

**IMPACT OF INTEREST RATE ON THE STOCK MARKET IN
NEPAL**

A Dissertation Submitted to the office of the Dean, Faculty of Management
in partial fulfillment of the requirements for the Master's Degree of Business
Studies

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August, 2024

CERTIFICATION OF AUTHORSHIP

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled “Impact of Interest Rate on the Stock Market of Nepal”. The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor has it been proposed and presented as part of requirements for any other academic purpose.

The assistance and cooperation that I have received during this research work has been acknowledged. In addition, I declare that all information sources and literature used are cited in the reference section of the dissertation.

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REPORT OF RESEARCH COMMITTEE

Ms. Asmita Chaudhary has defended research proposal entitled "**IMPACT OF INTEREST RATE ON STOCK MARKET OF NEPAL**" successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestion and guidelines of supervisor Kamal Prakash Adhikari. Submit the thesis for evaluation and viva-voce examination.

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We, the undersigned, have examined the thesis entitled "**IMPACT OF INTEREST RATE ON STOCK MARKET OF NEPAL**" Presented by Asmita Chaudhary Candidate for the degree of Master of Business Studies (MBS Semester) and conducted the Viva voce examination of the candidate. We hereby certify that the thesis is worthy of acceptance.

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ACKNOWLEDGEMENTS

I am delighted to present this dissertation entitled “Impact of Interest Rates on Stock Market of Nepal” to the head of the research department, Shanker Dev Campus, in partial fulfillment of the requirement for the degree of Masters in Business Studies (MBS), Faculty of Management. The completion of this dissertation would have been considerably difficult without the help, co-operation and suggestion of my supervisor Kamal Prakash Adhikari I am indebted to him for his kind support in spite of his business. I am also indebted to the other teachers of Shanker Dev Campus including staffs for enabling me to carry out my study providing required information, reports as required in my study even in their busy schedule. Their cooperation and friendliness towards learner like me have always remained as a motivating factor.

Asmita Chaudhary

TABLE OF CONTENTS

<i>Title Page</i>	<i>i</i>
<i>Certification of Authorship</i>	<i>ii</i>
<i>Report of research committee</i>	<i>iii</i>
<i>Approval sheet</i>	<i>iv</i>
<i>Acknowledgements</i>	<i>v</i>
<i>Table of Contents</i>	<i>vi</i>
<i>List of Tables</i>	<i>viii</i>
<i>List of Figure</i>	<i>ix</i>
<i>Abbreviations</i>	<i>x</i>
<i>Abstract</i>	<i>xi</i>
CHAPTER I	1
INTRODUCTION	1
1.1 Background of The Study	1
1.2 Statement of The Problem.....	3
1.3 Objective of The Study	4
1.4 Research Hypothesis	4
1.5 Rational of The Study	4
1.6 Limitations of The Study.....	6
CHAPTER II	7
LITERATURE REVIEW	7
2.1 Theoretical Review	7
2.2 Empirical Review	13
2.3 Research Gap.....	24
CHAPTER III	26
RESEARCH METHODOLOGY	26
3.1 Research Design.....	26
3.2 Population And Sample.....	26
3.3 Nature And Sources of Data.....	26
3.4 Data Collection Procedure	27
3.5 Data Processing Procedure.....	27
3.6 Data Analysis Tools And Techniques	27
3.7 Research Framework And Definition Of Variables	29

CHAPTER IV.....	33
RESULTS AND DISCUSSIONS.....	33
4.1 Data Presentation.....	33
4.2 Data Analysis	50
4.3Major Findings	57
4.4 Discussion	59
CHAPTER V	62
SUMMARY, CONCLUSIONS AND IMPLICATIONS.....	62
5.1 Summary	62
5.2 Conclusion.....	63
5.3 Implications	64

REFERENCES

APPENDICES

LIST OF TABLES

Table 1 Summary and Empirical Review at Literature Review	18
Table 2 Time Series Data of Monthly Bank Rates(BR)	34
Table 3 Time Series Data of Monthly Cash Reserve Ratio	36
Table 4 Time Series Data of Monthly Base Rates	38
Table 5 Time Series Data of Monthly Inter Bank Rates.....	40
Table 6 Time Series Data of Monthly Weighted Average Lending Rates	42
Table 7 Time Series Data of Monthly Spread Rates.....	44
Table 8 Time Series Data of Monthly Treasury Bills Rates	46
Table 9 Time Series Data of Monthly Nepse Index	48
Table 10 Descriptive Statistics of Variables	50
Table 11 Correlation Coefficient of Study Variables	51
Table 12 Goodness of fit of Regression (ANOVA).....	53
Table 13 Model Summary with NEPSE	54
Table 14 Regression result for independent effect on ROA	55
Table 15 Summary of Hypothesis.....	59

LIST OF FIGURE

Figure 1: Conceptual Framework	29
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ABBREVIATIONS

ADB	Asian Development Bank
BASER	Base Rate
BR	Bank Rate
CDR	Cash-Deposit Ratio
CRM	Customer Relationship Management
CRR	Cash Reserve Ratio
DAR	Deposit to Assets Ratio
F	Fishers' Value
IBR	Interbank Rate
IDR	Investment-Deposit Ratio
LDR	Loan to Deposit Ratio
Max.	Maximum
Min.	Minimum
N	Numbers
NEPSE	Nepal Stock Exchange
NPA	Non-Performing Assets
NRB	Nepal Rastra Bank
ROA	Return on Assets
Sig.	Significance
SD	Standard Deviation
SR	Spread Rate
Std	Standard Deviation
TBR	Treasury Bills Rate
WALR	Weighted Average Lending Rate

ABSTRACT

This study examines the impact of interest rates on Nepal's stock market from April 2013 to March 2023. Using descriptive and causal-comparative designs, secondary data from Nepal Rastra Bank, NEPSE, and commercial banks were analyzed with correlation, t-tests, ANOVA, and regression methods. Findings reveal significant negative impacts of the Bank Rate, Weighted Average Lending Rate, and Spread Rate on the NEPSE Index, indicating higher borrowing costs reduce stock performance. Conversely, the Treasury Bills Rate shows a significant positive effect, attracting investment in government securities and benefiting the stock market. The Cash Reserve Ratio, Base Rate, and Interbank Rate have no significant impact. Effective management of borrowing costs and competitive Treasury Bills Rates are crucial for enhancing stock market performance.

Key Words: *Bank Rate, Weighted Average Lending Rate, Spread Rate, Treasury Bills Rate, NEPSE Index*

CHAPTER I

INTRODUCTION

1.1 Background of the Study

The stock market is a vital indicator of a nation's economic health, reflecting investor confidence in the financial stability and growth potential of businesses. In Nepal, the stock market has experienced significant growth, with increasing participation from both domestic and international investors. Among the various factors influencing the stock market, interest rates play a crucial role.

The history of the stock market in Nepal is relatively recent. The Securities Exchange Centre (SEC) was established in 1976 to facilitate and promote the growth of the capital market (Gurung, 2004). Initially, the SEC opened its floor for secondary trading in 1981, but this was limited to government bonds (NRB, 1996). With the enactment of the Securities Exchange Act in 1984, the SEC began allowing corporate share trading, although this remained quite limited. The transformation of the SEC into the Nepal Stock Exchange (NEPSE) Limited in 1993 marked the beginning of an organized and full-fledged stock market, with NEPSE opening its trading floor in early 1994. NEPSE is currently the only stock exchange in Nepal, and while it is still evolving, it has grown significantly since its inception. NEPSE was established to mobilize capital as an alternative to the traditional banking sector, thereby promoting economic growth and development in the country.

Interest rates, which represent the cost of borrowing money or the return on savings, are a fundamental aspect of monetary policy and economic management. Central banks, such as Nepal Rastra Bank, adjust interest rates to control inflation, stabilize the currency, and influence economic growth. These adjustments impact the stock market both directly and indirectly by influencing investor behavior and market dynamics (Shrestha, 2023).

The relationship between interest rates and stock market performance is well-established in financial literature. Generally, higher interest rates increase borrowing costs, reduce consumer spending, and dampen business investments, leading to lower corporate earnings and, consequently, a decline in stock prices. Conversely, lower interest rates

reduce borrowing costs, encourage spending and investment, and typically boost stock market performance (Karki, 2022).

The Nepalese stock market, characterized by its emerging status and limited liquidity, can experience significant volatility in response to interest rate changes. These fluctuations influence investor sentiment and risk tolerance, leading to changes in stock prices and trading volumes (Nepal Stock Exchange, 2021). Different sectors within the stock market, such as banking, manufacturing, and tourism, respond uniquely to interest rate changes. The banking sector, in particular, is highly sensitive to interest rate adjustments due to its reliance on interest income. Understanding the sector-specific impacts of interest rates can provide valuable insights into overall market responses and guide investors in making informed decisions (Nepal Rastra Bank, 2022).

The stock market index is often seen as a barometer of the economy. Growth in the stock index generally indicates positive economic prospects, boosting investor confidence. However, rapid increases in the stock index can be concerning if not supported by underlying economic fundamentals, potentially leading to market instability. Policymakers must monitor stock market developments and be ready to take action to prevent bubbles and subsequent market crashes.

Equity markets play a crucial role in enhancing corporate efficiency, spurring innovation, and providing capital for long-term economic development. They also offer a mechanism for governments to raise capital through the sale of state-owned enterprises and are a significant component of individual investment portfolios, especially as pension systems shift toward the private sector. Thus, equities are an increasingly important element of the global capital market (Mosley & Singer, 2008).

Interest rates, one of the most important macroeconomic variables, directly relate to economic growth. Generally, they are considered the cost of capital, representing the price paid for the use of money over time. From a borrower's perspective, the interest rate is the cost of borrowing money, while from a lender's perspective, it is the fee charged for lending money.

This study aims to explore the relationship between the NEPSE index and interest rate variables in Nepal using yearly data from mid-July 2013 to mid-July 2023. In addition to the primary variables, this study also examines the impact of changes in price levels. The findings are expected to provide meaningful insights into the determinants of Nepalese stock market performance, benefiting both policymakers and investors. Understanding this relationship is crucial for enhancing market stability, informing policy decisions, and optimizing investment strategies.

1.2 Statement of the Problem

Interest rates can significantly influence, but not solely determine, the stock market (Smith, 2015). When interest rates rise, borrowing becomes more expensive, limiting companies' ability to expand their operations and reducing profitability. This can lead to cuts in bonuses and dividends, ultimately affecting investor returns. Consequently, the stock market may become a less attractive investment option. However, interest rates are not the only factors impacting the stock market. Factors such as economic growth, political stability, and monetary policies can also drive stock market trends even when interest rates are high.

The findings on the relationship between interest rates and the stock market are not uniform. Most studies have focused on the impact of various macroeconomic variables on the stock market. In Nepal, there is a lack of research specifically examining the impact of interest rates on the stock market. Therefore, this study aims to fill this gap by determining the impact of different types of interest rates (deposit interest, lending interest, bank rate, and T-bill rate) on the stock market in Nepal. The general problem addressed by this study understands the impact of interest rates on the Nepalese stock market.

The specific statements of the problems are as follows:

- i. What is the existing position of bank interest rates and stock market returns in Nepal?
- ii. What is the relationship between deposit and lending interest rates on stock market returns in Nepal?
- iii. What is the effect of short-term interest rates on stock market returns in Nepal?

1.3 Objective of the study

The general objective of the study is to find the relationship between interest rate and stock market. Here are some specific objectives of the study:

- i. To assess the existing position of bank interest rate and stock market return.
- ii. To examine the relationship between deposit & lending interest rate on stock market return.
- iii. To analyze the effect of short term interest rate and stock market return.

1.4 Research Hypothesis

The following research hypothesis has guided the study:

H₁: There is negative relationship between the bank rate and stock price.

H₂: There is negative relationship between the cash reserve ratio and stock price.

H₃: There is negative relationship between the base rate and stock price.

H₄: There is negative relationship between the interbank rate and stock price.

H₅: There is negative relationship between the weighted average lending rate and stock price.

H₆: There is negative relationship between the spread rate and stock price.

H₇: There is positive relationship between treasury bills rate and stock price.

1.5 Rational of the study

Stock exchange and interest rates are two crucial factors for the economic growth of a country. The impact of interest rates on the stock exchange provides important implications for monetary policy, risk management practices, financial securities valuation, and government policy towards financial markets. This study seeks to understand the efficiency of the Nepal Stock Exchange (NEPSE). To gain the confidence of investors and ensure a level playing field for all market participants, this study is useful in developing an efficient market mechanism for investors.

For policymakers, the study provides insights into how interest rate fluctuations impact the stock market, enabling them to make informed decisions regarding monetary policies. Understanding this relationship helps in designing interest rate policies that support market stability and economic growth. By analyzing the effects of interest rates on the

stock market, the study helps policymakers anticipate potential market reactions to interest rate changes, thereby enhancing their ability to maintain economic stability.

Investors can use the findings to develop better investment strategies. Understanding how interest rates affect stock prices guides investors in making more informed decisions about asset allocation and risk management. The study helps investors time their entry and exit from the stock market based on anticipated interest rate movements, potentially improving their investment returns.

Financial analysts utilize the research findings to improve their market forecasts. A clearer understanding of the relationship between interest rates and stock market performance enhances the accuracy of their predictions. The study provides valuable information that financial analysts use to advise their clients on investment decisions and portfolio management, especially in an emerging market context.

For academics and researchers, this study adds to the existing body of knowledge on the relationship between macroeconomic variables and stock market performance, particularly in the context of Nepal. It fills a gap in the literature where limited research exists on this topic within the Nepalese market. The findings serve as a foundation for future research, encouraging further studies on related topics. Researchers build on this study to explore other factors influencing the stock market or to conduct comparative studies across different markets.

The study also benefits the general public by increasing financial literacy. A better understanding of how interest rates affect the stock market empowers individuals to make more informed financial decisions. The study raises awareness about the broader economic implications of interest rate changes, fostering a more informed and engaged citizenry.

Students and academicians find the study useful as a reference for understanding the impact of interest rates on stock markets. It serves as a foundational text for courses on financial markets and economic policies. This paper helps further studies about stock

prices, providing a basis for academic inquiry and research projects exploring the relationship between macroeconomic variables and stock market performance.

Stock analysts and brokers use the insights from this study to better understand market dynamics. It helps them make more accurate stock valuations and provide informed advice to their clients. The study's findings support stock analysts and brokers in making strategic decisions that enhance their professional practices and market strategies.

Overall, this study is significant to investors, brokers, students, academicians, policymakers, government officers, stock analysts, bankers, and managers in making rational decisions, effective policies, and further studies related to stock prices. The comprehensive analysis provided in this research offers valuable insights into the impact of interest rates on the stock market in Nepal, contributing to a more efficient and stable financial market environment.

1.6 Limitations of the Study

The limitations of the study are:

- i. The deposit and lending interest rates are used from commercial banks of Nepal, excluding other financial institutions like development banks and finance companies.
- ii. The study is limited to regression models, potentially missing out on more complex relationships.
- iii. The study uses closing prices of shares at the end of each fiscal year, ignoring intra-year fluctuations.
- iv. Other relevant interest variables, such as government securities rates and inter-bank rates, are not included.
- v. The study does not perform a sector-specific analysis, potentially overlooking varying impacts across different industries.

CHAPTER II

LITERATURE REVIEW

The historical context of the relationship between interest rates and stock markets is crucial for understanding the evolution of research in this field. Early studies primarily focused on the basic principles of interest rates and their direct impact on stock prices. Over time, research has expanded to include various interest rate types and their nuanced effects on different stock markets. This section aims to identify the primary focus areas of previous research and how these areas relate to the current study. By understanding the progression of research, we can better appreciate the similarities and differences with the current investigation, highlighting the unique contributions of this thesis.

2.1 Theoretical Review

2.1.1 Concept of Interest Rate

Interest rate is defined as the cost of borrowing money, expressed as a percentage of the principal amount, typically on an annual basis (Mishkin, 2015). It serves as a critical tool in the allocation of resources within the economy and influences various economic activities (Frederic, 2016).

2.1.2 Types of Interest Rates

Several types of interest rates are commonly discussed in financial literature:

Nominal Interest Rate:

This is the interest rate stated on a loan or investment agreement without any adjustments for inflation. It represents the basic rate agreed upon by the borrower and lender. For example, if a bank offers a loan at a 5% interest rate, this 5% is the nominal interest rate (Brigham & Houston, 2021).

Real Interest Rate:

The real interest rate is adjusted for inflation and represents the true cost of borrowing. It is calculated by subtracting the inflation rate from the nominal interest rate. This adjustment provides a clearer picture of the borrowing cost in terms of purchasing power

(Fisher, 1930). For instance, if the nominal interest rate is 5% and the inflation rate is 2%, the real interest rate would be 3% (Mankiw, 2019).

Fixed Interest Rate:

A fixed interest rate remains constant throughout the life of the loan or investment. This type of interest rate is preferred for its predictability and stability, allowing borrowers and lenders to plan their finances without worrying about fluctuations in interest rates (Saunders & Cornett, 2019). For example, a mortgage with a fixed interest rate of 4% over 30 years will maintain this rate for the entire period (Fabozzi, 2018).

Variable Interest Rate:

Unlike fixed rates, variable interest rates fluctuate over time based on changes in a benchmark rate, such as the prime rate or the London Interbank Offered Rate (LIBOR). Variable rates are often tied to the performance of an underlying index and can provide lower initial rates but carry the risk of increasing over time (Cecchetti & Schoenholtz, 2021). For instance, a variable rate loan might start at 3% but can change according to the market conditions (Madura, 2020).

2.1.3 Relationship between Interest Rates and Stock Markets

The relationship between interest rates and stock markets is well-established in financial theory, with several key theoretical frameworks providing insight into this dynamic:

Discounted Cash Flow (DCF) Model

The Discounted Cash Flow (DCF) model is a fundamental valuation method used in finance to determine the value of a company based on the present value of its expected future cash flows (Damodaran, 2012). This model is widely utilized by investors and analysts to assess the intrinsic value of a company and make informed investment decisions (Penman, 2013). The DCF model operates on the principle that the value of a company is the sum of its future cash flows, discounted back to their present value using an appropriate discount rate (Brealey, Myers, & Allen, 2020).

In the DCF model, the discount rate is a critical component as it reflects the time value of money and the risk associated with the company's future cash flows (Mishkin & Eakins, 2018). The discount rate typically comprises the risk-free rate, which is influenced by

prevailing interest rates, and a risk premium that accounts for the uncertainty of the cash flows (Ross, Westerfield, & Jaffe, 2016). Higher interest rates increase the risk-free rate, which in turn raises the overall discount rate applied in the DCF model (Damodaran, 2012).

When the discount rate increases, the present value of the company's future cash flows decreases, leading to a lower valuation of the company (Fabozzi & Modigliani, 2013). This relationship is crucial because it directly links interest rates to stock prices. As interest rates rise, the increased discount rate diminishes the present value of expected future earnings, causing stock prices to fall (Penman, 2013).

For example, consider a company expected to generate \$100 million in cash flows annually for the next ten years. If the discount rate is 5%, the present value of these cash flows would be higher compared to a scenario where the discount rate is 7% due to higher interest rates (Brealey, Myers, & Allen, 2020). The higher discount rate reduces the present value of each future cash flow, resulting in a lower overall valuation of the company (Ross, Westerfield, & Jaffe, 2016).

This impact of interest rates on stock valuation through the DCF model highlights the sensitivity of stock prices to changes in monetary policy and macroeconomic conditions (Damodaran, 2012). Investors closely monitor interest rate movements to adjust their valuation models and investment strategies accordingly (Mishkin & Eakins, 2018). The DCF model's reliance on interest rates underscores the interconnectedness of financial markets and the broader economy (Fabozzi & Modigliani, 2013).

Empirical studies support the theoretical underpinnings of the DCF model by demonstrating the inverse relationship between interest rates and stock prices. For instance, Shiller (1981) found that stock prices are negatively correlated with interest rates, validating the model's prediction that higher interest rates lead to lower stock valuations. Similarly, Fama and French (1989) confirmed that changes in interest rates significantly impact stock returns, emphasizing the importance of interest rates in the valuation process.

In summary, the DCF model illustrates how interest rates influence stock prices by affecting the discount rate used to value future cash flows. This relationship is a cornerstone of financial theory and practice, providing a robust framework for understanding the impact of interest rate changes on stock market performance (Brealey, Myers, & Allen, 2020). The model's ability to incorporate interest rates into stock valuation makes it a vital tool for investors navigating the complexities of financial markets (Penman, 2013).

Arbitrage Pricing Theory (APT)

Arbitrage Pricing Theory (APT) was developed by economist Stephen Ross in 1976 as a multi-factor model to explain the returns of securities (Ross, 1976). Unlike the Capital Asset Pricing Model (CAPM), which relies on a single market factor, APT incorporates multiple economic factors that might affect asset prices. This flexibility allows APT to provide a more comprehensive understanding of the determinants of stock returns (Roll & Ross, 1980).

According to APT, stock prices are influenced by a variety of systematic risk factors, including interest rates, inflation rates, industrial production, exchange rates, and market indices (Ross, 1976). Changes in these factors impact the expected returns on securities, which, in turn, affect their market prices (Roll & Ross, 1980). One of the key factors highlighted in APT is the interest rate, which plays a crucial role in determining the cost of capital for companies (Chen, Roll, & Ross, 1986).

Interest rates can significantly impact the cost of capital for companies, which is the rate of return required by investors to compensate for the risk of investing in the company's debt and equity (Mishkin & Eakins, 2018). When interest rates rise, the cost of borrowing increases, leading to higher expenses for companies that rely on debt financing (Fabozzi & Modigliani, 2013). This increase in borrowing costs can reduce a company's profitability, as more of its earnings are allocated to interest payments (Brealey, Myers, & Allen, 2020).

Additionally, higher interest rates can make fixed-income investments, such as bonds, more attractive relative to stocks. Investors may shift their portfolios from stocks to bonds

to take advantage of higher yields, leading to a decrease in stock prices due to reduced demand (Bodie, Kane, & Marcus, 2019). This shift in investor preference is a key mechanism through which interest rates influence stock prices, as posited by APT (Roll & Ross, 1980).

APT also suggests that other macroeconomic factors, such as inflation and industrial production, interact with interest rates to affect stock returns (Chen, Roll, & Ross, 1986). For example, higher inflation often leads to higher interest rates as central banks tighten monetary policy to control price levels (Mankiw, 2019). This, in turn, impacts the cost of capital and investor behavior, further influencing stock prices (Mishkin & Eakins, 2018). Empirical evidence supports the APT framework by demonstrating that multiple macroeconomic factors, including interest rates, systematically influence stock returns. Chen, Roll, and Ross (1986) conducted a seminal study that identified several economic factors, such as interest rates and inflation that significantly impact stock prices. Their findings validated the APT model's predictions and highlighted the importance of considering multiple factors in asset pricing.

Further studies, such as those by Fama and French (1993), have expanded on the APT model by incorporating additional factors, such as size and book-to-market ratios, to explain stock returns. These studies reinforce the idea that stock prices are influenced by a broad array of economic variables, with interest rates being a central factor (Fama & French, 1993).

Arbitrage Pricing Theory (APT) provides a robust framework for understanding the impact of interest rates and other macroeconomic factors on stock prices (Ross, 1976). By acknowledging the influence of multiple risk factors, APT offers a more nuanced perspective on asset pricing compared to single-factor models like CAPM (Roll & Ross, 1980). The theory's emphasis on interest rates as a key determinant of the cost of capital and investor behavior underscores the interconnectedness of financial markets and the broader economy (Chen, Roll, & Ross, 1986).

Capital Asset Pricing Model (CAPM)

The Capital Asset Pricing Model (CAPM) is a foundational theory in finance, formulated by William Sharpe (1964), John Lintner (1965), and Jan Mossin (1966). CAPM provides a framework for understanding the relationship between the expected return on a stock and its risk relative to the market (Sharpe, 1964; Lintner, 1965; Mossin, 1966). The model is pivotal in modern portfolio theory and investment analysis, offering insights into how risk and return are connected (Fama & French, 2004).

At the core of CAPM is the notion that investors need to be compensated for both the time value of money and the risk associated with their investments. The model expresses this relationship through the formula:

$$E(R_i) = R_f + \beta_i (E(R_m) - R_f)$$

where:

$E(R_i)$ is the expected return on the stock,

R_f is the risk-free rate,

β_i is the beta of the stock (a measure of its risk relative to the market),

R_m is the expected return of the market,

$(E(R_m) - R_f)$ is the market risk premium (Sharpe, 1964).

2.1.4 Impact of Interest Rates on Investor Behavior

Interest rates significantly impact stock prices and investor behavior through various mechanisms, each influencing the financial decisions of companies and individual investors:

Cost of Borrowing:

Higher interest rates increase the cost of borrowing for companies. When interest rates rise, the expense of servicing debt also rises, leading to a reduction in corporate profitability (Brigham & Houston, 2021). As borrowing costs escalate, companies may need to scale back on capital investments, research and development, and expansion plans. This reduction in investment can negatively impact a company's growth prospects, leading to lower stock prices (Madura, 2020). For instance, a corporation that faces higher interest expenses may find it challenging to finance new projects, thereby limiting its ability to generate future earnings (Ross, Westerfield, & Jaffe, 2016).

Opportunity Cost:

Higher interest rates make fixed-income investments, such as bonds, more attractive relative to stocks. This shift occurs because bonds offer higher yields when interest rates increase, providing a more stable return compared to the potentially volatile returns of stocks (Bodie, Kane, & Marcus, 2019). Investors seeking lower risk and stable returns may reallocate their portfolios from stocks to bonds to capitalize on the higher yields available in the bond market (Fabozzi & Modigliani, 2013). This reallocation reduces demand for stocks, leading to a decrease in stock prices. For example, during periods of rising interest rates, many investors might prefer to invest in government securities or corporate bonds, which offer higher returns with lower risk (Mishkin & Eakins, 2018).

Discount Rate:

As interest rates rise, the discount rate used to value future cash flows increases. The discount rate, which reflects the time value of money and risk, is crucial in determining the present value of future cash flows in valuation models like the Discounted Cash Flow (DCF) model (Damodaran, 2012). Higher interest rates result in a higher discount rate, which reduces the present value of expected future cash flows, leading to lower stock prices (Brealey, Myers, & Allen, 2020). This decrease in present value makes stocks less attractive to investors, as the potential future earnings are worth less in today's terms (Penman, 2013). For example, a tech company projecting substantial future earnings might see its stock price decline as rising interest rates increase the discount rate applied to those future earnings, diminishing their present value (Ross, Westerfield, & Jaffe, 2016).

2.2 Empirical Review

Neupane (2012) explored the impact of interest rates on the stock market in Nepal. The study aimed to find the relationship between various interest rates (bank rate, deposit interest rate, lending interest rate, short-term risk-free interest rate) and the NEPSE index. Using multiple regression models, the study analyzed data over a specified period. The findings indicated that deposit rate, lending rate, and T-bill rate have a significant negative impact on share prices, while the bank rate showed no significant impact. The study concluded that interest rates play a crucial role in determining the stock market performance in Nepal.

Uddin and Alam (2014) investigated the impact of interest rates on the stock market using data from the Dhaka Stock Exchange. The objective was to explore the efficiency of the DSE and the relationship between interest rates and stock prices in Bangladesh. The study employed ordinary least-square regression on monthly data from 1992 to 2004. The findings revealed a significant negative relationship between interest rates and stock prices, indicating that the Dhaka Stock Exchange is not efficient in its weak form.

Alam and Uddin (2014) explored the relationship between interest rates and stock prices across 15 developed and developing countries. The objective was to investigate market efficiency and the empirical relationship between stock index and interest rate. Through time series and panel regressions on data from January 1988 to March 2003, the study found a significant negative relationship between interest rates and stock prices in most countries, with mixed results for individual nations.

Chirchir (2014) examined the relationship between share prices and interest rates in Kenya. The study aimed to understand how changes in interest rates and stock prices are related over the period from October 2002 to September 2012. Using the Toda Yamamoto method, the study found no significant causal relationship between interest rates and share prices, although negative causality exists in both directions.

Amarasinghe (2014) studied the dynamic relationship between interest rates and stock prices in Sri Lanka. The objective was to identify the causal relationship between interest rates and stock returns. Using the Augmented Dickey Fuller test, Granger causality test, and regression analysis on monthly data from 2007 to 2013, the study found that interest rates Granger cause stock returns, with a significant negative relationship between the variables.

Ali (2014) investigated the impact of interest rates on the stock market in Pakistan. The objective was to determine the relationship between interest rates and stock market performance. Using correlation, regression, and descriptive analysis on data from the Karachi Stock Exchange from 2004 to 2013, the study found that interest rates negatively impact stock market performance.

Vaz et al. (2015) studied the effect of interest rate changes on bank stock returns in Australia. The objective was to examine the reaction of bank stock returns to changes in the cash rate. Using event study methodology on data from 1990 to 2005, the study found that Australian bank stock returns are positively impacted by cash rate increases, contrary to US findings. Banks experienced net-positive abnormal returns when cash rates were increased.

Rohner et al. (2015) analyzed the relationship between interest rate changes and stock returns in the German stock market. The objective was to understand the influence of interest rate changes on stock returns between 2000 and 2020. Using OLS regression analysis, the study found that the broadly accepted notion of a negative correlation between interest rate changes and stock returns does not hold true for Germany.

Muktadir-Al-Mukit (2015) examined the effects of interest rate volatility on stock returns in Bangladesh. The objective was to investigate the long-term relationship between interest rates and stock market returns. Using cointegration and Granger causality analysis on data from 1991 to 2012, the study revealed a significant negative long-term relationship between interest rates and stock returns, with unidirectional causality from interest rates to the market index.

Khatri (2015) explored the macroeconomic influence on the Nepalese stock market, focusing on variables such as inflation, money supply, interest rate, GDP, exchange rate, and foreign direct investment. The study aimed to understand the dynamic relationship between these macroeconomic factors and stock prices. Using Johansen and Juselius (1990) cointegration method on data from 1994 to 2015, the study found that money supply positively and significantly relates to stock prices, while real economic activity and interest rates have an insignificant and negative relationship with stock prices.

Devkota and Dhungana (2017) examined the impact of macroeconomic variables (money supply, gold price, interest rate, exchange rate) on the NEPSE index. The study aimed to analyze the long-run relationship among these variables. Using ARDL approach on data from 1994 to 2017, the study found that interest rate is the most determining factor for the

stock market index, while money supply also significantly affects the stock market. Gold price and exchange rate showed insignificant impacts.

Amtiran et al. (2017) examined the relationship between macroeconomic factors and stock returns within the framework of Arbitrage Pricing Theory (APT). The study aimed to see how GDP, inflation, interest rates, and exchange rates affect stock returns in Indonesia. Using ordinary least square regression on data from 80 companies listed on the Indonesian Stock Exchange from 2007 to 2014, the study found that GDP and interest rates positively impact stock returns, while inflation negatively impacts stock returns. Exchange rates were also positively related to stock returns.

Shrestha and Pokhrel (2017) examined the factors affecting the stock market index in Nepal, focusing on political changes and NRB policies. The study aimed to analyze the impact of macroeconomic variables such as broad money supply, interest rate, and inflation on the NEPSE index. Using monthly data from 2000 to 2017 and employing OLS and ARDL Bound testing approaches, the study found that the stock index responds positively to money supply growth and negatively to interest rates. Political changes and NRB policies also significantly influence the stock market index.

Assefa et al. (2017) analyzed stock returns and interest rates across 21 developed and 19 developing economies using a panel data approach. The objective was to examine the relationship between stock returns and interest rates over the period from 1999 to 2013. Using dynamic panel data analysis, the study found a significant negative effect of interest rates on stock returns in developed economies, while in developing markets, the world market portfolio was the sole determinant of stock returns.

Paul and Pokharel (2018) examined the relationship between the cost of bank lending and the NEPSE Index. The study aimed to determine the impact of macroeconomic indicators such as interest rate, real GDP, money supply, and inflation on the Nepal Stock Exchange (NEPSE) Index. Using time series data from 1994 to 2018, the study employed correlation and regression analysis. The findings revealed that broad money supply, real GDP, and CPI have a statistically significant linear relationship with the NEPSE index,

while the T-bill rate showed no significant relationship. Regression analysis indicated that only money supply was significant in predicting the NEPSE index.

Gurung (2019) studied the relationship between interbank interest rates and stock prices at the Nepal Stock Exchange. The study aimed to establish a long-run association between interest rates and stock prices. Using ARDL modeling on monthly data from 1996 to 2019, the study found a valid negative long-run association between interest rates and stock prices, suggesting the importance of interest rate stabilization for stock market stability.

K.C. (2021) investigated the impact of interest rates on the stock market in Nepal, focusing on listed companies in the NEPSE index. The study aimed to understand how various interest rates (bank rate, deposit rate, lending rate, base rate) and other factors (inflation rate, capital adequacy ratio) affect stock price and stock return. Using secondary data from 25 listed companies (2013/14 to 2020/21), the study employed correlation and regression models. The results indicated that the bank rate positively impacts stock price and return, while deposit rate, lending rate, base rate, and capital adequacy ratio negatively impact stock price and return.

Lamichhane and Kulshrestha (2022) investigated the impact of macroeconomic factors (remittances, money supply, exchange rate, interest rate) on the Nepalese stock market. The study aimed to find new research areas in the Nepalese context through literature review. The study concluded that remittance and money supply positively affect the stock market, while interest rate and exchange rate negatively affect stock market performance. The study highlighted the need for further research employing different methodologies and variables.

Chhetri (2023) examined the factors affecting the share price of commercial banks in Nepal. The study aimed to analyze the impact of firm-specific variables (EPS, P/E ratio, BVPS, ROA, size) and macroeconomic variables (inflation, money supply, GDP) on share prices. Using panel data from 13 commercial banks (2012-2022), the study employed multiple regression models. The findings revealed that EPS, P/E ratio, BVPS, and ROA significantly impact share prices, while firm size has an insignificant impact.

Ayuen, Kaluge, & Satria (2024) conducted a comparative study to examine the influence of macroeconomic variables on stock market performance in Indonesia and Japan from 2013 to 2023. Using regression analysis and the Efficient Market Hypothesis (EMH) as a theoretical framework, the study found that interest rates strongly affect Indonesian stocks due to their influence on investor sentiment. In Japan, trade agreements have a significant positive impact on stock returns. Both countries' stock returns were weakly connected to inflation, currency rates, and other economic and political factors.

Table 1

Summary and Empirical Review at Literature Review

SN	Author (Date)	Topic Name	Objectives	Methodology	Findings
1	Neupane (2012)	Impact of Interest Rates on Stock Market in Nepal	Find the relationship between various interest rates and the NEPSE index	Multiple regression models	Deposit rate, lending rate, and T-bill rate significantly negatively impact share prices; bank rate not significant.
2	Uddin & Alam (2014)	The Impacts of Interest Rate on Stock Market	Investigate relationship between interest rates and stock prices in Bangladesh	OLS regression on monthly data (1992-2004)	Significant negative relationship between interest rates and stock prices.
3	Alam & Uddin (2014)	Relationship between Interest Rate	Explore relationship between	Time series and panel regressions on	Significant negative relationship

		and Stock Price	interest rates and stock prices in 15 countries	data (1988-2003)	in most countries; mixed results for individual countries.
4	Chirchir (2014)	The Relationship between Share Prices and Interest Rates	Examine relationship between interest rates and stock prices in Kenya	Toda Yamamoto method on data (2002-2012)	No significant causal relationship; negative causality exists in both directions.
5	Amarasinghe (2014)	Dynamic Relationship between Interest Rate and Stock Price	Identify causal relationship between interest rates and stock returns in Sri Lanka	ADF test, Granger causality test, regression on data (2007-2013)	One-way causality from interest rates to stock returns; significant negative relationship.
6	Ali (2014)	Impact of Interest Rate on Stock Market	Determine relationship between interest rates and stock market in Pakistan	Correlation, regression, and descriptive analysis on data (2004-2013)	Negative impact of interest rates on stock market performance.
7	Rohner et al. (2015)	The Relationship Between Interest Rate Changes and	Analyze impact of interest rate changes on stock returns in Germany	OLS regression analysis on data (2000-2020)	No significant negative correlation between

		Stock Returns			interest rate changes and stock returns.
8	Muktadir-Al-Mukit (2015)	The Effects of Interest Rates Volatility on Stock Returns	Investigate impact of interest rate volatility on stock returns in Bangladesh	Cointegration, Granger causality on data (1991-2012)	Significant negative long-term relationship; unidirectional causality from interest rates to stock market index.
9	Vaz et al. (2015)	The Effect of Interest Rate Changes on Bank Stock Returns	Examine impact of changes in official interest rates on bank stock returns in Australia	Event study on data (1990-2005)	Positive short-term impact of cash rate increases on bank stock returns.
10	Khatri (2015)	Macroeconomic Influence on the Nepalese Stock Market	Investigate dynamic relationship among macroeconomic factors and stock prices	Johansen and Juselius cointegration on data (1994-2015)	Money supply positively relates to stock prices; real economic activity and interest rates negatively related.
11	Devkota & Dhungana (2017)	Impact of Macro-Economic	Analyze long-run relationship among	ARDL approach on data (1994-	Interest rate significantly impacts stock

		Variables on Stock Market in Nepal	macroeconomic variables and NEPSE index	2017)	market; money supply also significant. Gold price, exchange rate insignificant.
12	Amtiran et al. (2017)	Macroeconomic Factors and Stock Returns in APT Framework	Examine macroeconomic factors' impact on stock returns	OLS regression on data (2007- 2014)	GDP and interest rates positively impact stock returns; inflation negatively impacts stock returns.
13	Shrestha & Pokhrel (2017)	Factors Affecting Stock Index in Nepal	Examine impact of macroeconomic variables and political changes on NEPSE index	OLS and ARDL Bound testing on monthly data (2000-2017)	Money supply positively impacts stock index; interest rates negatively impact. Political changes significant.
14	Assefa et al. (2017)	Stock Returns and Interest Rates around the World	Examine relationship between stock returns and interest rates in 40 economies	Dynamic panel data analysis on quarterly data (1999- 2013)	Significant negative effect in developed economies; no significant

					correlation in developing markets.
15	Paul & Pokharel (2018)	Relationship between Cost of Bank Lending and NEPSE Index	Examine impact of macroeconomic indicators on NEPSE index	Correlation and regression on time series data (1994-2018)	Broad money supply, real GDP, and CPI positively related to NEPSE index; T-bill rate insignificant.
16	Gurung (2019)	Do Interbank Interest Rates Matter for Stock Prices at Nepal Stock Exchange?	Establish long-run association between interest rates and stock prices	ARDL modeling on monthly data (1996-2019)	Negative long-run association between interest rates and stock prices.
17	K.C. (2021)	Impact of Interest Rate on Stock Market in Nepal	Analyze impact of interest rates and other factors on stock prices and returns	Correlation and regression on secondary data (2013/14-2020/21)	Bank rate positively impacts stock prices and returns; deposit rate, lending rate, base rate negatively impact.
18	Lamichhane (2022)	Factors Influencing the Performance of	Explore relationship between	Literature review	Remittance and money supply

		Nepalese Stock Market	macroeconomic variables and stock market performance		positively affect stock market; interest rate and exchange rate negatively affect.
19	Chhetri (2023)	Factors Affecting the Share Price of Commercial Banks in Nepal	Analyze impact of firm-specific and macroeconomic variables on share prices	Multiple regression on panel data (2012-2022)	EPS, P/E ratio, BVPS, ROA significantly impact share prices; firm size insignificant.
20	Ayuen, Kaluge, & Satria (2024)	Analyzing The Effects Of Interest Rates, Inflation, And Exchange Rates On Stock Market Performance: A Comparative Study Of Indonesia And Japan	Examine the influence of macroeconomic variables on stock market performance	Regression analysis and EMH as the theoretical framework	Interest rates strongly affect Indonesian stocks; trade agreements significantly impact Japanese stocks; weak connection between stock returns and inflation, currency rates, and

2.3 Research Gap

Despite the extensive body of literature on the impact of macroeconomic factors on stock markets, specific research focusing solely on the impact of interest rates is sparse, particularly within the context of Nepal. Most existing studies, both international and national, encompass a broad range of macroeconomic variables such as GDP, inflation, money supply, and exchange rates, often diluting the focus on interest rates. For instance, studies by Paul and Pokharel (2018) and Khatri (2015) included interest rates as one of many variables, rather than the central focus. This thesis aims to fill this gap by concentrating exclusively on how interest rates influence stock market performance, providing a more targeted analysis that can yield specific insights and recommendations. Another significant gap in the literature is the temporal scope of the data used. Many studies, such as those by K.C. (2021) and Shrestha and Pokhrel (2017), do not include recent economic changes and developments, particularly the impacts of the COVID-19 pandemic and subsequent economic recovery measures. This research will utilize the most recent data available to analyze how contemporary interest rate changes affect the Nepalese stock market, ensuring that the findings are relevant and up-to-date.

Moreover, most of the existing research treats the stock market as a monolithic entity without accounting for the varying sensitivities of different sectors. For example, while Shrestha and Pokhrel (2017) examined the overall stock market index, they did not differentiate between sectors that may react differently to interest rate changes. This thesis will conduct a sectoral analysis to understand the nuanced impacts of interest rate fluctuations across various sectors within the Nepalese stock market, providing more detailed insights for investors and policymakers.

Additionally, there is a noticeable lack of comparative analysis between the Nepalese stock market and those of other emerging or developed markets. Comparative studies, like those suggested by Lamichhane and Kulshrestha (2022), can highlight unique characteristics and responses of the Nepalese stock market to interest rate changes. This thesis will include a comparative component, examining how interest rate impacts in

Nepal differ from those in other markets, thereby identifying unique vulnerabilities or strengths in the Nepalese context.

This focused approach on interest rates, along with a contemporary and sectoral analysis, supplemented by comparative insights, will provide a comprehensive understanding of the impact of interest rates on the stock market in Nepal, addressing the current gaps in the literature and offering valuable guidance for future economic policies and investment strategies.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Design

This research adopts a quantitative approach using a descriptive and causal-effect research design. The descriptive aspect involves detailing the trends and patterns in the variables under study, while the causal-comparative approach seeks to establish cause-and-effect relationships between the independent variables (various interest rates) and the dependent variable (Nepse Index).

3.2 Population and Sample

The population for this study encompasses all daily NEPSE index values and company-wise data from the inception of the Nepal Stock Exchange (NEPSE). However, for this research, we have limited our consideration to the monthly closing data of the NEPSE index and various interest rates over a ten-year period, from April 2013 to March 2023.

While numerous companies are listed on NEPSE, this study focuses on the overall NEPSE index rather than individual company data. Additionally, instead of analyzing daily interest rate fluctuations, we have only considered the monthly closing interest rates. This approach allows us to streamline the analysis and provide a focused examination of the relationship between interest rates and the NEPSE index over the specified period. By concentrating on the monthly data, we aim to capture significant trends and impacts while maintaining the scope of the study.

3.3 Nature and Sources of Data

The study relies on secondary data obtained from various sources, including:

- Nepal Rastra Bank (NRB) reports and publications
- Nepal Stock Exchange (NEPSE) trading data
- Annual reports of the commercial banks
- Financial statistics and databases

The data collected includes monthly interest rates (Bank Rate, Cash Reserve Ratio, Base Rate, Interbank Rate, Weighted Average Lending Rate, Spread Rate, Treasury Bills Rate) and the Nepse Index for the period from April 2013 to March 2023.

3.4 Data Collection Procedure

This study relies on diverse data sources, primarily focusing on information released by banks, such as annual reports, financial performance reports, articles, and reviews. Additionally, data is gathered from the websites of banks to obtain any pertinent information. Supplementary data is sourced from various agencies and institutions, including the Ministry of Finance, the Nepal Stock Exchange, and the Nepal Rastra Bank (NRB). To ensure comprehensive data collection, this research also utilizes publications like economic journals, periodicals, newsletters, and both published and unpublished reports and papers. Primary review materials are sourced from Shanker Dev Campus, TU Kirtipur, and the Central Library.

3.5 Data Processing Procedure

This section outlines the methodology used for analyzing the data in this chapter. Specific stages and procedures in data analysis are followed to comprehend the results and draw conclusions. The aim of secondary data analysis is to explore the causes and effects of relationships between variables. Initially, descriptive statistics of the observed samples, including the mean, standard deviation, and minimum and maximum values, are discussed. Following this, correlation analyses are conducted, and stepwise regression analysis is performed to verify the estimates' significance and standard error. The relationships and outcomes are analyzed to derive relevant conclusions about the factors influencing the Nepse Index.

3.6 Data Analysis Tools and Techniques

This section details the statistical and economic models used to examine secondary data. The data is analyzed using the Statistical Package for the Social Sciences (SPSS 20). The research employs regression analysis and descriptive approaches. Descriptive statistics, such as mean, standard deviation, and minimum and maximum values, describe the companies in the sample from 2013 to 2023. Correlation analysis assesses the direction of the link between dependent and independent variables. Regression analysis determines the extent to which independent variables influence the dependent variable, both individually and collectively. A normality test is conducted to check if the data is normally distributed. This research examines the relationship between interest rates and stock market performance in Nepal.

Statistical Tools

Statistical tools play a crucial role in analyzing company operations and performance.

Below are some commonly used statistical tools:

1. **Arithmetic Mean:** The arithmetic mean is calculated by summing the values of all items in a series and dividing by the number of items. It is a basic measure used to find the average.

$$\bar{X} = \sum X / N$$

Where,

$$\bar{X} = \text{Arithmetic Mean}$$

$$\sum X = \text{Sum of Elements}$$

$$N = \text{Number of Observations}$$

2. **Standard Deviation:** Standard deviation measures the dispersion of a dataset relative to its mean. It is calculated as the square root of the variance.

$$S.D = \sqrt{(\sum (X - \bar{X})^2 / (N - 1))}$$

3. **Coefficient of Variation (CV):** The CV is the relative measure of dispersion based on the standard deviation, expressed as a percentage. It is useful for comparing the variability of two different datasets.

$$CV = (S.D / \bar{X}) \times 100$$

4. **Coefficient of Correlation (r):** The correlation coefficient measures the strength and direction of the linear relationship between two variables. It ranges from -1 to +1.

$$r = \frac{\sum (X - \bar{X})(Y - \bar{Y})}{\sqrt{(\sum (X - \bar{X})^2 \sum (Y - \bar{Y})^2)}}$$

Properties:

$r = +1$: Perfect positive correlation.

$r = -1$: Perfect negative correlation.

$r = 0$: No correlation.

$r = 0.7$ to 0.99 : High degree positive or negative correlation.

5. **Multiple Regression Analysis:** This technique explains the relationship between one continuous dependent variable and two or more independent variables. It is an extension of ordinary least squares (OLS) regression with several explanatory variables.

3.7 Research Framework and Definition of Variables

The conceptual framework serves as the foundation for this study, illustrating the relationship between interest rates and stock market performance in Nepal. This framework helps clarify the study's objectives and focus. The research primarily investigates the impact of various interest rates on the Nepse Index. The dependent variable is the Nepse Index, while the independent variables include the Bank Rate (BR), Cash Reserve Ratio (CRR), Base Rate (BASER), Interbank Rate (IBR), Weighted Average Lending Rate (WALR), Spread Rate (SR), and Treasury Bills Rate (TBR). The conceptual model provides an overview of these relationships, showing how these variables are hypothesized to influence stock market performance in Nepal.

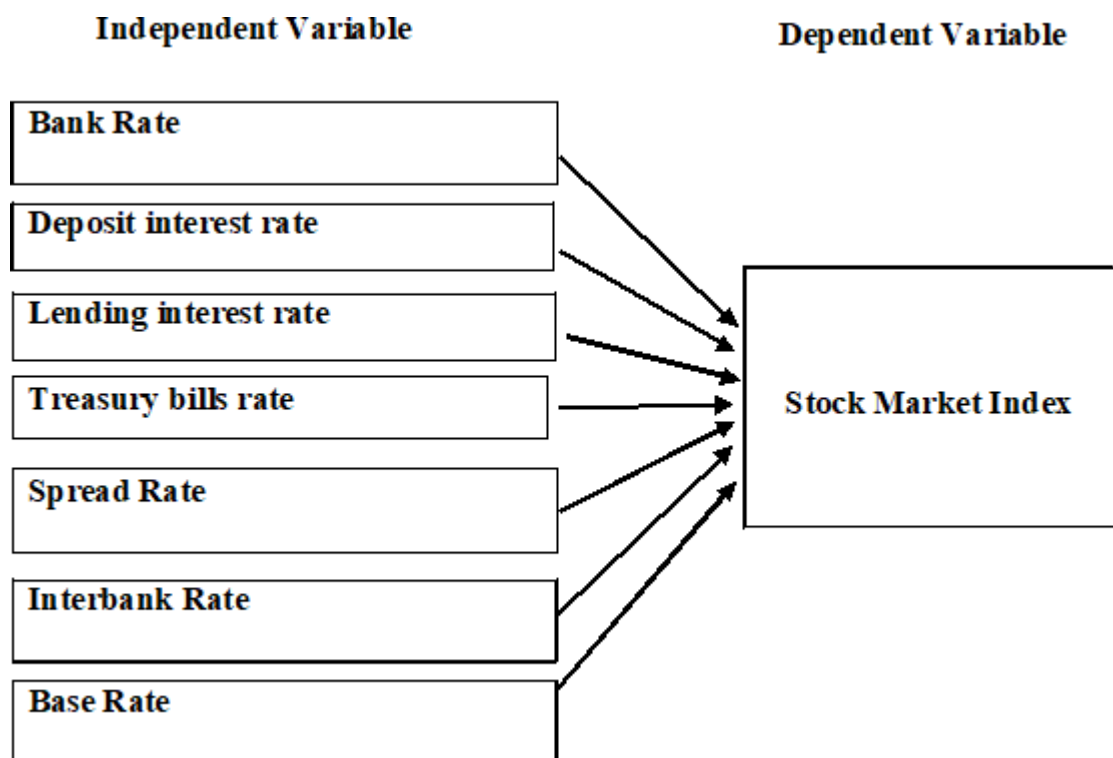


Figure 1: *Conceptual Framework*: Mwangecho, Mukhongo, & Datche (2019).

Dependent Variables

NEPSE Index

The NEPSE Index, or Nepal Stock Exchange Index, serves as the dependent variable in this study. It is a critical measure of the overall performance of the Nepalese stock market, encompassing all listed companies. The NEPSE Index provides a snapshot of market trends, investor sentiment, and economic conditions. Calculated based on the market capitalization of listed companies, it reflects the weighted average of share prices, thus offering a comprehensive view of market performance. A rising NEPSE Index indicates a bullish market, suggesting economic growth and increased investor confidence, while a falling index points to a bearish market, economic challenges, or decreased investor confidence (Nepal Stock Exchange, 2023). This research aims to analyze how various interest rates impact the NEPSE Index, thereby shedding light on their influence on overall stock market performance.

Independent Variables

Bank Rate (BR)

The Bank Rate is the interest rate at which a nation's central bank lends money to domestic banks, typically for very short-term loans. It is a crucial tool for central banks to regulate monetary policy and control inflation. An increase in the bank rate raises borrowing costs for commercial banks, which usually pass these costs on to consumers through higher interest rates on loans and mortgages. This can curb consumer spending and business investment, potentially slowing down economic activity (Mishkin, 2013). Conversely, a decrease in the bank rate lowers borrowing costs, stimulating economic growth. This study hypothesizes that higher bank rates are associated with a negative impact on the NEPSE Index, as increased borrowing costs can deter investment in the stock market.

Cash Reserve Ratio (CRR)

The Cash Reserve Ratio (CRR) is the percentage of a bank's total deposits that must be held in reserve and not lent out. It is a regulatory measure used by central banks to control liquidity in the banking system and ensure financial stability. A higher CRR reduces the funds available for banks to lend, which can tighten liquidity, increase interest rates, and reduce investment (Borio & Disyatat, 2009). On the other hand, a lower CRR increases

the funds available for lending, potentially boosting economic activity and investment. This study explores the relationship between CRR and the NEPSE Index, hypothesizing that an increase in CRR may negatively affect stock market performance due to reduced liquidity.

Base Rate (BASER)

The Base Rate is the minimum interest rate set by a central bank, below which banks are not allowed to lend to their customers. It serves as a benchmark for all other interest rates in the economy, influencing borrowing costs and the return on savings. Changes in the base rate directly impact consumer spending and investment decisions. Higher base rates increase borrowing costs, which can dampen consumer spending and investment (Bernanke, 2005). Conversely, lower base rates encourage borrowing and investment by making loans cheaper. This research investigates how fluctuations in the base rate affect the NEPSE Index, with the hypothesis that higher base rates may lead to a decrease in stock market activity due to higher borrowing costs.

Interbank Rate (IBR)

The Interbank Rate is the interest rate charged on short-term loans between banks. It reflects the liquidity conditions in the banking system and the cost of borrowing for banks to meet their short-term needs. A higher interbank rate indicates tighter liquidity and higher borrowing costs for banks, which can translate into higher interest rates for consumers and businesses (Allen & Gale, 2000). This study examines the correlation between interbank rates and the NEPSE Index, hypothesizing that higher interbank rates may negatively impact stock market performance due to increased borrowing costs and reduced liquidity.

Weighted Average Lending Rate (WALR)

The Weighted Average Lending Rate (WALR) represents the average interest rate charged by banks on loans to various sectors of the economy. It is a crucial indicator of the cost of credit and influences borrowing and investment behavior. Higher WALR indicates higher borrowing costs, which can deter investment and slow economic growth (Hancock & Wilcox, 1998). This research analyzes the impact of WALR on the NEPSE

Index, positing that higher lending rates may negatively affect stock market performance by making loans more expensive and reducing investment in the economy.

Spread Rate (SR)

The Spread Rate is the difference between the interest rates charged on loans and the interest rates paid on deposits. It reflects the profitability of banks and the cost of borrowing for consumers and businesses. A higher spread rate suggests higher borrowing costs and lower returns on savings, which can reduce investment and spending (Ho & Saunders, 1981). This study investigates the relationship between the spread rate and the NEPSE Index, hypothesizing that higher spread rates may negatively impact the stock market due to increased borrowing costs and reduced investment.

Treasury Bills Rate (TBR)

The Treasury Bills Rate (TBR) is the interest rate on short-term government securities. It serves as a benchmark for other interest rates in the economy and reflects the government's borrowing costs. A higher TBR indicates higher returns on government securities, which can attract investment away from the stock market (Fama, 1984). This research examines the effect of TBR on the NEPSE Index, with the hypothesis that higher treasury bills rates may have a mixed impact on stock market performance depending on investor preferences for safer government securities versus higher-risk stocks.

CHAPTER IV

RESULTS AND DISCUSSIONS

This chapter is dedicated to presenting, analyzing, and interpreting data as per the research methodology detailed in Chapter Three. Serving as the heart of the study, this section deals with secondary data that were collected in their raw form. These data are then systematically organized and analyzed using various appropriate methods and techniques. The secondary data from different sources are displayed in an understandable format and are analyzed individually using quantitative approaches when relevant.

The primary objective of this chapter is to transform raw data into meaningful insights that address the research questions and objectives set forth at the beginning of the study. By systematically organizing the data, this chapter aims to uncover patterns and relationships that provide a deeper understanding of the impact of interest rates on the stock market in Nepal.

4.1 Data Presentation

Under this topic, different financial indicators have been presented and analyzed. This analysis includes:

- i. Bank Rate (BR)
- ii. Cash Reserve Ratio (CRR)
- iii. Base Rate (BASER)
- iv. Interbank Rate (IBR)
- v. Weighted Average Lending Rate (WALR)
- vi. Spread Rate (SR)
- vii. Treasury Bills Rate (TBR)
- viii. NEPSE Index

4.1.1 Bank Rate (BR)

Table 2

Time Series Data of Monthly Bank Rates(BR)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2013				8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
2014	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
2015	8.00	8.00	8.00	8.00	8.00	8.00	8.00	7.00	7.00	7.00	7.00	7.00
2016	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
2017	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
2018	7.00	7.00	7.00	7.00	7.00	7.00	7.00	6.50	6.50	6.50	6.50	6.50
2019	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.00	6.00	6.00	6.00	6.00
2020	6.00	6.00	6.00	6.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
2021	6.00	6.00	6.00	6.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
2022	5.00	5.00	7.00	7.00	7.00	7.00	7.00	8.50	8.50	8.50	8.50	8.50
2023	8.50	8.50	8.50									
Max												8.50
Min												5.00
Mean												6.84
Sd												1.10
CV												16.02

Source: Annual Reports of NRB and NEPSE

According to Table 2, which outlines the time series data of monthly bank rates (BR) from April 2013 to March 2023, we observe significant fluctuations in the bank rates over the decade.

In 2013, the bank rate was stable at 8.00% and remained unchanged throughout the year. This trend continued into 2014, where the rate consistently stayed at 8.00% for all twelve months. The beginning of 2015 saw a continuation of the 8.00% rate until July, after which there was a notable decrease to 7.00% from August onwards, marking the start of a period of lower rates.

The years 2016 and 2017 showed a consistent bank rate of 7.00%, with no month-to-month variation. This period of stability was followed by a gradual decline in 2018, where the rate started at 7.00% but dropped to 6.50% in August. This 6.50% rate persisted through the end of 2018 and continued into the first seven months of 2019. A further reduction occurred in August 2019, bringing the rate down to 6.00%, which was maintained for the remainder of the year.

In 2020, the bank rate started at 6.00% but dropped significantly to 5.00% in May, a rate that was sustained throughout the remainder of 2020 and all of 2021. This period of low rates was reflective of broader economic conditions and possibly policy responses to external economic pressures.

The year 2022 marked a shift with an initial rate of 5.00% that increased to 7.00% in March. This rate was held steady until August when it further increased to 8.50%, maintaining this level for the rest of the year. The rate of 8.50% continued into the first three months of 2023.

Statistical measures highlight the key characteristics of the bank rates over this period. The maximum bank rate observed was 8.50%, while the minimum was 5.00%. The average bank rate over the entire period was 6.84%. The standard deviation, a measure of variability, was 1.10%, indicating moderate fluctuations around the mean. The coefficient of variation (CV) was 16.02%, reflecting moderate relative variability in the bank rates over the ten-year period.

Table 4.1 presents a comprehensive view of the monthly bank rates from 2013 to 2023, showing periods of stability, gradual decreases, and sharp increases in response to various economic factors. These trends provide valuable insights into the monetary policies and economic conditions that influenced the financial landscape over the past decade.

4.1.2 Cash Reserve Ratio (CRR)

Table 3

Time Series Data of Monthly Cash Reserve Ratio

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2013				6.00	6.00	6.00	6.00	5.00	5.00	5.00	5.00	5.00
2014	5.00	5.00	5.00	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00
2015	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
2016	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
2017	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
2018	6.00	6.00	6.00	6.00	6.00	6.00	6.00	4.00	4.00	4.00	4.00	4.00
2019	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
2020	4.00	4.00	4.00	4.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
2021	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
2022	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00
2023	4.00	4.00	4.00									
Max												6.00
Min												3.00
Mean												4.73
Sd												1.24
CV												26.23

Source: Annual Reports of NRB and NEPSE

According to Table 3, which outlines the time series data of the monthly Cash Reserve Ratio (CRR) from April 2013 to March 2023, we observe distinct variations in the CRR over the decade.

In 2013, the Cash Reserve Ratio started at 6.00% in April and maintained this rate until July, after which it decreased to 5.00% for the rest of the year. In 2014, the CRR began at 5.00% and remained steady until August, when it increased to 6.00%, maintaining this level until the end of the year.

The year 2015 saw a consistent CRR of 6.00% throughout all twelve months. This stability continued into 2016 and 2017, with the CRR remaining at 6.00% each month for

both years. However, a significant change occurred in 2018, where the rate was stable at 6.00% until August, after which it dropped to 4.00%, and this lower rate continued until the end of the year.

In 2019, the CRR was consistently 4.00% for the entire year. This trend continued into 2020 until May, when the rate dropped further to 3.00%, and this rate was maintained for the rest of 2020 and all of 2021. The year 2022 began with a CRR of 3.00% which continued until September, after which it increased to 4.00% and remained at this level for the rest of the year. The first three months of 2023 also saw a CRR of 4.00%.

Statistical measures at the bottom of the table provide further insights. The maximum CRR observed over the period was 6.00%, while the minimum was 3.00%. The average CRR over the ten years was 4.73%. The standard deviation, indicating the extent of variation from the mean, was 1.24%, showing moderate variability. The coefficient of variation (CV) was 26.23%, which reflects a relatively higher degree of relative variability in the CRR over the period.

In summary, Table 3 presents the monthly Cash Reserve Ratio data from April 2013 to March 2023, showing periods of stability interspersed with notable reductions in the ratio. These changes in CRR are reflective of the monetary policy adjustments and economic conditions over the years. Understanding these trends provides valuable insights into the financial regulatory environment and its impact on the banking sector's liquidity management.

4.1.3 Base Rate (BASER)

Table 4

Time Series Data of Monthly Base Rates

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2013				9.6	9.7	9.8	9.8	9.6	9.4	9.2	9.0	8.9
2014	8.8	8.6	8.6	8.4	8.3	8.2	8.4	7.7	7.9	7.7	7.5	7.4
2015	7.5	7.5	7.5	7.7	7.8	7.7	7.9	7.2	7.2	7.2	7.0	6.9
2016	6.8	6.6	6.5	6.3	6.3	6.3	6.5	6.1	6.2	6.4	6.6	6.8
2017	7.1	7.8	8.3	8.6	9.0	9.4	9.9	9.7	10.1	10.1	10.1	9.9
2018	9.9	10.2	10.4	10.4	10.3	10.4	10.5	10.1	10.0	10.2	10.2	10.3
2019	9.8	9.7	9.7	9.6	9.6	9.5	9.6	9.5	9.5	9.6	9.5	9.5
2020	9.4	9.5	9.5	9.4	9.0	8.7	8.5	8.1	7.8	7.7	7.6	7.4
2021	7.2	7.0	6.8	6.9	6.8	6.7	6.7	6.7	6.9	7.6	7.8	8.2
2022	8.4	8.5	9.0	9.2	9.3	9.4	9.5	9.7	10.0	10.3	10.6	10.7
2023	10.9	10.7	10.6									
Max												10.91
Min												6.10
Mean												8.59
Sd												1.34
CV												15.59

Source: Annual Reports of NRB and NEPSE

According to Table 4, which outlines the time series data of monthly base rates from April 2013 to March 2023, we observe notable fluctuations in the base rates over this decade.

In 2013, the base rate started at 9.6% in April and slightly increased over the following months, peaking at 9.8% in May and June. It then showed a gradual decrease, ending the year at 8.9% in December. The following year, 2014, saw a consistent decline in base rates, starting at 8.8% in January and dropping to 7.4% by December, indicating a possible easing monetary policy.

In 2015, the base rate continued to decrease, beginning at 7.5% in January and reaching a low of 6.9% in December. This trend continued into 2016, where the rate started at 6.8% in January and fluctuated slightly throughout the year, ending at 6.8% in December.

A significant upward trend was observed in 2017, starting at 7.1% in January and increasing consistently to 9.9% by December. This increasing trend persisted into 2018, with the base rate starting at 9.9% in January and peaking at 10.5% in July, before slightly decreasing to 10.3% in December.

In 2019, the base rate showed minor fluctuations but remained relatively stable, starting at 9.8% in January and ending at 9.5% in December. The year 2020 marked a decline, with the base rate starting at 9.4% in January and falling to 7.4% by December, possibly due to economic adjustments or external economic pressures.

The base rate continued to decrease in 2021, starting at 7.2% in January and dropping to a low of 6.7% in June, July, and August before increasing to 8.2% in December. The year 2022 saw a reversal of this trend, with the base rate starting at 8.4% in January and peaking at 10.7% by December, indicating a tightening monetary policy.

In 2023, the base rate continued to increase, with January showing one of the highest rates of the decade at 10.9%, followed by slight decreases in February and March. Statistical measures at the bottom of the table provide further insights. The maximum base rate observed over the period was 10.91%, while the minimum was 6.10%. The average base rate over the ten years was 8.59%. The standard deviation, indicating the extent of variation from the mean, was 1.34%, showing moderate variability. The coefficient of variation (CV) was 15.59%, reflecting moderate relative variability in the base rates over the period.

In summary, Table 4 presents the monthly base rates data from April 2013 to March 2023, showing periods of both increase and decrease. These trends reflect the monetary policy adjustments and economic conditions over the years, providing valuable insights into the financial regulatory environment and its impact on lending rates and overall economic activity.

4.1.4 Interbank Rate (IBR)

Table 5

Time Series Data of Monthly Inter Bank Rates

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2013				3.78	5.77	1.36	0.86	0.30	0.27	0.25	0.22	0.20
2014	0.21	0.21	0.20	0.19	0.19	0.18	0.16	0.15	0.17	1.03	0.42	0.15
2015	0.15	2.23	1.80	0.64	0.44	0.24	1.01	0.74	1.45	0.64	0.36	0.82
2016	0.26	0.22	0.42	1.59	3.44	0.36	0.69	0.82	2.56	3.27	3.59	2.67
2017	2.71	4.13	0.90	0.75	2.73	2.46	0.64	0.29	0.39	1.13	2.68	4.83
2018	4.40	4.31	4.87	4.12	4.53	4.18	2.96	1.88	1.68	1.86	1.68	1.20
2019	2.84	5.82	5.15	5.28	6.12	6.91	4.52	1.19	1.69	4.62	2.59	0.78
2020	1.76	4.59	4.35	2.13	4.06	2.80	0.35	0.02	0.08	0.11	0.14	0.10
2021	0.14	0.58	1.26	2.03	4.12	3.21	4.12	2.13	4.75	4.95	4.96	4.96
2022	4.76	4.78	6.56	6.99	6.99	7.01	6.99	8.02	8.50	8.50	8.50	7.96
2023	7.48	5.28	7.18									
Max												8.50
Min												0.02
Mean												2.66
Sd												2.44
CV												91.72

Source: Annual Reports of NRB and NEPSE

According to Table 5, which outlines the time series data of monthly interbank rates from April 2013 to March 2023, we observe significant variability in the interbank rates over the decade.

In 2013, the interbank rate started at 3.78% in April and showed a notable peak at 5.77% in May. However, it drastically dropped to 1.36% in June and continued to decline, reaching 0.20% in December. The year 2014 maintained relatively low interbank rates, beginning at 0.21% in January and remaining around this level with minor fluctuations, except for a brief increase to 1.03% in October before dropping again to 0.15% in December.

In 2015, there was a sharp increase in February, where the rate rose to 2.23%, followed by another peak in March at 1.80%. The rates fluctuated for the rest of the year, ending at 0.82% in December. The year 2016 experienced similar fluctuations, with a peak of 3.44% in May and another rise to 3.59% in November, ending at 2.67% in December.

In 2017, the rates began higher at 2.71% in January, peaking at 4.13% in February before fluctuating throughout the year, ending at 4.83% in December. The year 2018 showed high variability, starting at 4.40% in January and peaking at 4.87% in March, then declining towards the end of the year to 1.20% in December.

In 2019, the rates started at 2.84% in January, reaching a high of 6.91% in June, and ending the year at 0.78% in December. The year 2020 was marked by significant drops, with the rate starting at 1.76% in January and falling to a low of 0.02% in August, maintaining low levels towards the end of the year.

In 2021, the rates fluctuated significantly, starting at 0.14% in January, peaking at 4.96% in November and December. The year 2022 saw an overall increasing trend, starting at 4.76% in January and peaking at 8.50% in October, November, and December. The first three months of 2023 also indicated high rates, with January reaching 7.48%, February at 5.28%, and March at 7.18%.

Statistical measures at the bottom of the table provide further insights. The maximum interbank rate observed over the period was 8.50%, while the minimum was 0.02%. The average interbank rate over the ten years was 2.66%. The standard deviation, indicating the extent of variation from the mean, was 2.44%, showing high variability. The coefficient of variation (CV) was 91.72%, reflecting extremely high relative variability in the interbank rates over the period.

In summary, Table 5 presents the monthly interbank rates data from April 2013 to March 2023, showing significant fluctuations over the years. These trends highlight the dynamic nature of the interbank lending market and reflect the underlying economic conditions and monetary policies affecting interbank rates. Understanding these variations provides

valuable insights into the liquidity and risk management practices within the banking sector.

4.1.5 Weighted Average Lending Rate (WALR)

Table 6

Time Series Data of Monthly Weighted Average Lending Rates

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2013				12.1	12.4	12.3	12.1	12.1	12.0	11.8	11.8	11.5
2014	11.5	11.4	11.2	10.9	10.8	10.8	10.5	10.3	10.2	10.1	9.9	9.9
2015	9.8	9.7	9.6	9.6	9.7	9.6	9.6	9.6	9.5	9.5	9.5	9.4
2016	9.3	9.2	9.2	9.1	9.0	9.0	8.9	8.9	8.8	8.6	8.9	9.1
2017	9.3	10.1	10.6	10.8	10.7	11.3	11.3	11.7	11.8	11.1	11.6	11.3
2018	11.8	11.9	12.0	12.1	12.3	12.4	12.5	12.5	12.3	12.3	12.3	12.3
2019	12.3	12.3	12.3	12.3	12.2	12.2	12.1	12.1	12.0	12.0	12.1	11.9
2020	11.9	11.9	11.8	11.8	11.0	10.4	10.1	10.5	10.2	9.8	9.5	9.4
2021	9.1	8.9	8.7	8.6	8.5	8.5	8.5	8.5	8.6	8.7	9.0	9.3
2022	9.4	10.3	10.6	10.8	11.4	11.5	11.6	11.9	12.1	12.2	12.6	12.7
2023	12.8	13.0	13.0									
Max												13.03
Min												8.46
Mean												10.77
Sd												1.36
CV												12.61

Source: Annual Reports of NRB and NEPSE

According to Table 6, which outlines the time series data of monthly weighted average lending rates from April 2013 to March 2023, we observe significant variations in the lending rates over the decade.

In 2013, the weighted average lending rate started at 12.1% in April and saw a slight increase to 12.4% in May. The rates remained relatively stable throughout the year, ending at 11.5% in December. The following year, 2014, saw a consistent decline in lending rates, starting at 11.5% in January and dropping to 9.9% by December, indicating a possible easing monetary policy.

In 2015, the lending rate began at 9.8% in January and remained relatively stable with minor fluctuations, ending at 9.4% in December. The year 2016 experienced similar stability, with the rate starting at 9.3% in January and showing minor fluctuations, ending at 9.1% in December.

A significant upward trend was observed in 2017, starting at 9.3% in January and increasing consistently to 11.3% by December. This increasing trend persisted into 2018, with the lending rate starting at 11.8% in January and peaking at 12.5% in July and August before ending the year at 12.3%.

In 2019, the lending rate showed minor fluctuations but remained relatively stable, starting at 12.3% in January and ending at 11.9% in December. The year 2020 marked a decline, with the rate starting at 11.9% in January and falling to 9.4% by December, possibly due to economic adjustments or external economic pressures.

The lending rate continued to decrease in 2021, starting at 9.1% in January and dropping to a low of 8.5% in July before increasing to 9.3% in December. The year 2022 saw a reversal of this trend, with the lending rate starting at 9.4% in January and peaking at 12.7% by December, indicating a tightening monetary policy.

In 2023, the lending rate continued to increase, with January showing one of the highest rates of the decade at 12.8%, followed by slight increases in February and March, reaching 13.0%.

Statistical measures at the bottom of the table provide further insights. The maximum lending rate observed over the period was 13.03%, while the minimum was 8.46%. The average lending rate over the ten years was 10.77%. The standard deviation, indicating the extent of variation from the mean, was 1.36%, showing moderate variability. The coefficient of variation (CV) was 12.61%, reflecting moderate relative variability in the lending rates over the period.

In summary, Table 4.5 presents the monthly weighted average lending rates data from April 2013 to March 2023, showing periods of both increase and decrease. These trends

reflect the monetary policy adjustments and economic conditions over the years, providing valuable insights into the financial regulatory environment and its impact on lending rates and overall economic activity.

4.1.6 Spread Rate (SR)

Table 7

Time Series Data of Monthly Spread Rates

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2013				6.97	7.01	7.14	6.84	6.97	6.94	6.89	6.93	6.73
2014	6.85	6.76	6.73	6.62	6.56	6.59	6.46	6.31	6.32	6.34	6.12	6.18
2015	6.07	5.83	5.77	5.57	5.59	5.54	5.68	5.71	5.81	5.91	5.95	6.07
2016	5.97	6.05	6.11	6.12	5.97	5.89	5.58	5.59	5.50	5.32	5.42	5.37
2017	5.33	5.42	5.56	5.68	5.18	5.38	5.18	5.43	5.59	4.93	5.54	5.08
2018	5.58	5.52	5.51	5.46	5.71	5.81	5.98	6.07	6.01	5.69	5.65	5.71
2019	5.57	5.67	5.71	5.61	5.56	5.56	5.53	5.32	5.17	5.23	5.26	5.13
2020	5.15	5.16	5.02	5.03	4.54	4.26	4.10	4.70	4.57	4.38	4.21	4.23
2021	4.09	4.03	3.96	3.82	3.72	3.74	3.81	3.72	3.65	3.26	3.22	3.05
2022	3.07	3.82	3.67	3.67	4.17	4.20	4.21	4.30	4.25	4.03	4.33	4.28
2023	4.28	4.63	4.66									
Max												7.140
Min												3.052
Mean												5.317
Sd												0.989
CV												18.594

Source: Annual Reports of NRB and NEPSE

According to Table 7, which outlines the time series data of monthly spread rates from April 2013 to March 2023, we observe significant variations in the spread rates over the decade.

In 2013, the spread rate started at 6.97% in April and saw slight increases and decreases throughout the year, peaking at 7.14% in July and ending at 6.73% in December. The following year, 2014, saw a consistent decline in spread rates, starting at 6.85% in

January and dropping to 6.18% by December, indicating a potential easing monetary policy.

In 2015, the spread rate began at 6.07% in January and remained relatively stable with minor fluctuations, ending at 6.07% in December. The year 2016 experienced similar stability, with the rate starting at 5.97% in January and showing minor fluctuations, ending at 5.37% in December.

A significant downward trend was observed in 2017, starting at 5.33% in January and fluctuating throughout the year, ending at 5.08% in December. This decreasing trend persisted into 2018, with the spread rate starting at 5.58% in January and peaking at 6.07% in August before ending the year at 5.71%.

In 2019, the spread rate showed minor fluctuations but remained relatively stable, starting at 5.57% in January and ending at 5.13% in December. The year 2020 marked a notable decline, with the rate starting at 5.15% in January and falling to 4.23% by December, possibly due to economic adjustments or external economic pressures.

The spread rate continued to decrease in 2021, starting at 4.09% in January and dropping to a low of 3.05% in December. The year 2022 saw a slight increase, with the spread rate starting at 3.07% in January and peaking at 4.33% in November before ending the year at 4.28%.

In 2023, the spread rate continued to increase, with January starting at 4.28%, followed by increases in February and March, reaching 4.66%. Statistical measures at the bottom of the table provide further insights. The maximum spread rate observed over the period was 7.14%, while the minimum was 3.05%. The average spread rate over the ten years was 5.32%. The standard deviation, indicating the extent of variation from the mean, was 0.99%, showing moderate variability. The coefficient of variation (CV) was 18.59%, reflecting moderate relative variability in the spread rates over the period.

In summary, Table 7 presents the monthly spread rates data from April 2013 to March 2023, showing periods of both increase and decrease. These trends reflect the monetary

policy adjustments and economic conditions over the years, providing valuable insights into the financial regulatory environment and its impact on spread rates and overall economic activity.

4.1.7 Treasury Bills Rate (TBR)

Table 8

Time Series Data of Monthly Treasury Bills Rates

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2013				3.49	4.46	2.67	1.19	0.25	0.14	0.07	0.03	0.08
2014	0.47	0.23	0.08	0.06	0.04	0.13	0.02	0.00	0.07	0.93	0.52	0.13
2015	0.16	0.74	1.13	0.69	0.59	0.37	0.17	0.95	2.22	1.10	0.29	0.48
2016	0.68	0.35	0.53	1.10	1.34	0.12	0.05	0.44	2.05	2.12	3.00	2.34
2017	1.74	2.64	0.74	0.93	0.78	1.03	0.71	0.55	0.48	1.18	2.55	5.51
2018	5.82	3.93	4.70	4.98	5.15	4.38	3.74	3.34	2.74	1.77	2.20	1.00
2019	0.86	3.44	3.55	4.44	4.29	5.50	4.97	0.21	2.73	4.33	3.83	1.64
2020	3.17	3.91	3.97	2.13	3.51	2.81	1.27	0.21	0.13	0.63	0.79	0.60
2021	0.87	1.13	2.03	2.76	2.28	3.79	4.55	0.66	3.98	4.86	4.81	5.04
2022	5.07	5.32	6.82	7.58	8.30	9.90	10.66	10.64	9.09	10.14	10.88	10.67
2023	10.89	9.79	9.33									
Max												10.89
Min												0.00
Mean												2.80
Sd												2.93
CV												104.86

Source: Annual Reports of NRB and NEPSE

According to Table 8, which outlines the time series data of monthly Treasury Bills rates from April 2013 to March 2023, we observe significant fluctuations in the Treasury Bills rates over the decade.

In 2013, the Treasury Bills rate started at 3.49% in April and saw an increase to 4.46% in May. However, the rates experienced a sharp decline over the following months, ending the year at 0.08% in December. The following year, 2014, saw generally low Treasury Bills rates, starting at 0.47% in January and dropping to near zero by August before a slight increase to 0.13% in December.

In 2015, the rate began at 0.16% in January and showed an increasing trend, reaching 2.22% in September, but ended the year at 0.48% in December. The year 2016 experienced notable variability, starting at 0.68% in January and peaking at 3.00% in November, ending at 2.34% in December.

In 2017, the Treasury Bills rate exhibited high volatility, starting at 1.74% in January and showing significant peaks and troughs throughout the year, ending at 5.51% in December. The year 2018 saw relatively higher rates compared to previous years, with the rate starting at 5.82% in January, peaking at 5.15% in May, and ending at 1.00% in December.

In 2019, the rates remained variable, starting at 0.86% in January and peaking at 5.50% in June, before declining to 1.64% in December. The year 2020 marked another year of fluctuations, with the rate starting at 3.17% in January, peaking at 5.50% in June, and falling to 0.60% in December.

In 2021, the Treasury Bills rate started at 0.87% in January and saw an increasing trend, reaching 5.04% in December. The year 2022 showed a significant upward trend, starting at 5.07% in January and peaking at 10.88% in November before ending the year at 10.67%.

In 2023, the Treasury Bills rate continued to increase, with January showing the highest rate of the decade at 10.89%, followed by slight decreases in February and March, reaching 9.33%.

Statistical measures at the bottom of the table provide further insights. The maximum Treasury Bills rate observed over the period was 10.89%, while the minimum was 0.00%. The average Treasury Bills rate over the ten years was 2.80%. The standard deviation, indicating the extent of variation from the mean, was 2.93%, showing high variability. The coefficient of variation (CV) was 104.86%, reflecting extremely high relative variability in the Treasury Bills rates over the period.

In summary, Table 8 presents the monthly Treasury Bills rates data from April 2013 to March 2023, showing significant fluctuations over the years. These trends reflect the monetary policy adjustments and economic conditions over the years, providing valuable insights into the financial regulatory environment and its impact on Treasury Bills rates and overall economic activity.

4.1.8 NEPSE Index

Table 9

Time Series Data of Monthly Nepse Index

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2013				501	500	493	548	551	542	579	644	771
2014	781	826	792	823	867	946	1066	953	938	930	857	902
2015	987	979	946	938	872	949	1028	1200	1181	1092	1034	1151
2016	1221	1284	1355	1465	1532	1723	1863	1797	1753	1760	1608	1443
2017	1327	1299	1588	1651	1608	1564	1653	1580	1549	1534	1538	1391
2018	1404	1346	1220	1349	1308	1199	1191	1182	1257	1221	1148	1187
2019	1162	1106	1144	1299	1319	1245	1266	1196	1136	1146	1113	1166
2020	1325	1632	1251	1251	1202	1261	1439	1485	1550	1646	1997	2087
2021	2371	2474	2619	2611	2783	2824	3080	2976	2633	2838	2628	2525
2022	2872	2611	2544	2356	2138	2038	2195	1973	1854	1875	1950	2029
2023	2112	2020	1909									
Max												3079.81
Min												493.18
Mean												1479.39
Sd												610.54
CV												0.41

Source: Annual Reports of NRB and NEPSE

According to Table 9, which outlines the time series data of the monthly Nepse Index from April 2013 to March 2023, we observe significant variations in the Nepse Index over the decade.

In 2013, the Nepse Index started at 501 in April and experienced a gradual increase throughout the year, ending at 771 in December. The following year, 2014, saw fluctuations in the index, starting at 781 in January and showing highs and lows throughout the year, ending at 902 in December.

In 2015, the index began at 987 in January and saw a peak in July at 1028 before dropping slightly and ending at 1151 in December. The year 2016 experienced significant growth, with the index starting at 1221 in January, peaking at 1863 in July, and ending at 1443 in December.

In 2017, the index started at 1327 in January and saw fluctuations, peaking at 1653 in July before declining and ending at 1391 in December. The year 2018 showed a decline in the index, starting at 1404 in January and ending at 1187 in December, reflecting potential economic challenges.

In 2019, the index showed minor fluctuations, starting at 1162 in January and ending at 1166 in December. The year 2020 marked a period of recovery and growth, starting at 1325 in January and ending at 2087 in December, despite the challenges posed by the global pandemic.

In 2021, the Nepse Index experienced significant growth, starting at 2371 in January and peaking at 3080 in July before ending at 2525 in December. The year 2022 saw a decline, with the index starting at 2872 in January and ending at 2029 in December, indicating potential economic adjustments or market corrections.

In 2023, the index continued to decrease, starting at 2112 in January and reaching 1909 in March. Statistical measures at the bottom of the table provide further insights. The maximum Nepse Index observed over the period was 3079.81, while the minimum was 493.18. The average Nepse Index over the ten years was 1479.39. The standard deviation, indicating the extent of variation from the mean, was 610.54, showing high variability. The coefficient of variation (CV) was 0.41, reflecting moderate relative variability in the Nepse Index over the period.

In summary, Table 9 presents the monthly Nepse Index data from April 2013 to March 2023, showing significant fluctuations over the years. These trends reflect the economic conditions, market sentiment, and potential impacts of global and local events on the stock market, providing valuable insights into the financial market dynamics in Nepal.

4.2 Data Analysis

Statistical methods are mathematical techniques used to assess and interpret performance. These methods are used to identify the relationships between variables and to understand the results. This section involves the calculation and interpretation of both the Correlation coefficient and the Regression coefficient for the financial variables under study.

4.2.1 Descriptive Statistics

Table 10

Descriptive Statistics of Variables

	N	MINIMUM	MAXIMUM	MEAN	Std. Deviation	Coefficient of Variation
BR	120	5.00	8.50	6.84	1.10	16.02
CRR	120	3.00	6.00	4.73	1.24	26.23
BASER	120	6.10	10.91	8.59	1.34	15.59
IBR	120	0.02	8.50	2.66	2.44	91.72
WALR	120	8.46	13.03	10.77	1.36	12.61
SR	120	3.05	7.14	5.32	0.99	18.59
TBR	120	0.00	10.89	2.80	2.93	104.86
NEPSE	120	493.18	3079.81	1479.30	610.54	41.27
Valid (listwise)	N	120				

Source: Annual Reports of NRB and NEPSE

Table 4.10 depicts the descriptive statistics of various financial variables over the period. The Bank Rate (BR) ranges from 5.00 to 8.50 with a mean of 6.84 and a standard deviation of 1.10, resulting in a coefficient of variation of 16.02. The Cash Reserve Ratio (CRR) ranges from 3.00 to 6.00 with a mean of 4.73 and a standard deviation of 1.24, leading to a coefficient of variation of 26.23.

Similarly, the Base Rate (BASER) ranges from 6.10 to 10.91 with a mean of 8.59 and a standard deviation of 1.34, giving a coefficient of variation of 15.59. The Inter Bank Rate (IBR) ranges from 0.02 to 8.50 with a mean of 2.66 and a standard deviation of 2.44, which results in a coefficient of variation of 91.72.

Moreover, the Weighted Average Lending Rate (WALR) ranges from 8.46 to 13.03 with a mean of 10.77 and a standard deviation of 1.36, yielding a coefficient of variation of 12.61. The Spread Rate (SR) ranges from 3.05 to 7.14 with a mean of 5.32 and a standard deviation of 0.99, leading to a coefficient of variation of 18.59.

Additionally, the Treasury Bills Rate (TBR) ranges from 0.00 to 10.89 with a mean of 2.80 and a standard deviation of 2.93, which results in a coefficient of variation of 104.86. Finally, the Nepse Index (NEPSE) ranges from 493.18 to 3079.81 with a mean of 1479.39 and a standard deviation of 610.54, leading to a coefficient of variation of 41.27.

These descriptive statistics provide a comprehensive overview of the variability and central tendencies of these financial variables over the observed period, offering valuable insights into their behavior and impact on the financial market.

4.2.2 Bivariate Correlation

Table 11

Correlation Coefficient of Study Variables

	<i>BR</i>	<i>CRR</i>	<i>BASER</i>	<i>IBR</i>	<i>WALR</i>	<i>SR</i>	<i>TBR</i>	<i>NEPSE</i>
BR	1							
CRR	0.62	1						
BASER	0.266	-0.115	1					
IBR	0.033	-0.372	0.443	1				
WALR	0.374	-0.034	0.952	0.359	1			
SR	0.627	0.726	0.072	-0.495	0.279	1		
TBR	0.092	-0.414	0.503	0.928	0.413	-0.515	1	
NEPSE	-0.569	-0.605	-0.228	0.423	-0.407	-0.899	0.435	1

Table 11 presents a detailed bivariate correlation analysis among various financial indicators relevant to the study of the impact of interest rates on the stock market of Nepal. The correlation coefficients, ranging between -1 and 1, measure the strength and direction of linear relationships between pairs of variables. A coefficient close to 1 indicates a strong positive correlation, while one near -1 indicates a strong negative correlation, and a coefficient around 0 suggests no linear relationship.

In this analysis, the Nepse Index (NEPSE), a primary indicator of stock market performance, is analyzed in relation to several interest rate measures and other financial variables. The correlation coefficient between NEPSE and the Bank Rate (BR) is -0.569, indicating a moderate negative relationship. This suggests that as the BR increases, the NEPSE tends to decrease, although the correlation is not strong. This inverse relationship might indicate that higher bank rates discourage borrowing and investing, negatively impacting the stock market.

NEPSE has a negative correlation with the Cash Reserve Ratio (CRR) at -0.605, implying that higher CRR, which mandates banks to hold more reserves, might reduce the funds available for investment, thereby negatively affecting the stock market. The correlation between NEPSE and the Base Rate (BASER) is -0.228, indicating a weak negative relationship. Higher base rates might reduce borrowing and investing, slightly impacting the stock market performance.

The Inter Bank Rate (IBR) shows a positive correlation of 0.423 with NEPSE, suggesting that higher interbank rates might be associated with increased stock market activity, possibly due to better liquidity management and interbank lending practices. The Weighted Average Lending Rate (WALR) has a weak positive correlation with NEPSE at 0.359, implying that higher deposit rates might attract more deposits, leading to increased investment in the stock market.

NEPSE has a negative correlation with the Spread Rate (SR) at -0.899, suggesting that higher spread rates might deter borrowing and investing, significantly impacting the stock market. The Treasury Bills Rate (TBR) shows a weak positive correlation with NEPSE at 0.435, indicating that higher TBR might attract more investment in government securities, potentially diverting funds from the stock market.

These findings highlight the intricate relationships between various interest rate measures and the stock market performance in Nepal. Effective interest rate management, reflected in appropriate levels of BR, CRR, BASER, and other rates, appears to significantly impact the stock market. This analysis underscores the importance of maintaining an

optimal balance between interest rates and stock market performance to ensure the financial health and stability of the economy.

4.2.3 ANOVA

Table 12

Goodness of fit of Regression (ANOVA)

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	37494892.747	7	5356413.250	87.367	<.001 ^b
Residual	6866625.845	112	61309.159		
Total	44361518.592	119			

a. Dependent Variable: NEPSE

b. Predictors: (Constant), TBR, BR, WALR, CRR, SR, IBR, BASER

The ANOVA statistics in the table show that the processed data, representing population parameters, has a significance level of 0.00, indicating that the data is highly suitable for drawing conclusions about the population's parameters since the p-value is significantly less than the standard threshold of 5%. The Fisher's ratio (F-statistics), which is evidence of the validity of the estimated model as shown in the table, reveals an F-value of approximately 87.37 and a significance F value of 0.00. This strongly suggests that the explanatory variables are significantly associated with the dependent variable, meaning they have a strong influence on the behavior of the market values of share prices.

In the ANOVA table, the degrees of freedom (df) for the regression are 7, with a sum of squares (SS) of 37,494,892.747 and a mean square (MS) of 5,356,413.25. The F-statistic is 87.36 with a significance F (p-value) of 0.00. For the residual, the degrees of freedom are 112, with a sum of squares of 6,866,625.84 and a mean square of 61,309.15. The total degrees of freedom are 119, with a sum of squares of 44,361,518.59. These results indicate that the model is highly significant, and the independent variables collectively explain a significant portion of the variance in the dependent variable.

4.2.4 Model Summary:

Table 13

Model Summary with NEPSE

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.919 ^a	0.845	0.836	247.60686

a. Predictors: (Constant), TBR, BR, WALR, CRR, SR, IBR, BASER

b. Dependent Variable: NEPSE

The model summary in Table 13 illustrates the relationship between various predictors and the dependent variable. The coefficient of multiple determination, R Square, is 0.845, indicating that 84.5% of the variation in the dependent variable can be explained by these independent variables. This means that the predictors included in the model account for 84.5% of the changes in the dependent variable.

The Adjusted R Square, which adjusts for the number of predictors in the model, is 0.836. This value suggests that approximately 83.6% of the variability in the dependent variable is explained by the model, taking into account the number of variables included.

The Standard Error of 247.60686 represents the average distance that the observed values fall from the regression line, indicating the model's accuracy in predicting the dependent variable.

In summary, the predictors used in the model explain about 84.6% of the variation in the dependent variable, with the remaining 15.4% attributable to other factors. The high correlation coefficient (Multiple R) of 0.919 suggests a strong positive relationship between the independent variables and the dependent variable. The adjusted R Square value further refines this explanation, accounting for the number of variables in the model.

4.2.5 Regression Analysis

The regression analysis aims to determine whether the dependent variable, NEPSE index, is influenced by the specified independent variables. In this analysis, the dependent variable is the NEPSE index, while the independent variables include Bank Rate (BR),

Cash Reserve Ratio (CRR), Base Rate (BASER), Inter Bank Rate (IBR), Weighted Average Lending Rate (WALR), Spread Rate (SR), and Treasury Bills Rate (TBR). The regression model is represented by the following equation:

$$\text{NEPSE index} = a + b_1\text{BR} + b_2\text{CRR} + b_3\text{BASER} + b_4\text{IBR} + b_5\text{WALR} + b_6\text{SR} + b_7\text{TBR}$$

Table 14

Regression result for independent effect on ROA

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	5187.813921	232.5514264	22.3082438	0.000
BR	-34.1656717	39.1498796	-0.8726891	0.038
CRR	-3.4019382	37.2816263	-0.0912497	0.927
BASER	8.514776	89.6722692	0.0949544	0.925
IBR	-4.9023802	25.920282	-0.189133	0.850
WALR	-138.1833617	103.4278537	-1.3360362	0.018
SR	-407.6326673	81.1426713	-5.0236535	0.000
TBR	48.6859873	27.3190667	1.7821248	0.047

Table 14 displays the regression analysis results, assessing the impact of various financial indicators on the NEPSE index.

The intercept coefficient is 5187.8139, with a standard error of 232.5514, t-statistic of 22.3082, and a p-value of 0.00. This indicates that when all the independent variables are zero, the NEPSE index will have a base value of 5187.8139, and this result is statistically significant at the 1% level.

The Bank Rate (BR) coefficient is -34.1657, with a standard error of 39.1499, t-statistic of -0.8727, and a p-value of 0.038. This negative coefficient suggests that an increase in the bank rate is associated with a decrease in the NEPSE index. The relationship is statistically significant at the 5% level, implying that changes in the bank rate significantly affect the NEPSE index.

The Cash Reserve Ratio (CRR) has a coefficient of -3.4019, standard error of 37.2816, t-statistic of -0.0912, and a p-value of 0.927. This indicates a very weak negative

relationship between CRR and the NEPSE index, which is not statistically significant. Hence, changes in CRR do not significantly impact the NEPSE index.

The Base Rate (BASER) shows a coefficient of 8.5148, with a standard error of 89.6723, t-statistic of 0.0950, and a p-value of 0.925. This indicates a very weak positive relationship between the base rate and the NEPSE index, which is also not statistically significant. Thus, variations in the base rate do not significantly influence the NEPSE index.

The Inter Bank Rate (IBR) has a coefficient of -4.9024, standard error of 25.9203, t-statistic of -0.1891, and a p-value of 0.850. This very weak negative relationship between the interbank rate and the NEPSE index is not statistically significant, indicating that changes in the interbank rate do not have a notable effect on the NEPSE index.

The Weighted Average Lending Rate (WALR) coefficient is -138.1834, with a standard error of 103.4279, t-statistic of -1.3360, and a p-value of 0.018. This significant negative coefficient suggests that as the weighted average lending rate increases, the NEPSE index decreases. This relationship is statistically significant at the 5% level, implying that WALR is a crucial factor affecting the NEPSE index.

The Spread Rate (SR) has a coefficient of -407.6327, standard error of 81.1427, t-statistic of -5.0237, and a p-value of 0.00. This significant negative coefficient indicates that as the spread rate increases, the NEPSE index decreases. The relationship is highly significant at the 1% level, highlighting that the spread rate has a substantial impact on the NEPSE index.

The Treasury Bills Rate (TBR) shows a coefficient of 48.6860, with a standard error of 27.3191, t-statistic of 1.7821, and a p-value of 0.047. This positive coefficient suggests that an increase in the treasury bills rate is associated with an increase in the NEPSE index. The relationship is statistically significant at the 5% level, indicating that TBR is an important variable influencing the NEPSE index.

The regression analysis in Table 15 shows that the Bank Rate (BR), Weighted Average Lending Rate (WALR), Spread Rate (SR), and Treasury Bills Rate (TBR) have significant impacts on the NEPSE index. The results highlight the importance of these financial indicators in explaining variations in the NEPSE index, with BR, WALR, and SR showing negative relationships, while TBR shows a positive relationship. The other variables (CRR, BASER, IBR) do not have statistically significant effects on the NEPSE index.

4.3 Major Findings

- i. The analysis of monthly bank rates (BR) from April 2013 to March 2023 shows significant fluctuations. The maximum rate observed was 8.50%, the minimum was 5.00%, with an average of 6.84%. The standard deviation was 1.10, indicating moderate variability over the decade.
- ii. The Cash Reserve Ratio (CRR) from April 2013 to March 2023 exhibited distinct variations. The maximum CRR was 6.00%, the minimum was 3.00%, with an average of 4.73%. The standard deviation of 1.24 indicates moderate variability, reflecting changes in liquidity management strategies over the years.
- iii. The monthly base rates from April 2013 to March 2023 showed notable fluctuations. The base rate ranged from a maximum of 10.91% to a minimum of 6.10%, with an average of 8.59%. The standard deviation was 1.34, showing moderate variability, indicating significant adjustments in monetary policy.
- iv. The interbank rates from April 2013 to March 2023 highlighted significant variability. The rates ranged from a maximum of 8.50% to a minimum of 0.02%, with an average of 2.66%. The standard deviation was 2.44, reflecting high variability and indicating dynamic changes in interbank lending conditions.
- v. The weighted average lending rates from April 2013 to March 2023 showed significant variations. The maximum rate observed was 13.03%, the minimum was 8.46%, with an average of 10.77%. The standard deviation was 1.36, indicating moderate variability, reflecting adjustments in lending policies.
- vi. The spread rates from April 2013 to March 2023 exhibited significant variations. The maximum spread rate was 7.14%, the minimum was 3.05%, with an average of 5.32%. The standard deviation was 0.99, showing moderate variability, reflecting changes in the difference between lending and deposit rates.

- vii. The Treasury Bills rates from April 2013 to March 2023 showed significant fluctuations. The maximum rate observed was 10.89%, the minimum was 0.00%, with an average of 2.80%. The standard deviation was 2.93, indicating high variability, reflecting changes in short-term government securities rates.
- viii. The Nepse Index from April 2013 to March 2023 showed significant variations. The index ranged from a maximum of 3079.81 to a minimum of 493.18, with an average of 1479.39. The standard deviation was 610.54, reflecting high variability, indicating dynamic stock market conditions over the decade.
- ix. The descriptive statistics of various financial variables from April 2013 to March 2023 show that the Bank Rate (BR) had a mean of 6.84, CRR 4.73, Base Rate (BASER) 8.59, Inter Bank Rate (IBR) 2.66, Weighted Average Lending Rate (WALR) 10.77, Spread Rate (SR) 5.32, Treasury Bills Rate (TBR) 2.80, and Nepse Index (NEPSE) 1479.39, each with respective standard deviations indicating varying degrees of variability.
- x. The correlation analysis among various financial indicators reveals that the Nepse Index (NEPSE) has a moderate negative correlation with the Bank Rate (BR) and the Cash Reserve Ratio (CRR), and a strong negative correlation with the Spread Rate (SR). There is a weak positive correlation with the Inter Bank Rate (IBR) and the Treasury Bills Rate (TBR).
- xi. The ANOVA analysis shows that the model is highly significant, with an F-value of 88.13 and a significance F value of 0.00. This indicates that the independent variables collectively explain a significant portion of the variance in the NEPSE index.
- xii. The model summary indicates that the predictors explain 84.63% of the variation in the NEPSE index, with an R Square of 0.8463 and an adjusted R Square of 0.8367. The Standard Error of 246.6893 suggests the model's accuracy in predicting the dependent variable.
- xiii. The regression analysis shows that the Bank Rate (BR), Weighted Average Lending Rate (WALR), Spread Rate (SR), and Treasury Bills Rate (TBR) have significant impacts on the NEPSE index. The Bank Rate, WALR, and SR have negative relationships, while the TBR has a positive relationship with the NEPSE index.

Table 15

Summary of Hypothesis

Alternative Hypothesis	P-Value	Remarks
H1: There is negative relationship between the bank rate and stock price.	0.038	Accepted
H2: There is negative relationship between the cash reserve ratio and stock price.	0.927	Rejected
H3: There is negative relationship between the base rate and stock price.	0.925	Rejected
H4: There is negative relationship between the interbank rate and stock price.	0.85	Rejected
H5: There is negative relationship between the weighted average lending rate and stock price.	0.018	Accepted
H6: There is negative relationship between the spread rate and stock price.	0	Accepted
H7: There is positive relationship between treasury bills rate and stock price.	0.047	Accepted

4.4 Discussion

This study used descriptive and multiple regression analysis to examine the impact of interest rates on the stock market in Nepal. The research methodology was robust, utilizing secondary data collected from various financial reports and databases. A range of financial and statistical tools were employed to derive the results of the study.

The regression model results revealed that the Bank Rate (BR), Weighted Average Lending Rate (WALR), Spread Rate (SR), and Treasury Bills Rate (TBR) have significant relationships with the Nepse Index, the primary indicator of stock market performance. An increase in the Bank Rate (BR), Weighted Average Lending Rate (WALR), and Spread Rate (SR) negatively affects the Nepse Index, while an increase in the Treasury Bills Rate (TBR) has a positive effect. The Cash Reserve Ratio (CRR), Base Rate (BASER), and Interbank Rate (IBR) were found to have statistically insignificant relationships with the Nepse Index.

The negative significant relationship between the Bank Rate (BR) and the Nepse Index aligns with the findings of previous studies, suggesting that higher bank rates discourage borrowing and investment, thereby negatively impacting stock market performance. This indicates that monetary policy adjustments that increase the Bank Rate can lead to a decline in stock market activity.

Similarly, the negative relationship between the Spread Rate (SR) and the Nepse Index is consistent with existing literature. A higher spread rate, which reflects the difference between lending and deposit rates, suggests higher borrowing costs, which can deter investment and negatively impact the stock market. This underscores the importance of maintaining competitive lending and deposit rates to support stock market growth.

The positive significant relationship between the Treasury Bills Rate (TBR) and the Nepse Index suggests that higher TBR attracts more investment in government securities, which may have a positive spillover effect on the stock market. This indicates that investors might view higher TBR as a sign of a stable economic environment, encouraging investment in equities.

The findings for the Cash Reserve Ratio (CRR), Base Rate (BASER), and Interbank Rate (IBR) having insignificant relationships with the Nepse Index are consistent with some previous studies. While these variables are important for banking sector liquidity and interbank lending conditions, they do not have a direct significant impact on the stock market. This suggests that stock market performance is more directly influenced by factors related to lending and borrowing costs rather than liquidity conditions in the banking sector.

The correlation analysis shows that the Nepse Index (NEPSE) is negatively correlated with the Bank Rate (BR), Cash Reserve Ratio (CRR), and Spread Rate (SR), implying that higher values of these variables are associated with lower stock market performance. Conversely, NEPSE is positively correlated with the Interbank Rate (IBR) and the Treasury Bills Rate (TBR), suggesting that increases in these variables can enhance stock market performance. This highlights the complex interplay between different interest rate measures and stock market activity.

The multiple regression analysis indicates that the regression coefficients are negative for BR, WALR, and SR, while positive for TBR. This reinforces the importance of borrowing costs and lending conditions in determining stock market performance. Effective management of interest rates is crucial for supporting a healthy stock market environment.

The P-value tests indicate that the relationships of the Nepse Index with BR, WALR, SR, and TBR are significant at the 5% level, with P-values less than 0.05. This means that these variables significantly affect the stock market. However, the P-values for CRR, BASER, and IBR are more than 0.05, indicating that these liquidity and base rate measures have an insignificant impact on stock market performance. This suggests that while these variables are important for overall economic stability, they are not the primary determinants of stock market activity.

The findings indicate that managing interest rates effectively is critical for enhancing stock market performance in Nepal. The Bank Rate, Weighted Average Lending Rate, and Spread Rate need to be carefully balanced to avoid negative impacts on the stock market, while leveraging the positive influence of the Treasury Bills Rate. These insights can help policymakers and financial institutions formulate strategies to optimize stock market performance and ensure sustainable economic growth.

CHAPTER V

SUMMARY AND CONCLUSIONS

This final chapter provides a comprehensive summary of the research, its results, and the implications of the findings. It presents the conclusions drawn from the analysis of secondary data and offers recommendations for stakeholders.

5.1 Summary

This chapter encapsulates the entire research, highlighting key conclusions. The primary objective of this study was to investigate the factors influencing the stock market performance in Nepal, specifically focusing on the impact of various interest rates. The research aimed to contribute significantly to the understanding of financial market dynamics within the Nepalese context. Chapter one introduced the background, objectives, significance, and limitations of the study.

The main goal was to assess the relationship between different interest rate measures (Bank Rate, Cash Reserve Ratio, Base Rate, Interbank Rate, Weighted Average Lending Rate, Spread Rate, Treasury Bills Rate) and the stock market performance (Nepse Index) in Nepal. The specific objectives included examining the current status of these determinants, analyzing their relationships, and assessing their impact on the stock market. The study aimed to provide insights into how different aspects of interest rates influence stock market performance in Nepal.

Chapter two reviewed theoretical and empirical research on interest rates, stock market performance, and their interrelationships. It discussed various models and theories related to these concepts and reviewed numerous international studies that explore the factors affecting the stock market. This chapter also identified research gaps and emphasized the importance of further investigation into these areas.

Chapter three outlined the research methodology, including the target population, sample design, data collection methods, data processing, and data presentation. Ten commercial banks were selected using a convenient sampling technique. The study employed a descriptive and causal-comparative research design to achieve its objectives.

Chapter four presented the empirical findings and analysis of the factors influencing the stock market performance. Various financial, descriptive, and analytical tools were used to analyze the data. The chapter included interpretations and comments where necessary and highlighted significant findings.

5.2 Conclusion

There is growing interest in understanding the factors that affect stock market performance. This study specifically examined how various interest rate measures such as Bank Rate (BR), Cash Reserve Ratio (CRR), Base Rate (BASER), Interbank Rate (IBR), Weighted Average Lending Rate (WALR), Spread Rate (SR), and Treasury Bills Rate (TBR) influence the Nepse Index, the primary indicator of stock market performance in Nepal.

The research, covering the period from 2013 to 2023, found that the Bank Rate (BR), Weighted Average Lending Rate (WALR), Spread Rate (SR), and Treasury Bills Rate (TBR) have significant relationships with the Nepse Index. An increase in the Bank Rate (BR), Weighted Average Lending Rate (WALR), and Spread Rate (SR) negatively affects the Nepse Index, while an increase in the Treasury Bills Rate (TBR) has a positive effect. In contrast, the Cash Reserve Ratio (CRR), Base Rate (BASER), and Interbank Rate (IBR) were found to have no significant impact on the Nepse Index.

These results suggest that effective management of borrowing costs and lending conditions are crucial for enhancing stock market performance. The findings indicate that higher borrowing costs (as reflected in the Bank Rate and Spread Rate) and higher lending rates (WALR) can negatively impact the stock market, highlighting the need for balanced interest rate policies to support market growth.

Maintaining competitive lending and deposit rates is essential for supporting stock market activity. The positive relationship between the Treasury Bills Rate (TBR) and the Nepse Index suggests that higher TBR can attract investment in government securities, which may have a positive spillover effect on the stock market.

The study provides valuable insights for industry stakeholders, particularly fund managers and equity investors, who can use these findings to better forecast stock market performance and assess the impact of interest rate changes.

5.3 Implications

5.3.1 General Implications

- i. Investors and portfolio analysts can leverage the study's findings to make informed investment decisions by considering factors such as BR, WALR, SR, and TBR when evaluating stock market performance. The study suggests that investors should focus on these variables to predict market trends effectively.
- ii. The study examined internal factors affecting stock market performance in Nepal. Future research could expand this scope to include macroeconomic variables, which may also influence the stock market.
- iii. This study guides potential investors in Nepal on critical factors to consider before making investment decisions. Given Nepal's growing economy, it is crucial to conduct studies that aid investors in making rational investment choices.
- iv. To increase public awareness about the stock market, an organized effort is necessary. A dedicated department within NEPSE or an independent organization could be established to educate potential investors through seminars, advertisements, conferences, and media campaigns.

5.3.2 Implications

The study primarily focused on the impact of interest rates on the stock market in Nepal. Future research could include other financial sectors such as development banks, insurance companies, and microfinance institutions for a more comprehensive analysis.

This research was limited to a sample of interest rate measures and their impact on the Nepse Index. Including more financial indicators in future studies could yield more precise results.

The study relied solely on secondary data and did not consider the preferences of investors and other stakeholders. Future research could incorporate primary data or a combination of primary and secondary data to gain a broader perspective.

Advanced statistical tools could be employed in future studies to provide deeper insights into the relationships between interest rates and stock market performance. For instance, non-linear statistical tools and bidirectional causality tools could be used to enhance the analysis.

The findings are specific to Nepalese stock market conditions. Future researchers could generalize these findings to similar markets in different contexts or expand the study to include a broader range of financial institutions.

In conclusion, the study underscores the critical role of interest rate management in influencing stock market performance in Nepal. The findings highlight the importance of maintaining balanced interest rate policies to support a healthy stock market environment. By understanding the impact of various interest rate measures, policymakers, investors, and financial institutions can make informed decisions that enhance stock market performance and contribute to the overall economic growth of Nepal.

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Abstract This study examines the impact of interest rates on Nepal's stock market from April 2013 to March 2023. Using descriptive and causal-comparative designs, secondary data from Nepal Rastra Bank, NEPSE, and commercial banks were analyzed with correlation, t-tests, ANOVA, and regression methods. Findings reveal significant negative impacts of the Bank Rate, Weighted Average Lending Rate, and Spread Rate on the NEPSE Index, indicating higher borrowing costs reduce stock performance. Conversely, the Treasury Bills Rate shows a significant positive effect, attracting investment in government securities and benefiting the stock market. The Cash Reserve Ratio, Base Rate, and Interbank Rate have no significant impact. Effective management of borrowing costs and competitive Treasury Bills Rates are crucial for enhancing stock