

Analysis of the Factors Affecting Banking Profitability in Bangladesh

MD. Ahsanhabib

Received: 13 December 2018 Accepted: 31 December 2018 Published: 15 January 2019

Abstract

The banking sector of Bangladesh is one of the major contributors to the Bangladesh economy with the commercial sector playing a vital role in the financial sector. This paper investigates the impact of bank-specific variables on bank profitability in Bangladesh from 2011-2017. For this purpose, the data of 30 banks are collected. Correlation, regression analysis and time series analysis are done with the collected data of the 30 banks. ROA is taken as representatives of bank's profitability i.e. this is the dependent variables. Non-performing loans, Loan to Deposit Ratio, Equity to Asset ratio and Interest Expense to Income ratio are taken as independent variables to find out what are the effects of these variables on profitability. From the correlation analysis, we have found that if LDR, NIE-INC and EQUITTA increase, ROA also increases. Whereas, increase in NPL results in decrease of ROA. We established one regression model in terms of profitability, considering the other variables as independent variables. This paper also mentions the current banking condition of Bangladesh and how important banking sector is, for its economy.

Index terms— major contributor, bank profitability, ROA, NPL.

1 Introduction

After the independence, only few banks existed in Bangladesh: 6 nationalized commercialized banks (NCB), 3 state-owned specialized banks and 9 foreign banks. But after the introduction of private banks in 1980, the banking industry of Bangladesh developed significantly. At present, in total, 63 scheduled and non-scheduled banks are operating in Bangladesh.

Banking industry is a vital source of socioeconomic development in our country. It forms the core of the money market and facilitated flow of fund by mobilizing resources for productive investments which in turn contributes to economic development. The financial sector of Bangladesh is mostly dominated by banks. Banks are still considered the most reliable for depositing one's savings or surplus. Banking sector contributes to a good portion of the GDP of Bangladesh. The banking sector was booming rapidly until the financial crisis of 2010, when it faced a huge loss. At present, growth of the banking sector in Bangladesh have declined by 1.22 percentage in the outgoing fiscal year 2017-2018 amid series of scams in the banking sector with growing number of non-performing loans. The sector's contribution declined to 10.54 percent from 11.12 per cent in 2018. If the banking industry's performance declines, or if it fails to function properly, this may affect other sectors and ultimately, the whole economy. There may be an economic downfall. Banks give loans to other sectors, businesses, startups, etc. so that these borrowers can use the borrowed money to continue their production, create new business opportunities and thus contribute to the economy. If banks fail to lend to these deficit units, these opportunities to produce and manufacture may fail. So, it is important for the banks to function properly and grow at the same time.

In this paper, we will come to know the determinants of a bank's profitability, what are the factors that determine whether a bank will flourish or fail. By knowing these factors, we might be able to take decisions regarding the strength or condition or financial position of a bank from its balance sheet.

2 II.

3 Literature Review

Many researches have been conducted on the topic-profitability determinants of banks or factors that affect bank profitability based on banking sectors of different countries. There are also many articles on the same based on banks in Bangladesh. The factors of these researches have been both bank-specific and macroeconomic.

Researchers S Gul, F Irshad, K Zaman (2011) conducted their research on top 15 commercial banks of Pakistan over the period 2005-2009. In their study, they found out that size, loan, deposits, INF and GDP have a positive relationship with ROA, while capital and market capitalization (MC) have a negative relationship with ROA. They also found that size, capital, loan, deposits and GDP have a negative relationship with NIM, while INF and MC have a positive relationship with NIM.

M.S. Saeed (2014) conducted a research on the impact of bank-specific, industry specific and macroeconomic variables on bank profitability of 73 commercial banks in UK before, during and after the financial crisis of 2008(2006-2012). This study concluded that bank size, capital ratio, loan, deposits, liquidity, and interest rate have positive impact on ROA and ROE while GDP and inflation rate have negative impact.

A Dietrich, G Wanzenried (2011) in their study, analyzed the bank-specific, industry specific and macroeconomic factors affecting bank profitability of 372 commercial banks in Switzerland over the period from 1999 to 2009. The results were similar to the other researches done on this topic.

Similar researches have been done all over the world such as A Anbar, D Alper (2011) in Turkey, F. Sufian (2009) in Malaysia, T Olweny, TM Shiphoo (2011) in Kenya, Sufian and Noor (2012) in India, Liu and Wilson (2010) in Japan, Jaleel and Peng(2015) in Pakistan and many more.

Researchers of Bangladesh have also contributed to this topic. Md. Saimum Hossain and Faruque Ahamed in their study, investigated only the bank-specific factors affecting banking profitability from 2012-2016 and concluded that the earnings indicators, capital strength, and industry impact have positive relationship with ROE but NPL has a negative relationship with ROE. TIN, OPEX, and CAP have a positive relationship with net interest margin (NIM) where as NII has negative relationship.

M.M. Rahaman and Sharmin Akhter (2015) studied the bank-specific factors on Islamic banks' profitability over the period 2009-2013 including 8 Islamic banks of Bangladesh. They found that bank-size and deposit have significant negative impact on the return on assets (ROA), while equity is found to have positive significant impact. Loan and expense management are found to be insignificant in affecting the profitability of the selected banks.

4 III.

Methodology a) Regression: We used the econometric regression model mentioned below to run our multiple regressions. Using the collected data in our regression model, we will get our results.

$$Y = ? + ?1X1 + ?2X2 + ?3X3 + ?4X4 + ?$$

Here, Y= dependent variable/profitability of the bank/ ROA/ ROE/NIM ? = intercept of the y-axis? n = coefficient of the respective variables X1 = NPL X2= EQUITTA X3 = LDR X 4 = NIE-INC b) Correlation:

The correlation analysis is also done by using MS. Excel. The data of 30 banks over 7 years are given as input and the strength and direction of the dependent variables due to the change in independent variable is found out.

IV.

5 Data Used

In this paper, we analyzed the factors affecting bank profitability by running correlation, regression and doing time series analysis.

The required data for the correlation analysis, regression analysis and time series analysis are collected from the annual report of 30 banks currently operating in Bangladesh over the time 2011-2017. The required financial ratios are computed to represent the variables used for the analysis.

For the analysis, the following variables are taken into account:

6 Variables

Measure Proxy ROA: ROA of a company indicates how profitable a company is relative to its total assets or how efficiently a bank manages its assets/resources to generate return.

7 b) Independent Variable

We have selected the following bank-specific independent variables as the potential determinants of the banks' profitability.

Asset Quality/Non-performing loans: Nonperforming loans are the loans that the debtor did not pay back or did not make payment for a period of usually at least 90 days for commercial banking loans and 180 days for consumer loans. Here, NPL represents the asset quality of a bank. NPLs hamper a bank's business. The lending capability of the bank reduces due to the increase in NPL. To offset these bad debts, banks need to create cushion funds from their income. All kinds of NPLs reduce the profitability of the banks and banks encounter problem

100 of low capital base which badly affects the banking sector. NPL has become a matter of concern for the banks
101 since the last decade. The NPL ratio was highest in 2013 with a rate of 7.2%. NPL is expected to have negative
102 impact on ROA the profitability of the bank.

103 Capitalization/EQUITTA: Capitalization is a quantitative measurement of a bank's capital structure. A bank
104 generally has two types of capital: i) actual capital and ii) regulatory capital. Actual capital consists of equity
105 and long term debt. The actual capital of a bank is measured by as the ratio of equity to total assets and also
106 known as capital ratio and capitalization (EQUITTA). This coefficient is expected to have positive effect on
107 ROA. Liquidity Risk Management/LDR: In our study, the liquidity of the banks is represented by LDR. LDR
108 means the amount of loans a bank gives out compared to its total deposit at a certain time. If LDR is high,
109 it means liquidity of the bank is low. Less liquidity means that the bank will face problems if unforeseen fund
110 requirements arise. But if the bank is more liquid, it means that it is keeping idle funds which could have been
111 used to generate return otherwise. Liquidity is expected to have a positive impact on ROA.

112 **8 Cost efficiency/NIE-INC:**

113 Cost efficiency means how well a bank can minimize its cost and earn more return at the same time. This cost
114 efficiency can be calculated by net interest expense to income ratio. The less the NIE-INC ratio, the more cost
115 efficient the bank is. Cost efficiency is expected to have a positive impact on both ROA.

116 V.

117 **9 Findings and Analysis**

118 To derive results on the factors that affect the banking profitability of Bangladesh we have performed three key
119 analysis with our dependent and independent variables. That is The correlation Analysis table gives us an idea
120 of the strength and direction of a linear relationship between the independent variable's that is the NPL, LDR
121 NIE-INC & EQUITTA and movement of the dependent variable.

122 **10 Interpretation of correlation analysis:**

123 ROA: From the analysis, we found that the independent variables-LDR, NIE-INC and EQUITTA are positively
124 related to ROA. It means that when these independent variables increase, the ROA also increases and when
125 these variables decrease, the ROA decreases. LDR is moderately correlated, NIE-INC has a weak relation and
126 EQUITTA is strongly correlated with ROA. Whereas, NPL is negatively correlated to ROA. ROA decreases with
127 the increase in NPL. ROA has a strong negative linear relation with NPL.

128 **11 b) Regression Analysis**

129 Keeping in mind our two dependent variables we have conducted three regression analysis. The Model that we
130 have used for our regression analysis is $Y = ? + ?1X1 + ?2X2 + ?3X3 + ?4X4 + ?$ Regression Analysis using ROA
131 as measure of profitability: Summary Output: The adjusted R-Square is more conservative than the R-Square.
132 So, its value is always less than R-Square. Here, the value is 84.44%. Therefore, the overall regression accuracy
133 can deemed to very high. Whenever a new variable will be added, it increases the predictive power of the overall
134 regression analysis.

135 Next, we will evaluate if regression output is not by chance. This can be derived by the significance of F.
136 The smaller the F the greater the probability that the output of the regression is not by chance. Here, the
137 Significance F is 0.0000147. That is there is a 0.0000147 chance that the output of the regression is by chance.
138 We can conclude that the regression is reliable since it has a very small Significance of F.

139 Next, we are going to look at the reliability of the regression lines co-efficient. This can be derived by looking
140 at the P-Values. The smaller the P-Values the higher the chances are that the value of the co-efficient of the
141 variables are not by chance.

142 Profitability in terms of ROA:

143 **12 Conclusion**

144 We have analyzed the key variables that affect the banking profitability of Bangladesh. We identified the variables
145 that indicate the banking profitability & termed them as dependent variables. Then we identified the variables
146 that are responsible for the changes in dependent variables and termed them as independent variables. The
147 dependent variable is ROA. The independent variables are NPL, LDR, EQUITTA and NIE-INC. ¹

¹© 2019 Global Journals

ANOVA		df	SS	MS	F	Significance F		
Regression		4	0.017591371	0.004397843	40.34449056	1.47E-10		
Residual		25	0.002725182	0.000109007				
Total		29	0.020316553					
Coefficients		Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.02	0.02	0.90	0.38	-0.03	0.07	-0.03	0.07
NPL	-0.28	0.05	-5.29	0.00	-0.39	-0.17	-0.39	-0.17
LDR	-0.01	0.02	-0.32	0.75	-0.05	-0.01	-0.05	0.04
NIE-INC	0.01	0.01	1.11	0.28	0.02	0.02	0.02	0.02
EQ-UITA	0.01	0.05	3.45	0.00		0.08	0.01	0.08

Regression Statistics

Multiple R	0.930518119
R Square	0.86586397
Adjusted R Square	0.844402205
Standard Error	0.010440655
Observations	30

Figure 1:

Year 2019
 Volume XIX Issue V Version I) C (Global Journal of Management and Business Research

148 We performed three analyses to develop a solid foundation for our results. These are Correlation Analysis and
149 Regression Analysis.

150 With the help of our three analyses we have identified which variables increases the profitability of Banks &
151 which variables reduce them.

152 We have reached the conclusion based on our time series analysis that the overall banking industry is not at
153 a healthy stage & that all the key indicators of the industry are downward slopping.

154 [Determinants of Profitability of Commercial Banks in Bangladesh (2018)] *Determinants of Profitability of*
155 *Commercial Banks in Bangladesh*, [https://www.researchgate.net/publication/317561088_](https://www.researchgate.net/publication/317561088_Determinants_of_Profitability_of_Commercial_Banks_in_Bangladesh)
156 [Determinants_of_Profitability_of_Commercial_Banks_in_Bangladesh](https://www.researchgate.net/publication/317561088_Determinants_of_Profitability_of_Commercial_Banks_in_Bangladesh) 2018. January 1.