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# Firm Specific Determinants and Financial Performance of Licensed Commercial Banks in Sri Lanka

R.M.N.C. Swarnapali[a]

[a]*Faculty of Management Studies, Rajarata University of Sri Lanka, Sri Lanka. nayana_rjt@yahoo.com*

## Abstract

Banks, as the critical part of financial system, play a vital role in contributing to a country's economic development. This study aims to investigate the impact of bank-specific factors which include the operating expenses, credit risk, liquidity risk, capital strength and the bank size of Sri Lankan Licensed Commercial Banks (LCBs) on their financial performance, which is measured by return on assets (ROA) and return on equity (ROE). According to the findings, it is found that banks' performance in Sri Lanka only affects by the operating expenses and the bank size. The regression coefficients representing size of the banks is statistically significant on bank performance at 5% level for both models whereas operating expenses is significant at 1% level in ROA (model 1) and at 5% level in ROE (model 2). Conversely, the estimated regression coefficients for credit ratio, liquidity ratio and capital strength ratio in the both models are not statistically significant and do not contribute towards performance of LCBs in Sri Lanka. Thus, it is apparent that the Sri Lankan LCBs performance affects by two of the firm-specific determinants; operating expenses and size of the banks. On the whole, results imply that firm-specific determinants employed in this study have only a small contribution on the financial performance of Sri Lankan LCBs.

***Keywords:*** *firm-specific determinants; financial performance; licensed commercial banks*

## 1. Introduction

An efficient financial intermediation is a prime requirement for a country's economic development. Said and Tumin (2011) attest that the banks, as the critical part of financial system, play a vital role in a country's economic development. Due to the US sub-prime mortgage crisis, the banking sectors of many countries suffered huge losses, especially in the US and the EU. Poor performance of the banking industry has slowed down the US economy and also the growth of global economy. One of the root causes is the poor lending policies of US banks. In Asia, although the losses in banking sectors are not as serious as in the US, it is also hurting the economy (Said & Tumin, 2011).

Financial deregulation in Sri Lanka began in the late 1970s and is still continues (Seelanatha, 2007). One of the main goals of the policy makers was to increase the efficiency and productivity by promoting competition. Sri Lankan financial sector is still dominated by the banking industry. During the last three decades, banking industry in Sri Lanka has experienced a transition period as a consequence of deregulation of financial sector, development in information and communication technologies (ICT) and globalization of the industry (Seelanatha, 2010). World Bank (2003, cited in Seelanatha, 2010) revealed that the banking industry, which holds approximately 60% of the total financial assets, is the main intermediary in the financial services sector in Sri Lanka. Hence, higher performance of the banking industry is important for the development of the financial sector.

Central Bank of Sri Lanka (CBSL) issues banking licenses for two categories of banks, namely Licensed Commercial Banks and Licensed Specialized Banks. The main difference between a Licensed Commercial

Bank and a Licensed Specialized Bank, is that the former is permitted to accept demand deposits from the public and is an Authorized Dealer in foreign exchange, whereas the latter is not. Licensed commercial banks consist of public, private and foreign banks (CBSL, 2009).

Performance of institutions depends upon the strengths, weaknesses, opportunities and threats they are facing. Those forces originate from both external and internal environments of the firm. Hence, both firm-specific and environmental factors may influence the efficiency of a bank. Consequently, banks with sound internal environments may perform better than other banks in the industry (Seelanatha, 2010). Thus, the investigation of firm-specific factors, which influence firms' efficiency, is important. Thus, the study aims to investigate the impact of bank-specific factors, which include the operating expenses ratio, credit ratio, liquidity ratio, capital ratio and the size of LCBs in Sri Lanka on their performance, which is measured by both return on assets (ROA) and return on average equity (ROE). This study only covers the public and private sector banks and the study is primarily based on secondary data collected from relevant annual reports. A Four years period (2009 - 2012) has been considered for evaluating the performance.

### *Research Problem*

Performance of the banks has been regarded as a crucial area in contemporary public policy concerned with a country's economic development. Empirical analysis of performance is an important requirement for further policy changes. The banking sector remained stable and resilient despite the challenges caused by the global financial crisis and the failure of some domestic unauthorized institutions. As indicated in CBSL (2009), the health of financial system depends to a larger extent on the soundness of financial institutions, in particularly LCBs. Accordingly, study in this area is important in the following aspects. First, improvements in performance in financial institutions are vital for providing a more efficient system of asset allocation in the financial services sector. Since, Sri Lanka has a bank-led financial services sector (Seelanatha, 2007), performance of banking industry is important for providing financial infrastructure for economic development. Second, studies on organizational performance are aplenty. However, there are large numbers of studies on performance of other sectors in Sri Lanka and only a few studies (Seelanatha, 2007 & 2010; Swarnapali, Kumari & Pathmasiri, 2012) have focused on Banking Sector. But, any researches related to the firm-specific determinants on the financial performance of LCBs in Sri Lanka could not be found.

## 2. Literature Review

The study on the determinants began as early as 1979 when Short (1979, cited in Said & Tumin, 2011) examined the relationship between profitability and bank concentration. Classifying the determinants to internal and external determinants, Bourke (1989) extended this study to banks in twelve countries in Europe, North America and Australia. Further, Athanasoglou, Brissimis and Delis (2008) classified the determinants to three specific aspects, i.e., bank-specific, industry-specific and macroeconomic determinants of bank profitability. Seelanatha (2010) stated that the efficiency of banks in Sri Lanka is affected by a range of micro and macroeconomic factors, together with financial deregulation. In this study, bank-specific variables are given precedence over other variables since those variables are specific to individual banks (Said & Tumin, 2011).

Higher expenses mean lower profits and vice versa. According to Bourke (1989), reduced expenses improved the efficiency and hence raise the profitability of a financial institution, implying a negative relationship between an operating expenses and profitability. Liquidity refers to the ability to fund increases in productive assets and meet short-term operational obligations (Seelanatha, 2007). Liquidity risk is considered as an important internal determinant of bank profitability because it can be a source of bank failures (Said & Tumin, 2011). It arises from the possible inability of a bank to accommodate decreases in liabilities or to fund increases in assets (Athanasoglou et al., 2008). To avoid insolvency and o prevent liquidity crises, banks often hold liquid assets that can be easily converted into cash as a buffer (Heffernan, as cited in Seelanatha, 2010). However, liquid assets are usually associated with lower rate of return. Therefore, provisioning a buffer of liquid assets to face shocks may reduce the amount of income-generating assets and may contribute negatively

to firm performance (Molyneux & Thorton, 1992). However, Bourke (1989) found a positive relationship.

Cooper, Jackson and Patterson (2003) concluded that changes in credit risks may reflect changes in the health of a bank's loan portfolio which may in turns affect the bank's performance. Miller and Noulas (1997) found that there is a negative relationship between the credit risk and bank profitability. This implies that the more the banks were exposed to high-risks loans, the higher the accumulation of unpaid loans.

Capital strength is also found to be another important internal determinant of bank profitability (Said & Tumin, 2011) and a prime requirement for the smooth operation of banking firms (Seelanatha, 2007). A bank's capital strength can be seen as an indicator of its ability to face risk related to insolvency. Moreover, maintaining a minimum capital ratio, which aims to reduce gambling incentives, is a major prudential regulation for banks (Hellmann, Murdock & Stiglitz, 2000). Athanasoglou et al. (2008) suggested that capital strength is better model as an internal determinant of bank profitability, as higher profits may lead to an increase in capital. This implies that well-capitalized banks face lower risks of bankruptcy. A strong capital base implies a lower default risk of the bank. Consequently, banks with healthier capital strength incur lower funding costs than banks with low capital strength. On the other hand, since capital is considered to be one of the most expensive forms of liabilities in terms of expected return, holding capital above the regulatory minimum is a credible signal of creditworthiness on the part of the bank (Seelanatha, 2010).

Prior studies in banking predicted a strong positive association between firm size and efficiency (Isik & Hassan, 2003). Size is used to capture the impact of bank size on performance. Previous studies used two methods for controlling the size effect in regression analysis, introducing a proxy to represent firm size such as total turnover and total assets (Isik & Hassan, 2003). This study used total assets (converted into natural logs) of individual banks to represent their size. Akhavein et al. (1997, as cited in Said & Tumin, 2011) reveals that there is a positive and significant relationship between size and bank profitability. Amel, Barnes, Panetta and Salleo (2004) and Athanasoglou et al. (2008) suggested that the effects of the bank size on profitability may be positive up to a certain limit and beyond that point it could be negative due to various factors such as the sample country selected and period of study. Therefore, the relationship between the bank size and its profitability is expected to be uncertain due to the difference in various factors.

The following hypotheses are formulated for testing.

$H_1$: Operating Expenses have a negative impact on the financial performance of LCBs in Sri Lanka.
$H_2$: Liquidity Risk has a negative impact on the financial performance of LCBs in Sri Lanka.
$H_3$: Credit Risk has a negative impact on the financial performance of LCBs in Sri Lanka.
$H_4$: Capital Strength has a positive impact on the financial performance of LCBs in Sri Lanka.
$H_5$: Firm Size has a positive impact on the financial performance of LCBs in Sri Lanka

## 3. Methods

A four years period (2009-2012) has been selected for the study. The logic of selection of this period is to collect most recent data. The study used income statements and statements of financial position of Sri Lankan LCBs which are extracted from the annual reports of the relevant financial years. The reason to select LCBs as sample is that the LCBs have broad business powers, and generally have subsidiaries and affiliates engaged in all areas of the financial service market (Munasinghe & Firdous, 2012). The annual reports for this study were downloaded directly from the respective banks' websites in the form of soft copies. The dataset consists of all the Domestic LCBs in Sri Lanka, except one private bank; which was difficult to find the relevant information. The justifications for choosing the Domestic banks only was briefly made because of the researcher's belief that, this kind of study cannot achieve its objective if it does not separate the banks according to the nature in which banks operate. In order to get a picture of the performance of the banks, the researcher employed two measures of profitability, ROA and ROE. ROA reflects the ability of a bank's management to generate profits from the bank's assets and it is calculated as net profit after tax divided by total assets. ROE, on the other hand, indicates the return to shareholders on their equity.

Five variables have been identified as firm-specific determinants; ratio of non-interest expense to average assets (operating expenses), ratio of loan loss provisions to net interest revenue (credit risk), ratio of net loans to deposit and short-term funding (liquidity risk), ratio of equity to total assets (capital strength) and size which is measured by the natural logarithm of the accounting value of bank's total assets. The following Ordinary Least Square (OLS) regression models are used to identify the association between banks' performance and their firm-specific attributes.

$$\text{Performance}_{ROA} = \alpha + \beta_1 \text{Operating Exp} + \beta_2 \text{Credit Risk} + \beta_3 \text{Liquidity Risk} + \beta_4 \text{Capital Strength} + \beta_5 \text{Size} + \varepsilon \text{-----(1)}$$

$$\text{Performance}_{ROE} = \alpha + \beta_1 \text{Operating Exp} + \beta_2 \text{Credit Risk} + \beta_3 \text{Liquidity Risk} + \beta_4 \text{Capital Strength} + \beta_5 \text{Size} + \varepsilon \text{-----(2)}$$

## 4. Data Analysis

Table 1 depicts the some important descriptive statistics of the relevant variables. Average value of ROE over the four year period of sample banks was 18.37%. Mean value of banks return to assets (ROA) was 1.54% that demonstrates a not remarkable performance of the sample banks in the period under study. The standard deviations for the above were 9.67% and 0.57% respectively. The mean and standard deviation for the operating expenses were 0.035 and 0.137 respectively. The mean value for Credit risk was 0.168 with a standard deviation of 0.235. The mean value of liquidity ratio of the banks was 0.767 which indicates unfavorable situation.

Pearson Correlation analysis was used to see the relationship between firm-specific attributes and performance. The Table 2 exhibits result of correlation coefficients. The results show a negatively significant relationship between operating expenses and performance of the banks. This means that the result is support the expectation that a lower operating expense is associated with higher performance. Moreover, the result indicates a significant positive relationship between firm size and performance whereas it shows a significant negative relationship between capital strength and performance.

Table 1: Descriptive Statistic

| Variable | Mean | SD | Median | 25th percentile | 75th Percentile |
|---|---|---|---|---|---|
| Operating Expenses | 0.0353 | 0.0138 | 0.0332 | 0.0273 | 0.0442 |
| Credit Risk | 0.1678 | 0.2352 | 0.0861 | 0.0183 | 0.1884 |
| Liquidity Risk | 0.7675 | 0.1916 | 0.8303 | 0.7020 | 0.8909 |
| Capital Strength | 0.0861 | 0.0514 | 0.0830 | 0.0494 | 0.0997 |
| Firm Size | 5.2887 | 0.5022 | 5.4686 | 4.9244 | 5.6755 |
| ROE | 18.3728 | 9.6721 | 18.3150 | 11.4050 | 22.6075 |
| ROA | 1.5436 | 0.5687 | 1.5250 | 1.1075 | 2.0900 |

Two Ordinary Least Square (OLS) regression analyses were performed for all variables and results are presented in table 3. The adjusted coefficients of determination (Adjusted R squared) indicate that 48.2% and 57.8% of the variation in the dependent variables (ROA and ROE respectively) are explained by variations in the respective independent variables. The table 1 shows the estimation for the link with ROA and ROE as the measures for banks' performance. In this study, only operating expenses can be viewed as the outcome of bank management. Since improved management of the operating expenses will increase efficiency and therefore raise profits of banks, the ratio of these expenses to total assets is expected to be negatively related to profitability. This implies that the higher the operating expenses results in lower profit. As it is expected, the empirical results offer strong evidence of a negative relationship between the operating expenses and performance. As shown by the coefficients in the table 1-3, operating expenses contribute significantly and negatively to performance of LCBs in Sri Lanka. The result is consistence with the findings of Bourke (1989) and Said and Tumin (2011).

Table 2: Correlation Analysis

| Variable | Operating Exp. | Credit Risk | Liquidity Risk | Capital Strength | Firm Size |
|---|---|---|---|---|---|
| Operating Expenses | 1 | | | | |
| Credit Risk | -0.2300 | 1 | | | |
| Liquidity Risk | 0.1650 | 0.1960 | 1 | | |
| Capital Strength | 0.0500 | 0.510** | 0.2030 | 1 | |
| Firm Size | -0.2750 | -0.599** | -0.1360 | -0.723** | 1 |
| ROE | -0.397* | -0.362* | -0.0290 | -0.616** | 0.738** |
| ROA | -0.585** | -0.1530 | -0.0490 | -0.337* | 0.588** |

*$p$ < .05. **$p$ <.01 (2-tailed).

Table 3: Firm-specific Determinants and Performance

| Variable | ROA | | | ROE | | |
|---|---|---|---|---|---|---|
| | B | SE B | $\beta$ | B | SE B | $\beta$ |
| Operating Expenses | -19.153 | 6.107 | -0.464** | -210.165 | 93.683 | -0.299* |
| Credit Risk | 0.015 | 0.419 | 0.006 | -2.116 | 6.424 | -0.051 |
| Liquidity Risk | 0.263 | 0.367 | 0.089 | 7.495 | 5.623 | 0.148 |
| Capital Strength | 0.237 | 1.930 | 0.021 | -54.678 | 29.604 | -0.291 |
| Firm Size | 0.557 | 0.246 | 0.492* | 8.365 | 3.773 | 0.434* |
| Intercept | -0.952 | 1.535 | | -19.136 | 23.551 | |
| $R^2$ | 0.548 | | | 0.632 | | |
| F | 8.246 | | | 11.699 | | |
| N | 40 | | | 40 | | |

*$p$ < .05. **$p$ <.01.

According to the regression results, the effect of credit risk, liquidity risk and capital strength on banks performance were not significant. Size of banks significantly and positively related on the performance of banks as proved by Akhavein et al. (1997), as cited in Said & Tumin, (2011). The positive regression coefficient for firm size was significant for both models, implies that a bank with a relatively large size of bank is more profitable. Based on the findings, it is clear that out of five hypotheses; three were unsupported ($H_2$, $H_3$ & $H_4$) and two were supported ($H_1$ & $H_5$). In general, the ultimate effect of firm-specific determinants on Sri Lankan LCBs performance may influenced only by operating expenses and size of the bank.

## 5. Conclusion

This paper explores the relationship between banks' performance and five selected internal factors which are extracted from the financial statements of LCBs in Sri Lanka. According to the mean values of ROE and ROA over the four year period, demonstrate a not remarkable performance of the sample banks in the period under study. The results reveal that operating expenses and capital strength are negatively related with banks profitability. On the other hand, firm size is positively related to banks profitability. statistically significat impact of liquidity risk could not be evidenced. The results offer negative relationship between the credit risk and performance. The negative correlation coefficient for credit risk was significant only with ROE.

According to results, it is obvious that banks' performance in Sri Lanka affects only by the operating expenses and firm size when performance is measured by ROA and ROE. The coefficients representing operating expenses, in ROA and ROE are negatively and statistically significant at 1% and 5% levels respectively. Moreover, the size of the banks is positively and statistically significant at 5% level in the both models. However, performance of LCBs in Sri Lanka does not influence by capital strength and its coefficient is not

statistically significant. Regardless of measures of performance employed, liquidity and credit ratio also are not significant factors that contribute towards profitability of Sri Lankan banks. Thus, it is apparent that performance of Sri Lankan LCBs affects only by two of the selected firm-specific determinants. On the whole, results imply that firm-specific attributes employed in this study have only a small contribution on the financial performance of Sri Lankan LCBs.

Some limitations of this study are also inevitable. The analysis based only on secondary data and used quantitative approach alone were the main limitations of the study. On the other hand, other variables which may effect to the performance, such as spread ratio and burden ratio, have not been included in the models. Spread ratio and burden ratio variables are particularly widely used in the previous literature. By adding more independent variables, we would probably be able to increase the power of the regression models and hence a better explanation to the determinants of the banks' performance.

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