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Analysis of the Relationship in between Income Diversification and Performance of Commercial Banks Operating in Sri Lanka

Perera, W.T.N.M.

Abstract— Empirical observation in banking arguments that diversification tends to minimize bank risk and improve performance. The main objective of the study was to identify whether there is an impact of income diversification on commercial banks' performance which are operating in Sri Lanka.Data set of the study covers Sri Lanka private commercial banks during the sample period of 2010 – 2015. Data utilized this study was extracted from the comprehensive income statements and financial positions of selected banks. Herfindahl index used to derive diversification index. Multiple regression analysis used as method to identify whether there is a relationship between diversification and performance variables including some control variables like asset size, equity, interest rate and asset growth. Moreover, developed two models to test whether diversification impact on bank performance; named, ROA and ROE model. Findings of the research indicated that there is a positive relationship between income diversification and bank performance, although the degree of diversification not came to peak within Sri Lankan context. Additionally variables of asset size and asset growth are not significant variables to the both ROA and ROE models. But equity variable shows a significant negative relationship with bank performance in ROE model; however it shows a significant positive relationship with bank performance in ROA model.

Index Terms— Bank income diversification, Diversification index, Herfindahl index, Interest income, Commercial banks, Sri Lanka

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1 Introduction

PRIMARILY banking sector creates huge competition among banks besides as a solution they leading to cost reduction, differentiation and diversification strategies. Diversification is critical for decision makers in banking sector.

Bank diversification is the provision of more products and services by a financial institution. The clear benefit to bank diversification is higher revenues. Banks can increase earnings from existing customers by providing them with more services, and also improving customer loyalty. Customers may be pleased that they can use the bank for a variety of services, rather than having to go through several intermediaries. This can build up a more committed customer base of people who will stay with the bank and recommend it. The banking sector continued its focus on prudent management of credit risk however the operating profits showed a decline of 19 percent in 2015 and profitability as measured by Return on Assets (ROA) and Return on Equity (ROE).

When considering the Sri Lanka context, the published work in this area of research is very limited. Accordingly, this study focuses on studying the as a risk management strategy, whether, diversification improve bank performance or not in present context. This research is expected to answer the following questions at the end of the study.

- Whether there is an impact on bank performance through bank income diversification.
- Whether there is a relationship between asset size and bank performance.
- Whether there is a relationship between bank equity and bank performance.
- Whether there is a relationship between assets growth and bank performance.
- Whether there is a relationship between bank lending rate and bank performance.
- Whether there is a relationship among bank performance, income diversification, asset size, interest rate, and bank equity and growth rate.

2 Methodology

This study has used secondary data for the investigation. The data utilized this study was extracted from the comprehensive income statements and financial position of the respective banks. The licensed specialized banks have been ignored from the sample since the financial position, financial performance are not same as the licensed commercial banks and therefore it is irrational to include in the same sample as to analyse the relationship.A regression analysis is conducted to identify the relationship between bank income diversification and banks' performance. Researcher used the following empirical specification to analyze the relationship.

ROEi,t = β1+ β2 DIVIi,t + β3ASSETi,t + β4 EQUITYi,t+ β5 GROWTHi,t+ β6 ITNERESTi,t +Ui,t (1)

ROAi,t = β1+ β2 DIVIi,t + β3ASSETi,t + β4 EQUITYi,t+ β5 GROWTHi,t+ β6 ITNERESTi,t +Ui,t (2)

In order to measure income diversification level of each bank selected the widely using Diversification Index (DIVI) and Herfindahl Index (HHI) for all banks. In view of the parts of net interest income and non-interest income in total net operating income, HHI and DIVI measure is calculated as follows:

$$HHI = (NET/NOI)^2 + (NON/NOI)^2 \quad (3)$$

$$DIVI = 1 - (NET/NOI)^2 + (NON/NOI)^2 \quad (4)$$

Or

$$DIVI = 1 - HHI \quad (5)$$

Net operating income (NOI) includes the total value of NET and NON. HHI equation above (3) diverges between 0.50 and 1.00. HHI value of 0.50 specifies complete diversification in a bank, while HHI value of 1.00 denotes the lowest level of income diversification. DIVI equation above (4) diverges between 0.00 and 0.50. DIVI value of 0.50 specifies complete diversification in a bank, while DIVI value of 0.00 denotes the lowest level of income diversification.

Performance measures are based on accounting profit ratios. These ratios are return on equity (ROE) and return on assets (ROA) defined as annual net income divided by equity and total assets individually. Most of the earlier researches used ROA and ROE as their performance measures. (Romana Bunch et al (2009); D'Souza and Lai (2003); Allen N. Berger et al (2010); Viral V. Acharya et al (2001); Stiroh kevin J (2002).

$$ROA_{i,t} = \text{Total Net Return}_{i,t} / \text{Total Assets}_{i,t}$$

$$ROE_{i,t} = \text{Total Net Return}_{i,t} / \text{Total Equity}_{i,}$$

Where $ROE_{i,t}$ and $ROA_{i,t}$ specify performance measures, for the bank i in the year t. Total Net Return of the bank i in the year t derive through profit after tax of banks and divide by total assets and total equity respectively of i bank in the year of t to generate $ROA_{i,t}$ and $ROE_{i,t}$.Further the study proceeds with the analysis of correlation coefficient derived from Pearson's correlation test. It is expected to identify the relationship between the variables involved in each case separately for the two models.The existence of a kind of correlation would imply that there is a high chance of deciding the return on assets and return on equity with using the diversification index and other several control variables.

3 RESULTS AND FINDINGS

According to the findings of the research, it evidences Sri Lankan private sector commercial banks benefited from diversification and able to gain moderate return during the sample period. But diversification is not a strategy which Sri Lankan commercial banks familiar much up to now. As a percentage non-interest income is 29% from total operating income during sample period this figure is most assisted by one foreign bank and one local commercial bank, therefore cannot conclude that there is a considerable effect from local commercial banks. Although the non-interest income portion in private commercial banks operating in Sri Lanka is not considerably high still it can affect to changes in return of the banks.

Income Diversification variable has taken positive coefficient in both models moreover it is significant in both models. Beta value of Income Diversification is 30.744 times in ROE model and 4.655 in ROA model, which indicate both models, have significant effect from Income Diversification and it shows that when Income Diversification increase by 1 unit ROE and ROA increased in 30.744 and 4.655 respectively. Asset variable has a positive coefficient but it is not significant in ROA model. Equity variable has a statistically significant negative relationship with ROE. According to the empirical result Growth variable hasn't a statistically significant relationship with bank performance. Interest Rate is a variable that cause to increase the bank performance in Sri Lankan context.

4 CONCLUSION

According to Results and Findings it is observed that bank income diversification, bank equity and interest rate were significant variables to increase bank performance in Sri Lankan commercial banks based on model two (ROA).However income diversification and interest rate only were significant variables to increase bank performance in Sri Lankan commercial banks based on model one (ROE) .Therefore when determining banks return if banks concern on income diversification, they able to obtained competitive advantages rather than other players in the industry. Thus when take decision, whether diversify the income generating activities or not is important for decision makers of commercial banks in Sri Lankan context.

According to past literatures and this research in future studies on impact of income diversification longer sample period can used and also effects of sub-categories of non-interest income generating activities can also be investigate. And also can add more variables to the models for the empirical analysis. Banks can obtain the diversification benefits as long as they well examined and understand up to what extent diversification will help to gain a positive result by considering its own capabilities, characteristics and the risk level.

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