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INVESTIGATING THE IMPACT OF FINANCIAL RATIOS ALONG WITH MACROECONOMIC VARIABLES ON FINANCIAL PERFORMANCE

Humaira Begum[1], Ayrin Sultana [1*], Nusrat Afrin Shilpa[2] and Md. Sakib Saroare[1]
[1]Department of Finance and Banking, Hajee Mohammad Danesh Science and Technology University, inajpur-5200, [2]Department of Business Administration, Ishakha International University, Bangladesh
*Corresponding Author: Email: ayrin.runu@hstu.ac.bd, Cell Phone: +88-01722938644
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ABSTRACT
This study examines the financial performance of Janata Bank Limited. The data are collected for the period from 2011 to 2021 from banks' annual reports. This study investigates the impact of bank size, earnings, inflation, and total loan on total assets on dependent variable ROA, ROE, and ROI which is regarded as one of the major financial performance indicators. Analytical and descriptive technique analyses are also used to analyze financial performance. Based on ratio and trend analysis, the result shows the sound behavior of Janata Bank Limited's financial position and the influence of some of its financial factor variables on the bank's financial performance. It also reveals that Janata Bank Limited's overall financial performance is improving in terms of its liquidity ratios, assets quality ratios, credit performance, and profitability ratios (ROA, ROE, and ROI). The findings of this study can assist banks, government, investors, policymakers, and shareholder's in making effective decisions and improving the overall performance of financial institutions in the future.

Keywords: Financial performance, financial ratios, total assets, equity, loans, earnings, GDP, inflation

INTRODUCTION

Banks are one of the most significant financial sectors of any country. Banks are regarded as the lifeblood of the modern economy. Banks collect idle money from the savers and then utilize that money to provide loans to the needed people as well as make an investment (Saini and Sindhu, 2014). Among various banks, commercial banks' role in economic development is inevitable as they comprise the most significant part of the financial system. Commercial banks perform many activities including collecting deposits, lending money, and investing money in profitable projects (Hossain et al., 2003). Recently, the analysis of the financial performance of banks has attracted the attention of researchers based on exploring accurate information from financial reports. The reason behind this, it reveals the actual financial condition of particular banks regarding asset

structure, source of funds, debt level, and liability structure as well as provides important insights for reducing financial risks and long-term changes for the success of banks (Alkhatib and Harsheh, 2012). Financial performance analysis is a multifaced process that examines a company's overall financial performance such as assets, liabilities, equity, expenses, revenue, and profitability (Karim and Alam, 2013). Islam (2016) focused on analyzing the financial performance of Janata Bank Limited by collecting data from the period of 2009 to 2013. This study used trend analysis and ratio analysis. The findings of the study revealed that JBL improves its performance gradually. Sofyan (2019) conducted a study in Indonesia's rural banks to show the impact of CAR, LDR, OCOL, and NPL on the ROA. The result showed that the selected independent variables significantly affect ROA except for NPL. Akber and Dey (2020) examined the financial performance of traditional private commercial banks and Islamic banks for the time period of 2015 to 2019. They utilized CAMEL to evaluate the performance of banks. Previously, Ranti and Samuel (2012) investigated into the Nigerian banking industry to evaluate the impact of board size on financial performance. They concluded that a larger board size creates agency problems along with suggestions to develop smaller board sizes for the betterment of banks. Later, Ongore and Kusa (2013) claimed that effective management decision is an important influencing factor while evaluating the financial performance of banks. Again, according to A. Hazzi and Al Kilani (2013), the effective performance of the banking industry can contribute a lot to the economic development of a country. A successful bank is able to facilitate more finance. The study by Robin et al. (2018) focused on analyzing the financial performance of commercial banks in Bangladesh. For this, they collected data from 1983 to 2012 and concluded that banking policy is crucial to increase as well as asset quality for creating a favorable banking sector. Fibriyanti and Nurcholidah (2020) aimed to examine the influencing factors that have an impact on the financial performance of private commercial banks. The study's findings revealed that non-performing loan (NPL) has a strong influence on the performance of banks. More recently, Chen et al. (2021) proposed a study to find out the performance of banks in terms of liquidity risk during the financial crisis and explained that liquidity risk is a dominant factor that has an impact on banks' performance.

Therefore, this study aims to measure the impact of capital ratio, total loans on total asset ratio, Bank size, Gross domestic product, and Inflation on the financial performance of Janata Bank Limited along with evaluating the correlation among the selected variables.

MATERIALS AND METHODS

Data

This study used secondary data from financial statements for the period of 10 years from 2011 to 2021, Janata Bank Limited. The secondary data were collected from annual reports, institution's websites, and the central bank of Bangladesh.

Table 1. Variable list

Determinants	Variables	Notations
Dependent Variables	Return on Asset	ROA
	Return on Equity	ROE
	Return on Investment	ROI
Independent Variables	Earnings/Total Assets	E/TA
	Total Loans/Total assets	TL/TA
	Bank Size	SIZE
	Inflation	INF
	GDP	GDP

Source: Authors compilation.

Regression model:

$ROA = \alpha_0 + \beta_1 ETA + \beta_2 SIZE + \beta_3 TLTA + \beta_4 GDP + \beta_5 INF + e$ …(i)

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$ROE = \alpha_1 + \beta_6 ETA + \beta_7 SIZE + \beta_8 TLTA + \beta_9 GDP + \beta_{10} INF + e$ …(ii)

$ROI = \alpha_2 + \beta_{11} ETA + \beta_{12} SIZE + \beta_{13} TLTA + \beta_{14} GDP + \beta_{15} INF + e$…(iii)

Where:

ETA = Earnings on total assets
SIZE = Bank size
TLTA = Total loans on total assets
GDP = Gross domestic product
INF = Inflation
e: Random error term

ROA: Return on Asset
ROE: Return on equity
ROI: Return on Investment
$\alpha_0, \alpha_1, \alpha_2$ = Intercept terms
$\beta_1, \beta_2 \ldots\ldots \beta_{15}$: Regression co-efficient

RESULTS AND DISCUSSION

Table 2. Descriptive statistics

	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
ROA	0	0	0.00	0.013	-2.532	0.661	7.666	1.279
ROI	0	0	0.08	0.011	-0.348	0.661	-0.997	1.279
ROE	0	0	0.03	0.196	-2.043	0.661	6.317	1.279
ETA	0	0	0.06	0.014	-0.599	0.661	1.223	1.279
TLTA	0	1	0.56	0.046	-0.312	0.661	-1.492	1.279
SIZE	12	12	11.87	0.135	-0.048	0.661	-0.415	1.279
INF	0	0	0.07	0.017	2.557	0.661	7.044	1.279
GDP	0	0	0.06	0.011	-1.923	0.661	5.322	1.279

Source: SPSS output of secondary data collected from the annual reports of Janata Bank Limited, Bangladesh from the year 2011 to 2021.

Table 2 represents a summary of descriptive statistics on dependent and independent variables. This represents the mean, minimum, maximum value, range, standard deviation, skewness, and kurtosis of the observed value of Janata Bank Limited for the year 2011 – 2021. Mean value of the ROA, ROI, ROE, ETA, TLTA, SIZE, Inflation, GDP .00, .08, .03, .06, .56, 11.87, .07, .06. Standard deviation .013, .011, .196, .014, .046, .135, .017, .011. The mean of ROA is .00 and the mean of Size is 11.87 is the highest and positive. The highest value of standard deviation is .196 the lowest value of standard deviation ROI and GDP is .011. The skewness of ROA, ROI, ROE, ETA, TLTA, SIZE, Inflation, GDP are –2.532, .348, -2.043, -.599, -.312, -.048, 2.557, -1.923. The kurtosis of ROA, ROI, ROE, ETA, TLTA, SIZE, Inflation, GDP 7.666, -.997, 6.317, 1.223, -1.492, -.415, 7.044, 5.322 respectively.

Table 3. Correlation Matrix

	ROA	ROE	ROI	ETA	TLTA	SIZE	INF	GDP
ROA	1							
ROE	.990**	1						
ROI	0.077	0.121	1					
ETA	.607*	0.562	0.358	1				
TLTA	-0.473	-0.524	-0.197	-0.14	1			

SIZE	0.106	0.083	-0.319	0.04	0.191	1		
INF	0.316	0.319	0.226	0.196	-0.069	-.734*	1	
GDP	-0.041	-0.052	-0.586	-0.558	0.164	-0.056	-0.08	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Source: SPSS output of secondary data collected from the annual reports of Janata Bank Limited, Bangladesh from the year 2011 to 2021.

The correlation analysis shows that there is a significant and positive relationship between ROA and ROE and ETA and ROE have the same relations with those variables. While the relationship between ROA and TLTA and GDP is negative. Also, ROE and ROA, and ETA significantly correlated. Again, there is an insignificant relationship between ROA and ROI and SIZE with ROE. Similarly, Inflation also has an Insignificant relationship with ROA, ROE, ETA, and other variables. Moreover, ROA and ROE are positively and significantly correlated.

Interpretation of the first model

Table 4. The effect of ETA, TLTA, SIZE, INF, and GDP on ROA

	Coefficient	T Ratios	Sig/P value
(Constant)	-.902	-5.166	.004
ETA	.570	5.174	.004
TLTA	-.158	-5.569	.003
SIZE	.074	5.105	.004
INFLATION	.565	5.027	.004
GDP	.575	4.342	.007
R Square		0.954	
A-R Square		0.907	
F		20.587	
Durbin Watson		2.478	

Source: SPSS output of secondary data collected from the annual reports of Janata Bank Limited, Bangladesh from the year 2011 to 2021.

From the above Table: ETA and Bank SIZE shows a positive relationship with ROA with a coefficient of .570 and .074. This result indicates that there is a positive relationship ROA of a firm. There is an insignificant negative relationship between ROA and TLTA with the coefficient -.158. According to the results GDP and Inflation also positive relation with ROA.

Interpretation of the second model

Table 5. The effect of ETA, TLTA, SIZE, INF, and GDP on ROE

	Coefficient	T Ratios	Sig/P value
(Constant)	-13.304	-3.747	.013
ETA	7.580	3.383	.020
TLTA	-2.626	-4.549	.006
SIZE	1.118	3.771	.013
INFLATION	. 8.643	3.782	.013
GDP	7.930	2.945	.032
R Square		.917	
A-R Square		.835	
F		11.087	
Durbin Watson		2.178	

Source: SPSS output of secondary data collected from the annual reports of Janata Bank Limited, Bangladesh from the year 2011 to 2021.

From the above Table: ETA and Bank size show a positive relationship with ROE with a coefficient of 7.580 and 1.118. There is a significant relationship between ROE and bank size. Earnings/Total assets, Inflation, and GDP are also showing a positive relationship with ROE with coefficients 7.580, 8.643, and 7.930 According to the results total loans/total assets are negatively related to ROE with a coefficient of -0.2.626 respectively. The regression coefficient is also found to be statistically insignificant.

Interpretation of the third model

Table 6. The effect of ETA, TLTA, SIZE, INF, and GDP on ROI

	Coefficient	T Ratios	Sig/P value
(Constant)	.638	1.231	.273
ETA	.079	.2423	.818.
TLTA	-.002	-.018	.986
SIZE	-.044	-1.006	.360
INFLATION	-.141	-.423	.690
GDP	-.583	-1.484	.198
R Square		.488	
A-R Square		-.023	
F		.955	
Durbin Watson		2.090	

Source: SPSS output of secondary data collected from the annual reports of Janata Bank Limited, Bangladesh from the year 2011 to 2021.

From the above Table: It has been observed that ETA is positive relation to ROI with a coefficient of .079. Bank size is negatively related to return on investment with a coefficient of -0.44. There is a significant relationship between return on Investment and bank size. According to the results,

Earnings/Total assets are showing positive relation with ROI. Total loans/ total assets, Inflation, and GDP are also negatively and insignificantly related to ROI with a coefficient of -0.002, -0.141, and -0.583 respectively.

CONCLUSIONS

The consensus is that stable economic growth requires a robust and healthy banking system. Banks are viewed as having greater safety when they have bigger equity capital, total assets, loans, and deposits; this advantage can convert into increased profitability. This study may assist decision-makers in paying more attention to the key banking activities that may help in raising the financial performance positions and ranking of the bank in comparison to other banks. From an academic perspective, this research offers a fresh viewpoint when assessing the financial performance of top commercial banks. This study's main policy recommendation is that, particularly in the case of developing countries like Bangladesh, efficient asset management while taking macroeconomic factors into account is required to increase bank performance or profitability. Additionally, its findings can be added to the existing literature and be useful to researchers in their future research. The study's limitations open up the possibility for additional research. This study used only one bank's 11-year data thus the performance of commercial banks and financial institutions could also be compared in a future study that concentrates on other industries, such as financial institutions. This study can also be broadened by employing the commercial banks of other nations as a sample.

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