

DETERMINANTS OF PROFITABILITY OF LISTED COMMERCIAL BANKS IN SRI LANKA

ISSN: 2772 128X (Online)

ISSN: 2792 1492 (Print)

 **SLJESIM**

VOLUME 1 ISSUE 1

June 2022

sljesim@sab.ac.lk

www.sab.ac.lk/sljesim

U.H.H.Y. Amararathne and W.M.T.J. Wanigasuriya

Received: 14 October, 2021 ***Revised:*** 07 February, 2022 ***Accepted:*** 22 April, 2022

How to Cite this Article: Amararathne, U.H.H.Y., & Wanigasuriya, W.M.T.J. (2022). *Determinants of Profitability of Listed Commercial Banks in Sri Lanka.*, *Sri Lanka Journal of Economics, Statistics and Information Management*, 1(1), 39-54

Abstract

The banking sector has a significant impact on economic development in any country since banks play a pivotal role in improving overall economic activities, which are crucial for any country's economic development. A profitable banking sector can endure negative shocks and contribute to the financial system's stability. The objective of this study is to determine the factors that influence the profitability of licensed commercial banks in Sri Lanka in order to mitigate the negative consequences and ensure financial stability. Data for the study was gathered from 11 Licensed Commercial banks over the period of 2011 to 2020 and the secondary data used for analysis was collected from the audited financial statements of the selected licensed Commercial banks. This study used Bank Size, Operating Efficiency, Liquidity, Capital Adequacy, and GDP growth as the determinants of bank profitability while ROA is the dimension of profitability. This study employed Random Effect Model, and Generalized Moment of Method to examine the impact of bank-specific determinants; bank size, capital adequacy, operating efficiency, liquidity, and GDP growth on ROA of Listed Commercial Banks in Sri Lanka. As per the Random Effect Model and Generalized Moment of Method, Bank Size, Liquidity, Capital Adequacy, and GDP have a positive and significant impact on profitability while Operating Efficiency doesn't have any significant impact on profitability. That means bank size, liquidity, capital adequacy, and GDP are highly influential towards bank profitability. Therefore, banks should pay more attention to these determinants when focusing on maximizing the profits of banks.

Keywords: Listed Commercial Banks, Profitability, Random Effect Model, ROA

INTRODUCTION

The banking sector has a significant impact on economic movements in all countries since banks play a pivotal role in improving overall economic activities, which are crucial for any country's economic development (Monnin & Jokipii, 2010). Batagoda, Ediriweera, & Deshika (2019) also have mentioned that an efficient financial sector is a key determinant of a country's economic growth and development. The importance of the banking sector emphasizes the need for stability in the sector that is vulnerable to financial distortions. Any country's economy is significantly reliant on the functioning of its banking industry. Further, a profitable banking sector can endure negative shocks and contribute to the financial system's stability. Banks play an increasingly pivotal role in both economic development and the growth of any country.

During the last two decades, the banking sector in the world has experienced some profound changes as improvement in technology and the inevitable forces driving globalization, which creates both opportunities for development and challenges for the banking industry to remain profitable in this increasingly competitive environment (Weerasinghe & Perera, 2013). Being profitable is the goal of every company. According to Bandara, Jameel, & Haleem (2021), the profitability of banks is a concern of both investors and banks in determining their investments. In other words, profit is a significant requirement of a competitive banking institution, as it is essential for running the business in a period of growing competition in financial markets. Thereby, both external and internal factors have been affecting the profitability of the banks. As a result, many parties are interested in the determinants that influence bank profitability. Despite the severe internal and global market conditions created by the COVID-19 pandemic in 2020, Sri Lanka's financial sector remained stable (Annual Report of Central Bank, 2020). The Central Bank implemented several extraordinary regulatory measures to provide Licensed Commercial Banks (LCBs) and Licensed Specialized Banks (LSBs) with more flexibility in supporting businesses and individuals affected by the pandemic after recognizing the importance of reviving adversely affected sectors of the economy (Financial System Stability Review, 2020). Meanwhile, the Central Bank introduced many monetary policy relaxation measures to ensure the availability of liquidity in the money market, particularly in light of the need to support the financial system and facilitate economic operations during this pandemic period (Central Bank of Sri Lanka, 2020).

In Sri Lanka, the banking sector comprises two main components. They are Licensed Commercial Banks (LCBs) and Licensed Specialized Banks (LSBs). These two sectors dominate the financial system and account for the highest share of total assets in the financial system (Central Bank of Sri Lanka, 2020). Accordingly, there were 30 banks in the banking sector with 24 LCBs including 11 branches of foreign banks and 06 LSBs as of the end of 2020. In 2019, there were 26 LCBs listed on the Central Bank, but the banking licenses awarded to ICICI Bank Limited and Axis Bank Limited to operate in Sri Lanka were terminated in 2020 due to decisions made by their Head Offices (Central Bank of Sri Lanka, 2020). Regarding the internal and

external determinants of bank profitability, numerous studies have been conducted in different countries including Sri Lanka. Suganya & Kengatharan (2018) investigated the impact of bank internal factors on commercial banks' profitability in Sri Lanka. According to the findings of this study, capital adequacy has a positive and significant impact on bank profitability, whereas operating cost efficiency and non-performing loans have a negative and significant impact on profitability in terms of ROA. A study carried out by Weerasinghe & Perera (2013) discovered that a favorable macroeconomic environment leads to higher profits in the Sri Lankan banking sector. Batagoda, Ediriweera, & Deshika (2019) who conducted a study to examine the determinants of profitability of LCBs in Sri Lanka revealed that bank size, operating efficiency, and GDP growth rate significantly affect the banks' profitability when using ROA as the proxy to measure the bank profitability. Further in line with their findings, increased bank liquidity and operational efficiency are two ways to attain financial stability. Bekhet, Alsmadi, & Khudari (2020) have done a study in Jordan, where they have revealed that bank size has positive effects on bank profitability while credit risk, operational risk, and leverage risk have negative effects on bank performance. Further, according to Abdullahi and Usman (2017), banks should focus on raising their equity to total asset ratio and credit risk management because they have an impact on financial performance in the Nigerian context. Previous studies have found mixed results on this topic. Therefore, this paper aims at investigating the bank-specific determinants, such as; Bank Size, Operating Efficiency, Liquidity, Capital Adequacy, and GDP growth as the determinants of the profitability while taking ROA as the dimension of profitability of 11 licensed Commercial banks listed on Colombo Stock Exchange in Sri Lanka during the period of 2011-2020.

Research Question and Research Objective

Research Question

Is there any relationship between bank specific determinants and bank profitability in Listed Commercial Banks in Sri Lanka?

Research Objective

To investigate the impact of bank-specific determinants on profitability of Listed Commercial Banks in Sri Lanka.

LITRATURE REVIEW

Theoretical Review

Modern Portfolio Theory

In 1952, economist Harry Markowitz introduced modern portfolio theory. Modern portfolio theory is defined as Markowitz's portfolio selection theory of financial asset price formation, which was first published in 1964 and later called the capital asset pricing model (Veeneya, 2006). Modern portfolio theory is, in essence, an investment framework for the selection and development of investment portfolios focused on the

maximum of portfolio expected returns while simultaneously minimizing investment risk (Fabozzi, Gupta, & Markowitz, 2002).

According to Thevaruban (2017), in bank profitability determinants studies, the modern portfolio theory approach is most applicable and plays a vital role. It implies portfolio diversification and the expected portfolio composition of Commercial banks are the outcomes of management decisions of the bank. Furthermore, the ability to maximize earnings is based on the management's determination of a possible set of assets and liabilities, as well as the bank's unit costs for creating each component of assets (Nazongang & Atemnkeng, 2006).

Signaling Theory

According to signaling theory, positive and better information is supplied to the market by best performing or profitable firms. Furthermore, this theory is one of the theories that explain the relationship between profitability and capital structure (Alkhazaleh & Almsafir, 2014). The signaling theory further implies that the majority of the profitable firms signal their competitive power through communicating new and important information to the market.

According to Thevaruban (2017), managers who are certain that their banks can outperform other banks in the sector will wish to share this information with other stakeholders in order to attract new investments. Thus, as a result of the signaling theory, when a bank's performance is great, its directors would signal to its stakeholders and market by making numerous disclosures which poor-performing firms cannot make. Most managers will want to obtain high rewards and a good reputation as a result of increased disclosure, which may enhance the firm's value and eventually profitability (Muzahern, 2011).

Empirical Review

The banking sector plays a major role in the financial system of the country and their performance directly links with the economic growth of the country. Batagoda, Ediriweera, & Deshika (2019) focused on the Bank specific and Macroeconomic determinants affecting the profitability of LCBs in Sri Lanka. The study used GDP growth, Operating Efficiency, Interest Rate, Bank Size, and Liquidity Ratio as the determinants of profitability while taking ROA as the dimension of profitability. The sample study used 7 banks out of 10 banks listed in the Colombo Stock Exchange and data were gathered from the relevant annual reports for the period of 2009-2018. The findings revealed that Bank size and Operating efficiency and GDP growth rate significantly affect the bank's profitability when using ROA as the measure of profitability. Further, study found that liquidity does not have a direct impact on the profitability of LCBs in Sri Lanka. Researchers mentioned that, in Sri Lanka, limited attention is paid to this problem and it is very important to do research in this area.

There is another study in Sri Lanka on the bank's internal factors impact on the profitability of commercial banks using secondary data for the period of ten years from 2006-2015 (Suganya & Kengatharan, 2018). In this study Capital Adequacy

(CA), Operating Cost Efficiency (OCE), Non-performing Loans (NPL), Bank Size (BS), Liquidity (LQ), Assets Quality (AQ), and Managerial Efficiency (ME) are considered as bank internal factors while ROA is considered as profitability indicator. This study found that capital adequacy ratio had a positive significant impact on ROA while operating cost efficiency and non-performing loans had a negative significant impact on ROA. Further, study found that bank liquidity doesn't have any significant impact on the profitability of commercial banks in Sri Lanka.

Another study was done in Jordan to see the effects of internal and external factors on the profitability of Jordanian Commercial Banks for the period 2000-2018 (Bekhet, Alsmadi, & Khudari, 2020). As the internal determinants; Leverage Risk (V), Operational Risk (O), Capital Risk (K), Credit Risk (C), Bank Size (Z), and Diversification (D) were used. Market Concentration (M), Financial Development (F), Return on Volatility (T), Gross Domestic Product (G), and Inflation (I) were used as external variables. Findings of the study suggested that bank size and diversification had positive effects on bank profitability while credit risk, operational risk, and leverage risk were negatively related to bank performance. Further, capital risk had a positive but insignificant impact on bank profitability.

Using a sample of 23 banks of Saudi Arabia and Jordan Almazari (2014) investigated the impact of internal factors on bank profitability in Saudi Arabia and Jordan for the period of 2005-2011. Variables which are taken into this study are ROA, Liquidity Risk (LR), and Net Credit Facilities to Total Assets Ratio, Total Investment to Total Assets Ratio, Total Equity to Assets Ratio, Net Credit Facilities to Total Deposits Ratio, Cost Income Ratio and the Size of the Bank. The study found that Saudi banks are more profitable than the Jordanian ones as well as it is utilizing resources in a more efficient way.

In a comprehensive study, Mbekomize & Mapharing (2017) made an attempt to test the relationship between profitability and internal and external factors of commercial banks in Botswana and to perform a trend analysis of factors indicating banks' performance. Bank liquidity, capital adequacy, credit risk, bank size, market profit opportunity, cost efficiency, and bank diversification are internal factors while economic growth, inflation, and bank interest are external factors. Profitability measures were ROA, ROE, and Net Interest Income (NIM) as dependent variables. The empirical results revealed that ROE is the best measure of bank profitability followed by ROA and NIM.

Further, Amaliah & Hassan (2019) have examined the relationship between a bank's credit risk, liquidity, and capital adequacy towards its profitability in Indonesia. In this study Net Interest Margin (NIM), ROA, Non-Performing Loan Ratio (NPLR), Loan to Deposit Ratio (LDR), and Capital Adequacy Ratio (CAR) have been used as the main indicators. The study used secondary data from publicly annual reports of four state-owned banks in Indonesia over the period of 2007 to 2016. The data analysis is conducted by finding the significant relation and the degree to which the relationship exists among variables. The results found that there is a significant

relationship between dependent variables (NIM, ROA) and overall independent variables (NPLR, LDR, CAR) yet in a negative correlation.

According to the above literature review, the results of the studies in the past are mixed and controversial because different authors have selected different samples and methodologies in their studies. Like many existing studies, this study aims at studying the determinants of bank profitability in Sri Lankan context.

METHODS

Research Design

This study adopted Positivism as the research philosophy because this study is highly objective, structured and focuses on causality relationships. And also study used the Deductive approach because researchers aim at testing existing theories using empirical data.

Here, as the population, all Licensed Commercial Banks were selected because they are the single most important category of financial institutions within the Sri Lankan banking sector. As of the end of 2020, there were 24 Licensed Commercial Banks in Sri Lanka.

Using the convenience sampling method, Licensed Commercial Banks which are listed on Colombo Stock Exchange were selected as the study sample because due to the time constraint, the entire population cannot be covered. As of the end of 2020, there were 11 Licensed Commercial Banks listed on Colombo Stock Exchange and the period of research is selected from 2011-2020.

Conceptual Framework

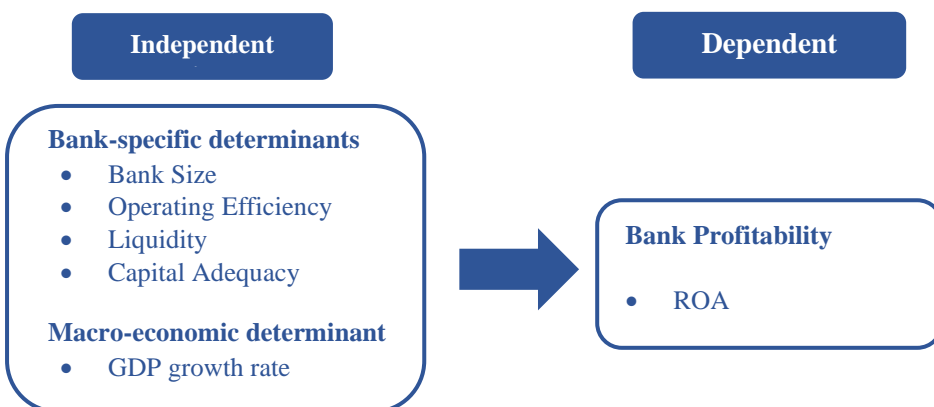


Figure 01: Conceptual Framework

Source: Compiled by the author

Variable Selection

Independent Variables- Bank-specific Determinants

Bank Size (BSIZE)

Size of a business means the ability it possesses and the variety and number of production capacity or the quantity and multiplicity of services the business can offer concomitantly to its customers. In a simpler way, the best indication of the “bigness” of a firm is the size of its management group or the number of assets it possesses compared to others in the same industry (Bekhet, Alsmadi, & Khudari, 2020). Researchers have identified size as a key determinant in explaining firm profitability and a number of studies have looked into the impact of size on firm profitability (Velnampy & Nimalathasan, 2010). Total Asset, Number of Branches, Number of Employees, Number of Advances, and Number of Deposits are some proxies for bank size which are used by researchers in various studies. In this study, the logarithm of total assets is used to measure the bank size.

$$BSIZE = \text{Logarithm of Total Assets}$$

Operating Efficiency (OE)

The operating efficiency ratio has been used to evaluate a financial institution’s expense management efficiency. Operating efficiency is a critical bank internal component that can affect bank capital and financial intermediation cost (Batagoda, Ediriweera, & Deshika, 2019). This ratio is calculated as follows.

$$OE = \frac{\text{Operating Expenditure}}{\text{Total Assets}}$$

Liquidity (LIQ)

Liquidity is measured by using the Liquidity Ratio. In a crisis, the cash ratio normally represents a reliable measure of an entity’s liquidity (www.accountingtools.com). To calculate this ratio, only highly marketable short-term investments and cash are used. The high liquidity of a financial institution causes costly borrowings. However, the loss of potential income or returns is the opportunity cost that may incur the financial institution, by holding excess cash available (Batagoda, Ediriweera, & Deshika, 2019). Any assets that are not instantly convertible into cash, such as inventory, are excluded from this ratio.

Pasha, Waleed, & Akhtar (2016) mentioned that the liquidity ratio was important in most organizations like banks because banks typically work through the huge number of funds deposited by savers. This ratio calculates a bank capacity to see the payment responsibility by relating the cash with the payment responsibilities. Batagoda, Ediriweera, & Deshika (2019) stated that a positive liquidity ratio is good for a firm. This ratio has been used by many scholars (Ajanthan, 2013; Pasha, Waleed, &

Akhtar, 2016; Batagoda, Ediriweera, & Deshika, 2019; Alali, 2019). The liquidity ratio is calculated as follows.

$$LR = \frac{\text{Cash} + \text{Short Term Investments}}{\text{Current Liabilities}}$$

Capital Adequacy (CA)

Capital Adequacy is measured by using Capital Adequacy Ratio. The Capital Adequacy Ratio (CAR) is a measure of a bank's capital in relation to its risk. It reflects a bank's safety and soundness. The equity-to-assets ratio is a proxy for determining a bank's capital adequacy. Weerasinghe & Perera (2013) stated that banks with higher capital levels perform rather than their undercapitalized counterparts. This ratio has been used by many scholars (Weerasinghe & Perera, 2013; Thevaruban, 2017). Capital Adequacy Ratio is calculated as follows.

$$CA = \frac{\text{Total Capital Base}}{\text{Risk Weighted Assets}}$$

Independent Variable- Macro-economic indicator

GDP Growth Rate

Real GDP growth is being used to account for the increase of the Sri Lankan economy production and it is projected that GDP growth will have a substantial beneficial impact on bank profitability. GDP growth rate has been used by many scholars as a macroeconomic indicator (Weerasinghe & Perera, 2013; Batagoda, Ediriweera, & Deshika, 2019).

Dependent Variable

Return on Assets (ROA)

Return on Assets is an indicator of a company's income in relation to its total assets (Bandara, Jameel, & Haleem, 2021). High values of ROA indicate that companies are making efficient use of their assets to generate more returns (Hongli, Ajorsu, & Bakpa, 2019). This ratio can be interpreted in two ways. First, it assesses management skill and efficiency in generating operating profits from the firm's assets. Second, it reports the total return accruing to all providers of capital (debt and equity), independent of the source of capital (Nimer, Warrad, & Omari, 2013). In other words, this ratio provides a manager, analyst, or investor an idea as to how efficient a company's management is at using its assets to generate earnings. Return on Assets is displayed as a percentage. ROA has been used as a profitability measure in many previous studies (Suganya & Kengatharan, 2018; Madushanka & Jathurika, 2018;

Batagoda, Ediriweera, & Deshika, 2019; Bekhet, Alsmadi, & Khudari, 2020; Bandara, Jameel, & Haleem, 2021). ROA is calculated as follows.

$$ROA = \frac{\textit{Profit after Interest and Tax}}{\textit{Total Assets}}$$

Data Collection

In this study, the purpose of the data collection is to explore the impact of bank-specific determinants; bank size, capital adequacy, operating efficiency, liquidity, and GDP growth on ROA of LCBs in Sri Lanka. The main source of information gathered in this study was based on secondary data collected over the period from 2011-2020. Here, secondary data will probably provide the main source to answer the research question and to address the research objective. Annual reports and Financial Statements of all the LCBs and annual reports of the Central Bank of Sri Lanka have been identified as secondary data collection tools.

Data Analysis Methods

This study is conducted by using panel data from 2011 to 2020 for 11 banks to examine the determinants of profitability of listed Commercial banks in Sri Lanka. The data was taken from selected banks' annual reports. The panel analysis is carried out by using E-views 10 software. The following is the general equation for the relationship between banking performances and economic growth.

$$ROA_{i,t} = \beta_0 + \beta_1 BSIZE_{i,t} + \beta_2 OE_{i,t} + \beta_3 LIQ_{i,t} + \beta_4 CA_{i,t} + \beta_5 GDP_{i,t} + u_{i,t} \quad (1)$$

Where, BSIZE denoted Bank size in terms of total assets, OE denotes Operating Efficiency, LIQ denotes Liquidity, CA denotes Capital Adequacy and GDP denotes Gross Domestic Product Growth Rate.

Panel unit root test was used to test the stationary properties of the variables which have been used for the study. This study has used several types of panel unit root tests. Namely, Levin, Lin, and Chu (2002), Breitung (2000), Pesaran and Shin (2003), Fisher type test using ADF and PP test [(Maddala and Wu (1999) and Choi (2001)] and Hadri (1999). The null hypothesis for LLC and Breitung states that panel data have unit root (assume common unit root process). The null hypothesis for the Pesaran, and Shin and Fisher type test using ADF and PP test states that panel data has unit root (assume individual unit root process). The null hypothesis for the Hadri test states that panel data has no unit root (assume common unit root process).

A multicollinearity test was conducted to check the Multicollinearity between the independent variables of the model and the Hausman test was carried out to find the best model between fixed effect and random effect model. Also, the Generalized Method of the moment was used. Descriptive statistics were found out that the mean,

mode, median, variance, and standard deviation, and correlation to analyze the level of distribution of the data set.

RESULTS & DISCUSSION

Descriptive Statistics

Table 01 shows the descriptive statistics. This table shows the mean, median, maximum value, minimum value, standard deviation, skewness, kurtosis for all the variables. The mean value for ROA is 1.386 and the standard deviation is 1.259. ROA is having a positive skewness since the skewness is 6.048. The maximum value for Bank size in terms of total assets is 14.908 and the minimum value is 9.581. Bank size is having a negative skewness since the skewness is -0.244. Further, the mean value of operating efficiency is 2.973 and the maximum value is 7.947 and the minimum value is 1.453987. The standard deviation is operating efficiency 1.017. The descriptive statistics for liquidity indicate a maximum value of 77 while a minimum value of 20.190. The mean value of the data set is 26.689.

Further, the mean value of capital adequacy is 14.671. The maximum and the minimum value of capital adequacy are 41.700 and 7.410 respectively. The standard deviation of capital adequacy is 6.732. Accordingly, to descriptive statistics, the GDP indicates a maximum value of 9.144 while the minimum value is -3.569 and the mean value and standard deviation are 4.093 and 3.322 respectively.

Unit Root Tests

Table 02 shows the results of the panel unit root test. This test is performed to determine whether or not the panel data set used in this study is stationary. The tests are LLC, IPS, ADF, PP, Hadri, Heteroscedasticity, and Breitung. Each of these tests has been performed at the level and first difference. At level and first difference in Hadri and Heteroscedasti test, all variables are stationary.

Multi-Collinearity Test and Correlation

Table 03 shows the correlation matrix. Correlation can be used to test whether two or more predictor variables in a multiple regression model are highly correlated or not. According to this table, it is clear that none of the variables has a correlation of more than 80%. The correlation coefficient between independent variables is less than 0.8. Therefore, it is clear that no multi - Collinearity exists between the variables in this regression model.

Correlation shows the relationship between two independent variables or between the independent variable and the dependent variable. It shows the linear relationship between variables. Using the correlation, it can be stated that there is a positive, negative, or no relationship between the variables, and by using the correlation coefficient, the strength of the relationship whether it is having perfect, strong, moderate, and weak or no relationship between the variables can be stated. These results indicate that there is a positive correlation between bank size, liquidity, capital

adequacy, and GDP with ROA and there is a negative correlation between operating efficiency with ROA. That is when bank size, liquidity, capital adequacy, and GDP are increasing, ROA will increase and when operating efficiency is increasing ROA will decrease.

Regression Model Hausman Test

In panel analysis, the Hausman test can be used to distinguish between fixed and random effects models. Random effects (RE) are chosen under the null hypothesis because it is more efficient, however, Fixed effects (FE) are at least as consistent and hence favored under the alternative hypothesis.

According to table 04, the probability value which is 1.000 is greater than 5%. Therefore, the Random effect is the most suitable model in this study and it is considered as the model in this study.

Therefore, the following model can be obtained from the random-effect model.

$$ROA_{i,t} = -5.162 + 0.359BSIZE_{i,t} - 0.142OE_{i,t} + 0.032LIQ_{i,t} + 0.066CA_{i,t} + 0.153GDP_{i,t} + u_{i,t}$$

Random Effect Model

According to these results (Table 05), it shows that when all variables are zero (BSIZE, OE, LIQ, CA, and GDP) the ROA will have -5.162. This table shows that BSIZE, CA, and GDP are significant at 1% and LIQ is significant at 10%. OE is not significant.

If BSIZE increased by 1 unit the ROA will increase by 0.359. If LIQ increased by 1 unit ROA will increase by 0.032. If CA increased by 1 unit ROA will increase by 0.066. Also if GDP increased by 1 unit, GDP will increase by 0.153. The overall model is significant at 1% since the F probability value is 0.000.

Generalized Method of Moment (GMM)

The generalized method of moments (GMM) is a method for estimating parameters in statistical models that are used by many people. This is also an estimating tool that is used for panel data. GMM method was also conducted to verify the results obtained. The following table shows the results of the GMM test.

According to table 06, it is clear that the results consist of the results of the random effect test.

As per the results of the analysis, the following equation can be derived.

$$ROA_{i,t} = -5.162144 + 0.359713BSIZE_{i,t} - 0.0142122OE_{i,t} + 0.032362LIQ_{i,t} + 0.066515CA_{i,t} + 0.153592GDP_{i,t} + u_{i,t}$$

Statistically, the bank size is significant at a 1% level. That means a 99% confidence level is there. Therefore, bank size can be identified as a very significant factor in bank profitability. Based on the evidence of previous studies and considering the scale efficiencies at large banks, a positive relationship between bank size in terms of total assets and bank profitability in terms of Return on Assets was found. This result is in line with the previous study carried out by Weerasinghe & Perera (2013) for the determinants of profitability of commercial banks in Sri Lanka using quarterly data relating to the bank-specific and macroeconomic indicators during the period 2001-2011 by carrying a multiple panel regression and with Batagoda, Ediriweera, & Deshika (2019) who explored the determinants of profitability of listed commercial banks in Sri Lanka and concluded that there was a statistically significant relationship between firm size and profitability. However, there is no consensus in the literature on whether an increase in bank size leads to economies of scale in the banks. For example, some researchers claim that there is no significant relationship between bank size and bank profitability (Athanasoglou, Delis, & Staikouras, 2006; Pasiouras & Kosmidou, 2007).

Operating efficiency is not a substantial variable in the model because it does not have a direct impact on the profitability of LCBs in Sri Lanka. A study carried out by Pasiouras & Kosmidou (2007) in EU countries showed that operating costs have a negative impact on profit measures. Further, another study by Batagoda, Ediriweera, & Deshika (2019) in the Sri Lankan context revealed that operating efficiency has a positive impact on the profitability of LCBs in Sri Lanka.

Statistically, the liquidity is significant at a 10% level which means it is a 90% confidence level. So, it can be concluded that liquidity has an impact on bank profitability. Based on the evidence of previous studies and considering the bank liquidity, a positive relationship between bank liquidity in terms of liquidity ratio and bank profitability in terms of ROA was found. This result is in line with the previous study carried out by Madushanka & Jathurika (2018) for the impact of liquidity ratios on the profitability of Listed Manufacturing Companies in Sri Lanka, found that the liquidity ratio was positive and significantly related to the firm profitability. Jeevarajasingam (2014) examined the impact of liquidity on the profitability of the banking sector in Sri Lanka for the period of 2008-2012 and also found that the liquidity ratio has a strong positive correlation with ROA. Further, Batagoda, Ediriweera, & Deshika (2019) found that the liquidity does not have a direct impact on the profitability of LCBs in Sri Lanka and Dabiri, Yusof, & Wahab (2017) found that liquidity has a negative and considerable impact on the profitability of the Islamic banks in the UK both in the short and long runs.

Statistically, the capital adequacy is significant at the 1% level. That means a 99% confidence level is there. Therefore, capital adequacy can be identified as a very significant factor in bank profitability. Samarathunga & Madurapperuma (2016)

focused on the impact of bank-specific and macroeconomic determinants on the profitability of LCBs in Sri Lanka and found that capital adequacy has contributed significantly to the profitability of commercial banks. Further, a study carried out by Suganya & Kengatharan (2018) showed that capital adequacy has a positive significant impact on the profitability of the banks. However, according to Swarnapali (2014) and Amaliah & Hassan (2019), there was a negative relationship between the capital adequacy ratio and bank profitability.

Statistically, the liquidity is significant at a 1% level which means it is a 99% confidence level. Therefore, GDP growth can be identified as a very significant factor in bank profitability. The GDP has a significant impact on the profitability of any financial sector organization in line with the previous studies. Batagoda, Ediriweera, & Deshika (2019) found that there is a significant positive impact between GDP and profitability while Weerasinghe & Perera (2013) found that GDP is not significant enough to be considered as a determinant in profitability measured as ROA for Sri Lankan Commercial Banks.

CONCLUSION

According to the results of present study, it can be concluded that bank size, liquidity, capital adequacy, and GDP are highly influential towards bank profitability. Therefore, banks should have to pay more attention to these determinants when focusing on maximizing the profits in banks.

Findings in this study might be useful in guiding the Central Bank of Sri Lanka in making policies and procedures. This will lead to encourage banks to grow and expand to enjoy some of the benefits that accrue for well-structured banks such as access to credit facilities and economies and scale. The results of this study have some policy implications for the Sri Lankan government, regulatory authority, and bank managers due to improved bank performance. It is worth noting that well-structured banks are active in each of these areas and have a demonstrable and positive impact on the economy. This will provide banks with a platform to borrow and invest in capital projects in order to realize profitability.

During the study, several factors caused the efficiency of the research work. The annual reports and the financial statements of some commercial banks were not available in the considered time period. Additionally, the information provided in the financial statements of the annual reports was not in a standard format and additional time was required to organize the information in a standardized presentable format for consistency of the information. Further study was only done by using 11 Licensed Commercial Banks listed in Colombo Stock Exchange and therefore the results are limited to that sector and may not be applicable to the other sectors with a different operating environment. It could be fruitful to integrate the other internal factors as well as the external factors which affect the bank profitability instead of taking only the bank liquidity. Some of these issues will be addressed in future empirical studies.

REFERENCES

- Abdullahi, S. R., & Usman, S. (2017). The Impact of Bank Specific Variables on the Financial Performance of Nigerian Deposit Money Banks. *International Journal of Innovative Research and Advanced Studies (IJIRAS)*, 43-48.
- Ajanthan, A. (2013). A Nexus between Liquidity and Profitability: A Study of Trading Companies in Sri Lanka. *European Journal of Business and Management*, 5(7), 221-237.
- Alkhazaleh, A. M., & Almsafir, M. (2014). Bank Specific Determinants of Profitability in Jordan. *Journal of Advanced Social Research*, 4(10), 01-20.
- Almazari, A. A. (2014). Impact of Internal Factors on Bank Profitability: Comparative Study between Saudi Arabia and Jordan. *Journal of Applied Finance & Banking*, 4, 125-140.
- Amaliah, R., & Hassan, H. H. (2019). The Relationship between Bank's Credit Risk, Liquidity, and Capital Adequacy towards its Profitability in Indonesia. *International Journal of Recent Technology and Engineering (IJRTE)*, 7(5S).
- Athanasoglou, P. P., Delis, M. D., & Staikouras, C. K. (2006). Determinants of bank profitability in the southeastern European region. *Working Papers 47, Bank of Greece*.
- Bandara, K. S., Jameel, A. L., & Haleem, A. (2021). Credit Risk and Profitability of Banking Sector in Sri Lanka. www.al-kindipublisher.com/index.php/jefas, 3(1).
- Batagoda, B. A., Ediriweera, E. A., & Deshika, N. P. (2019). Empirical study on determinants of profitability of listed commercial banks: with special reference to Sri Lanka. Faculty of Management and Commerce, South Eastern University of Sri Lanka.
- Bekhet, H. A., Alsmadi, A. M., & Khudari, M. (2020). Effects of Internal and External Factors on Profitability of Jordanian Commercial Banks: Panel Data Approach. *International Journal of Financial Research*, 11, 359-375.
- Central Bank of Sri Lanka. (2020). *Annual Report of the Central Bank of Sri Lanka*. Colombo: The Central Bank of Sri Lanka.
- Dabiri, M. A., Yusof, R. M., & Wahab, N. A. (2017). Profitability and Liquidity of Islamic Banks in the United Kingdom. *Asian Journal of Multidisciplinary Studies*, 5(54), 2321-8819.
- De Silva, D. S., Azam, S. M., & Chinna, K. (2019). Major determinants on the profitability of Sri Lankan local commercial banks. *European Journal of Economic and Financial Research*, 3(5), 92-107.
- Fabozzi, F. J., Gupta, F., & Markowitz, H. M. (2002). The legacy of Modern Portfolio Theory. *The Journal of Investing*.

- Financial System Stability Review. (2020). *Financial System Stability Review of 2020*. Colombo: The Central Bank of Sri Lanka.
- Gatete, A. (2015). Effects of Liquidity Risk on Profitability of Commercial Banks in Kenya.
- Hongli, J., Ajorsu, E. S., & Bakpa, E. K. (2019). The Effect of Liquidity and Financial Leverage on Firm Performance: Evidence from Listed Manufacturing Firms on the Ghana Stock Exchange. *Research Journal of Finance and Accounting*, 10(8), 91-100.
- Jeevarajasingam, N. (2014). A study on Liquidity and Profitability of Private Banks in Sri Lanka. *Research Journal of Finance and Accounting*.
- Kawshala, H., & Panditharathna, K. (2017). The Factors Effecting on Bank Profitability. *International Journal of Scientific and Research*, 7(2), 212-216.
- Madushanka, K. H., & Jathurika, M. (2018). The Impact of Liquidity Ratios on Profitability (With special reference to Listed Manufacturing Companies in Sri Lanka). *International Research Journal of Advanced Engineering and Science*, 157-161.
- Mbekomize, C. J., & Mapharing, M. (2017). Analysis of Determinants of Profitability of Commercial Banks in Botswana. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 7(2), 131-144.
- Monnin, P., & Jokipii, T. (2010). The Impact of Banking Sector Stability on the Real Economy Swiss National Working Papers. *Empirical* 44(2017), 295-337.
- Muzahern, A. (2011). An Empirical Analysis on the Practice and Determinants of Risk Disclosure in an Emerging Capital Market: The Case of the United Arab Emirates.
- Nazongang, T., & Atemnkeng, J. (2006). Market Structure and Profitability Performance in the Banking Industry of CFA countries: the Case of Commercial Banks in Cameroon.
- Nimer, M. A., Warrad, L., & Omari, R. A. (2013). The impact of liquidity on Jordanian banks profitability through return on assets. *Interdisciplinary journal of contemporary research in business*, 5.
- Olweny, T., & Shiphoo, T. M. (2011). Effects of banking sectoral factors on the profitability of commercial banks in Kenya. *Economics and Finance Review*, 1(5), 1-30.
- Pasha, A. T., Waleed, A., & Akhtar, A. (2016). Exploring the impact of liquidity on profitability: evidence from the banking sector of Pakistan. *Journal of Internet Banking and Commerce*, 21(3).
- Pasiouras, F., & Kosmidou, K. (2007). Factors influencing the profitability of domestic and foreign commercial banks in the European Union. *Research in International Business and Finance*, 222-237.

- Samarathunga, S., & Madurapperuma, M. W. (2016). Impact of Bank-Specific and Macroeconomic Determinants on Commercial Bank Profitability: with Reference To Systemically Important Private Commercial Banks in Sri Lanka. Kelaniya: University of Kelaniya.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research Methods for Business Students* (Fifth edition.).
- Sivaperumaan, Y. (2013). Determinants of Profitability in the Banking Sector: A study with special reference to Private Commercial Banks in Sri Lanka. *6-7(1)*, 19-24.
- Suganya, S. J., & Kengatharan, L. (2018). Impact of bank internal factors on profitability of commercial banks in Sri Lanka: A panel data analysis. *Journal of Business Studies*, *5(1)*.
- Swarnapali, R. M. (2014). Firm-Specific Determinants and Financial Performance of Licensed Commercial Banks in Sri Lanka. Faculty of Management and Finance, University of Ruhuna, Sri Lanka.
- Thevaruban, J. S. (2017). Drivers of Commercial Banks' Profitability in Sri Lanka. *Double-Blind Peer Reviewed International Research Journal Publisher: Global Journals*, *17*.
- Veeneya, V. (2006). Analysis of modern portfolio theory.
- Velnampy, T., & Nimalathan, B. (2010). Firm Size on Profitability: A Comparative Study of Bank of Ceylon and Commercial Bank of Ceylon in Sri Lanka. *Global Journal of Management and Business Research*, *10(2)*, 96-103.
- Weerasinghe, V., & Perera, T. R. (2013). Determinants of Profitability of Commercial Banks in Sri Lanka. *International Journal of Arts and Commerce*, *2(10)* (www.ijac.org.uk), 141-170.
- Wijethunga, K. D., & Wijekoon, W. M. (2018). Internal and External Determinants of Bank Profitability in Sri Lanka. Kelaniya: University of Kelaniya.