

# Effect of capital adequacy, earnings quality and leverage on Islamic Banking profitability: A case of Bangladesh

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## ABSTRACT

The development of the economic system of a nation is closely related with the banking system of that nation. Islamic banking system has been introduced in every Muslim country. As a Muslim country Bangladesh was started practicing this non-interest bearing banking in 1983. This study focused on the determinants like capital adequacy, earnings quality and leverage those affect the profitability of Islamic banking. For this study researchers selected five Islamic banks and collected secondary data from the financial statements of the banks during 2011-2014. The study showed that capital adequacy and leverage were positively related with profitability but there was a negative correlation between cost to income ratio and return on asset (ROA) of the selected bank during that period. It is also found that the independent variables were sufficient to explain the changes of dependent variable ROA.

**Key words:** Islamic banking, profitability, capital adequacy, earnings quality, leverage.

## INTRODUCTION

Banking sector is the backbone of the economy of a nation. There is a direct contribution of Banks in the economic development of a country. As a part of banking sector Islamic Banks are continuously taking part in improving the social economic development in the developed and developing country. Islamic banks added new era in the world banking system which interest is forbidden. The services of Islamic banks are interest free and based on risk and profit-loss sharing principles. Islamic banking involves participation in business or project that follows equity approach in deposit and lending funds (Siraj and Pillai, 2012). According to Said (2013) Islamic banking is more likely to increase the fixity of the banking system as it motivates the Islamic banks to diversify investments in order to minimize risks and earn more profits. There are some internal factors those have effects on the profitability of banks. This study examined some of the internal factors such as capital adequacy, earnings quality and leverage which influenced the profitability of Islamic banks in Bangladesh. The safety and financial stability of the banks can be measured by capital adequacy (Kumer and Sayani, 2015). Ongore and Kusa (2013) argued that bank specific variables (capital adequacy, asset quality, management efficiency and liquidity management) and macroeconomic variables (GDP growth rate and inflation rate) had influence on bank's performance indicator (return on asset return on equity and net interest margin). Lartey et al. (2013) conducted a study on seven listed banks in Ghana to determine the relationship between liquidity and profitability of the banks during 2005-2010. They found that the liquidity was declining as well as the profitability of the banks during that period. Their study also revealed that the profitability and liquidity were positively related but the relationship was not strong. Ayadi and Ellouze (2015) investigated the Tunisian Banks to find out the determinants of the Tunisian banking performance for the year 2003-2012.

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They used return on asset as the dependent variable and quality of asset, capitalization, net interest income, non-interest income, bank size, inflation, ownership and revenue as the independent variables. They concluded that asset quality, net interest income, non-interest income and inflation had no effect but capitalization had significant effect on the performance of Tunisian banks. Onuonga (2014) examined the internal factors that affect the profitability of a bank. For this the researcher investigated top six banks in Kenya during 2008-2013 and used generalized least square method to determine the result where ROA was profitability indicator and bank asset, capital, loans, deposit and asset quality were independent factors. From the analysis it was found that bank size, capital strength, ownership, operational expenses and diversification had significant effect on the profitability of the banks in Kenya. Olalekan and Adeyinka (2013) conducted an empirical study on foreign and domestic banks in Nigeria. They collected both primary and secondary data to assess the effect of capital adequacy in Nigerian banks profitability. Their results suggested that there was a significant positive relationship between capital adequacy and profitability of the banks. Ahsan (2016) investigated three Islamic banks in Bangladesh based on capital adequacy, asset quality, management quality, earnings quality and liquidity performance (CAMEL) over the period 2007-2014. The result of the study showed that the selected banks were sound in every aspect of the CAMEL rating analysis. Ibrahim et al. (2014) examined the performance of six selected Islamic banks in Bangladesh on the basis of deposit, investment, foreign remittance collection, earnings per share, dividend payout ratio, price earnings ratio and net asset value during 2004-2013. Youssef and Samir (2015) argued that capital adequacy and management quality had significant positive relationship with the profitability of the banks in Egypt. Kumer and Sayani (2015) investigated the performance of 11 Islamic banks in the GCC countries for the period of 2008-2014. They applied CAMEL rating system in order to determine the result of the study. They used equity to asset ratio to measure capital adequacy, non-performing loans to totals ratio to measure asset quality, salaries to asset ratio to measure management capability, net interest income to average asset ratio to measure earnings ability and total deposit to total asset ratio to measure the liquidity performance of the selected banks. They estimated the results through applying some statistical tools like descriptive statistics and Z score model. Uddin (2014) measured the performance of Islamic banks in Bangladesh using trend equations and square of correlation coefficient. His finding suggested that the performance of six selected Islamic banks was up to the mark during 2008-2012 as the trend of the variables like branches, employees, net income and deposit was positive or upward sloping. Hossain and Ullah (2016) analyzed the financial statements of some Islamic Banks for the period of 2009-2013 in order to find out the differences in performance of Islamic banks in Pakistan and Bangladesh. They evaluated the performance on the basis of profitability, credit risk, liquidity and capital adequacy. Almazari (2014) compared the banks of Saudi Arabia and Jordan on the basis of internal factors that affect the profitability of the banks during 2005-2011. In his study the dependent variable was ROA which indicated the profitability and the firm specific factors were cash to asset ratio, net credit facilities to total asset ratio, investments to asset ratio, net credit facilities to total deposit ratio, total operating expense to total operating income ratio and size of the banks. Ramlan and Adnan (2016) studied on the conventional and Islamic banks in Malaysia and made comparisons between the two types of banks in terms of profitability. In their study ROA and ROE were the dependent variables and equity to asset, loan to asset and deposit to asset were the independent variables. Haron (2004) examined the effect of different internal and external factors on the profitability of Islamic banks. He argued that total expenditure, liquidity, investments in Islamic securities and the profit sharing ratio between borrower and bank had significant correlation with the total income of banks. He also found that current deposit, total capital and reserve, money supply and the percentage of profit sharing between depositors and banks had great influence on the profitability of Islamic banks. Ayanda et al. (2013) conducted a study on the Nigerian banking industry in order to find out the major determinants of profitability of banks. The results from the study indicated that capital adequacy which was measured by total equity to total assets ratio had significant negative effect and management efficiency which was measured by cost to income ratio had positive but insignificant effect on the profitability of the banks in Nigeria. Azar et al.

(2016) examined the profitability of 39 banks in Lebanon for the year 2003-2014. In their study returns on average assets was used as profitability indicator. The findings of the study revealed that capital adequacy ratio, interest rate spread, cost to income ratio and non-interest income to total asset ratio had significant effect on the profitability of the selected banks.

### **Objective of the Study:**

The objective of the study is to determine the effect of capital adequacy, earnings quality and leverage on the profitability of Islamic Banks in Bangladesh.

## **MATERIALS AND METHODS**

Five private Islamic banks from Bangladesh were investigated in the study for the period 2011-2014. The names of the selected Islamic banks are stated below:

- Al-Arafah Islami Bank Limited (AIBL)
- EXIM Bank Limited (EXIMBL)
- Islami Bank Bangladesh Limited (IBBL)
- Shahjalal Islami Bank Limited (SJIBL)
- Social Islami Bank Limited (SIBL)

Researchers collected data from banks annual reports, journals and books related to the study. Researchers used total equity to total asset ratio (TETAR) as capital adequacy, cost to income ratio (CIR) as earnings quality and debt ratio (DR) as leverage measurement whereas return on asset (ROA) was the profitability measurement for the selected banks. The equations used in this study are:

$$\begin{aligned}
 \text{i. } \text{TETAR} &= \frac{\text{Total Equity}}{\text{Total Asset}} \\
 \text{ii. } \text{CIR} &= \frac{\text{Total Operating Cost}}{\text{Total Operating Income}} \\
 \text{iii. } \text{DR} &= \frac{\text{Total Liabilities}}{\text{Total Asset}} \\
 \text{iv. } \text{ROA} &= \frac{\text{Earnings available to common shareholders}}{\text{Average Total Asset}}
 \end{aligned}$$

The statistical tools which were used in the study are mean, standard deviation (SD), coefficient of variation (CV), correlation and regression analysis. The regression equation is given below:

$$Y_{it} = \beta_0 + \beta_1 \text{TETAR} + \beta_2 \text{CIR} + \beta_3 \text{DR} + \varepsilon_{it}$$

Where,

$Y_{it}$  : Represents ROA for Bank i at time t.

$\beta_0$  : Represents the intercept.

$\beta_1, \beta_2, \beta_3$  : Represents the coefficients of regression relations.

$\varepsilon_{it}$  : Represents error term

### **Hypothesis:**

Null hypothesis,  $H_0$  : There is no relationship among ROA, TETAR, CIR and DR.

Alternative hypothesis,  $H_1$  : There is a relationships among ROA, TETAR, CIR and DR.

## **RESULT AND DISCUSSION**

All the dependent and independent variables of the study are presented in table 1. From the table it is observed that the ROA of Al-Arafah Islami Bank Limited was the highest in 2011 and the percentage was 2.43%. Capital adequacy which was represented by TETAR was the highest in 2011 of EXIM Bank Limited. Cost to income ratio was the highest of 52.93% for Shahjalal Islami Bank Limited in 2014. It indicates that the bank incurred more cost than income than other selected banks. On the other hand EXIM Bank Limited experienced lowest CIR in 2011. The debt ratio was the highest in 2013 of Al-Arafah Islami Bank Limited.

**Table 1. Ratio analysis**

Ratios (%)	Year	AIBL	EXIMBL	IBBL	SJIBL	SIBL
ROA	2011	2.43	1.66	1.29	1.38	1.50
	2012	1.52	1.40	1.29	1.45	1.48
	2013	1.41	1.04	0.98	0.98	1.04
	2014	1.21	1.15	0.66	0.57	1.38
TETAR	2011	9.21	11.16	7.09	7.35	11.15
	2012	8.34	9.91	8.22	7.22	8.84
	2013	10.13	10.48	8.00	8.37	8.77
	2014	7.88	10.21	7.15	9.04	7.93
CIR	2011	26.25	8.28	36.24	34.65	34.45
	2012	31.89	20.70	36.03	29.55	34.36
	2013	35.02	40.22	43.70	46.57	47.23
	2014	33.99	40.52	44.06	52.93	40.82
DR	2011	88.77	88.85	92.91	92.45	88.85
	2012	90.59	90.09	91.78	92.62	91.16
	2013	109.72	89.52	91.99	91.45	91.23
	2014	91.37	90.13	92.85	90.78	92.07

Source: Authors

**Table 2. Mean, SD and CV of the variables**

Ratios	Statistics	AIBL	EXIMBL	IBBL	SJIBL	SIBL
ROA	Mean	1.6425	1.3125	1.0550	1.0950	1.3500
	SD	0.5405	0.2763	0.3012	0.4067	0.2132
	CV	0.3291	0.2105	0.2855	0.4262	0.1580
TETAR	Mean	8.8900	10.4400	7.6150	7.9950	9.1725
	SD	0.9938	0.5335	0.5791	0.8659	1.3817
	CV	0.1118	0.0511	0.0761	0.1083	0.1506
CIR	Mean	31.7875	27.4300	40.0075	40.9250	39.2150
	SD	3.9147	15.7792	4.4748	10.7199	6.1398
	CV	0.1232	0.5753	0.1119	0.2619	0.1566
DR	Mean	95.1125	89.6475	92.3825	91.8250	90.8275
	SD	9.7991	0.6002	0.5813	0.8670	1.3817
	CV	0.1030	0.0067	0.0063	0.0094	0.0152

Source: Authors

Table 2 represents the mean, SD and CV of the variables during the period. Al-Arafah Islami Bank Limited had the highest mean of ROA whereas EXIM Bank Limited had highest mean of TETAR and Shahjalal Islami Bank Limited had the highest mean of CIR. The greater amount of variation of results which was explained by SD of ROA and DR were of Al-Arafah Islami Bank Limited. Social Islami Bank Limited had the highest SD of TETAR and EXIM Bank Limited had the highest SD of CIR. The more the CV the less the variables are consistent and Shahjalal Islami Bank Limited had the highest CV of ROA. The CV of TETAR of Social Islami Bank Limited was the highest.

**Table 3. Correlation Analysis**

		ROA	TETAR	CIR	DR
ROA	Pearson Correlation	1	.506	-.604	.476
	Sig. (2-tailed)		.385	.281	.417
	N	5	5	5	5
TETAR	Pearson Correlation	.506	1	-.833	-.478
	Sig. (2-tailed)	.385		.080	.416
	N	5	5	5	5
CIR	Pearson Correlation	-.604	-.833	1	.081
	Sig. (2-tailed)	.281	.080		.898
	N	5	5	5	5
DR	Pearson Correlation	.476	-.478	.081	1
	Sig. (2-tailed)	.417	.416	.898	
	N	5	5	5	5

Source: Authors

The correlation results of the variables of table 3 shows that ROA had positive correlation with TETAR and DR but the correlations were not significant. It indicated that profitability of the banks increases with the increase in both capital adequacy and leverage of the banks. On the contrary cost to income ratio and ROA were negatively correlated that means increase in operating cost caused decrease in profitability of the banks. Moreover TETAR also had negative correlation with CIR and DR.

**Table 4. Regression analysis**

Model	Coefficients <sup>a</sup>						
	Unstandardized Coefficients		Standardize d Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Toleranc e	VIF
(Constant)	-15.298	1.365		-11.204	.057		
TETAR	.344	.035	1.615	9.874	.064	.136	7.367
CIR	.026	.006	.645	4.477	.140	.175	5.723
DR	.137	.010	1.196	13.188	.048	.442	2.264
R				0.998			
R Square				0.996			
Adjusted R Square				0.985			
a. Dependent Variable: ROA							

Source: Authors

The regression result is presented in Table 4. This table summarizes that the  $r^2$  of regression model was 99.60% which indicates that capital adequacy, earnings quality and leverage could explain the changes of profitability of the Islamic banks by 99.60%. So the alternative hypothesis is accepted.

## **CONCLUSION**

A country's economic growth and financial stability mostly depends on the Banking sector. The growing economy of Bangladesh is also influenced by banking industry and with the Conventional banks Islamic banks are also taking part in this race. Financial institutions' profitability causes survival and it is influenced by some internal factors of the institution that can be controlled by the managers. The study found that capital adequacy, earnings quality and leverage are some specific factors that affect the profitability of the selected Islamic Banks in Bangladesh. The result from the correlation analysis stated that TETAR and DR had positive but CIR had negative effect on the profitability of Islamic banks. The regression result stated that the profitability indicating variable ROA could be explained by TETAR, CIR and DR.

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