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The Effect of Capital Adequacy on Return on Investment: A Study based on Commercial Banks in Bangladesh

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The Effect of Capital Adequacy on Return on Investment: A Study based on Commercial Banks in Bangladesh

Md. Mehedi Hasan [α], Md. Shohel Rana [σ] & Shafiqul Islam [ρ]

Abstract- The main purpose of study was to establish the effect that capital adequacy have on the investments. It also found at how this capital adequacy was involved in other variables such as liquidity, management efficiency, asset quality and operating efficiency. Side by side, it found at whether other variables had a role to play in the investments. In this study, the collected data were applied in empirical analysis with regression analysis to analysis. A random sample from the population of total commercial bank in Bangladesh was taken as secondary sources of data from financial statement. A linear regression model of the returns on investments versus capital adequacy, liquidity, management efficiency, asset quality, operating efficiency was to test relationship among the variables. The results established that the relationship between capital adequacy of commercial banks and return on investment is negative and significant. The study found that capital adequacy had a negative effect on return on investments while liquidity had a positive impact on the returns. For this negative effect of capital adequacy on the returns in investment, the study recommends that a central depository fund for commercial Banks be set up to assist Banks have cheaper way for short term borrowing to useful to temporary liquidity crisis. The study also suggests that the taxation laws regarding withholding tax in financial institutions be clearly expounded to protect the bank from double taxation when they keep their funds in term requirement of central bank.

Keywords: ROI, CAR, NPL, core capital, deposits, central deposits.

I. Introduction

a) Back ground of the study

The various financial intermediaries comprising of Banks and Non-Bank institutions build up Bangladesh economy through pooling resources from various savers or investors in order to lend of such funds during the credit creation system. The deposit financial institutions such as commercial banks, savings banks and credit unions among others that provide loans directly to borrowers. It is evident that they play important role in better the performance of an economy and also their useful elements of the financial system. Financial markets and institutions represent a blend of definite elements that are brought jointly with the sole principle of controlling and coping with the massive amount of assets on hand and the income generated by them. However, (Merton, 1990) said that it is important to note that the up-and-coming trends are severing their position and which can guide to instability of the financial method. Financial market consist of some financial institution. Commercial banks act as financial institution which helps monetary transaction of economy of Bangladesh such as mortgage lending, accepting deposits, savings accounts, certificate of deposit. On the other hand, investments banking functions are different from commercial banks. Investments bank acts as underwriter, intermediary between an issuer and the investing public, providing merger facilities and also acting as a broker for its clients. (Investopedia, 2012).

The main function of commercial banks is the creation of credit. Banks are the one of the financial institutions that can make credit through extension of demand deposits as a numerous of their cash reserves, a process called ''Credit creation". Vaish (1997) calls it a process under which commercial banks advance loans various times greater at the same time as compared to the legal money at the discarding of these banks. A bank credit is prepared up of loans and advances made out of surplus reserves after the bank has content the demand of its depositors by means of generating more income for the institution. Thus, Bank loan creates the same deposit in the bank which leads to the multiple extensions of bank deposits. We see Banks as manufacturers of credit for credit creation. Banks provide loan a main portion of their deposits to the borrowers and keep minor parts of deposits to the customers on demand. Even then the customers of the banks think that the deposits lying in the banks are fairly safe and can be withdrawn on demand. The banks develop this confidence of their clients and enlarge loans by a great deal time than the amount of claim deposits obsessed by them.

A single bank cannot make credit. It is the banking system as a whole which can enlarge loans by many times of its surplus cash reserves. Further, when a loan is advanced to an individual or a business concern, it is not given in cash. A deposit account is disclosed according to borrower's name and permit him to withdraw from bank when required. Some other banks are gained through the loan advances. Loans thus make deposits and deposits make loans, (Blurt it, 2012) and (Vaish, 1997).Credit creation by banks is the main

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engine for financial development and comprehensive growth of any economy. Minimum capital requirements form the base of contemporary banking regulation and holding such capital comes with a cost such as trading off financial stability for less liquidity (and efficiency) and inducement of banks to optimize their risk taking. In regard to this, (Blum, 1999) found evidence that a bank may value an additional unit of equity tomorrow more when there are minimum capital requirements than when such requirements are non-existent. Mitchell (1984) argues that capital forms two functions in a bank namely, Financing purchase of assets and protecting creditors. Banks argue that loan loss reserves and should be included in defining bank capital because these accounts perform some of the functions of capital for banks. In a master circular on capital adequacy prudential norms, (Bangladesh Bank, 2011) states that Capital adequacy requirements were defined by Basel 1 as a single number that was the ratio of a bank's capital to its assets. It thus represented the minimum capital balances that each bank is supposed to hold at any given time for the purpose of mitigating risks arising from its operations, credit and the market at large. These requirements were instituted by the Basel Capital accord which is a capital adequacy framework developed by the Basel committee.

The Basel committee banking supervision recommended that banks should provide capital at a particular level to reduce bank failures. This is called capital adequacy requirement and it specifies a minimum capital to assets ratio required to continue operating banks. Requiring more capital would hopefully make the banks safer although at the same time raise the bank's effective cost of capital. The objectives of the requirement can result in either preventing the banks from taking high risk to increase its profits since there is risk sharing between bank's owners and depositors, or to promote financial stability that provides a safeguard against systemic crises, (Gunadi et ah, 2016). The Basel Accord was mainly introduced as a mechanism to control bank risk-taking behavior. The reducing chance of investments through increasing capital adequacy and will be insolvent. The lower the profitability of banks in terms of higher the risk weighted capital adequacy ratios.

Capital is essential and crucial to the continuous stability of a bank as a going concern. Depository institutions must control their capital according to regulation of capital requirement. Capital provides cushion that enables banks to continue to operate even if they suffer temporary losses.

b) Statement of the Problem

In Bangladesh commercial banks, financial intermediation process is characterized the by challenges emanating from high business deal costs arising from rising interest rates, high information asymmetry between banks, investors and borrowers that can give rise to adverse selection and moral hazards, low liquidity owing to little savings as compared to consumption by a mass of households and a problem in delegated monitoring before and after credit competence is advance Saunders and Cornett (2005) stated that banks use about 85% of deposits held to generate credit for their borrowers. Since credit creation is a revenue generating activity for most banks, the process exposes banks to high default risk that can lead to financial distress including bankruptcy. However, this does not stop banks from creating credit in order to make some money, grow and survive stiff competition stemming from the market. The level of capital is crucial the same as riskiness of bank deposits in worried. A bank with inadequate capital is more probable to turn bankrupt in the face of unfavorable growth on the asset side of its balance sheet than a satisfactorily capitalized one.

Capital, being an important managerial conclusion variable has theoretically been seen to influence a bank's capital structure and the loan policy for the function of credit creation and overall wealth maximization. This has implications on the performance of banks as financial intermediaries and hence for the allotment of real resources within the economy.

This research therefore sought to address these gaps and analyze in details the relationship between capital adequacy and return on investments as evident in Bangladesh banks.

c) Research Objective

The main objective of this study was to evaluate the effect of capital adequacy requirements on return on investment in Bangladesh.

Specific Objectives

i. To assess the connection between Return on investments and Capital adequacy ratios by commercial banks in Bangladesh.
ii. To assess the relationship between Capital adequacy ratio and credit creation by commercial banks in Bangladesh.

d) Importance of the Study

Credit creation by commercial banks is one of the important and only sources used in generating substantial and sustainable income. The banks serve as an intermediation between the households and the economy sector (finance); therefore the best financial system is that which there is efficient intermediation and credit growth through the credit creation process. The study will have the following importance to various stake holders who include, the banking sector, financial managers, investors, savers, policy makers, government regulators and scholars who may want to further their knowledge.

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Academicians

The study will contribute to development of academic literature and theory by providing empirical evidence in this field of study. It will also form a basis for further research on how other regulation indicators such as exchange rates, taxation impacts on the credit creation process by commercial banks. Finally it has been important to the researcher and other Scholars in specifically understanding impact of capital adequacy requirements in the context of commercial banks' credit creation.

II. Literature Review

a) Introduction

This research focused on the impact of capital adequacy on return on investments by commercial banks in Bangladesh. The chapter consists of a review of finance theories related to the study, literature as derived from research work by other researchers, any other relevant literature that may aid in further understanding of this study and a summary of the empirical review.

b) Theoretical Review

Theories discussed are in line with Bank management (as agents), Capital structure and Credit theory of money and their relationship with credit creation.

i. *Agency theory*

Agency theory explains that in the modem corporation, in which share ownership is widely held, managerial actions depart from those required to maximize shareholder returns, (Pratt and Zeckhauser 1985).

In agency theory terms, the owners are principals and the managers are agents and there is an agency loss which is the extent to which returns to the residual claimants, the owners, falls below what they would be if the principals, the owners, exercised direct control of the corporation, (Jensen & Meckling, 1976).

Eisenhardt (1989) observes that Agency theory specifies mechanisms which reduce agency loss. These include incentive schemes for managers which reward them financially for maximizing shareholder interests. This projects generally implies plans where executives gained stocks at low price. In those way, the related interest of executives with those stockholders. (Jensen & Meckling, 1976).

Agency theory is applied to Corporate Governance which infers that the company would achieve its concerns with persistence, obligation and accountability owing to maximize shareholder's wealth. This has led to appointment of Board of Directors as agents for the shareholders and also the Audit committees and other managers, all in the name of safeguarding and maximizing the shareholders' wealth. Any gaps in the Corporate Governance structure violate the 'Agency theory' and can lead to heavy losses (Pandey, 2006).

ii. *Capital Structure Theories*

The cost of capital declines and the value of the firm increases when debt level reaches at the optimum point, the cost of capital to increase and the value of the firm to decline (Ezra, 1959).

There has been much discuss on how and why firms decide between the various sources of capital in both developing and developed countries. The basic question asked is whether the debt-equity combine in a firm actually matters. The capital structure discuss is dominated by two theories which are the pecking order theory' and the trade-off theory.

Pecking order theory was first floated by Donaldson in 1961 and the key idea is that mangers raise new finance in a particular sequence, a theory which was later customized by Stewart C. Myers and Nicolas Majluf in 1984. The theory prioritize of least battle, favoring to increase equity as a financing of last resort. Internal funds are used first, and when that is exhausted, debt is issued, and when it is not rational to issue any more debt, equity is issued. Pecking order theory is said to exist due to asymmetric information as managers know more about their company's prospects, risks and value than outsiders or outside investors. Information asymmetry affects the choice between internal and external financing and between the issue of debt or equity. This leads to existence of a pecking order for the financing of new projects and in this case, banks normally go for the cheapest source which is the banks' deposits for the purpose of credit creation.

The trade off theory justifies that firms maximize their value when the additional benefits (marginal benefits) that stem from debt (i.e. interest expense tax deductibility, the disciplinary role of debt, lower informational costs relative to equity) equal the marginal cost of debt (i.e. bankruptcy costs, agency costs between stake holders and bondholders), Myers (1984).

iii. *Capital Adequacy Ratios*

Capital base of financial institutions helps them in the absorption of surprising shocks. It also signals that the institution will continue to respect its obligations.

Bichsel and Blum (2005) found that capital regulations help in reducing negative externalities (e.g. general loss of confidence in the banking system) in addition to boosting the GDP. A minimum quantity of capital is required to make sure safety and reliability of the bank and also construct trust and confidence of the customers.

The overall Capital Adequacy Ratio (CAR) measures the amount of a bank's core capital expressed as a percentage of its weighted credit exposures. Adequate CAR helps banks to absorb unexpected shocks and also indication that the financial institution will carry on honor its obligations. Capital

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adequacy eventually determines how well financial institutions can handle with shocks to their balance sheets, (Haron, and Azmi, 2004).

Total bank capital comprises total figure of core capital and additional capital. The definition of Core capital can be defined that shareholder's equity in form of issued side by side completely paid up shares of common stocks.(Banking Act Cap 488, 2009).

c) Empirical Literature Review

There are numerous literatures that are relevant to the proposed research. There have been surveys and literature on the impact of the effect of capital adequacy on return on investments. On the other hand, past studies have determined most on evaluating the impact of capital adequacy on risk and bank performance. Capital requirements may encourage a credit crunch at certain points of the business series.

Chami and Cosimano, (2001) found there is existence of a "bank capital financial accelerator' that transmits monetary policy to the banking sector's level of credit creation. They pragmatic that, a rigid monetary policy tends to diminish the bank's net interest margin, thereby reducing the value of capital in preserving the bank's contract value. Under such situation the bank would be probable to hold less capital, thereby restricting the supply of loans to the economy as regulator's capital requirements turn into binding therefore hampering credit creation method.

Hall (1993) states that Basel I confident US banks to move away from loans into government securities, thus lessening total loans comprehensive by US commercial banks by $150 billion in the years of Basel I implementation. Though, the question of whether this entire shift was analytic of a Basel-induced credit crunch is mainly an empirical one.

Brinkmann and Horvitz. (1995) examined the availability of loan supply in the wake of the implementation of Basel I without characteristic between required capital and flexible capital that is, where banks may decide to hold a cushion to assemble regulatory capital requirements. They found that banks with larger capital surpluses under Basel I enlarged their lending at twice the rate of banks with lesser surpluses or deficient capital levels signifying that the Basel I capital requirements may have been binding owing to their impact on flexible capital levels.

On the other hand, Peek and Rosengren, (1992) observed that it was loan losses, more willingly than amplified Basel I capital requirements that worn bank capital levels, thereby inducing a credit crisis knowledgeable.

Hahn (2002) studied the effects of Basel 1 on credit growth of 750 universal banks in Austria during the period 1996 to 2000 using a Panel- Econometric approach.

To define the impacts of the opening of Basel 1 from other shocks, he proscribed the impacts caused by loan demand shocks, by counting several variables such as the collective output gap and the collateral value of real estate correspondingly. The findings showed that minimum capital holding had a negative impact on credit creation in that country. The paper also provided proof that amount of obtainable bank capital may work as a binding restraint on liquidity and credit creation. He found his results to be amazing against the background of the continuing repair of the Basel accord.

Diamond and Rajan (2000) also observed that an increase in the capital adequacy requirement can cause a credit crisis for the cash poor and can potentially lessen the debt weight of the cash rich as greater safety has unfavorable distributional penalty.

Even if the optimal bank capital structure is meant to be a shock absorber for the bank against shocks to asset values, they also dispute that it affects liquidity creation, credit creation and capability to influence borrower refund.

Marvin et al. (2012), using Capital adequacy, Management quality, Asset quality, Earnings performance and Liquidity (CAMEL framework), engaged empirical tests to evaluate the possible impact of economic, regulatory, and bank-specific characteristics on bank intermediation and credit creation in the ASEAN+3 region. Data for the period 2006-2010 exposed among other things that bank equity matters in net interest margin but not in the purpose of net loans and regulations do not have uniform effects. More in terms of the effects of regulatory variables, the amplification of reserve requirement reduces the capability of banks to make loans.

On the contrary, Bikker and Hu (2002) found no support for the credit crisis research using an international sample of banks from 26 developed and developing countries. As banks naturally hold capital in surplus of regulatory minimums, they accomplished that capital requirements do not appear to be compulsory constraints on advance supply.

Furfine (2001) incorporated the next four explanations into a hypothetical model that is confronted with real US bank data that replicate bank reactions to changes in capital requirements. He found that collective lending in the US decreased in the early 1990s as a result of: (1) Greater regulatory scrutiny, (2) Lower loan demand due to the economic recession, (3) higher capital requirements mandated by Basel I. He states that "some form of regulatory participation, either raising capital requirements or increasing regulatory monitoring, was a necessary supplier to the credit crisis. That is, the experiential portfolio adjustment undertaken in the early 1990s could not have been merely the result of altering economic circumstances or worldly change" (Furfine, 2001).

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Honda (2002) examined Japanese bank credit creation during the period of 1967-1994 and finds that the introduction of Basel I reduced aggregate bank credit significantly.

Using New England data, Peek and Rosengren (1995) found that credit availability is not connected to episodes of disintermediation but rather due to banks facing binding capital constraints an experience they named "capital crunch". They found that it was hard to divide the diminishing in the demand for loans that occurred in a collapse from the diminished supply of loans. To alleviate this they used cross section data on New England banks facing similar local economic downturn and recognized that banking institutions facing capital crisis regularly modified their balance sheets by either issuing new securities (to raise capital) or regularly switching to assets that desirable less equity, from the ones that desirable more, and therefore, reduced loan ease of use to businesses exacerbating the critical situation (Peek & Rosengren, 1995; Brinkmann & Horvitz, 1995).

Mwega (2009), found that capital requirements assist minimize the likelihood that banks will become bankrupt if sudden shocks happen. He distinguished that the higher the risk weighted capita] adequacy ratio, the lower the probability that commercial banks will be bare to the risk of insolvency and therefore a negative connection exists between the risk weighted adequacy ratio and insolvency of commercial banks.

Quite the opposite, opponents such as Sharpe (1995) observed that decreases in lending for the period of capital-constrained downturns in economic action may consequence in abridged loan demand rather than restrictions in credit supply.

d) Summary

This chapter tried to wrap a range of theories that are applicable to this study. Try to highlight the Agency theory, two Capital structure theories namely; the Pecking Order and the Trade Off theories respectively.

The second part of this chapter explored general literature on minimum capital requirements and its relationship on bank credit activities. It has completed an attempt to highlight the parameters to be measured in this study being, Capital Adequacy ratios and Bank capital to find out their effects on return on investment in Bangladesh.

The chapter has further covered the empirical literature review. Various scholars have made their contribution as far as this research is concerned. Most of these studies have been conducted in Europe, Asia and USA with little coverage of the African countries.

Most of the studies conducted showed that the opening of capital adequacy requirements had a negative crash on bank performance.

III. Research Methodology

a) Introduction

This chapter includes the research design, Methodology of the study, the target population and the sampling design. Data collection and analysis methods will be also covered.

b) Research design

This research design is a plan for operating study and it requires maximum controls over factors that may influence with the validity of the findings. This study adopted empirical research design. Empirical research designs are appropriated in preliminary and exploratory studies to help researchers to gather information, summarize, present and interpret for the purpose of clarification.

c) Population and Sample

Population means as the whole group of individuals, events or objects having common characteristics that conform to a given specification. The sample was the 23 Commercial banks were undertaken on basis of data availability.

d) Data collection

This research used secondary data such as published annual reports over a five year reporting period between 2013 to 2017.This data collection method was useful because the published figures are audited by registered and licensed auditors.

e) Data Analysis and Reporting

Secondary data was used to calculate numerous ratios. The data was analyzed through coding in a spreadsheet where the researcher used descriptive statistics to present the performance of independent variables in tables based on their percentages. A regression was run to determine the coefficients of the independent variables in relation to the dependent variable. This helped the researcher to establish the impact of each independent variable to the dependent variable. The results of the findings have been presented in the form of table easy interpretation and understanding. The aim of regression analysis was to summarize data as well as to quantity relationships among variables expressed via an equation for predicting typical values of one variable given the values of other variables. The model used by the researcher in this study was: Model-

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$$

Where, Y=Return On Investment (ROI)

α=Constant Term

X_1=Capital Adequacy

X_2=Liquidity

X_3=Management efficiency

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X_4=Asset Quality

X_5=Operating Efficiency

β_{1-5}=Regression Coefficient

ε=Error Term

Definition of variables

The research has to look at the effect of capital adequacy on return on investments of commercial banks of Bangladesh which will conduct to analyze one dependent variable and five independent variables. As follows;

Dependent variables

ROI: Return on investment interpreting ratio of net income to total investments and firstly it represents of managerial efficiency which how competently the management of bank using the assets into net earnings. The formula as;

ROI = Net income after taxes/Total investment

Independent variables

CAR: Capital adequacy ratio refers to the total capital of bank which is articulated as a percentage of its total risk weighted assets. The formula of CAR as follows;

Capital adequacy ratio = Total Capital funds/Total risk weighted assets

Liq: Liquidity ratio refers the ability of probable investment as loans using total deposits. The relationship of liquidity is positive with return on investments. The formula of Liquidity as follows;

Liquidity ratio = Net loans/Total deposits

MgtEffi: Management efficiency measures bank's performance that help to measure how much efficient management of bank. The formula as follows;

Management efficiency ratio = Earning assets/Total assets

Assqua: Assets quality ratio refers the risk of bank when a large part of loans is remained default or uncover. Default loans lessen bank's performance. For this reason, it tries to reduce default loans or change loans program patterns in particular financial years.

Assets quality ratio = Non-performing loans/Total loan

OpEffi: The ratio refers how much expenditure is occurred than operating income to run smoothly operating activities that affect bank's performance. The formula as follows

Operating efficiency ratio = Operating expense/ Operating income

IV. Data Analysis, Results and Discussions

a) Introduction

This chapter presents the analysis of data, result and discussion the effect of capital adequacy on return on investments of commercial banks in Bangladesh. A linear regression model of return on investments as function of capital adequacy, liquidity, management efficiency, asset quality and operating efficiency was applied to examine the relationship between the variables.

Table 4.2: Descriptive Statistics

	Mean	Median	Standard Deviation	Minimum	Maximum
ROI	6.979133	6.762968	3.765749	0.51	16.19188
CapAd	13.450863	10.935005	9.0945719	6.6240874	80.43
Liq	72.934221	82.64	24.48893	2.07	99.65
MgtEffi.	77.0006377	81.6249749	12.5959269	35.28	91.9717661
Ass.qua.	6.068214286	5.21	5.238809818	0.26	35.28
Op.Effi.	52.800927	49.61	13.368069	28.64	94.01

From Table 4.2, Return on investments averaged 6.979133 with minimum and maximum value of 0.51and 16.19188 respectively. This indicates that the use of shareholders fund to generate earning moderately low in this period of study. Again, Capital adequacy has a mean of 13.450863 with the minimum and maximum value of 6.6240874 and 80.43 respectively. This implies that the most of banks of Bangladesh keep minimum capital adequacy ratio in Bangladesh Bank to ensure the safety of clients. Bangladesh Bank imposes more capital requirement to establish new bank. Then, Commercial Bank will fall liquidity crisis for investments, instant demands of clients. Liquidity has a mean of 72.934221 with minimum and maximum value of 2.07 and 99.65 respectively. It indicates that banks do not depends on other sources of fund. Management efficiency averaged 77.0006377 with minimum and maximum value of 35.28 and 91.9717661 respectively. It indicates that Management of bank is better. Asset quality averaged 6.068214286

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with minimum and maximum value of 0.26 and 35.28 respectively. This indicates a relatively low concentration of non-performing loan ratio among commercial banks. Operating efficiency ratio relatively high that is not expected in Bangladesh perspectives.

Table 4.3: Correlation

	ROI	CapAd	Liq	MgtEffi.	Ass.qua.	Op.Effi.
ROI	1					
CapAd	-0.18929	1				
Liq	-0.05584	-0.21362	1			
MgtEffi.	0.342363	-0.29679	0.07919	1		
Ass.qua.	-0.04786	-0.08599	-0.23763	-0.17282	1	
Op.Effi.	-0.14745	0.126382	-0.12826	-0.10815	0.416829	1

The correlation matrix of the variable included in the model is presented in table 4.3. The correlation matrix is to show that the data is random, implying that it is reliable and stable. Anyway, as the number of significant exceeds the insignificant, we can proceeds for hypothesis testing.

Table 4.4: Regression analysis

```
Fixed-effects (within) regression          Number of obs      =       112
Group variable: Code                       Number of groups   =        23

R-sq:  within  = 0.3823                    Obs per group: min =         2
       between = 0.0005                                   avg =       4.9
       overall = 0.0205                                   max =         5

                                           F(5, 84)           =     10.40
corr(u_i, Xb)  = -0.7421                   Prob > F           =    0.0000

------------------------------------------------------------------------------
         ROI |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       CapAd |  -.1065221   .0342381    -3.11   0.003    -.1746084   -.0384359
         Liq |   .0735027   .0411902     1.78   0.078    -.0084085    .1554139
     MgtEffi |    .116398   .0448632     2.59   0.011     .0271827    .2056134
     Assqua  |  -.5030996   .1621949    -3.10   0.003    -.825642    -.1805573
     OpEffi  |  -.0005165   .0448056    -0.01   0.991    -.0896174    .0885843
       _cons |   -2.925464   5.686065    -0.51   0.608    -14.23283    8.3819
-------------+----------------------------------------------------------------
     sigma_u |  4.9609798
     sigma_e |  2.0586364
         rho |   .85309927   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:     F(22, 84) =    10.66                 Prob > F = 0.0000
```

Using STATA software, we get results from regression analysis from table 4.4

We can see from the table that we have got three significant variables at a significance level of 5%. Capital adequacy (CapAd), management efficiency (MgtEffi), asset quality (Assqua) have been found to be significant in describing the variation in the Return on investment of banks. Side by side, liquidity (Liq), operating efficiency (OpEffi) was found to be statistically insignificant for the Return on investment but negative relationship. An F value less than 0.05 indicates the validity of the model.

From the analysis, we have got significant predictor variables, Capital adequacy, Asset quality have a negative relationship with the dependent variables. Management efficiency has a positive relationship with the return on investment and liquidity were insignificant but positive relationship.

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V. Summary, Conclusion and Recommendation

a) Summary

The study aimed at establishing the effect of capital adequacy requirements on return on investments by commercial banks in Bangladesh. It specifically required establish the connection between capital adequacy ratios and return on investments; and also between capital adequacy ratio and credit creation. From the research findings, there is a strong relationship between Capital adequacy requirements and return on investments by banks in Bangladesh. After introducing of capital adequacy requires in Bangladesh. Find that return on investments qualified a downturn giving a negative trend as evidenced in the tabulated frequencies while holding other factors constant. This could be as a result of banks stressed to lift their core capital levels at the cost of credit creation actions.

b) Conclusion

The banking sector constitutes a main component of financial sanders trade where creation of credit forms the core business of every bank by utilizing 85% of deposits available, Saunders and Cornett (2005). Financial institutions have a great role in financing process to gain economic growth and this reason that they are highly monitored through various regulatory measures. The capital adequacy requirements may have played some major role in causing several bank mergers, acquisitions, conversions and liquidations which occurred in Bangladesh for compliance purposes. It has also been proved that in this new competitive environment, large banks will survive and small banks could only survive if they specialized in a few of their activities (Fabozzi 1999).This paper has established a significant relationship between capital adequacy requirements and return on investments by commercial banks in Bangladesh. Findings of the study indicate that greater capital adequacy requirements affect return on investments activities.

c) Policy Recommendations

These capital adequacy requirements may have played some key role in causing several bank acquisitions, mergers, conversions and liquidations which occurred between 2000 and 2017 for fulfillment purposes. Policy makers should make sure there is adequate capital in the banks to support self-assurance of depositors but the capital adequacy requirements should not be very disciplinary as to contain bank activities and the performance of the overall economy. Those concerned with policy making should also make sure that global regulations and requirements are appropriately refined as a result they can fit in to Bangladesh without compromising the overall global trend. Additional policy makers should make certain proper timing while implementing policy so that banks do not undergo multi-shocks during other negative macro-economic conditions.

As it is clear from the study that there is a strong relationship among the three variables with return on investments, policy makers should guarantee that they revise the ratios with numerous caution to achieve the desired results without troublesome institutional and overall macro-economic stability.

d) Limitations of the study

I experienced some limitations while conducting the study on return on investments as highlighted below. The study was limited only to the factors that originate from capital adequacy- requirements but did not think other shocks that come with interest rates and variations in demand for credit and other macro economic shocks which are equally vital.

Time available was a restriction and therefore I could not have done an in depth study of all banks alone for better approaching of the magnitude and impact that the capital adequacy requirements had on specific banks.

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