Impact of macroeconomic factors on bank performance in Bangladesh

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Abstract

The present study investigates the impact of macroeconomic factors on the performance of banks in Bangladesh. The study analyzed 35 commercial banks consisting of both Islamic and conventional banks in Bangladesh from 2015 to 2020. The data was analyzed using the random effect regression model. Return on assets (ROA) is the dependent variable while macroeconomic variables such as GDP growth (GDGP), inflation (INF), and unemployment (UNEP) are the independent variables. The regression results showed that GDP growth and unemployment rate have a significant impact on the return on assets for banks in Bangladesh banks. There was no significant impact between inflation and return on assets.

JEL: D00, D02, E02, F62

1. Introduction

The area of economics known as macroeconomics helps in understanding how an economy functions as a whole and how it performs. It focuses on the overall developments in the economy, including inflation, growth, unemployment, and the rate of gross domestic product (Economic Time, 2022). Commercial banks, on the other hand, have been a key factor in Bangladesh’s economic growth. They offer investable funds to the public sector, as well as the private sector in particular (Khuda, 2019).

The profitability of a bank and macroeconomic factors are significantly correlated. Commodity prices, money supply, interest rates, GDP, exchange rates, oil prices, deficit budget, deficit trade, consumer price index, employment rate, stock price, political risk, and real wages are among the macro-economic factors influencing a bank’s financial performance. Variations in macroeconomic indicators, such as GDP, interest rates, inflation and currency rates, have been linked to the economy of Bangladesh. Such variations in macroeconomic conditions are the primary attention of professional shareholders and investors. There are numerous research on the influence of macroeconomic factors on the performance of the banking sector such as Sufian and Chong (2008); Davydenko (2011); (Ongore and Kusa 2013); Srinivas et al. (2013); Anwar and Herwany (2006); Aburime (2008) and many more. They investigated the relationship between macroeconomics variables and banks performance but their findings were inconsistent. There were some methodological and empirical gap of the previous study. Therefore, the researches of this study have some opportunities to look upon the matters closely and that is why researcher choose this topic. Now the major question that is there any relation exists between macroeconomic and bank performance?

Research objectives

The main objectives of this study is to investigate the association between macroeconomics variables and bank performance. The more specific objectives are as follows:
1. To investigate the association between gross domestic product (GDP) growth and banks performance.
2. To examine the association between inflation and banks performance.
3. To analyze the association between unemployment rate and banks performance.

An important contribution to the literature is made by this study, which looks into and reveals the current performance of Bangladeshi commercial banks. The pandemic scenario is the center of the study, which examines the industry's important events over the study period. According to Islam et al., (2021) the price of all products went up because of the corona pandemic. Another study conducted by Shafiqullah and Rahman (2021), the study looked at how the rate of inflation and unemployment has increased while the rate of GDP growth, industrial output, and investment have all dramatically decreased. When macroeconomics variables were effected by COVID-19 similarly there have a direct or indirect effect of macroeconomic variables on bank performance. Therefore, the researcher tried to reveal the effect of the macroeconomic after pandemic on the bank performance in this study.

The rest of the study was organized as follows. Section 2 presents the literature review. Section 3 presents the conceptual framework and hypothesis. Section 4 presents the methodology. Section 5 presents the empirical results. Section 6 presents the conclusion.

2. Literature Review

Empirical research on the determinants of bank performance and the influence of macroeconomic variables on bank performance has given varied and ambiguous conclusions in the empirical literature so far. The macroeconomic variables are the focus of this research. Inflation, GDP, and unemployment are some of the macroeconomic variables that can fluctuate. According to the following research, the findings of this work are supported. Recent studies show the impact of macroeconomic variables (GDP, inflation and unemployment, ROA) on a bank’s performance.

Davydenko (2011) demonstrated that GDP and inflation both contribute positively to the ROA of Ukrainian banks using the fixed effects estimation technique. Comparisons of balance sheet data from seven top Ethiopian commercial banks over a 10-year period show a strong correlation between GDP, interest rates, inflation, and earnings. Using the FGLS approach, a viable generalized least square It has been shown that GDP and inflation have a significant impact on asset returns, according to Wong and colleagues (2006).

Anwar and Herwany (2006) found a substantial correlation between economic growth, inflation, and real interest rates with ROA at 1%, but not with ROE, in their study of the Indonesian banking industry. To find out more about the macroeconomic factors that influence bank profitability in Nigeria, Aburime (2008) examined a sample of 154 banks and 1255 individual observations from an imbalanced panel data set collected between 1980 and 2006. Banking returns on assets are positively associated with real interest rates, inflation, monetary policy and the foreign exchange regime, according to the study results. It has long been recognized that inflation has an impact on bank profitability, as demonstrated by Molyneux
and Thorton (1992), who were pioneers in the study of European bank profitability. Credit demand falls when GDP growth slows, which has a negative impact on a firm's financial performance. Credit demand rises in tandem with GDP growth, which boosts a firm's financial performance (Ongore and Kusa 2013). For the years 2006–2012, Srinivas et al. (2013) examined the factors that contributed to Tanzanian commercial banks' profitability. A bank's internal and external determinants are based on characteristics such as liquidity risk, credit risk, operating efficiency, business assets and capital adequacy. There are no interdependencies between any of these variables. According to the findings, internal characteristics rather than external ones determine the profitability of a commercial bank.

Ramadan et al. (2011) used a balanced set of panel data and the Fixed Effect Regression Model (FEM) to investigate the variables affecting the performance of ten Jordanian banks between 2001 and 2010. Their research revealed that each bank's particular characteristics played a major role in determining the performance of Jordanian banks. In other words, there is a lot of borrowing going on and interest rates are low. Credit risk, cost effectiveness, and adequate capital are all elements that affect a bank's profitability. Inflation and economic growth (the macroeconomic factors) were demonstrated to have negligibly negative effects on the banks' ROA and ROE.

Sufian and Chong (2008) have conducted studies on the performance of Philippine banks. It turns out that GDP has just a small positive effect on ROA, whereas inflation has a big negative impact.

While Khwarish (2011)'s study focused more on the factors of commercial bank performance in Jordan between 2000 and 2010, this study's results are slightly different. A functional model derived from previous studies (Aburime, 1998; Demirguc and Huizinga, 1999; Naceur and Goaied, 2010), it was discovered that both inflation and yearly GDP growth were adversely associated with commercial banks' ROA and ROE, according to the functional model used. Select macroeconomic variables were analyzed to see how they affected the performance of Nigeria's commercial banks. One of the goals of the study was to find out how different types of macroeconomic shocks affected a variety of Nigerian financial institutions. From 1980 to 2014, annual time series data were gathered from the CBN statistics bulletin and the Nigerian Stock Exchange Factbook. The dependent variables in three multiple regression models are Return on Assets, and Return on Equity. Real Gross Domestic Product, Exchange Rate Broad Money Supply, and Unemployment Rate are the independent variables. Johansen co-integration, Unit Root, Vector Error, and Granger Causality tests were run in conjunction with econometric E-view for these tests. Second, the results of the second regression show that while real gross domestic product (RGDP) and the unemployment rate have negative and insignificant effects on return on assets, inflation rates, interest rates, and exchange rates have positive and significant effects (Akani et al, 2016).

Sara Kanwal and Muhammad Nadeem (2013)'s study shows that The empirical evidence shows that the real interest rate has a substantial positive correlation with ROA, ROE, and EM. Real GDP has a little positive influence on ROA, but a considerable negative impact on ROE and EM, according to research. A negative relationship exists between the rate of inflation and each of the three profitability metrics. As a whole, macroeconomic issues are determined to have a minor influence on bank profitability.
Mahmoud Ali Jaradat and Ali Mustafa Al-Qudah (2013) analyze the impact on the profitability of Jordanian Islamic banks from 2000 to 2011 use macroeconomic variables (external variables) and bank characteristics (internal variables). Bank size and capital sufficiency have a positive and considerable influence on ROA and ROE, according to empirical evidence (ROE). While the ratio of total deposits to total assets, which measures leverage, has a detrimental effect on return on assets (ROA) and (ROE). Liquidity has a little influence on (ROA) but a large negative impact on (ROE). Researchers showed that macroeconomic parameters, such as building license square meters and money supply increase in Amman, are strong predictors of Islamic banks' profits.

Otambo, Teddy D (2016) they found as a financial measure of performance, the return on assets was employed; as a measure of interest rates, exchange rates (USD/KSH), GDP, and inflation were used to measure each of these variables. The study's findings revealed a substantial connection between macroeconomic factors and commercial banks' financial performance. An adjusted R-squared value was also found in the research. This means that macroeconomic variables account for 58.5 percent of the volatility in the financial performance of Kenya's commercial banking industry.

Bishnu Prasad Bhattarai (2018) examined the Bank-specific characteristics and macroeconomic variables over the period from 2011 to 2016 to see how they affect the performance of commercial banks in Nepal. There are three independent factors: the ROA (return on assets), which is the dependent variable; default risk (cost per loan asset), which is the independent variable; as well as macroeconomic variables (gdp growth rate, exchange rate, and inflation). According to the findings of this research, the profitability of Nepalese commercial banks is heavily determined by the cost of loans. As a result, there is no evidence that the macroeconomic factors have an effect on bank performance.

3. Conceptual Framework And Hypothesis

**Dependent Variable**

According to Rao & Lakew (2012), ratios—which are the most often employed ratios in the baking literature for assessing bank profitability—are utilized in place of the real worth of earnings since they are unaffected by changes in the overall price level.

**Return on Assets**

Return on assets is a financial ratio that measures a bank's performance by revealing how profitable it is relative to its total assets (Davydenko, 2010). Banks' profit after tax divided by total assets can be used to determine return on assets (Flamini et.,2009). Return on asset (ROA) widely used as a indicator for banks profitability or bank performance (Simiyu, 2015), (Hong and Razak, 2015), (Kiganda, 2014), (Al-Mamun et al., 2014), (Kanwal and Nadeem, 2013), (Samad and Hassan, 1999).

**Independent Variables**

**Gross Domestic Product**
Gross domestic product (GDP), which measures all economic activity inside an economy, is one of the popular and most widely used macroeconomic indicators (Vejzagic and Zarafat, 2014); (Sufian and Habibullah, 2009). The demand for and supply of financial services will be favorably impacted by favorable economic conditions (Sufian and Habibullah, 2009).

**Inflation**

As a stand-in for anticipated inflation, we utilize the current inflation rate, which is the rise in the consumer price index from the previous quarter. A consistent general increase in prices in an economy is known as the inflation rate; a high inflation rate is correlated with both higher costs and higher income (Muda et al., 2013). The researcher anticipate that this variable will play a crucial role in determining profitability in the highly inflationary climate of Bangladesh. The impact of inflation on bank earnings relies on how well the bank foresees it. Managers can boost lending rates faster than operating costs by accurately forecasting inflation, which will result in increased profits (Davydenko, 2011).

**Unemployment**

According to Narueviius (2018), as operational expenses are primarily made up of salary payments, the unemployment rate has an impact on banks’ operating expenses. Banks may reduce or postpone salary payments when the unemployment rate is high. Employees look for compensation increases or commissions when unemployment is low. On the other side, a high unemployment rate may result in a low demand for bank loans. Many debtors could also fail on their loans. Thus, the unemployment rate has an impact on bank profitability as well.

**Hypothesis**

Based on the research questions defined in the study, the researcher developed the following hypothesis:

**GDP Growth Rate (GDPG) and Return on Assets (ROA)**

**Null hypothesis (H0)**

The GDP growth rate (GDPG) has no significant association between return on assets (ROA) at a 95% significance level.

**Alternative hypothesis (H1)**

The GDP growth rate (GDPG) has a significant association between return on assets (ROA) at a 95% significance level.

**Inflation Rate (INF) and Return on Assets (ROA)**

**Null hypothesis (H0)**
The inflation rate (INF) has no significant association between return on assets (ROA) at a 95% significance level.

**Alternative hypothesis (H₁)**

The inflation rate (INF) has a significant association between return on assets (ROA) at a 95% significance level.

**Unemployment Rate (UNEP) and Return on Assets (ROA)**

**Null hypothesis (H₀)**

The unemployment rate (UNEP) has no significant association between return on assets (ROA) at a 95% significance level.

**Alternative hypothesis (H₁)**

The unemployment rate (UNEP) has a significant association between return on assets (ROA) at a 95% significance level.

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Accept</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP Growth Rate On Return On Assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$H₀$  The GDP growth rate (GDPG) has no significant association between return on assets (ROA) at a 95% significance level.</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>$H₁$  The GDP growth rate (GDPG) has a significant association between return on assets (ROA) at a 95% significance level</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Inflation Rate And Return On Assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$H₀$  The inflation rate (INF) has no significant association between return on assets (ROA) at a 95% significance level.</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>$H₁$  The inflation rate (INF) has a significant association between return on assets (ROA) at a 95% significance level.</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Unemployment Rate And Return On Assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$H₀$  The unemployment rate (UNEP) has no significant association between return on assets (ROA) at a 95% significance level.</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>$H₁$  The unemployment rate (UNEP) has a significant association between return on assets (ROA) at a 95% significance level.</td>
<td>✓</td>
<td>✗</td>
</tr>
</tbody>
</table>

**4. Methodology**

**4.1. Data**
To conduct this study secondary data was the vital source. Convenience sampling method was used for this study. The researcher used 35 banks data, the data was collected from banks websites, which consists Islamic and conventional banks in Bangladesh. The sample period for the study was from 2015 to 2020. The panel data which were used for the analysis, collected from the financial statements of the selected banks. The dependent variable was return on assets and independent variables were GDP growth, inflation and unemployment. Pearson product moment correlation perform to measure the association between variables. The researcher used hausman test to assess which regression model were appropriate for the study. After analyzing hausman test researcher used random effect regression model for this study to assess the association between variables. To analyze the data the researcher used STATA computer environments.

### 4.2. Regression Model

Based on the hausman test result (p value was 0.000, which was higher than 0.05) the researcher performed random effect regression model for this study. The researcher also performed Durbin-Watson test to determine the positive or negative autocorrelation. A result between 0 and 4 will always be assigned to the Durbin-Watson statistic. A value of 2.0 means that no autocorrelation in the sample was found. Values between 0 and less than 2 indicate positive autocorrelation, while values between 2 and 4 indicate negative autocorrelation (Durbin and Watson, 1951). There was positive autocorrelation exists in the sample. The Durbin Watson value was 0.952 when predictors were GDP, INF, UNEP and dependent variable was ROA. To test the impact of each explanatory variable on the response variable, the following model was proposed.

**Model**

\[
\text{ROA}_{i,t} = \alpha_t + \beta_1 \text{GDPG}_{i,t} + \beta_2 \text{INF}_{i,t} + \beta_3 \text{UNEP}_{i,t} + \mu_{i,t}
\]

Where

- \(\text{ROA}_{i,t}\) = Return on assets
- \(\text{GDPG}_{i,t}\) = GDP growth rate
- \(\text{INF}_{i,t}\) = Inflation rate
- \(\text{UNEP}_{i,t}\) = Unemployment rate
- \(\alpha_t\) = Constant
- \(\mu_{i,t}\) = Error term

### 5. Empirical Results

#### 5.1. Descriptive Statistics
Table 1 shows that the mean value of ROA was 0.009; mean value of GDPG was 0.66; mean value of INF was 0.057, and mean value of UNEP was 0.045. Standard deviation shows the variability of the value. The standard deviation was 0.005 in ROA; standard deviation was 0.019 in GDPG, which was higher variability. The lower variability was 0.002, which belong to INF, and lastly the UNEP was variability 0.004. The minimum value of ROA was −0.01, minimum value of GDPG was 0.024, the minimum value of INF was 0.055 and the minimum value of UNEP was 0.042. Lastly, the maximum value of ROA was 0.02; the maximum value of GDPG was 0.82, which was higher as compared to other; the maximum value of INF was 0.062 and the maximum value of UNEP was 0.053.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>210</td>
<td>.009</td>
<td>.005</td>
<td>−.01</td>
<td>.02</td>
</tr>
<tr>
<td>GDPG</td>
<td>210</td>
<td>.066</td>
<td>.019</td>
<td>.024</td>
<td>.082</td>
</tr>
<tr>
<td>INF</td>
<td>210</td>
<td>.057</td>
<td>.002</td>
<td>.055</td>
<td>.062</td>
</tr>
<tr>
<td>UNEP</td>
<td>210</td>
<td>.045</td>
<td>.004</td>
<td>.042</td>
<td>.053</td>
</tr>
</tbody>
</table>

Obs = Observation, Std. Dev. = Standard Deviation

5.2. Regression and Correlation Results

5.2.1. Random Effect Regression

In the case of panel data, the Hausman test was able to determine which test is most appropriate for the investigation. When the p value is higher than 0.05, then the null hypothesis is considered to be accurate. When the p value is lower than 0.05, then the alternative hypothesis is considered accurate. According to Greene (2008) and Torres-Reyn (2007), the random effect model is the one that the null hypothesis supports. In this research study, the researcher used the Hausman test to find which model was best for the study. The researcher concluded that the p value is higher than 0.05. As a result, the researcher chose to conduct this study using a model based on random effects.

Breusch and Pagan Lagrangian multiplier test for random effects also confirmed that the presence of random effects and evidence of significance difference with the p value of 0.000.
Table 2
Random Effect Regression results

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>St.Err.</th>
<th>t-value</th>
<th>p-value</th>
<th>[95% Confident Interval]</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDPG</td>
<td>-.399</td>
<td>.158</td>
<td>-2.52</td>
<td>.012</td>
<td>-.709 − .089 **</td>
<td></td>
</tr>
<tr>
<td>INF</td>
<td>-.283</td>
<td>.195</td>
<td>-1.45</td>
<td>.147</td>
<td>-.666 − .01</td>
<td></td>
</tr>
<tr>
<td>UNEP</td>
<td>-2.333</td>
<td>.821</td>
<td>-2.84</td>
<td>.004</td>
<td>-3.943 − .724 ***</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>.156</td>
<td>.057</td>
<td>2.76</td>
<td>.006</td>
<td>.045 − .267 ***</td>
<td></td>
</tr>
</tbody>
</table>

Mean dependent var 0.009
SD dependent var 0.005
Overall r-squared 0.055
Number of obs 210
Chi-square 21.667
Prob > chi2 0.000
R-squared within 0.000
R-squared between 0.000

*** p < .01, ** p < .05, * p < .1

St.Err = Standard Error, Var = Variable(s), Obs = Observation

The random-effects regression model is shown in Table 2, with the ROA variable representing as the explained variable and GDPG, INF, and UNEP representing as the explanatory variables. With a R² of 0.055, it was evident that the model was appropriate for the investigation being carried out. A p value of 0.000 indicated that the model was statistically significant.

If the p value is less than 0.05, this indicates that there was a significant impact of one variable with other variables. If the value of p is higher than 0.05, this indicates that there was no significant impact between the variables. With a p value of 0.012, the preceding table demonstrated that there was a statistically significant relationship between GDPG and ROA. This study supports investigations by Sufian & Chong (2008), Vong & Chan (2009), Kosmidou, Tanna & Pasiouras (2005), Naceur (2003), and Al-Tamimi (2010) that demonstrate the positive impact of a country's gross domestic product on its performance.

By supporting with Davydenko (2011), the researcher found in this study, that inflation have no significant impact on ROA, as evidenced by the fact that the p value was 0.147. The p value for the correlation between unemployment rate and ROA was 0.004, which indicates that there was a significant association between the two variables. The contrasting result found by previous researcher such as Bolt et al. (2012), and Zhang and Dai (2019), got that unemployment and return on assets had negative relationship.

5.2.2. Correlation Analysis:

In this study, the relationship between the variables presented in table-3 was investigated with Pearson product-moment correlation. The r-value of 0.172 indicates that there was a positive and low correlation
between the ROA and GDPG. The association between ROA and INF was low with the value of 0.041. The r-value for the correlation between ROA and UNEP was – 0.191 which indicated that there was a low and negative correlation. There was a negative and low association between INF and GDPG with the value of -0.169 and there was strong negative relationship between GDPG and UNEP with the value of -0.989. Lastly, the r value of INF and UNEP was 0.052 which indicates that there was positive and low correlation between variables.

<table>
<thead>
<tr>
<th>Variables</th>
<th>ROA</th>
<th>GDPG</th>
<th>INF</th>
<th>UNEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDPG</td>
<td>0.172</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INF</td>
<td>0.041</td>
<td>-0.169</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>UNEP</td>
<td>-0.191</td>
<td>-0.989</td>
<td>0.052</td>
<td>1.000</td>
</tr>
</tbody>
</table>

5.2.3. Discussion

The objectives of the study is to ascertain how GDP growth, inflation, and the unemployment rate affect return on assets. The study discovered a strong correlation between GDP growth and return on assets. The results of the regression test the GDP growth rate and return on asset hypotheses. The impact of GDP growth on return on assets was significant because the p value of the GDP growth rate was less than 0.05 (p = 0.012 < 0.05). The null hypothesis (H₀), according to which there is no significant correlation between GDP growth rate and return on assets, has been rejected. On the other hand, the alternative hypothesis (H₁), which claimed that there was a significant correlation between GDP growth rate and ROA, has been accepted.

The rate of inflation and return on assets were another hypothesis. There was no significant effect of inflation rate on return on assets because the p value of the inflation rate was greater than 0.05 (p = 0.147 > 0.05). The null hypothesis (H₀), which claimed that there is no significant relationship between inflation rate and return on assets, has been accepted. On the other hand, the alternative hypothesis (H₁), which claimed that there had been a significant correlation between the rate of inflation and return on assets, has been rejected. H₀ is therefore accepted in the second hypothesis.

The unemployment rate and return on assets were the last two hypotheses. Since the unemployment rate’s p value was less than 0.05 (p = 0.004 < 0.05), it had a significant effect on return on assets. The null hypothesis (H₀), which claimed that there is no significant correlation between the unemployment rate and return on assets, has been rejected. But at the other hand, the alternative hypothesis (H₁) that there was a significant correlation between the unemployment rate and return on assets has been accepted. H₁ is hence acceptable in the third hypothesis.
6. Conclusion

In this paper, the researcher specified a framework for empirically examining how macroeconomic factors affect bank performance. The study's novel features include a longer analysis period, a more thorough examination of the impact of GDP growth, inflation, and unemployment on bank performance, and the use of an appropriate econometric methodology for the estimation of dynamic panel data models in order to take into account some aspects of bank performance that had been overlooked in earlier studies. Based on the regression result the researcher found that there was a significant effect of GDP growth and unemployment on return on assets. On the other hand, the researcher found there was no significant effect of inflation on return on assets. The study supported the following hypothesis:

- The GDP growth rate has significant association between return on assets.
- The unemployment rate has significant association between return on assets.
- The inflation rate has no significant association between return on assets.

The study makes a significant contribution to the existing literature by thoroughly examining and revealing the performance of Bangladeshi commercial banks at the moment. The study focuses on the significant occurrences the industry experienced during the study period, namely the pandemic scenario. Due to corona pandemic, the price of the all type of product increased according to Islam et al. (2021). Based on this research inflation did not have any effect on return on assets of the bank. Commercial banks performance depends on some macroeconomic variables such as GDP growth and unemployment. The empirical results reported herein should be considered in the light of some limitations. A more advanced model, such as structural equation modeling, and the inclusion of other macroeconomic factors could have improved the study's effectiveness. More advanced analysis and data about macroeconomics as well as bank performance should be used in future research.

Declarations

Authors’ contributions: HI analyzed and interpreted the data regarding the impact of macroeconomic variables on banks performance in Bangladesh and has the major contribution for the study. MSI, LS, TAA, and TIT performed the introduction and literature review in the manuscript and major contribution to collect data. All the authors read and approved the final manuscript.

Availability of data and materials: The datasets used and analyzed during the current study are available on the banks websites.

Competing interests/ Conflict of Interest: We have no competing interest or conflict of interest.

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