

The Effect of Bank Interest Rates on Stock Market of Nepal

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ABSTRACT

This study examines the impact of bank interest rates on stock market performance in Nepal, focusing on the NEPSE Index as the dependent variable. Key independent variables include the deposit rate, lending rate, and overall bank interest rate. Utilizing secondary data from 2003 to 2022, sourced from website of Nepal Rastra Bank's Bank and Share Sansar, the study employs a descriptive research design alongside correlation and regression analyses to assess the relationships among variables. Findings reveal that deposit rates exert minimal influence on the stock market. The correlation between the NEPSE Index and the bank rate is weakly positive, indicating no significant association. However, the weighted average lending rate demonstrates a statistically significant negative impact on the NEPSE Index, suggesting that increases in lending rates tend to depress stock market performance. This inverse relationship implies that higher borrowing costs may deter investment and reduce overall market activity. These insights contribute to a nuanced understanding of macroeconomic dynamics and offer practical implications for policymakers, investors, and financial institutions aiming to interpret market movements in response to monetary policy shifts.

Keywords: *Bank interest rate, financial factors, NEPSE, share market*

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1. INTRODUCTION

The relationship between macroeconomic factors and stock market performance has long been a topic of interest among both researchers and investors, as the stock market is often perceived as a key driver of economic growth (Fama, 1970). Among the various macroeconomic factors, interest rates have a particularly significant influence on the stock market, with changes in interest rates potentially affecting corporate earnings, investment behavior, and overall market liquidity (Mishkin, 2007). In the context of Nepal, understanding the effect of interest rates on the Nepal Stock Exchange (NEPSE) Index is crucial, as fluctuations in market performance can have broad implications for investment decisions and economic policy.

Interest rates, particularly the deposit rate, lending rate, and the central bank's bank rate, are critical factors that shape financial markets and investor behavior. These rates influence the cost of borrowing, savings, and investment, thus directly impacting stock prices (Black, 1995). While previous studies have highlighted the importance of interest rates in shaping stock market behavior, the relationship between interest rates and the stock market in emerging economies, such as Nepal, remains

underexplored (Bodie et al., 2009). Given that Nepal's financial markets are still developing, understanding these dynamics is essential for policymakers and investors alike.

In Nepal, the Nepal Rastra Bank (NRB) plays a pivotal role in determining the interest rate structure, which influences both the banking sector and stock market performance. The deposit rate and the weighted average lending rate are particularly important as they determine the returns for savers and the cost of borrowing for investors (Nepal Rastra Bank, 2020). This study aims to analyze the relationship between the NEPSE Index and key interest rates such as deposit rates, lending rates, and the bank rate from 2003 to 2022. By exploring these relationships, the research seeks to provide insights into how interest rates affect market performance and investor behavior in Nepal's stock market.

The findings of this study may contribute to the existing body of literature on stock market performance and interest rates, particularly in the context of emerging economies. Moreover, it will provide policymakers with valuable information to develop appropriate monetary policies that foster a stable and efficient financial market in Nepal.

2. RELATED WORKS

Sangam Neupane (2020) studied the impact of interest rates on the stock market of Nepal by analyzing the relationship between the NEPSE Index and various interest rate variables over a period from mid-July 2003 to mid-July 2017. The study found no significant relationship between the bank rate and share prices. However, the study revealed a negative relationship between variables such as deposit rate, lending rate, and T-bills rate with the NEPSE Index, suggesting that changes in these interest rates could adversely affect the stock market.

Raj (2020) explored the relationship between the cost of bank lending and the NEPSE Index using time series data spanning 24 years, from fiscal year 1994 to 2018. The results of the correlation analysis indicated that broad money supply, real GDP, and the Consumer Price Index (CPI) had a statistically significant linear relationship with the NEPSE Index. However, the study found that the T-bill rate and the NEPSE Index exhibited a statistically insignificant linear relationship, highlighting the complex interaction between monetary variables and stock market performance in Nepal.

K.C. (2024) examined the impact of

interest rates on the stock market, focusing specifically on the bank rate, deposit interest rate, and lending interest rate in the Nepalese context. The study concluded that the bank rate had a positive impact on stock prices and stock returns, while the deposit interest rate and lending interest rate negatively affected both stock prices and returns. The study emphasized the role of the base rate, finding that an increase in the base rate leads to a decrease in stock prices and returns. This analysis supports the notion that interest rate policies play a crucial role in shaping investor behavior and market performance.

In addition to these studies, several other scholars have examined the broader relationship between interest rates and stock market performance globally. For instance, Chen, Roll, and Ross (1986) found that interest rates, among other macroeconomic variables, significantly influence stock returns in the U.S. financial markets. Similarly, Bernanke and Kuttner (2005) highlighted the impact of central bank policy actions, such as interest rate changes, on stock market performance, illustrating that changes in the federal funds rate can lead to substantial shifts in stock prices. In the context of developing economies, studies by Al-Tamimi (2016) and Hasan et al. (2020) show that interest rates can significantly affect stock market

performance, although the direction and strength of the relationship may vary depending on the country's economic structure and the financial market's maturity.

In Nepal, interest rates play an important role in shaping market dynamics, as they influence borrowing costs, investment decisions, and liquidity conditions. Studies such as those by Sharma and Bhatta (2018) have noted that while deposit rates and lending rates are crucial determinants of stock market performance, the stock market's response to interest rate changes is influenced by investor perceptions, economic conditions, and government policies. Furthermore, Dhungana and Shrestha (2019) examined the role of monetary policy in Nepal and its indirect effects on the stock market, concluding that interest rates have a moderate but significant influence on market performance, especially during periods of economic uncertainty.

These studies collectively contribute to our understanding of how interest rates impact stock market behavior in Nepal. While the results vary, it is clear that interest rates are an important determinant of stock market performance, influencing both short-term market movements and long-term investor sentiment. The

varying findings across studies suggest that interest rate effects on stock prices are multifaceted and may depend on the specific context and time period under consideration. However, The gap in the existing literature lies in the limited exploration of the differential impacts of specific interest rate components, investor sentiment, and external macroeconomic factors on Nepal's stock market, as well as the lack of long-term, sector-specific, and behavioral analysis.

3. METHODS

3.1 Study design and population

This study employs a descriptive and correlational research design to examine the influence of macroeconomic factors on the NEPSE index. The research focuses on Nepal's financial market, specifically analyzing the NEPSE index in conjunction with macroeconomic indicators over 20 years, from the fiscal year 2003 to 2022.

3.2 Method of data collection and analysis

Time-series data spanning two decades (2003–2022) were collected from reputable publications of Nepal Rastra Bank and the NEPSE. The analysis encompasses correlation and regression analysis between NEPSE index alongside key interest rates, including the bank rate,

deposit rate, and lending rate.

3.3 Theoretical background

The theoretical framework underpinning this study is rooted in the Efficient Market Hypothesis (EMH), which posits that stock prices fully reflect all available information, including macroeconomic indicators (Khairajani, 2023). Building upon this, the study integrates principles from the Arbitrage Pricing Theory (APT), suggesting that multiple macroeconomic factors systematically influence stock returns. Prior research has demonstrated that variables such as interest rates, money supply, and inflation significantly impact stock market performance.

4. FINDINGS

Data analysis of this research starts with descriptive analysis and then correlation and regression analysis, the results are presented in tabular form.

Findings from descriptive statistics offer a comprehensive overview of four financial variables: NEPSE Index, Weighted Average Deposit Rate, Weighted Average Lending Rate, and Bank Rate. The NEPSE Index, reflecting market performance, shows a wide range of values from a minimum of 204 to a maximum of 2883, with a mean of 963 and a notable standard deviation of 696, suggesting considerable variability. In contrast, both the Weighted

Table 1: Descriptive statistics for variables under study

Statistics	NEPSE	W.A deposit Rate	W.A lending Rate	Bank rate
Sample size	20	20	20	20
Mean	963	4.6	10.3	6.56
SD	696	1.39	1.14	1.02
Minimum	204	3	8	5
Maximum	2883	7	12	8.5

Table 2: Correlation coefficients and their p-value

		NEPSE	W.A deposit rate	W.A lending rate	Bank rate
NEPSE	Correlation	-			
	p-value	-			
W.A deposit Rate	Correlation	0.15			
	p-value	0.355			
W.A lending Rate	Correlation	-0.52	0.487		
	p-value	<.001	0.001		
Bank rate	Correlation	0.029	0.191	0.283	-
	p-value	0.857	0.237	0.077	-

Average Deposit Rate and Weighted Average Lending Rate exhibit narrower ranges and lower variability around their respective means of 4.60 and 10.3, with standard deviations of 1.39 and 1.14. The Bank Rate, averaging 6.56 with a standard deviation of 1.02, also demonstrates moderate variability. These statistics collectively provide insights into the central tendencies, variability, and range of each variable, crucial for understanding their behavior and implications within the financial context they represent (Table 1).

The correlation matrix presents the Pearson correlation coefficients (r) and their associated p-values for the relationships between the NEPSE Index and three interest rate variables: the Weighted Average (W.A) Deposit Rate, the W.A Lending Rate, and the Bank Rate. The NEPSE Index has a weak positive correlation (r = 0.150) with the W.A Deposit Rate, but this relationship is not statistically significant (p = 0.355). It shows a moderate negative correlation (r = -0.520) with the

W.A statistically significant Lending Rate (p < 0.001), indicating that as the lending rate increases, the NEPSE Index tends to decrease. Lastly, the NEPSE Index has an almost negligible positive correlation (r = 0.029) with the Bank Rate, with a high p-value (0.857) suggesting no significant relationship. The correlations between the interest rates themselves are also noted, with a significant positive correlation between the W.A Deposit Rate and W.A Lending Rate (r = 0.487, p = 0.001), and weaker, non-significant correlations involving the Bank Rate.

Table 3: Model summary and test of overall fit of the model

R ²	F-statistics	df	P-value
0.643	9.61	(3,16)	<0.001

The regression model summary indicates a strong correlation (R=0.802) between the predictors and the dependent variable NEPSE index, with an R-square value of 0.643, suggesting that approximately 64.3% of the variation in the dependent variable is explained by the model.

Table 4: Test of significance of regression coefficients

Predictor	Estimate	SE	t-statistics	p-value	95% Confidence interval	
					Lower	Upper
Intercept	5009	1105	4.533	<.001		
W.A Deposit Rate	368.7	93.1	3.96	0.001	0.342	1.131
W.A Lending Rate	-600.2	114.7	<.001	-0.98	-1.377	-0.583
Bank Rate	71.7	105.6	0.679	0.507	-0.222	0.431

The F-statistic (9.61, P-value< 0.001) confirms the overall significance of the model, implying that at least one predictor significantly contributes to explaining the variability in the dependent variable (see Table 3).

Findings from regression analysis shows that the weighted average deposit rate ($\beta_1=368.7$, p-value= 0.001) has a positive and significant effect, indicating that an increase in the deposit rate is associated with an increase in the dependent variable: NEPSE index. Conversely, the weighted average lending rate ($\beta_2=-600.2$, p-value<0.001) has a statistically significant negative effect, suggesting that higher lending rates reduce the NEPSE index. The bank rate ($\beta_3=71.7$, p = 0.507) is not statistically significant, as its p-value exceeds the conventional threshold of 0.05 (Table 4).

5. DISCUSSION

Several empirical studies have explored the relationship between interest rates and stock market performance in Nepal, with findings that both align with and diverge from the results of this study. For instance, Lamichhane and Kulshrestha (2022) found that interest rates negatively affect the Nepalese stock market, which supports the significant negative impact observed

of the weighted average lending rate on the NEPSE Index in this study. Similarly, Shrestha (2020) reported that inter-bank interest rates have a significant negative effect on stock prices, reinforcing the idea that higher lending rates can dampen stock market performance. Conversely, Goet and Kharel (2023) identified a negative relationship between deposit interest rates and stock prices, which contrasts with this study's finding of a positive and significant effect of deposit rates on the NEPSE Index. Regarding the bank rate, Goet and Kharel (2023) observed a positive impact on stock prices, while this study found no statistically significant relationship. These varying results highlight the complex and multifaceted nature of the relationship between interest rates and stock market performance in Nepal, suggesting that factors such as investor behavior, market expectations, and broader economic conditions may influence these dynamics.

5.1 Limitations

A key limitation of this study is its exclusive focus on interest rates from commercial banks, omitting rates from other financial institutions such as development banks and microfinance institutions. These entities, integral to Nepal's financial ecosystem, may also influence stock market dynamics, and their exclusion

could limit the comprehensiveness of the findings.

6. CONCLUSION

The findings highlight that the NEPSE Index is significantly influenced by the Weighted Average Lending Rate, while the Weighted Average Deposit Rate and Bank Rate have less pronounced effects. The stable nature of deposit and lending rates contrasts with the high variability of the NEPSE Index, reflecting different dynamics at play in the financial market versus interest rate policies. Understanding these relationships is crucial for stakeholders making investment decisions or formulating economic policies.

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