNEXURE : REPORTING FORMS

FORM NO.1 CAPITAL ADEQUACY TABLE

1. 1 RISK WEIGHTED EXPOSURES		Current Period	Previous Period
a	Risk Weighted Exposure for Credit Risk		
b	Risk Weighted Exposure for Operational Risk		
c	Risk Weighted Exposure for Market Risk		
Total Risk Weighted Exposures (a+b+c)			

1.2 CAPITAL		Current Period	Previous Period
Core Capital (Tier 1)			
a	Paid up Equity Share Capital		
b	Irredeemable Non-cumulative preference shares		
c	Share Premium		
d	Proposed Bonus Equity Shares		
e	Statutory General Reserves		
f	Retained Earnings		
g	Un audited current year cumulative profit		
h	Capital Redemption Reserve		
i	Capital Adjustment Reserve		
j	Dividend Equalization Reserves		
k	Other Free Reserve		
l	Less: Goodwill		
m	Less: Miscellaneous Expenditure not written off		
n	Less: Investment in equity in licensed Financial Institutions		
o	Less: Investment in equity of institutions with financial interests		
p	Less: Investment in equity of institutions in excess of limits		
q	Less: Investments arising out of underwriting commitments		
r	Less: Reciprocal crossholdings		
s	Less: Other Deductions		
Supplementary Capital (Tier 2)			
a	Cumulative and/or Redeemable Preference Share		
b	Subordinated Term Debt		
c	Hybrid Capital Instruments		
d	General loan loss provision		
e	Exchange Equalization Reserve		
f	Investment Adjustment Reserve		
g	Assets Revaluation Reserve		
h	Other Reserves		
Total Capital Fund (Tier I and Tier II)			

1.3 CAPITAL ADEQUACY RATIOS	Current Period	Previous Period
Tier 1 Capital to Total Risk Weighted Exposures		
Tier 1 and Tier 2 Capital to Total Risk Weighted Exposures		