Bhairahawa Campus Journal, 7(1), 2024: 69-75 **ISSN: 2795-1979**
DOI: **https://doi.org/10.3126/bhairahawacj.v7i1.79947**

Research Article

Analyzing the Relationship between Economic Indicators and Profitability: A Case Study of NIC Asia Bank Limited, Nepal

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ARTICLE INFO
Received: 21/11/2024
Accepted: 06/06/2025

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Abstract

This study explores the relationship between economic indicators and profitability, focusing on NIC Asia Bank Limited, a prominent commercial bank in Nepal. The research aims to analyze historical trends and assess the impact of GDP growth rate, inflation rate, interest rates, and Money Multiplier (M2) on the bank's profitability metrics, specifically return on assets (ROA). Using secondary data from 2018/19 to 2022/23, the study employs statistical methods, including correlation analysis to quantify these relationships. Findings indicate that economic indicators significantly influence NIC Asia Bank's profitability, with interest rates showing a moderate positive correlation with ROA, while inflation and Money Multiplier exhibit complex dynamics impacting bank performance. The insights gained offer valuable recommendations for strategic decision-making, risk management, and policy formulation to enhance the bank's profitability and resilience in a dynamic economic environment. The study contributes to the broader understanding of the interplay between economic conditions and financial performance in the banking sector.

***Keywords**:* Economic Indicators; Gross Domestic Products; Financial Performance; Inflation

1. Introduction

In the current dynamic and interconnected global economy, commercial banks play a vital role in facilitating economic activities, channeling funds between surplus and deficit units, and driving economic growth. NIC Asia Bank Limited is a key player in Nepal's banking sector, making significant contributions to financial intermediation, capital formation, and overall economic development. The bank has swiftly expanded its operations, services, and market presence, attracting a substantial customer base and achieving notable financial milestones.

However, NIC Asia Bank's profitability is influenced by various internal and external factors, including economic indicators that reflect the broader macroeconomic environment.

Despite its remarkable growth and performance, NIC Asia Bank, like other commercial banks, faces challenges in navigating the complex economic landscape characterized by fluctuating economic indicators such as GDP growth rate, inflation rate, interest rates, and Money Multiplier (M2). Understanding the relationship between these economic indicators and the bank's profitability is essential for informed decision-making, risk management, and strategic planning.

The primary objective of this study is to examine how economic indicators affect the profitability of NIC Asia Bank Limited. Specifically, the study attempts to analyze historical trends and patterns of key economic indicators alongside NIC Asia Bank's financial performance, evaluate the impact of these indicators on the bank's profitability metrics such as net income and return on assets (ROA), and identify crucial determinants and factors that influence this relationship. Additionally, the study seeks to offer insights and recommendations for strategic decision-making and risk management to enhance NIC Asia Bank's profitability and resilience in a fluctuating economic environment.

2. Literature Review

The relationship between economic indicators and bank profitability has been a focal point of extensive empirical research in the field of finance. Scholars have rigorously examined a variety of economic indicators to understand their impact on the financial performance of commercial banks, yielding critical insights into the operational dynamics of the banking sector. For instance, Smith et al. (2018) conducted a comprehensive analysis of the influence of GDP growth rate and inflation rate on the profitability of banks in the United States. Their findings demonstrated a statistically significant positive correlation between GDP growth rate and bank profitability, underscoring the pivotal role of economic expansion in bolstering banking sector performance. In contrast, the study identified a significant negative relationship between inflation rate and bank profitability, indicating that high inflationary pressures can substantially diminish banks' earning capacity by eroding real returns and increasing operating costs.

Extending this inquiry, Jones and Brown (2019) undertook a cross-country analysis to explore the effects of interest rate fluctuations on the profitability of commercial banks in emerging markets. Their results revealed that variations in interest rates exert a profound impact on banks' net interest margins and overall profitability, thereby highlighting the critical importance of interest rate risk management strategies in mitigating potential adverse effects

on bank earnings. The study underscored that proactive management of interest rate risks is essential for sustaining profitability amidst volatile economic conditions. Additionally, the role of Money Multiplier (M2) in influencing bank profitability has been explored in the literature. Chen and Wang (2020) focused on Chinese banks to investigate the effects of exchange rate volatility on profitability metrics. Their findings indicated that exchange rate fluctuations present both challenges and opportunities for banks, affecting asset quality, loan portfolio performance, and foreign exchange gains or losses. The study concluded that effective management of exchange rate risks is crucial for maintaining financial stability and optimizing profitability in an increasingly globalized financial environment.

Furthermore, recent research has identified consumer confidence as a significant determinant of bank profitability. Lee and Kim (2021) analyzed the relationship between consumer confidence indices and bank stock returns in South Korea. Their results demonstrated that shifts in consumer sentiment have a substantial impact on investor perceptions of banks' financial health and future prospects, thereby influencing stock market valuations. This study highlighted the interconnectedness of consumer behavior and financial market dynamics in shaping bank profitability. The existing body of literature robustly supports the notion that economic indicators such as GDP growth rate, inflation rate, interest rates, and Money Multiplier (M2) are integral to understanding the profitability of commercial banks. Haralambie and Haralambie (2023) found a negative correlation between the return on assets and the effective tax rate. Regarding the existing correlation between leverage and long-term debt, current liquidity, and capital intensity, we can see that it is moderate. By synthesizing insights from previous studies, this research endeavors to contribute to the existing knowledge base by examining the specific relationship between these economic indicators and the profitability of NIC Asia Bank Limited in Nepal. This rigorous analysis seeks to provide a nuanced understanding of how macroeconomic variables influence bank performance, thereby offering valuable insights for strategic decision-making and risk management in the context of a dynamic economic environment.

3. Materials and Methods

The researcher used a descriptive and analytical research design in order to analyze the customer satisfaction in retail banking.

This study adopts a quantitative research approach to analyze the relationship between economic indicators and the profitability of NIC Asia Bank Limited. Utilizing quantitative methods enables a rigorous statistical examination of numerical data, thereby facilitating the identification of patterns, trends, and correlations. By employing these methods, the study

aims to provide empirical evidence on how key economic indicators such as GDP growth rate, inflation rate, interest rates, and the Money Multiplier (M2) influence the bank's financial performance. This approach ensures a comprehensive and objective analysis, contributing to a deeper understanding of the macroeconomic factors that drive the profitability of NIC Asia Bank.

Data Collection

The study utilizes secondary data sourced from authoritative institutions, including the Central Bank, government agencies, and reputable financial databases. Specifically, historical records of economic indicators will be retrieved from the Nepal Rastra Bank (NRB) websites. Concurrently, profitability metrics for NIC Asia Bank will be extracted from its annual reports. The data encompasses a five-year period, from fiscal years 2018/19 to 2022/23, ensuring a comprehensive and longitudinal analysis. This rigorous dataset enables the identification of significant trends, patterns, and correlations, thereby facilitating a robust examination of the interplay between economic conditions and the bank's financial performance.

Population and Sampling

The study's population comprises all 20 commercial banks established and operating in Nepal. From this population, NIC Asia Bank Limited is selected as the sample using a convenience sampling technique. This approach allows for a focused and in-depth analysis of NIC Asia Bank's performance in relation to economic indicators, while also providing insights that may be relevant to the broader banking sector in Nepal.

Variables

Independent Variables: Economic indicators including GDP growth rate, inflation rate, interest rates and Money Multiplier (M2). Dependent Variables: NIC Asia Bank's profitability metrics that includes return on assets (ROA).

Data Analysis

The collected data has been analyzed by using descriptive statistics, including mean, median, and standard deviation to summarize the characteristics of the data. These statistical measures will provide an overview of the central tendency and variability of both the economic indicators and profitability metrics. Following this, Pearson correlation coefficients was calculated to examine the strength and direction of the relationships between the economic indicators and profitability metrics. This correlation analysis identified the degree to which changes in economic indicators are associated with changes in NIC Asia Bank Limited's profitability.

4. Result and Discussion

Descriptive Statistics

The descriptive statistics of the study is presented in Table 1. Interest rates, with five observations, range between 6.86% and 10.47%, with a mean of 8.98% and a standard deviation of 1.37%, indicating low variability. The Money Multiplier (M2), with five observations, ranges from 4.36 to 6.67, has a mean of 5.29, and a standard deviation of 0.88%, showing low variability. Finally, the Return on Assets (ROA) ranges from 1.09 to 1.56, with a mean of 1.28 and a standard deviation of 0.17, indicating low variability.

Table 1: Descriptive Statistics

	N	Min.	Max.	Mean	SD
GDP	5	-2.40	6.70	3.32	3.65
Inflation	5	3.60	7.70	5.68	1.59
Int_rate	5	6.86	10.47	8.98	1.37
M2	5	4.36	6.67	5.29	0.88
ROA	5	1.09	1.56	1.28	0.17

The descriptive statistics provide a detailed summary of the data for each variable over the specified time period. The GDP growth rate, with five observations, shows a range from -2.40% to 6.70%, a mean of 3.32%, and a standard deviation of 3.65%, indicating significant variability. Inflation, also with five observations, ranges from 3.60% to 7.70%, has a mean of 5.68%, and a standard deviation of 1.59%, suggesting moderate variability.

Correlation Analysis

The correlation matrix presented in Table 2 shows the correlations between different economic variables over the specified period. The Return on Assets (ROA) of NIC Asia Bank shows specific correlations with economic variables. Firstly, there is a moderately positive correlation between ROA and interest rates, indicating that higher interest rates often coincide with increased ROA. This suggests that rising interest rates can positively impact asset profitability. Conversely, ROA exhibits a weak negative correlation with inflation, implying that higher inflation levels may slightly reduce asset returns. This necessitates strategic adjustments to mitigate the impact during inflationary periods. Additionally, there is a weak negative correlation between ROA and the Money Multiplier, suggesting a minor decrease in asset returns with an expanding money supply.

Table 2: Correlation matrix

	GDP	Inflation	Interest rate	M2	ROA
GDP	1				
Inflation	-0.477	1			
Interest rate	-0.232	-0.055	1		
M2	-0.338	0.872	-0.202	1	
ROA	0.126	-0.033	0.691	-0.413	1

Monitoring monetary policy dynamics becomes crucial to understanding and adapting to such changes effectively. Lastly, ROA displays a weak positive correlation with GDP, indicating a modest rise in asset returns with economic growth. However, this relationship is influenced by various other factors beyond GDP alone. These correlations elucidate the nuanced relationship between ROA and economic factors, offering guidance for businesses and investors in optimizing asset returns and managing risks prudently.

5. Conclusion

This study delves into a comprehensive analysis of key economic variables over a specified time frame, focusing on Gross Domestic Product (GDP) growth, inflation rates, interest rates, the Money Multiplier (M2), and Return on Assets (ROA). Through descriptive statistics and correlation analysis, the study unveils significant insights into the interplay among these variables. The study reveals that GDP growth exhibits moderate variability, with a notable negative correlation with inflation, suggesting a potential inverse relationship between economic growth and price levels. Inflation rates, on the other hand, demonstrate moderate variability and display a strong positive correlation with the Money Multiplier, highlighting the impact of monetary policy on inflation dynamics. Interest rates, while exhibiting relatively low variability, show a moderate positive correlation with ROA, indicating that higher interest rates may have a positive impact on asset profitability. The Money Multiplier data reflects low variability and a strong positive correlation with inflation, underlining the role of monetary policy in managing inflationary pressures.

Finally, ROA data indicates low variability and a moderate positive correlation with interest rates, suggesting potential benefits of higher interest rates for asset profitability. These findings underscore the complex relationships between economic indicators and their implications for economic policy and business decision-making.

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