The impact of Capital structure on profitability of commercial Banks in

Afghanistan

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**Abstract:** capital structure decision is a very important debate in the world of finance and a crucial task for management. At the same time, it will affect the performance, profitability and so the firm′s value. This study investigates the effect capital structure on profitability of commercial banks in Afghanistan. This is important to achieve the objective the study, therefor a quantitative method was used. The panel data were extracted from the audited financial statements of nine commercial banks for the period of five years from (2013-2017). The linear regression model was employed to analyze the panel data using SPSS 22.0 statistical package. The descriptive evidence through this study showed the 90% of the total capital of commercial banks in debt in Afghanistan, out of which, 95% includes deposits and the remaining was non-deposits liabilities. It showed that the banks in Afghanistan are highly levered. The finding of this study depicted that ratio of debt to total assets (capital structure determinate) and statistically insignificant positive relationship with net interest margin (profitability measurement). On the other hand, loan to deposit and deposit to asset significantly affect the net interest margin of commercial banks, while asset size and growth had correctly and decide correctly when preparing the financing structure. Finally increasing bank size, decreasing loans and non-deposit debt, raising equity financing, and mobilizing deposits correctly can enhance the banks performance in order to increase banks profitability and the banks value.

**Key words:**

Commercial banks, Capital structure, profitability, Cost of capital and leverage.

1. **Introduction:** this study analysis the impacts of capital structure on profitability of listed banks in Afghanistan. The relationship between is one that received considerable attention in the finance literature. The modern industrial firm must conduct its business in a highly complex and competitive business environment. Therefore, these types of research findings will be benefited in selecting the capital structure to achieve the optimum level of firm′s profitability. This study shows the statistical analysis carried out seeking to discover is there any relationship between capital structure and profitability of the listed banks in Afghanistan.
   1. **Literature review:** it is an important task to decide what proportion of the debt –equity is needed for a firm to maximize profitability and the value of the firm and decrease the cost of capital of the firms through financing decision (Abor, 2005). It means the capital structure is a mix of different types of debt and equity. In order to increase the firm profitability, one can establish the capital structure, but it should be kept in mind that the cost of capital will be differing according to its structure the firms can get the benefits of the tax shield (Akeem, 2014) Akeem et al (2014) stated that there three options to create capital structure by a firm. The alternatives are 100% equity and 0/% debt, 0% equity and 100% debt, and X% equity and Y% debt. The first two choices are not realistic, but the third one is common in real world. The tax deductibility of debt on their interest encourages the firms to issue debt. In absence of tax benefits, it would be indifferent to issue debt or equity to finance the firm’s assets (shubite, 2012). It means that a company can barrow the funds by issuing bonds and in the terms of bank loan and its interest payable would be deductible from gross profit and its benefit for the company because the total income will decrease and the tax will be decrease as well. Traditionally, banks provide loan to the customers with shortage of funds by accepting deposits from whom with excessive funds. In other words, banks function as intermediaries between lenders and borrowers (Madura, 2015). The intermediary role enables banks to provide and finance their activity with deferent types of debt and equity. the study that conducted by Niresh (2012) showed that the ratio of the total debt to total asset is 89% and its very high in banking industries in Sri Lanka. Hence, this high level of debt is very risky to banking industries because the customers call for their money collectively and withdraw their deposits from the banks at the same time. Therefore, it can lead to bankruptcy. This study aims to examine that how the capital structure affects profitability of private commercial banks in Afghanistan.
   2. **Statements of problems:** optimal capital structure is still like an unsolved puzzle for managers and research is open. Many studies have conducted on impact of capital structure on profitability of banks in different countries since capital structure introduced in (1958).in some researches results shows that there is no positive relationship between capital structure profitability but in some countries, it does exist. (Gill, 2011) Stated that there is a positive relationship between capital and profitability. less developed countries like Afghanistan never received attention in the literature as literature review has done for the research , it is obvious that there is no related study in relation to the determinants of capital structure like (Loan to deposit and deposit to assets) and banks profitability determinants like net interest margin (NIM) besides that ,most of studies that have been conducted are about the return on asset (ROA) and return on equity (ROE) as measurement profitability .it creates some problem in banking industry because there is no clear picture of debt categories. So the net interest margin is used as the determinant of profitability as it is in line with (Gill, 2011).
   3. **Research question**

**Main question: *“****what is the association between capital structure and profitability of commercial banks in Afghanistan? “*

*The sub questions can be extracted from main question:*

1. *What is the association between total debt to asset and net interest margin?*
2. *What is the relationship between loan to deposits and net interest margin?*
3. *What is the association between deposit to assets and net interest margin?*
   1. **Research hypothesis:**  To achieve the objectives of this study the following hypothesis were tested.

H01- there is no significant relationship between total debt to asset ratio and net interest margin of commercial banks in Afghanistan.

H02- there is no significant relationship between deposits to assets ratio

And net interest margin of commercial banks in Afghanistan.

H03- there is no significant relationship between loan to deposit ratio and net

Interest Margin of commercial banks in Afghanistan.

H04-there is no significant relationship between assets growth and net interest

margin of Commercial banks in Afghanistan.

H05- there is no significant relationship between assets size and net interest margin

of Commercial banks in Afghanistan.

* 1. **Research objectives**

The purpose of this study is to investigate the association between the capital structure and profitability of commercial banks, in addition, to find out what capital structure theory fits the private commercial banks in Afghanistan. As no one had paid attention in capital structure decision properly in Afghanistan, the main objectives of this topic are as fallow

* To find out what types of capital structure is suitable for commercial banks of Afghanistan.
* Increase profitability that would result in maximizing banks value and minimizing cost of capital.
* Fin out the effect of capital structure on profitability of banking industry in Afghanistan.
  1. **Importance of the study**

The finding of this study might be useful to managers of the commercial banks listed on the Afghanistan bank in order to provide the information on how to raise funds with the minimum cost that can maximize the owner’s wealth. Besides that, this topic will provide suggestion to policy makers of the banks that can minimize the risk of bankruptcy. Additionally, it provides the knowledge to managers, if the lower debt can provide higher profitability then they will be issuing more equity than the debt or vice versa.

1.7 **Limitation of research**

Study limitation are the major obstacles in every study and sometimes it causes that the research could be stopped. This research is limited only to the private sector banks listed on the Da Afghanistan bank. In addition, this research was mainly conducted based on the secondary data collection and availability of data. The other data collection method had not been considered because most of the managers are either unprofessional or prohibited to provide the information. One of the disadvantages of the secondary data is that may not be 100% accurate. Furthermore, data representing the period of 2013 to 2017 that might have affected the result of the study. Besides that, the absence of a paper capital market in Afghanistan has been contributed to these limitations. There is clearly enormous scope of more research that can help to understand how the capital is structured, how it connects with the profitability and what elements of Capital structure make a difference.

2.1 **Commercial banks**

Financial institutions are the intermediary of deficit and surplus unites and they play an important role in the financial market. To obtain the objective of this study it is necessary to understand what commercial bank is and what its function are commercial bank are important type of financial institutions that perform the crucial functions of providing funds from those who has surplus funds to those with deficit funds (Ross, Jaffe, & Wester field, 2013)

2.2 **optimal capital structure**

It is important for every firm that how much debt should a company use, and how does the use of debt affect the firm value? Many researchers have conducted hundreds of researcher to examine the corporate structure to answer these question (Roshan, 2009).

According to theoretical papers, there are many benefits to use debt. It includes the tax benefits and can be tax deductible, which in turn maximizes the net value of the firm. For a firm the cost of debt includes financial distress and bankruptcy cost so, it would be very risky for the firm (Ross et al 2013)

It is obvious that until now on one has defined a good model of optimal capital structure. However, theoretically, an optimal capital structure is that which minimizes the overall cost of capital and optimizes the shareholders, wealth and it will increase the firm’s value. It is managers, responsibility to analyze the financial conditions before taking any decision, because for some companies more debt in capital structure creates more value and for some companies it is vice-versa

2.3 **profitability**

Profit is the result or outcome of the firm’s operation. It means that all revenue minus expenditures resulting to an amount that is called profit. According to permissive & Subramanian, profit is the measuring techniques to understand the business efficiency of the concern.

Earing profit is the main goal of any business activity. Burja (2011) defined company profit or performance as the direct outcome of managing several economic resources and of their effective use within operational investment and financing activities. In this study bank profit was a dependent variable measured by net interest margin.

2.4 **capital structure**

The capital structure of a firm refers to combination of debt and equity financing by the firm.

According to grestenbeg (as sited in paramasivan & Subramanian), Capital structure of a company refers to composition or make up its capitalization and it includes all long term capital resources. It means that there is a relationship amid capital structure, cost of capital, and value of the firm. As mentioned above the objective of an effective capital structure is to maximize the value of the firm and to reduce the cost of capital. While deciding about what option of capital structure is the most effective one, we have to think properly. Figure 2-1 explain the processes of capital structure decisions that can affect the market value of the firm. There are different theories explaining the relationship between capital structure, cost of capital and value of firm.

While designing a firm s capital structure tow propositions must be considered.

* Maximizing shareholders, wealth
* Best approximation to optimal capital structure

2.5 **Objectives of Capital Structure**

There are two important objectives while deciding capital structure decision (paramasivan & Subramanian).

1. Maximize the value of the firm.
2. Minimize the overall cost of capital.

2.6 **Forms of Capital Structure**

The choice of capital structure differs from company to company and industry to industry. Some of these structures are as follows:

1. Equity shares
2. Equity and preference shares.
3. Equity and bonds
4. Equity shares, preference shares and bonds.

2.7 **Factors Determining Capital Structure**

The following factors are determinants of capital structure. They should be considered while deciding about the capital structure of the firm.

2.7.1 **Leverage**

Leverage is the fundamental factor, which affect the capital structure. It is a fixed cost financing (Ross et al 2013). It means that when the debt holders invest in the company or lend the money to firms, they expect a fixed rate that is called, interest rate. It might be different depending on the popularity of the firms.

2.7.2 **Cost of Capital**

Cost of capital is the major part of capital structure decision of a firm. Typically, Long-term finances such as debt and equity consist of fixed cost (Paramasivan & Subramanian). When the cost of capital increases, the value of the firm decreases.

Therefore, the firm should act carefully to choose the best option for capital structure. In order to understand the above concepts, it is necessary to know about the different theories of capital structure that scholars defined them. Cost of capital can be calculated as follows:

K= r0+b+f

Where, K = Cost of Capital

r0= return at zero risk level

b = premium for business risk, which refers to the pattern of capital structure.

f = premium for financial risk, which is related to the pattern of capital structure.

**3.1 Research Design**

According to Cresswell (2009), reviews of literature to have been done; it is time to design how should be a research look like. It means that what method is fit for the current research. There are three type of research such as quantitative, qualitative and mix.

The quantitative research is based on the measurement of quantity or amount. It is applicable when the phenomena are expressed in terms of quantity. On the other hand, qualitative research is related to quality or kind (Kothari, 2004)

The mix research is the one that is a combination of both qualitative and quantitative approach.

Choosing an appropriate kind of research design depends on many factors such as research topic, audience, time, available resources, and the type of the research that one has conducted (Greener, 2008)

**3.2 Sources of data and Collection Method**

Data Collection method is one of basic and important processes of a research. Based on the type of the research the appropriate type of the data must be collected. One should consider the nature of data, availability of funds, and time factor while choosing the appropriate data collection method (Kothari, 2004). It means that the researchers should know what type of data must be collected for the research. This research needs secondary data. Besides the factors that mentioned above, the secondary data have their own advantage and disadvantages. The secondary data is quick and cheap, and the most important is its availability that one can check any time (Greener, 2008).

Therefore, data that conducted to achieve the objectives of this study is secondary. The data obtained from the audited financial statement of commercial banks for five years from 2013 to 2017 that were available on the banks website.

3.3 **Research Population and Sampling**

Choosing a sample from a population is important to conduct a research because the sample should be representative of the population. Therefore, purposive sampling is done in this study. A purposive sampling is used when the population is small (Kothari, 2004). The number of banks operating in Afghanistan is fifteen, of which twelve are private banks, and remaining three are state banks. Make generalization from sample to population, the researcher used maximum number of banks and combination of years and achieves the maximum number of observations 45(9\*5) through purposive sampling method. Thus, banks that operate less than five years excluded from the sample. Due to this, from twelve commercial banks operating in Afghanistan this study takes sample of nine banks based on data availability.

3.4 **Data Analysis Method**

According to Gujrati (2003), “Panel data can enrich empirical analysis in ways that may not be possible if we use only cross-section or time series data.” According to the definition by Gujrati, panel data has its own advantages that the cross-sectional and time series do not have.

3.5 **Statistical Package**

This study used statistical package SPSS version 22.0 software. The collected panel data was analyzed using the descriptive statistics and linear regression model.

3.6 **Variables**

For more comprehension, it is better to describe each variable clearly. Explaining the variables enable the researcher to understand the analysis of the study. In this study, the independent variables are components of capital structure such as Total Debt to Assets (TDTA), Deposits to Assets (DTA), Loan to Deposits (LD), and the Control variables are, Assets Growth (AG) and the Assets Size. Meanwhile, the dependent variables is the determinant of profitability, Net Interest Margin (NIM). The following will give a brief description of the variables.

4.1 **Summery of descriptive statistics**

In previous chapters clearly mentioned that the obtained from audited financial statements of nine commercial banks available on their websites that registered with the central bank of Afghanistan for the period of five years from (2012-2017). The data, which includes in this study, were mainly obtained from statement of position and comprehensive income statement of these banks. The descriptive analysis will help to analyze that how much return every AFs invested has by using mean value. Standard deviation can explain the deviation from mean and it can help the investor that how much profit can be earned or how much loss can be occurred by the investors.

The table 4.1 on the next page presents the summary of descriptive statistics of commercial banks.

*Mean and Std. Deviation*

|  |  |  |  |
| --- | --- | --- | --- |
|  | N | Mean | Std. Deviation |
| NIM | 45 | .2783 | .37893 |
| TDTA | 45 | .8975 | .08573 |
| DPA | 45 | .8528 | .13717 |
| LD | 45 | .2810 | .23759 |
| AGR | 45 | .0606 | .14181 |
| Size | 45 | 17.4196 | 2.04918 |
| Valid N (list wise) | 45 |  |  |

*Note. NIM=net interest margin; TDTA=total debt to total assets; DPA=deposit to assets; LD= loan to deposits; AGR=assets growth; and Size=size*

*Source: Financial statements of sample banks and author’s Calculation (own calculation SPSS output)*

The table 4.1 provides the descriptive statistics. It includes the mean and standard deviation of dependent variable (Net Interest Margin) and independent variables total debt to assets, deposits to assets, loan to deposits, assets growth and assets size.

Previously mentioned that profitability and performance of commercial banks was measured by net interest margin (NIM) that can be calculated by the formula that was presented in chapter three as net incomes divided by interest earning assets.

The table 4.1 shows that the mean of net interest margin was 28% and standard deviation 37%. This can be interpreted that the commercial banks of Afghanistan have an average earning of 28% that is a return on their interest earning assets. It means that investing in interest earning assets has an average return of 28% for each of Afs invested.

The standard deviation presented in the table 4.1 showed that the mean value of the net interest margin deviated by 37% from its mean. It means that investing in interest earning assets can be -37% or +37% from its mean.

Total debt to total asset is a determinant of capital structure and used to show how much debt is invested in assets of the commercial banks. The mean of the debt to total assets that is presented in the table 4.1 depicted that on average, the banks invested 90% of their debts in the assets. This 90% of total debts includes 95% deposits and the remaining 5% were non-deposit liabilities. The highest debt to assets ratio in a particular year (2014) was 136% and the minimum debt to assets ratio for the banks in a particular year (2013) was 78%. It means that banks have more liabilities than their assets and it can be concluded that banks in Afghanistan are highly levered. The standard deviation showed that debt to assets ratio has a deviation of 9% from its mean. It means that debt to assets ratio can increase or decrease by 9%.

4.2 **Result of Regression analysis**

This study is to find out the effect of capital structure on profitability of commercial banks in Afghanistan. A multiple regression model describes the relationship between a dependent variable and several independent variables simultaneously. In order to achieve the objective of the study, multiple regressions are applied. The net interest margin (NIM) is the dependent variable and is the measurement of profitability.

Ongore (2013) used net interest margin as proxy of profitability to find out the relationship between capital structure and profitability.

4.3 **Summary of findings**

In the previous section, the result of the study were presented. The preceding section presented the discussion and findings as well as the conclusion of the study. The purpose of the latter section is to expand upon the concept that were studied in an effort to provide the understanding impact of capital structure on profitability, and to suggest for structuring banks a better capital structure.

4.4 **Conclusion**

The earlier section presented the results and findings, while this section deals with conclusion based on the findings of the study. The findings of this study are based in the results that extracted from the data that were processed In SPSS. That data are also presented at the end of this study.

The choice of the capital structure decision is still a universal debate. The basic question is that, is there an optimal capital structure that can increase the firms profitability and maximizes the firm value through minimizing the firms overall cost of capital. Many scholar have conducted researches on determinants of capital structure, determinant of probability and impact of capital structure on profitability of firms in various countries to find the relationship between determinant of capital structure and profitability. However, the finding of this studies where somehow different. based on the review of literature that has been done in this study there were no study conducted in Afghanistan regarding the impact of capital structure on profitability. To tell the truth through review of literature, found that there were no empirical evidence that shows the fact no scholar conducted a research in Afghanistan. It show that it’s the research gap of the impact of capital structure on profitability of firms in Afghanistan. In order to achieve the objective of the study, the data of nine commercial banks were obtained from their audited financial statements available on their websites the data were for the period of five years. To analyze the regression model the statistical package SPSS22 was used.

With the intention of conducting the empirical analyzes, one dependent variable and five independent variables selected from prior studies works on the impact of capital structure on profitability. Profitability is the dependent variable and measured by net interest margin and the independent variables debt to asset ratio, deposit to asset ratio, loan to deposit ratio, growth and sizes.

From the descriptive statistics, it was observed that capital structure of commercial banks is made- up of 89% debt, out of which 80% is deposits and the remaining 9% are non –deposits liabilities. It means that the bank in Afghanistan are highly levered.

The summery of the linear multiple regression models presented the existence of association between profitability and independent variable.

Debt to asset ratio had statistically insignificant positive relation with net interest margin. The result supports trade–off theory and prefer using more debt. On the hand deposit to asset ratio had statistically significant negative relationship with profitability .likewise loan to deposit had statistically significant negative relationship with profitability additionally, the impact of control variables on profitability of banks in this study shows that, as there was positive and statistically significant relationship between growth, size and profitability. This result was in with previous empirical studies, which indicates that bigger the size higher profit for the bank.

4.5 **Recommendation**

To sum up, the finding of the study recommended that capital structure had significant impact on profitability of core business operations of commercial banks and while deciding the capital structure the following should be kept on mind.

* Based on the findings, the manager should be careful on their financing of capital structure decision because the improper choosing financial sources , the company may incur loss
* The finding show that the bank, capital structure include 89% debt in Afghanistan. It means that banks are highly levered and it could lead to bankruptcy and bank should comply with government policies.
* As debt is inseparable component of capital structure, government should provide policies to establish financial market and it will provide availability of funds to those with deficit with less expense
* As bankruptcy may occur with highly levered firms, the government should and policy makers should strictly control the bank to comply with the policies

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