

Determinants of Profitability in the Banking Sector: A study with special reference to Private Commercial Banks in Sri Lanka

(1) University of Peradeniya, Faculty of Arts, Department of Management Studies, Peradeniya, Sri Lanka.

Abstract: Profitability of the bank has become vital for financial stability. In this study, internal variables namely capital ratio, activity mix, size, overheads and liquidity are considered as variables which have impact on banks' profitability. The results reveal capital ratio, size and liquidity have positive impact on banks' profitability whereas activity mix and overheads have negative impact. Our results shows that the banks' profitability can be increased by increasing banks' asset base, and size of the banks, and by managing the overhead efficiently to promote financial stability in Sri Lanka.

Keywords: Panel Data, Private Banks, Return on Assets, Sri Lanka

Introduction

Financial sector in Sri Lanka plays a pivotal role in the economic development contributing around 9% to the GDP (Central Bank of Sri Lanka, 2011). It includes the organizations which deal with the management of money such as commercial banks, investment banks, insurance companies, credit card companies, multinational financial companies, stock brokerages, etc. As the financial intermediaries, banks play a significant role in transferring money from saving to investment in an economy. Further, banks are the sole providers of funds needed for investment and their stability is of paramount important to the financial system. In addition, a sound and profitable banking sector is an essential condition to eliminate negative shocks in the financial sector and to contribute to the development of the financial system. . Therefore, profitability of the banking sector is paramount important in any country since it is an

important source of equity which lead to rise in assets base. High profits in the banking sector always leads to financial stability of any country.

There are many factors affecting the profitability of the banking sector. Generally these factors are categorized as bank-specific factors such as capital ratio, bank activity diversification, Credit Risk, Bank Size, Liquidity, Overhead expense Management, Leverage and macroeconomic factors such as inflation, GDP, Ownership, Market Capitalization, Treasury Bill Rates (Flamini et al., 2009; Athanasoglou, et al., 2006). Although there are substantial studies undertaken elsewhere in the world, such studies are lacking in Sri Lanka. This study will add immensely to the literature in Sri Lankan context.

In view of the above, the present paper examines bank-specific variables that have impact on profitability of Private

Commercial banks in Sri Lanka during the period from 2003-2011 and to recommend policy measures that can help further to improve the performance of the commercial banks in Sri Lanka.

Literature Review

There are a plenty of research studies available to identify the determinants of bank performance elsewhere in the world. Bank profitability is usually expressed as a function of internal and external determinants in many countries. The internal variables are the variables obtained from bank accounts (Balance sheet and/ or income statements) which are micro or bank- specific variables. The external determinants are the variables uncontrollable by the bank management

which reflect the economic and legal environment that affects the operation and performance of financial institutions. Some studies were country specific and the others were inter-country studies.

Sehrish Gul, Irshad and Zaman (2011) examined the factors affecting bank profitability in Pakistan during the period 2005-2009 using data from 15 banks in Pakistan. Using the Pooled Ordinary Least Square (POLS) method, they investigated the determinants that affect the Return on Assets, Return on Equity, Return on Capital Employed, and Net Interest Margin, which are taken as proxies to the profitability of the banks. The authors used internal variables (Size, capital, loans and Deposits) as well as macro variables (GDP, Inflation and Market capitalization) to develop their model. The empirical results revealed that there was strong evidence to show that micro and macro variables have strong influence on the profitability of the banking sector.

There is another study in Pakistan on the determinants of bank profitability using internal factors collecting data for 5 years from 10 banks (Javaid, Anwar, Zaman and Gafoor, 2011). Return on investment was taken as the dependent variable and the Size, Capital ratio; Liquidity and Deposit to Total Asset ratio were the Independent variables. This study found that higher total assets were not leading to higher profits because of diseconomies of scale. However, it was found that higher loans contributed towards higher profitability.

Another study was done in Tunisia to see the determinants of profitability in the Tunisian banking industry for the period 1980-2000 (Naceur, 2003). Both Return on assets and Net Interest Margin were taken as proxies for profitability and multiple regression models were employed in the study. It was found that high net interest margin and profitability were likely to be associated with high amount of capital and large overheads of expenditure. Further, it was found that the other determinants such as loans and bank size had positive and negative impact on profitability respectively.

Using a sample of 389 banks in 41 countries Sub-Saharan Africa, Flamini and Schumacher (2009) studied the determinants of bank profitability for the period 1998-2006. The study revealed that the higher return on assets was associated with larger bank size,

activity diversification, and private ownership. Further, it was found that bank returns were affected by macroeconomic variables, showing that macroeconomic policies that promote low inflation and stable output growth do boost credit expansion.

Panayiotis, Brissimis and M.D., (2005) examined the effect of bank-specific, industry-specific and macroeconomic determinants of bank profitability using an experimental framework that includes the traditional Structure- Conduct-Performance (SCP) hypothesis. In this study, a Generalized Method of Moments (GMM) technique was applied to account for profit persistence using panel data from Greek banks for the period 1985 – 2001. The results showed that profitability persisted to a moderate extent, indicating the departure from perfectly competitive market structures. All bank- specific determinants, with the exception of bank size, affected bank profitability significantly in the anticipated way. However, no evidence was found in support of the SCP hypothesis.

The study on determinants of bank profitability was undertaken in Jordan by Ramadan, Kilani and Kaddumi (2011) using the same variables which were used by Panayiotis, Brissimis and M.D., (2005). Return on Assets and Return on Equity were used as proxies to the profitability and firm specific, industry specific and macroeconomic variables were used as the independent variables in the model. In both studies, it was found that high lending activities, low credit risk, and efficient cost management were positively related with the profitability. However, the effect of the bank size was not significant.

Vong and Chan (2009) examined the impact of bank characteristics, macroeconomic variables and financial structure on the performance of the banking industry in Macao. The results showed that the capital strength of a bank had a great impact on profitability of the banking sector. It was found that the well-capitalized bank enjoyed higher profitability. On the other hand, the asset quality affected the performance of banks adversely. In addition, banks with a large - retail deposit-taking network did not achieve a level of profitability higher than those with a smaller network. Finally, with regard to macroeconomic variables, only the rate of inflation exhibited a significant relationship with banks' performance.

Ramlall (2009) analyzed the determinants of profitability of the Taiwanese Banking System using Bank-Specific, Industry-Specific and Macroeconomic factors using quarterly data for the period 2002-2007 with 744 observations. Hausman test was carried out to predict the relationship and the results showed that while the credit risk triggered a negative impact on profitability, capital tended to consolidate profits. The major conclusion is that it may be difficult to mitigate the procyclicality of banks' profitability in Taiwan subject to a non-concentrated banking system.

Badola and Verma (2006) examined the determinants of public sector banks' profitability in India by using Step-wise multivariate regression model during the period 1991/92- 2003/04. The Spread and Overhead had greater significant level throughout the whole period, where the other variables also had significant influence in some years. However, the study found that that the variables such as non-interest income, operating expenses, provision and contingencies, and spread had strong relationship with the net profit.

Further, the determinants of bank profitability in developing countries were studied using 77 commercial banks from Bangladesh, Sri Lanka, and Pakistan from 1997 to 2008 (Sufian & Fadzlan, 2012). The empirical findings showed that bank specific characteristics such as liquidity, non-interest income, credit risk, and capitalization have positive and significant impacts on bank performance while cost is negatively related to bank profitability. Further, the results revealed that economic growth had positive and significant impact on profitability whereas inflation had no significant impact on it.

Hassan and Bashir attempted to analyze how bank characteristics and the overall financial environment affect the performance of Islamic banks. Utilizing bank level data, the study examined the performance indicators of Islamic banks worldwide during 1994-2001. A variety of internal and external banking variables were used to see the impact on profitability and efficiency. The results indicated that high capital and loan-to-assets ratios lead to higher profitability. Everything remaining equal, the regression results showed that implicit and explicit taxes affect the bank performance measures negatively while favourable Macroeconomic conditions impact

performance measures positively. In addition, a contrary result was also revealed by this study indicating a strong positive correlation between profitability and overheads.

In a comprehensive study, Kunt and Huizinga (1997, 1998) made an attempt to test determinants of bank interest margin and profitability using a bank level data for 80 countries in the 1988-1995 periods. The set of variable includes several factors accounting for bank characteristics, macroeconomic conditions, taxation, regulations, financial structure and legal indicators. The empirical results revealed that a larger ratio of bank assets to GDP and a lower market concentration ratio lead to lower margins and profits. In addition, it was found that foreign banks have higher margins and profits than domestic banks on developing countries, while the opposite result was found in developed countries.

The above literature review suggests that the impact of the variables taken into consideration in the above studies on the profitability of the banking sector remains extremely controversial. This is partly due to the use of different samples by different authors and partly due to various methodological problems. Like many existing studies, the current research aims to study the impact of the bank-specific variables which are identified in the literature on the profitability of the banking sector in Sri Lanka.

Methodology and data

This study investigates the determinants of profitability of Sri Lanka's domestic private commercial banks during 2003-2011. Six private commercial banks namely DFCC, Hatton National Bank, Commercial bank of Ceylon, Seylon Bank, Sampath Bank, and Nations Trust Bank were chosen for this study based on the availability of data. The basic estimation strategy is to pool the observations across banks and apply the regression analysis on the pooled sample. The following pooled OLS equation is used to estimate the coefficient of the independent variables used in the model.

$$ROA_{it} = \alpha_0 + \alpha_1 CA_{it} + \alpha_2 ACMX_{it} + \alpha_3 SIZE_{it} + \alpha_4 OHM_{it} + \alpha_5 LIQ_{it} + \epsilon_{it} \quad (1)$$

Where;

- ROA_{it} = Return on Assets for bank i at time t
 CA_{it} = Capital ratio for bank i at time t
 $ACMX_{it}$ = Activity mix for bank i at time t
 $SIZE_{it}$ = Size for bank i at time t
 OHM_{it} = Overhead Expenses management for bank i at time t
 LIQ_{it} = Liquidity for bank i at time t
 i = 1- 6 Banks
 t = 2003 to 2011
 it = Error term
 0 = Intercept
 1 to 5 = Coefficients of variables

Further, in order to test the multicollinearity among the independent variables, correlation will be tested through correlation matrix and VIF (Variance Inflation Factor) test.

Annual financial data were collected from the financial statements of chosen private commercial banks in Sri Lanka for the period 2003 - 2011. The panel data set covers a 9 year period from 2003-2011 consisting 54 observations from the sample of 6 top private commercial banks of Sri Lanka.

Dependent Variable

The profitability variable is represented by two alternative measures: the ratio of profits to assets, i.e. the return on assets (ROA) and the ratio of profits to equity, i.e. the return on equity (ROE). ROA measures the profit of the firm reflecting how well the management of the bank uses its assets to generate its profits. Therefore, the researcher chooses ROA as the key proxy for the bank profitability instead of Return on Equity (ROE). ROA is a ratio computed by dividing the Net profit after Taxes over Total Assets.

Independent Variables

As explained in the model, the independent variables chosen for this study are Return on Assets, Capital ratio, Activity mix, Size of the bank, Overhead Expenses management and Liquidity. The relationships between the profitability and the independent variables are explained below:

The capital ratio, which is measured by total equity over total assets, reveals the capital adequacy and it is expected to capture the general average safety and soundness of the financial institutions. Based on the literature review, the researcher expects a positive relation between capital ratio and profitability.

Banks have two main income generating activities namely Interest earning activities and fee base activities. Interest earning activities are riskier than the other activity. Therefore, when banks move from interest earning activity to other one, profitability of the banks will tend to decrease. Activity mix is measured by dividing net interest revenue by other operating income. Hence, it is expected to have a negative relation.

The other factor included in the model is size of a bank. A positive relationship is expected between the Size variable and profitability of the private banks since size of the banks tends to increase the profitability of the banks.

Liquidity ratio is another variable included in the model which is calculated by dividing the cash and cash equivalents by total assets. The liquidity is a very critical measure in the banking sector and it is expected to have inverse relationship with the profitability of the banks.

Finally, the overhead expense is one of the variables included in the model which has direct impact on the profitability of the banks. This ratio is computed by dividing the operating expenses by total assets. When banks spent more as operating expenses, it is expected to have negative impact on the profitability since the overheads expenses reduce the profits of the banks.

Empirical Results

The pooled OLS presents the empirical results of the regression model applied to estimate the coefficient of the independent variables.

$$\begin{aligned}
 ROA = & 34.87 + 0.1289 CA - 0.108 ACMX + 0.8765 \\
 & SIZE - (+4.071)** \quad \quad \quad (-0.324)* \\
 & (+1.764)* \\
 & 0.8453 OHM + 0.4873 LIQ \\
 & (-3.784)** \quad \quad (+1.289)* \\
 R\text{-squared} = & 0.69, R\text{ squared} = 0.61, F= 34.98
 \end{aligned}$$

** 5% level of significance, * 10% level of significance, t-statistics are given in parenthesis

Ordinary Least Squares estimation of the equation yielded high correlation (R-squared around 0.70) which confirms that around 70 % of the variation in the profitability is explained by the factors taken into account as independent variables in the

model. Further, F – value shows the strong overall fitness of the model. Furthermore, in order to test the multicollinearity among the independent variables, correlation was tested through correlation matrix and VIF (Variance Inflation Factor) test and the results revealed that there is no multicollinearity among the variables chosen. Therefore, the model estimated has the validity for interpretation.

The results reveal that the capital ratio has significant positive relationship with the profitability. It suggests that a bank with a sound capital position is in a position to pursue business opportunities more effectively, thus achieving increased profitability. At present, a very peaceful business environment is prevailing in Sri Lanka and perfect capital markets are also functioning. Therefore, the quality capital base of banks might have helped the banks to attract new customers to invest their money in the banks which in turn might have led the banks to perform well in their businesses. Further, when the banks earn high profits the banks can reinvest the money in the profitable investment after meeting the CAR requirement which in turn increase the quality of capital as well as the profitability of the banks.

The activity mix is found to be insignificant variable in the model since it has a negative impact on profitability as per the results obtained. As mentioned earlier, the fee based activities are less risky than the interest based activities. The results suggest that when banks move from these interest base activities to fee base activities, the banks' performance tends to decrease.

As found in the other studies and as expected, Size of the banks has a positive and significant impact on the profitability of the banks. The results suggest that larger banks achieve a higher return on assets by enjoying economies of scale. At present, most of the Sri Lankan banks have extended their branch network to the Northern and Eastern province of the country, particularly after civil war. This situation might have influenced the profitability of the banks through the expanded branch network operations. It is evident that the asset quality of banks is now improving (Central Bank of Sri Lanka, 2010). The expanded branch network might have increased the profitability of the banks which, in turn, might have increased the asset quality.

The results reveal that the operating expenses management is factor that has a great impact on the

profitability since it is a highly significant variable in the model. It is found that it has negative relationship with the profitability. Indicating decrease in profit due to the increase in the overhead expenses. The overhead expenses may have positive or negative impact on the profitability. If the overhead expenses are expensed in a productive manner such as promotion campaign etc., positive relationship can be expected. In Sri Lanka, after the war the banks are expanding their network to Northern and Eastern provinces and a considerable amount of money was spent on promotion campaign in order to market their varieties of products among the customers. However, the impact of the promotion campaigning seems to be ineffective.

Finally, the liquidity ratio affects the banks' performance positively and significantly, as per the empirical results. This is a contradictory result than expected. Central Bank of Sri Lanka has reduced the Standard Liquidity Asset Ratio (SLAR) in order to expand the credit facilities in the country. The result shows that liquidity in the banks has been utilized effectively. It seems that the liquidity position has been used for credit expansion and due to this the banks were in a good position to earn income.

Conclusion

It is generally agreed that a strong and healthy banking system is a prerequisite for sustainable economic growth. In order to withstand negative shocks and maintain financial stability, it is important to identify the determinants that mostly influence the overall performance of banks in Sri Lanka.

In this study, individual bank characteristics are considered as determinants of bank profitability in Sri Lanka. Banks with more equity capital, Total assets, earning more interest income, low level of liquidity and manage their operating expenses efficiently are perceived to have more safety and such an advantage can be translated into higher profitability.

Based on the results of the empirical analysis, almost all the factors taken into account are able to explain a significant portion of variation in profitability of the banking sector. The Capital Ratio, Size of the banks, and liquidity has positive impact on the return on assets of banks. It says that the profitability of the banks can be increased by increasing the asset base of the banks, increasing the size of the banks, and the managing the overhead expenses efficiently. Since all

these factors are controlled by the banks themselves, banks are in a better position to increase their profitability by concentrating on these factors and to promote the financial stability in the country which is paramount important for economic development in Sri Lanka. Profitability of the banking sector is imperative for any country since it is an important source of equity which leads to rise in assets base. High profits in the banking sector always leads to financial stability of any country.

Limitations

In this study, all the private commercials were not considered. only six private commercials banks were taken as a sample to see the impact of the chosen variables on the profitability. Only some of the bank-specific variables were taken into account in the model and the study period covers 9 years. Almost all the private commercial banks can be considered by the future researchers by expanding the study period. Further, inclusion of industry specific and macro-economic variables in the model may lead to better results than this present studies.

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