AN ANALYSIS OF THE IMPACT OF NON-PERFORMING ASSETS ON THE PROFITABILITY OF SRI LANKAN COMMERCIAL BANKS

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Abstract

Licensed commercial banks are considered entities that participate in financial intermediation, which bears risks in carrying out their activities. This study focused on analyzing how non-performing loans and advances, collectively non-performing assets, impact the profitability of commercial banks. The study focused on the Sri Lankan context of the phenomenon, where the commercial banking sector has received less attention than in other countries. The Central Bank of Sri Lanka's economic data library is the primary source of secondary data for this study. The target population of the study consisted of licensed financial institutions in the Sri Lankan banking sector, from which 24 licensed commercial banks were readily selected. Time-series data from 2001 to 2020 on the variables were collected to guarantee that reforms in the banking sector continued throughout the time. E-Views version 10 was used to conduct the statistical analysis of the data. The regression analysis results show that non-performing assets have a significant impact on the net profit of commercial banks in Sri Lanka and that the relationship between the variables under consideration is negative, leading to the conclusion that non-performing assets harm the net profit of commercial banks in Sri Lanka. The researcher encourages future studies to focus on a diverse sample to acquire a thorough perspective of Sri Lanka's banking sector. The study provides valuable insights to Sri Lankan commercial banks in managing credit risk associated with their operations.

Keywords: Non-Performing Assets, Commercial Banks Profitability, Credit Risk Management, Sri Lankan Financial System

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1. Introduction

The banking industry is critical in ensuring the country's economic stability and progress, serving as a vital mediator between savers and borrowers. Profitability is an important measure of a bank's financial health since it is necessary for continuing its operations, attracting investments, and contributing to overall economic development in the country. However, the prevalence of Non-Performing Assets (NPAs) seriously threatens commercial bank profitability globally, including in Sri Lanka. Non-performing assets which are a combination of Non-performing loans or advances have failed to produce income for the banks due to the borrowers' failure to repay the debt. Rising NPA levels can disrupt bank operations, deplete their capital basis, and limit their capacity to lend credit to productive sectors of the economy and the country as a whole. Understanding the impact of NPAs on commercial bank profitability is thus crucial for both financial institutions and policymakers. Sri Lanka, with its fast-changing economic landscape, is not immune to the problems posed by NPAs. As the country continues to experience economic growth and financial market advancements, the dynamics of non-performing assets become increasingly important. The purpose of this study is to perform a thorough examination of the link between NPAs and profitability of the commercial banks in the Sri Lankan banking system.

Objectives of the study

The primary objective of the study is to disclose the existing relationship between non-performing assets and the net profit of commercial banks in the context of Sri Lanka. Other objectives include identifying the magnitude of the impact made by the non-performing assets on the net profit of the Sri Lankan commercial banks.

2. Literature Review

The phrase "non-performing assets" (NPA) refers to a group of loans and advances that are in default because the borrower has failed to make the due payments for a defined period. Profitability, asset growth, and client base expansion are the three primary purposes of banks. Among these, the bank's profitability stands out. The bank's principal source of income is the loans and advances it offers to its clients. Even though it generates returns for them, it is regarded to be the most important bank risk, particularly for commercial banks. The appraisal of a company's assets to establish the degree and breadth of the credit risk associated with its operation is a significant component of asset quality, a critical part of bank management. Asset quality is a micro-prudential aspect that influences the stability and performance of commercial banks. It relates to the left side of a bank's balance sheet and focuses on the loan quality that creates profits for the bank (Abata, 2014).

NPAs are loans or advances that no longer generate income for the bank due to the borrower's failure to repay them. Increasing NPA levels can disrupt bank operations, erode capital bases, and impair banks' ability to lend to productive industries. Elshaday et al. (2018) examined the profitability determinants of Ethiopian commercial banks from 2007 to 2016. Correlation and random effect models were used. According to the findings, capital sufficiency has a significant positive influence on the profitability of Ethiopian commercial banks, as measured

by return on assets. Non-performing loans and operational cost efficiency also have a significant negative influence on the return on assets of the bank. Ernest and Fredrick (2017) evaluated the impact of non-performing assets on the financial performance of six commercial banks in Ghana. Furthermore, Muriithi et al. (2016) used the fixed effects model and the extended method of moments to investigate the impact of non-performing loans on the financial performance of Kenyan commercial banks from 2005 to 2014. The study found a link between capital adequacy and asset quality indicators and bank profitability. Alshatti (2015) investigated the influence of capital adequacy and non-performing loan ratios on the financial performance of commercial banks in South Africa from 2005 to 2013. Using a panel data technique, the study revealed that the ratio of non-performing loans has a statistically significant beneficial influence on the bank's financial performance as assessed by ROA and ROE, while the capital adequacy ratio does not.

Research of thirty-one banks, Ravi (2012) on the influence of credit risk management on the financial performance of Nepal's commercial banks from 2001 to 2011, indicated that the capital adequacy ratio has a strong negative association with the financial performance of the banks in Nepal. Afriyie & Akotey (2012) evaluated the association between financial performance and credit risk variables of a bank, such as nonperforming debt and capital adequacy rates. The study, which was done on ten rural banks in Ghana from 2006 to 2010, revealed that non-performing loans had a statistically significant beneficial influence on bank profitability in Ghana. Non-performing loans and capital adequacy ratios were shown to have a statistically significant inverse relationship with a bank's overall profitability and financial performance.

Malik and colleagues investigated the influence of liquidity ratios on the profitability of 22 commercial banks in Pakistan in 2016, with a focus on the Return on Assets (ROA). According to the research, liquidity had no substantial impact on the ROA of private banks in Pakistan. Musyoka performed supplementary research in 2017 to evaluate the relationship between capital sufficiency and the financial performance of 42 Kenyan commercial banks. The findings showed a statistically significant inverse relationship between capital sufficiency and financial performance. Gizaw et.al. (2013) investigated the effects of credit risk management on the profitability of eight commercial banks in Ethiopia over a twelve-year period. Credit risk concerns such as non-performing loans, loan loss provisions, and capital adequacy were underlined in the research.

Serwadda conducted research in Uganda in 2018 to investigate the links between non-performing assets and commercial bank profitability, indicating that these factors had a substantial influence on commercial bank profitability in the nation. Nonperforming loans, on the other hand, were discovered to have a negative influence on financial performance. In 2014 research titled, "The Effect of Liquidity Management on Profitability in Jordanian Commercial Banks," Alshatti evaluated the impact of credit risk management on the financial performance of Jordanian commercial banks. According to the study, credit risk management has a role in Jordanian bank profitability, with the non-performing loans ratio having a positive influence on bank profitability. Non-performing loans and loan loss provision ratios, in particular, were recognized as important predictors of credit risk management

skills. In a 2014 study, Li and Zou looked at the link between credit risk management and profitability at 47 European commercial banks from 2007 to 2012. Their findings revealed a strong negative link between the non-performing loans ratio and bank profitability as assessed by Return on Assets (ROA), whereas the capital adequacy ratio demonstrated a weak positive relationship with bank profitability in Europe. Kithinji investigated the impact of credit risk management on the bottom line of Kenya's deposit money banks in a 2010 research that covered the years 2004 to 2008. The collected data, which included credit volume, the proportion of non-performing loans, and profitability, demonstrated that factors other than credit and non-performing loans had a greater impact on profits.

Epure and Lafuente (2012) studied the risk-adjusted performance of Costa Rica's banking industry from 1998 to 2007. Non-performing loans had a negative impact on both efficiency and return on assets, regulatory reforms had a beneficial impact on efficiency, risk had a role in explaining bank disparities, and the capital adequacy ratio had a positive impact. According to Ahmed, Takeda, and Shawn's 2013 research, loan loss provision considerably improves the performance of non-performing loans. As a result, a rise in loan loss provision indicates increased credit risk and degradation in the quality of the loan, both of which have a negative impact on a bank's profitability. The variety of reasons why a loan obligation may not be returned on time is what creates the risks connected with lending. Changes in customer demand or developments in industry technology can drastically alter a commercial firm's financial situation, changing a formerly lucrative borrower into a loss-making operation. Long-term labor unrest, dramatic price cuts, or the loss of key management staff can all significantly damage a borrower's capacity to make loan payments.

According to a study conducted on six banks in Nigeria from 2005 to 2009 on the impact of credit risk management and capital adequacy on bank financial performance, the ratio of non-performing loans to total loans and advances and liquidity ratios do not significantly affect bank performance, whereas total loans and advances to total deposits have a significant negative impact on bank financial performance (Ogboi & Unuafe, 2013). Yimka et al. (2015) studied the impact of credit risk management on Nigerian bank profitability from 2005 to 2010, and observed that the rate of credit risk management rose.

Another research was done on 10 Nigerian commercial banks by Oluwafemi et al. (2014) on the influence of credit risk management on the performance of the bank. The loan or advance is termed non-performing if the interest and/or principal payment is delayed by 90 days or more, or if the interest payments are capitalized, refinanced, or postponed by 90 days or more according to the agreement, or if the payments are delayed by fewer than 90 days. However, other factors, such as the debtor filing for bankruptcy, may raise doubts about whether payments would be fulfilled in full. Delinquent loans are frequently loans in which the principal and interest have not been paid for an extended period, according to the conditions of the loan arrangement. Any loan arrangement that breaches the basic provisions of the loan agreement and interest payments is considered a delinquent asset. As a result, the amount of non-performing loans and advances evaluates the asset quality of the bank (Tseganesh, 2012). Another study on ten Nigerian commercial banks

Oluwafemi et al. (2014) concluded that non-performing loans and liquidity ratios had no significant impact on the financial performance of the Nigerian commercial banks measured by return on assets (ROA) from 2006 to 2009. Alalade et al. (2015) examined the impact of credit risk management on the financial performance of ten Nigerian banks from 2006 to 2010 by examining the relationship between the reserve rate of non-performing loans and the rate of non-performing loans to measure credit risk on the one hand and the rate of return on assets on the other, and discovered that credit risk management has a positive and significant impact on the rate of return on assets. Another study (Kolapo et al., 2012) investigated the impact of credit risk performance on the financial performance of five Nigerian commercial banks between 2000 and 2010. The ratio of non-performing loans to loans and advances had a statistically significant negative impact on ROA, but the ratio of the total loans and the advances to the total deposits had a significant positive influence on ROA.

Credit production is the key source of income generating for commercial banks (Kargi, 2011). As a result, banks are exposed to tremendous risks, including credit risk. Credit risk was defined by the Basel Commission on Banking Supervision (2001) as the possibility of loan loss, in part or in whole, because of credit events. Internal bank operations are heavily influenced by credit risk. The more exposed it is to credit risk, the more probable it will be a financial disaster, and vice versa. According to Ahmad and Ariff (2013), throughout the financial and banking crises, most banks and other economies, including Thailand, Indonesia, Malaysia, Japan, and Mexico, had high non-performing loans (NPLs) and a significant increase in credit risk, resulting in the closure of multiple banks within the country. Non-performing loans have been a global problem since the 1980s, as credit risks and non-performing loans have a negative impact on banks and the economy as a whole. According to Hou and Dickinson (2007), much research on the causes of the failure of banks has demonstrated that asset quality is a statistically significant predictor of failure and that failed banking institutions always had high levels of non-performing loans and advances prior to the collapse of the entire banking system. As a result, the bank must pay special attention to the aforementioned, elements in order to manage the credit portfolio and earn the needed return.

Non-performing assets (NPAs) are important in the economy because they affect commercial banks' capacity to offer financial intermediation services, which is their principal source of revenue (Klein, 2013).The collapse of banks and economic recession are direct consequences of a significant number of non-performing assets in the banking sector. Non-performing loans are commonly attributed to ineffective bank monitoring and supervision, a lack of effective lender recourses, defects in the legal system, and a lack of efficient debt collection procedures (Adhikari, 2007). A Time Series Data study of Non-Performing Assets and their growth, provisions, an relationship to the bank's total profitability was done using multiple ratios and an econometric technique's linear regression model (Lata 2014). The empirical findings of the research revealed that Commercial Banks have a high non-performing loan ratio and have held more than half of all NPLs in Bangladesh's banking industry over the last eight years. The study concluded that one of the primary factors influencing a bank's total profitability is NPL.

The non-performing asset ratio (NPAR) represents the percentage of loans and advances that default. Gizaw et al. (2015) discovered the Non-Performing Loan Ratio (NPLR) to be the primary indicator of credit risk for commercial banks. They discovered that NPLR considerably affects profitability as measured by Return on Assets (ROA). However, the ratio of non-performing to gross loans was shownn by Li and Zou (2014) and Alshatti (2015) to have a positive influence on the financial performance of a bank. In contrast to the findings of the preceding study, Felix and Kargi (2011) and Kodithuwakku (2015) revealed that non-performing loans harmed profitability. Furthermore, according to Kithinji (2010), the percentage of earnings of commercial banks is unaffected by the quantity of non-performing loans. Furthermore, according to Kithinji (2010), the percentage of profits of commercial banks is unaffected by the number of non-performing loans, although there is contradictory evidence on this topic. Chimkono et al. (2016) evaluated the effect of non-performing loans and other variables on the financial performance of commercial banks in Malawi's banking system. Secondary data were acquired for the seven years 2008-2014, and regression analysis was done on them. The authors found that the average loan interest rates, cost efficiency ratios, and non-performing loan ratios all had a substantial impact on the bank performance of a bank in Malawi.

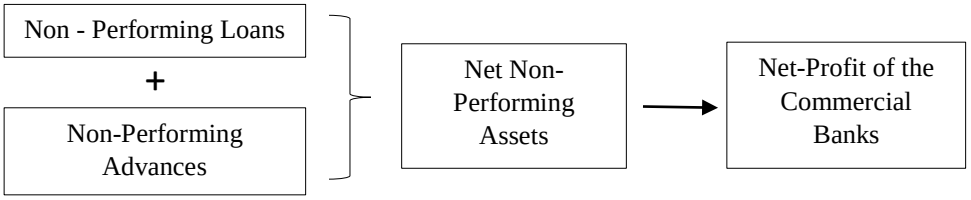
After reviewing the available literature, the researcher observed that previous studies only examined the impact of non-performing loans, not the impact of non-performing advances on the overall outcome. Furthermore, previous research has emphasized the impact of non-performing loans on bank profitability by mainly concentrating on return on assets and return on equity rather than the bank's true profitability. The relationship between non-performing assets and bank profitability remains a mystery, notably in Sri Lanka. As a result, the research question addressed in this study is, "What is the quantitative impact of non-performing assets on the net profit of licensed commercial banks in the Sri Lankan context?" This study studies the influence of non-performing assets on the net profit of Sri Lankan licensed commercial banks in order to address this research topic.

3. Methodology

3.1 Conceptual framework

The researcher developed a conceptual framework based on the literature that was mentioned in order to illustrate the link between the variables in a methodical manner to determine the effect of non-performing assets on the total profitability of licensed commercial banks in Sri Lanka.

Figure 1: Conceptual Framework



Source: Developed by authors

According to Figure 1, the study's dependent variable was the bank's net profit, while the independent variable was Net Non-Performing Assets (Non-Performing Loans and non-performingg Advances). To employ the most exact data, the researcher depends on secondary data sources in this research.

2.2 Population, sample, and sampling

Authorized Financial Institutions in the Sri Lankan financial system continue to be the study's population demography, while licensed or registered banks in Sri Lanka continue to be the target population of the research. This sample of the research consists of licensed commercial banks in Sri Lanka, which is a smaller representation of the wider whole. The Sri Lankan financial system has 131 authorized financial institutions, including licensed commercial banks, licensed specialized banks, licensed financial companies, registered finance leasing companies, authorized primary dealers, authorized money broking companies, and licensed microfinance institutions. The research sample consists of licensed commercial banks, which comprise 18% of the Sri Lankan financial sector. The sample was chosen using purposive sampling technique to fulfill the objectives of the study.

2.3 Data Collection and data analysis

This study relies heavily on secondary data sources to gather the most accurate data pertinent to the investigation. The study's major data source is the Central Bank of Sri Lanka's Economic Data Library. According to the study criteria, the data was taken from the Central Bank of Sri Lanka's economic data database. The study focuses on evaluating time series data on the net profit of Licensed Commercial Banks in Sri Lanka and Non-Non-Performing Assets (Non-Non-Performing Loans + Non-Performing Advances) using the EViews - Version 10 statistical software package. A simple linear regression analysis was carried out to determine the link between the variables under investigation. Regression analysis is a technique for studying and modeling the connection between the response and dependent variable and explanatory or independent factors. To achieve the research aims, the researcher used EViews - Version 10 to conduct a basic regression analysis.

4. Results and Discussion

To achieve the study's objectives, the analysis included a statistical analysis. The tables below display the basic descriptive statistics connected to the data under examination in the study.

Hypothesis:
H0 = The obtained data was regularly distributed normally.
H1 = The obtained data was not distributed normally.

The Jarque-Bera test values offer information on the normal distribution properties of the investigated data. The test was used in this study to determine the normality of two variables. At the significance level of 0.05, the test results for both variables suggest that the data associated with each variable follows a normal distribution. This conclusion leads to the acceptance of the null hypothesis, suggesting that there is insufficient evidence to demonstrate a deviation from normal

distribution. In other words, at the chosen confidence interval level, the data for both variables is assumed to be normally distributed. Acceptance of the null hypothesis in this circumstance has implications for the robustness and dependability of the model under examination. It implies that the dataset meets the assumptions of normalcy, an important component in statistical analysis, hence improving the validity of results generated from future statistical methods. This compliance with normal distribution assumptions leads to overall validity in the statistical conclusions drawn from the investigated data.

Table 1: Basic Descriptives

	Profit After Tax	**Net Non- Non-Performing Assets**
Mean	55735.25	125484.8
Median	50129	95801.15
Maximum	125507	377622.7
Minimum	4795	34385.18
Std. Dev.	42905.87	97401.61
Skewness	0.334069	1.597504
Kurtosis	1.604469	4.49947
Jarque-Bera	1.994928	10.38041
Probability	0.368814	0.005571
Sum	1114705	2509697
Sum Sq. Dev.	3.50E+10	1.80E+11
Observations	20	20

Source: Field survey, 2022

Examining the correlation coefficient within the model reveals that the computed value is -0.69, or around -0.7. This magnitude denotes a significant as well as negative relationship between the dependent and independent variables in the constructed model. The correlation coefficient, which is a measure of the strength and direction of a linear relationship between two variables under consideration, and useful in determining the degree of dependency between the variables. A result of -0.69 shows a significant negative correlation, implying that when one variable grows, the other tends to decrease. This negative relationship is not only statistically significant, but it also exceeds the threshold, with a value of more than 0.6. The value of the correlation coefficient confirms the strength of the observed link and its practical importance has also been emphasized. The significant negative correlation discovered in this research has significance for comprehending the dynamics between the dependent and independent variables.

The value of R^2 serves as a quantifiable indicator employed to evaluate the precision of predictions about the dependent variable. The predictive accuracy is expressed by the observed value of R^2, which stands at 0.49 (approximately 0.5). Concurrently, the derived result of $R^2 = 0.5$ signifies that the independent variables under consideration account for 50% of the variability exhibited by the dependent variable; 'Net Profit.' Although the adjusted R^2 value deviates marginally from the R^2 value, it remains nearby. The adjusted R^2, serving as a modification to the standard R^2 to account for the number of predictors in the model, corroborates the robustness of the model in explaining the observed variance in 'Net Profit.' Notably, the standard

error associated with this assessment is quantified at 31578.61, providing a measure of the dispersion of data points around the fitted regression line and thereby contributing to the overall evaluative framework of the model's predictive capacity.

Table 2: Results of Regression Co-efficient

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Net Non-Performing Assets (Millions LKR)	-0.31	0.074	4.13	0.000
C	17167.43	11703.56	1.47	0.000

Source: Field survey, 2022

The coefficient discloses the importance of the individual variables to the calculated model. Unstandardized coefficients show how much the dependent variable fluctuates with an independent variable when all other independent variables are held constant.

H0 = The independent variable has no significant impact on the dependent variable.
H1 = The independent variable has a strong impact on the dependent variable.

Within the parameters of the model under examination, the unstandardized coefficient indicated as $ß_0$, which represents the constant term of the regression line, is determined to be 17167.43. The related p-value, P (0.00), with a significance level of 0.05, leads to the rejection of the null hypothesis, indicating statistical significance of the constant term. This result shows that the constant has significant statistical significance inside the model. Furthermore, the unstandardized coefficient $ß_1$ corresponding to the variable 'Net Profit' is estimated as -0.31, accompanied by a p-value of P (0.000), which is less than 0.05. The relevance of this discovery resides in the rejection of the null hypothesis, suggesting that the unstandardized coefficient for 'Net Non-Performing Assets' has statistical significance. As a result, it is concluded that 'Net Non-Performing Assets' have a statistically significant influence on the dependent variable, illuminating the dynamic interaction between these variables within the analytical framework.

5. Conclusion and Recommendations

The findings of this research indicate that there is a negative relationship between the net profit and net non-performing assets of the commercial banks of Sri Lanka. Further, the variables under consideration have indicated a negative correlation which leads to the conclusion of the existing negative relationship between the variables under phenomena. According to the generated results of the statistical analysis of this study, there is a negative association between the net profit and net non-performing assets of Sri Lanka's commercial banks. Furthermore, the variables under investigation showed a negative correlation, leading to the conclusion that the variables already have a negative association. Finally, assuming that the assumptions of the basic linear regression analysis are met, the fitted model is the most accurate approach for determining how the non-performing assets of commercial banks in Sri Lanka impact the bank's total profit. The fitted model is expressed as follows:
Net Profit of the bank = 17167.43 – 0.31 Non-Performing Assets

The study also discovered that commercial banks' non-performing assets had a considerable negative impact on their overall net profit, in the context of Sri Lanka. Thereupon the researcher strongly suggests that future studies focus on alternative institutions within Sri Lanka's financial sector. This strategic shift in focus is advocated to nurture a larger and more diverse range of discoveries. Researchers can gain a more thorough grasp of the complicated processes at work in the Sri Lankan financial system by looking outside traditional banking institutions. This comprehensive methodology is expected to generate insights that go beyond the customary scope, providing a nuanced and diverse perspective on Sri Lankan banks' credit risk management practices in the execution of financial activities.

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