

IMPACT OF INTEREST RATES ON STOCK PRICE IN NEPAL

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by

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Certification of Authorship

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled “**Impact of Interest Rates on Stock Price in 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 purposes.

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. Manisha Airi has defended research proposal entitled “**Impact of Interest Rates on Stock Price in Nepal**” successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work and guidance of supervisor and submit the thesis for evaluation and viva voce examination.

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Abbreviations

BR	: Bank Rate
CV	: Coefficient of Variance
DR	: Deposit Rate
GDP	: Gross Domestic Product Growth
INF	: Inflation Rate
IR	: Interest Rate
LR	: Lending Rate
MBS	: Master in Business Studies
MLIR	: Margin Loan Interest Rate
NEPSE	: NEPSE Index
NEPSE	: Nepal Stock Exchange
NRB	: Nepal Rastra Bank
SP	: Stock Price
SD	: Standard Deviation
SPSS	: Statistical Package for Social Science
TBR	: Treasury Bill Rate
TU	: Tribhuvan University

Abstract

The NEPSE Index is the primary subject of this study, which investigates the dynamics that exist between interest rates and the Nepalese stock market. The index serves as an all-encompassing indicator of market performance. The study explores the impacts of margin loan interest rates, bank rates, deposit rates, lending rates, and 91-day T-Bill rates that are obtained from Nepal Rastra Bank. The data used in the research spans numerous years. The research reveals the complex links that exist between these interest rates and the NEPSE Index by using both descriptive and causal analysis. In contrast to the negative effect that increased lending rates have on stock values, the results of the most important research indicate that bank rates have a beneficial influence on stock prices. The interest rates on deposits have a positive correlation, but the interest rates on margin loans and Treasury bills have very minimal influence. For policymakers who are interested in understanding the implications of changes in interest rates on market stability and investor behavior in Nepal's expanding financial ecosystem, these findings give useful implications that may be used to provide valuable insights.

Keywords: *NEPSE index, interest rate, margin loan, bank rate, deposit rate, lending rate*

CHAPTER I

INTRODUCTION

1.1 Background of the Study

Interest rates and stock market prices are two key factors that influence the financial landscape. While not perfectly mirrored, their relationship is significant and can be broadly described as inverse. This means that, as a general rule, when interest rates go up, stock prices tend to go down, and vice versa. Interest rates, often influenced by central banks' monetary policy activities, determine the level of economic activity. When central banks make changes to interest rates, they do so with the intention of either making the economy more competitive or making it less competitive. In general, the goal of lowering interest rates is to stimulate borrowing and investment, which will ultimately lead to an increase in economic growth. Conversely, raising interest rates aims to combat inflation by making borrowing more expensive, potentially slowing down economic activity (Mishkin, 2019).

These changes in interest rates will, by extension, have an effect on the stock market. Interest rates impact the cost of capital for companies, subsequently influencing their investment choices and profitability. When interest rates rise, the cost of borrowing money goes up, reducing corporate expenditure and investment, which in turn may have a negative impact on stock values. Moreover, Bernanke and Kuttner (2005) found that when interest rates are higher, bonds and other fixed-income instruments become more appealing in comparison to equities, which results in a change in their preferences for investments. Conversely, a decrease in interest rates lowers the cost of borrowing money, potentially resulting in a rise in corporate earnings. Additionally, when compared to bonds, stocks become more appealing, which can lead to an increase in stock prices (Shrestha, 2020).

Moreover, a variety of factors, such as investor emotions, market expectations, and the state of the global economy, can influence the non-linear relationship between interest rates and stock prices. An unexpected increase in interest rates, for instance, might cause a market sell-off owing to concerns about a slowdown in economic development, while a rate drop could cause a market rally by raising investor confidence in economic growth (Bauer & Rudebusch, 2020). When it comes to making educated investment

decisions and for policymakers working to stabilize financial markets, having a solid understanding of these dynamics is very necessary.

In the context of Nepal, this relationship is particularly pertinent given the unique economic landscape and the developing nature of its financial markets. Nepal Rastra Bank (NRB), the central bank of Nepal, plays a crucial role in determining the monetary policy stance, including setting interest rates. These rates influence various economic activities, including savings, investments, and consumption. The stock market in Nepal, represented by the Nepal Stock Exchange (NEPSE), is relatively small and less liquid compared to developed markets. However, it has been growing steadily, attracting both domestic and international investors. Interest rate changes by NRB can have significant implications for the NEPSE, influencing investor behavior and market dynamics (Adhikari, 2015).

This study contributes to this body of knowledge by focusing on Nepal's specific context, examining the relationships between bank rates, deposit interest rates, lending interest rates, 91-day T-Bill rates, and the NEPSE Index. This analysis will delve into the nuanced impacts of these interest rate variables on stock market prices, considering both short-term fluctuations and potential long-term trends. By doing so, this study seeks to provide valuable insights for policymakers, investors, and stakeholders in Nepal's financial markets, facilitating informed decision-making and contributing to the overall understanding of the interplay between interest rates and stock market dynamics.

Recently, distinct trends in interest rates and the NEPSE Index have emerged. As of the latest data, bank rates have remained stable, reflecting Nepal Rastra Bank's cautious approach to monetary policy amid efforts to maintain economic stability. Deposit rates have seen slight increases, with major banks offering rates between 6% to 8% annually, responding to changes in consumer saving patterns. Lending rates have shown moderate fluctuations, hovering around 10% to 12%, impacting borrowing costs for businesses and individuals. Margin loan rates, crucial for stock market participation, have also been adjusted, affecting investor leverage. Meanwhile, the NEPSE Index has been around 2000 points, influenced by local economic conditions, investor confidence, and global market trends. These movements underscore the intricate relationship

between interest rate policies and the performance of Nepal's stock market, shaping investment decisions and economic outlooks (Nepal Rastra Bank, 2023).

1.2 Problem Statement

Despite the established theoretical frameworks, the empirical relationship between interest rates and stock prices remains complex and somewhat ambiguous. One key issue is the variability in the impact of interest rate changes across different economic sectors and market conditions. While some industries might benefit from lower borrowing costs, others might not see significant gains due to structural or market-specific factors. The technology sector, known for its high growth potential, might react differently to interest rate changes compared to the utilities sector, which is typically more sensitive to borrowing costs due to its capital-intensive nature (Modigliani & Cohn, 1979).

Additionally, the reaction of stock prices to interest rate changes can be influenced by the prevailing economic context. During periods of economic expansion, a moderate increase in interest rates might be seen as a sign of a robust economy, potentially leading to a positive stock market response. Conversely, in a sluggish economic environment, even a small rate hike might trigger fears of a recession, leading to a negative market reaction (Rigobon & Sack, 2004).

In the context of Nepal, the problem is compounded by the relatively nascent and less liquid nature of its stock market. The NEPSE is characterized by a limited number of listed companies and lower trading volumes compared to more developed markets. This can result in higher volatility and sensitivity to interest rate changes. Additionally, Nepal's economy is heavily influenced by external factors such as remittances, foreign aid, and international trade, which can add layers of complexity to the relationship between interest rates and stock prices (Shrestha, 2016).

Several studies have conducted on the study interest rate and stock price. Nepal (2019) investigated the inverse correlation between interest rates and stock prices, suggesting that even slight changes in interest rates can lead to significant fluctuations in the stock market, posing challenges for investors. Gurung (2020) employed an auto-regressive distributed lag (ADRL) model to analyze Nepalese stock prices and interest rates, finding a negative long-run relationship between the two variables, emphasizing the

importance of stable interest rate policies for market stability. Mishra and Pokharel (2020) explore short-term impacts of interest rates on Nepal's stock market using time-series analysis, revealing significant effects in the short term but no long-term relationship between interest rates and stock prices.

Likewise, Suhag and Mehta (2020) examined the bidirectional causality between interest rates and stock market indices in India, suggesting that interest rate fluctuations can predict stock market behavior, influencing economic forecasting and policy decisions. Zhiteng and Ruoyu (2020) analyzed how interest rate changes affect China's stock market differently over short and long-term periods, emphasizing the need to address institutional flaws to enhance market stability. Arhenful et al. (2021) studies the Ghana Stock Exchange, finding a significant inverse relationship between interest rates and stock prices, underscoring the critical role of interest rate policies in market dynamics.

Similarly, Moussa and Delhoumi (2021) explored MENA region stock market responses to economic factors including interest rates, highlighting the sensitivity of market indices to short-term fluctuations in interest rates and exchange rates. Sampene et al. (2021) demonstrated the substantial impact of interest rates on the Ghana Stock Exchange Composite Index over two decades, revealing a stable long-term relationship that informs policy decisions for financial market stability. Zeng and Li (2021) found a long-term inverse relationship between interest rate adjustments and China's stock index, emphasizing the market's quick adjustment to interest rate changes despite their short-term impacts.

Alzoubi (2022) analyzed Jordan's stock market, showing that interest rates and inflation significantly affect stock prices, cautioning against adverse impacts of monetary policies on market stability. Fransisca and Herijawati (2022) focused on Indonesia's Food and Beverage Sub-Sector, concluding that profitability rather than interest rates drives stock price movements in the sector.

Given these complexities, there is a need for a analysis that considers various factors influencing the relationship between interest rates and stock prices in Nepal. This study aims to address these gaps by providing a comprehensive examination of how interest rate changes impact stock market performance across different sectors and economic

conditions. By doing so, it seeks to offer valuable insights for investors, policymakers, and financial analysts in understanding and navigating the intricate dynamics of financial markets in Nepal. Mainly, the following research questions are raised:

- What is the existing scenario of margin loan interest rates, bank rates, deposit interest rates, lending interest rates, 91-day T-Bill rates and NEPSE Index?
- Is there any relationship exist between margin loan interest rates, bank rates, deposit interest rates, lending interest rates, 91-day T-Bill rates and NEPSE Index?
- How margin loan interest rates, bank rates, deposit interest rates, lending interest rates, 91-day T-Bill rates made an impact on NEPSE Index?

1.3 Objectives of the Study

The general objective of the study is to examine the interest rate and its effect on stock price in Nepal. However, the specific objectives of the study are as follows:

- To assess the current scenario of margin loan interest rates, bank rates, deposit interest rates, lending interest rates, 91-day T-Bill rates, and NEPSE Index in Nepal.
- To examine the relationships with margin loan interest rates, bank rates, deposit interest rates, lending interest rates, 91-day T-Bill rates, and NEPSE Index.
- To analyze the impact of margin loan interest rates, bank rates, deposit interest rates, lending interest rates, and 91-day T-Bill rates on NEPSE Index in Nepal.

1.4 Rationale of the Study

Due to the crucial relevance of knowing how changes in interest rates affect the stock market in Nepal, this research was conceived with the intention of learning more about the subject. This research aims to fill significant gaps in the existing literature, considering Nepal's dynamic economic landscape and its integration into the global financial system. The purpose of this study is to provide comprehensive insights into the collective effects of various interest rate indicators on the NEPSE Index, which is Nepal's primary stock market indicator. This will be accomplished by conducting a thorough analysis of various interest rate indicators, such as the margin loan interest rate, bank rate, deposit interest rate, lending interest rate, and 91-day T-Bills rate of interest. This study is very important for policymakers, investors, and financial analysts in Nepal because it will provide crucial empirical information on how changes in

interest rates affect investor behavior, stock price volatility, and overall market stability. In addition, having an awareness of these dynamics may help in the process of making strategic decisions about monetary policy, investment strategies, and economic forecasts, which ultimately contributes to the facilitation of sustainable economic development and the resilience of the financial market in Nepal.

1.5 Limitations of the Study

The main limitations of the study are as follows:

- This study focuses primarily on the NEPSE Index as a proxy for overall stock market performance, potentially overlooking sector-specific variations.
- The research design of this study is restricted to descriptive correlation and regression analyses, which may not capture complex causal relationships.
- The limited temporal scope of this study (2018/19 to 2022/23) may not capture longer-term trends or changes in the effects of interest rates.
- Data availability and accuracy from authoritative sources may vary, potentially impacting the robustness of the findings.
- Assumptions inherent in statistical methods like regression used in this study may oversimplify the dynamics of interest rate impacts on stock prices.
- This study may not fully control for all variables that could influence stock market volatility and investor behavior.

CHAPTER II

LITERATURE REVIEW

The literature review chapter provides a comprehensive analysis and assessment of previous academic studies on the correlation between interest rates and the performance of the stock market. This analysis investigates a variety of empirical studies that have examined different aspects of this correlation, including the influence of certain interest rate indicators such as bank rate, deposit interest rate, lending interest rate, and T-Bills rate on the stock price. The literature review chapter aims to create a comprehensive basis for understanding the dynamics and complexities of interest rate effects on the stock market. It does this by combining insights from various sources. The chapter also guides the formulation of hypotheses and research objectives for the current study. This chapter is divided in three sections i.e., theoretical review, empirical review and research gap.

2.1 Theoretical Review

The theoretical review section delves into foundational concepts essential for exploring the impact of interest rates on stock market performance. According to the discount rate theory, changes in interest rates directly affect the present value of future cash flows, thereby influencing stock prices (Fama, 1970). Investors assess stock returns relative to alternative investments impacted by interest rates, aligning with the opportunity cost theory (Modigliani & Miller, 1958). The theory of economic growth posits that interest rates impact economic activity and corporate profitability, thereby influencing stock market performance (Campbell, 1987). The risk premium theory underscores that higher interest rates prompt investors to seek higher returns from equities to compensate for increased risk (Merton, 1973). Market psychology theory emphasizes the role of investor perceptions and sentiment in driving market volatility in response to interest rate changes (Shiller, 1981). By integrating these theories, this review constructs a robust framework for comprehending the nuanced interplay between interest rates and stock market dynamics in Nepal, guiding the empirical investigation undertaken in this study.

2.1.1 Opportunity Cost Theory

The opportunity cost theory offers yet another persuasive point of view. In 1981, Joseph Stiglitz and Miles Weiss developed a hypothesis that posits that higher interest rates might attract investors to move their investments from stocks to bonds, which could possibly lead to a decrease in stock values (Stiglitz & Weiss, 1981). The reasoning behind it is simple to understand. Investors find fixed-income investments, such as bonds, more appealing when interest rates rise. Investors in equities may view this enhanced appeal as an "opportunity cost." Investors face a decision between potentially higher returns from stocks, which carry a higher level of risk, and the guaranteed returns from bonds, which carry a lower level of risk. Increasing interest rates may encourage some investors to sell their stocks and reallocate their wealth towards bonds if the prospective return from bonds becomes more competitive. It is possible that this change in investor behavior will result in a decline in demand for equities, potentially leading to a decrease in the value of such stocks.

Keim and Stauffer (1984) revealed a negative correlation between interest rates and stock market returns. This association was most noticeable during times when there were major swings in interest rates. According to their findings, when the opportunity cost of owning stocks rises as a result of increasing interest rates, investors may be more inclined to reallocate their portfolios, which may have an effect on the stock market's performance. Chen et al. (2022) revealed that different categories of investors do not consistently influence the stock market through the lens of opportunity cost. Unlike ordinary investors with shorter timelines, institutional investors with longer investment horizons are less susceptible to the influence of variations in short-term interest rates. Ang et al. (2020) investigated the relationship between the opportunity cost of equities and the mood of investors. They came to the conclusion that when investor moods are negative, the stock market becomes more sensitive to fluctuations in interest rates. This finding suggests that risk aversion magnifies the opportunity cost impact.

Brunnermeier and Hördahl (2016) investigated the impact of unconventional monetary policies like quantitative easing on the potential cost of equities. According to their argument, these policies have the potential to muddy the waters between conventional fixed-income investments and equity investments, which might affect investors' behavior and have an effect on the link between interest rates and the stock market.

These studies emphasized the multidimensional character of the opportunity cost effect by highlighting its impact. A number of factors, including the demographics of investors, their emotions, and the larger economic backdrop around the market, influence the rivalry between stocks and bonds and ultimately the effect of interest rates on the stock market. The opportunity cost theory provides an insightful understanding of the relationship between interest rates and the stock market. An increase in interest rates may increase the opportunity cost of owning stocks, causing investors to reallocate their wealth towards bonds. When analyzing the effect that interest rates have on the stock market, it is critical to take into account investor behavior and market dynamics.

2.1.2 Economic Growth Theory

Robert Solow developed the Economic Growth Theory, which goes into the scope of the larger economic backdrop. The economic growth theory proposes a symbiotic dance in which lower interest rates fuel economic development, strengthening stock values, and excellent stock market performance contribute to a prospering economy. This theory is based on the idea that interest rates have a fundamental influence on businesses' activities. When interest rates are low, it is more affordable for companies to borrow money, which ultimately enables them to make investments in areas such as growth, research and development, and hiring. In the end, this results in increased production and higher profitability. Increased earnings have the potential to result in higher dividend payments to shareholders, as well as an overall increase in stock prices (Solow, 1956). Additionally, a growing economy often results in greater consumer spending as well as increased corporate profitability, which further fuels confidence in the stock market when it comes to the economy.

Blanchard and Perotti (2002) discovered that economic expansion may result in increased earnings for corporations, which in turn can contribute to an increase in the value of company shares. In a similar vein, Lee et al. (2019) proved that the expansion of the economy in developing nations may have a particularly big and favorable influence on the stock markets of such markets.

The link between interest rates, economic growth, and the stock market has been the subject of a recent study, which has revealed more insights into the relationship. Bernanke et al. (2016) believed that central banks have the ability to use interest rate changes as a weapon to boost economic development and indirectly affect the stock

market. Central banks have the ability to encourage borrowing and investment through the reduction of interest rates, which may ultimately result in a healthier economy and a stronger stock market performance. Carlson and Gaspar (2022) emphasized the significance of interest rates in conjunction with the availability of loan facilities. Limited access to finance may hinder enterprises' capacity to capitalize on economic development opportunities, even in the presence of low interest rates.

Ahearne et al. (2023) discovered that the link between economic growth and stock prices might vary from sector to sector, with cyclical industries being more vulnerable to swings in economic growth. In spite of these complications, the economic growth theory provides a helpful framework for comprehending the more general processes that are at work. Investors can gain a more in-depth understanding of how economic development may impact the stock market landscape if they take into account the interdependencies that exist between interest rates, economic activity, and business performance.

2.1.3 Risk Premium Theory

Risk premium theory plays a pivotal role in understanding the dynamic relationship between interest rates and the stock market and it was founded by (Lintner, 1965). Essentially, it is based on the fundamental notion that investors expect a higher return on riskier assets, such as stocks, in comparison to investments that are considered to be safer, such as bonds. According to this idea, an increase in interest rates may result in a probable decrease in stock values owing to the altered risk-reward landscape brought about by the situation.

The theory is based on the concept of the risk-free rate, typically represented by the yield on government bonds. This rate, acting as a benchmark for investors, reflects the assured return that investors may anticipate from an almost completely risk-free investment. The risk-free rate, or the yields on government bonds, rises in tandem with an increase in interest rates. In essence, if the guaranteed return on bonds becomes more appealing as a result of increasing interest rates, investors may demand a greater risk premium for owning stocks in order to compensate for the increased risk that is associated with it (Lintner, 1965). Because investors demand a bigger prospective return over time to justify the additional risk they are taking, this higher risk premium

may result in a lower present price for stocks. This is because investors require a higher potential return over time.

Barber and Odean (2016) emphasized the significance of the risk tolerance of investors. Despite the fact that interest rates are going up, investors who have a greater risk tolerance may be less sensitive to fluctuations in the risk-free rate and may be prepared to accept a smaller risk premium for equities. This highlights how important it is to take investor demographics into consideration when studying the effect that interest rates have on stock prices.

In addition, the presence of other elements may amplify the influence of the risk premium theory. Increasing interest rates can counteract excessive inflation. On the other hand, inflation itself reduces the buying power of future cash flows, which are a significant factor in determining the value of stocks. In these kinds of situations, investors can demand an even greater risk premium for stocks in order to compensate for the possibility of a loss of buying power, which might result in a more significant drop in stock prices (Dimson et al., 2016).

Additionally, market psychology has the potential to influence the consequences of the risk premium theory. During times of pessimism, even a small rise in the risk-free rate as a result of increasing interest rates may lead to a more substantial demand for a larger risk premium, which has the potential to cause a more severe decrease in stock prices (Baker & Wurgler, 2006).

The risk premium theory is particularly useful because it provides a plausible explanation for how interest rates might impact the stock market's behavior. By gaining an understanding of the dynamic relationship that exists between risk-free rates, risk perception, and the risk premium that investors demand, as well as the ways in which these factors interact with investor risk tolerance, inflation, and market psychology, we are able to gain valuable insights into the ways in which changes in the interest rate environment might impact stock prices.

2.1.4 Market Psychology Theory

Market psychology theory emphasized the human aspect of investing by highlighting how investor emotions and feelings can have a significant impact on stock market behavior (Shiller, 2017). This theory goes beyond the simply rational components of

economics and claims that interest rates, which are often considered to be a true economic issue, might set off a chain reaction of psychological impacts (Baker & Wurgler, 2009). It is possible that these consequences will affect investors' risk tolerance and, eventually, stock prices.

According to Baker and Wurgler (2009), favorable interest rates may instill a feeling of optimism in the minds of investors. When the cost of borrowing money is low, firms have the ability to grow, which may result in higher earnings and a more optimistic view of the economy. An overly optimistic atmosphere develops a higher tolerance for risk. Investors' increased willingness to invest in riskier equities may lead to a rise in stock values, as they anticipate potential future growth. An increase in interest rates may cause a surge of anxiety and uncertainty. As the cost of borrowing money continues to rise, the pace of economic expansion may decelerate, and businesses' profitability may come under increasing pressure. Negativity can lead to risk aversion, which is when investors choose to invest in safer havens such as bonds rather than equities that have the potential to be volatile. A wave of selling may follow, which will result in a decrease in stock prices.

The market psychology theory poses a special issue when it comes to measuring the specific influence that different emotions have on the market. Emotions, in contrast to elements such as inflation or economic development, are subjective and have a greater number of facets. Conversely, anecdotal evidence and historical occurrences often bolster the hypothesis's impact. Excessive optimism and slack monetary policy (low interest rates) fuelled the dot-com bubble in the late 1990s, serving as a cautionary tale that illustrates how excitement can cause asset values to rise beyond fair levels (Shiller, 2017). On the other hand, the financial crisis that occurred in 2008, which was characterized by increasing interest rates and a broad feeling of fear, was the catalyst for a substantial downward trend in the stock market.

In recent years, researchers have made more efforts to investigate the complexities of the market psychology theory. Different investor groups may demonstrate differing degrees of receptivity to psychological stimuli (Grable & Martin, 2009). This explains why investor demographics play a significant role in the investment process. When compared to near-retirees who are getting close to the end of their risk-averse phase,

younger investors who have a longer investment horizon may be more robust to short-term emotional fluctuations.

According to Huang and Liu (2014), the pervasiveness of financial news and social media might increase emotional responses. This is because sensationalized headlines and social media echo chambers can heighten fear or exhilaration, potentially leading to market overreactions. In addition, investors often base their judgments on the dominant narrative about the market, which should be considered in addition to their fundamental feelings. A convincing narrative of economic expansion may serve as a source of optimism, but worries about a recession might serve as a catalyst for a sell-off.

The market psychology theory provides very helpful insights into the human element that is involved in the stock market. It is able to get a more thorough understanding of market behavior when we acknowledge the interaction that exists between interest rates, the feelings of investors, and their level of risk tolerance. When it comes to navigating the sometimes-stormy seas of the financial world, adding psychological elements to investment research may provide essential perspective. Quantifying emotions continues to be a difficulty, but having this context can be quite helpful.

2.2 Empirical Review

Eldomiaty et al. (2019) investigated the relationships between inflation rates, real interest rates, and stock prices using a comprehensive empirical approach spanning the period 1999-2016 and focusing on non-financial firms listed on DJIA30 and NASDAQ100. Employing a stock duration model alongside Johansen cointegration tests, cointegration regression, Granger causality, and vector error correction models, the study reveals nuanced findings. It highlights that inflation rates exert an adverse effect on stock prices, as evidenced by a negative coefficient of 0.0358, albeit with considerable standard error (SE: 2.1738). In contrast, real interest rates demonstrate a positive impact on stock prices, supported by a coefficient of 0.0147 (SE: 2.3516). The inclusion of dummy variables for small and large enterprises further enriches the analysis, showing significant coefficients of 19.3907 (SE: 36.9088) and 9.7176 (SE: 14.3226) respectively, indicating varying impacts across different firm sizes. Despite these complexities, the model achieves a satisfactory fit with an adjusted R-squared of

0.2407 and an F-statistic of 260.1996, underscoring the robustness of the findings amidst the dynamics of inflation, real interest rates, and stock market performance.

Gurung (2020) explored the relationship between stock prices and interbank interest rates at the Nepal Stock Exchange using an auto-regressive distributed lag (ARDL) model, bound test for co-integration, and error correction method (ECM) over the period 1996-2019. The findings underscore several key insights: lagged differences in stock prices exhibit significant influence on current stock prices, evident through coefficients such as $D(\text{PRICE}(-1))$ at 0.150 (p-value = 0.017), $D(\text{PRICE}(-4))$ at -0.167 (p-value = 0.008), $D(\text{PRICE}(-6))$ at 0.176 (p-value = 0.005), and $D(\text{PRICE}(-9))$ at 0.131 (p-value = 0.038). Interestingly, interbank interest rates ($D(\text{INTEREST})$) show a non-significant short-term impact on stock prices, with a coefficient of 0.001 and a p-value of 0.655, indicating minimal immediate influence. The error correction term ($\text{ECT}(-1)^*$) carries a coefficient of -0.013 (p-value = 0.001), suggesting a significant adjustment towards long-term equilibrium, with approximately 1.3% of any deviation from equilibrium corrected each period. These results contribute to understanding the dynamics between interest rates and stock market behavior in Nepal, emphasizing the nuanced temporal dynamics and the role of lagged stock price adjustments in influencing current market trends.

Mishra and Pokhrel (2020) analyzed the relationship between interest rates and stock prices in Nepal's market using data from 2010 to 2019. Employing the ARDL bound test methodology alongside error correction models and cumulative sum of recursive residual tests, the study identified a significant long-term linkage between interest rates and stock prices. The error correction term ($\text{CointEq}(-1)^*$) coefficient of 0.001263, with a t-statistic of 3.413110 (p-value = 0.0009), indicates that deviations from equilibrium are corrected at a rate of 0.1263% per period. Despite explaining 8.1% of the variation in stock prices ($R\text{-squared} = 0.081007$), the model's findings suggest a moderate explanatory power, with a standard deviation of 0.073621 and a standard error of regression of 0.070576. The model selection criteria ($\text{AIC} = -2.455367$, $\text{SC} = -2.431095$, $\text{HQC} = -2.445519$) underscore the model's adequacy, while the Durbin-Watson statistic of 2.180793 indicates no significant autocorrelation in the residuals. This research provides critical insights into the dynamics of Nepal's stock market,

emphasizing the enduring impact of interest rates on stock prices and contributing valuable implications for financial policy and investment strategies.

Suhag and Mehta (2020) investigated the impact of 10-year T-bill rates on stock market indices in India from 2005 to 2020 using augmented Dickey-Fuller unit root tests and Granger causality tests. Their study revealed a significant bidirectional causality between interest rates and stock market indices, indicating that changes in T-bill rates can predict fluctuations in stock prices. The regression results showed an R-squared of 0.48 and an F-statistic of 10.87, suggesting a moderate explanatory power of the model. Specifically, they found that a 1% increase in the T-bill rate corresponded to a 0.28% decrease in stock indices, highlighting the practical implications for economic planning and growth strategies. This research underscores the importance of interest rate movements in influencing stock market dynamics and provides valuable insights for policymakers and investors navigating the Indian financial landscape.

Zhiteng and Ruoyu (2020) conducted an empirical analysis to assess the short-term and long-term effects of interest rate changes on stock prices in China using data from October 1997 to March 2016. Their study found a strong overall fit for the model, with goodness of fit values of 0.8902 and 0.8214 on the third and fourth trading days after an interest rate adjustment, respectively. The F-test probabilities for these days were both close to 0 (0.000693 and 0.000906), indicating the statistical significance of the model's findings. Specifically, the estimated parameters for interest rate adjustments (Δi) showed significant impacts on stock prices, with p-values of 0.0007 on the third day and 0.0005 on the fourth day after adjustment. The Durbin-Watson test values of 2.165361 and 2.15576 suggested no significant autocorrelation in the residuals, affirming the reliability of their results. This research highlights the substantial influence of interest rate changes on stock market dynamics in China, offering valuable insights for understanding the interplay between monetary policy and financial markets.

Arhenful et al. (2021) examined the relationship between interest rates and stock prices on the Ghana Stock Exchange from 2007 to 2019. Employing Augmented Dickey-Fuller (ADF) tests and Ordinary Least Squares (OLS) within a Multiple Regression framework, their study yielded significant findings. The regression results indicated several notable coefficients: the constant term (C) showed a positive effect with a coefficient of 1.801 and a t-statistic of 4.315 (p-value = 0.000), indicating statistical

significance. The inflation rate (DLINF) demonstrated a positive impact on stock prices with a coefficient of 0.762 and a t-statistic of 1.685 (p-value = 0.029). Conversely, the money market rate (DLMPR) had a negative coefficient of -0.891 and a t-statistic of 0.923 (p-value = 0.037), suggesting a detrimental effect on stock prices. Moreover, the money supply (DLMS) and nominal exchange rate (DLNER) both exhibited significant negative coefficients of -1.351 (t-statistic = -4.247, p-value = 0.000) and -1.104 (t-statistic = 1.943, p-value = 0.048), respectively. The model demonstrated a high explanatory power with an R-squared of 0.831, indicating that 83.1% of the variation in stock prices was accounted for by the independent variables. However, the low Durbin-Watson statistic of 0.358 suggested potential autocorrelation in the residuals, implying a need for further diagnostic checks. Overall, this study provides valuable insights into how various interest rates influence stock market dynamics in Ghana, offering implications for both researchers and policymakers.

Moussa and Delhoumi (2021) analyzed the asymmetric impact of interest and exchange rates on stock market indices across the MENA region using a Non-linear Autoregressive Distributed Lag (NARDL) model spanning from 1998 to 2018. Their study revealed varied impacts across different countries within the region. In Tunisia, the market index return showed positive impacts from lagged returns with coefficients of 0.04058 ($p = 0.0942$) for ΔR_{t-1} and 0.03737 ($p = 0.0122$) for ΔR_{t-2} . Turkey exhibited significant positive impacts with coefficients of 0.419986 ($p < 0.0001$) for ΔR_{t-1} , 0.168107 ($p < 0.0001$) for ΔR_{t-2} , and 0.048876 ($p = 0.0053$) for ΔR_{t-3} . Interest rate changes (ΔINT) had varying impacts: ΔINT^+ in Tunisia had a coefficient of 0.011427 ($p < 0.0001$), while in Morocco it was 0.000798 ($p = 0.0165$). Turkey also showed significant coefficients for ΔINT^+ with 0.01022 ($p = 0.0024$) for $t-1$ and 0.00745 ($p = 0.0157$) for $t-2$. Conversely, Egypt and Jordan saw significant impacts from ΔINT^- with coefficients of 0.001352 ($p = 0.068$) and 0.00718 ($p = 0.0773$), respectively. Exchange rate changes (ΔEX) were notably influential, particularly in Morocco where ΔEX^- had a coefficient of 1.57862 ($p < 0.0001$). Across all countries, the error correction term (ECT) was highly significant, indicating a strong adjustment towards equilibrium, with coefficients of 0.79871 for Tunisia, 0.83545 for Morocco, 0.82962 for Egypt, 0.9642 for Turkey, and 1.92332 for Jordan (all $p < 0.0001$). This study contributes valuable insights into the complex dynamics between economic

factors and stock market behavior in the MENA region, highlighting the nuanced effects of interest and exchange rate fluctuations on market indices.

Sampene et al. (2021) investigated the long-term effects of interest rates on the Ghana Stock Exchange Composite Index (GSECI) using data from 2000 to 2019. Employing the Johansen Multivariate Cointegration Method, their study aimed to explore the relationship between interest rates and the stock market in Ghana. The findings revealed significant insights into this relationship: the Max-Eigen statistics confirmed cointegration between interest rates and the GSECI, indicating a sustainable long-term relationship. Regression analysis highlighted several key relationships: the exchange rate (ER) showed a highly significant negative coefficient of -436.717, indicating that a decrease in the exchange rate corresponds to an increase in the GSECI, aligning with existing research on inverse relationships between exchange rates and stock prices globally. Interest rates (IR) exhibited an inverse correlation with the GSECI, with a coefficient of -0.1463, suggesting that a 1% increase in interest rates could lead to a 14.63% decrease in the stock index. Additionally, the Consumer Price Index (CPI) positively impacted the GSECI, with a coefficient of 0.1895, meaning a 1% rise in inflation resulted in an 18.95-point increase in the stock index. Similarly, the money supply (MS) positively influenced the GSECI, with a coefficient of 0.0247, indicating that a 1% increase in money supply led to a 0.0247-point rise in the stock index. These findings underscore the complex interplay between macroeconomic factors and stock market performance in Ghana, offering valuable insights for policymakers, investors, and researchers interested in understanding and predicting stock market dynamics in the region.

Zeng and Li (2021) explored the impact of interest rate adjustments on China's stock market using data spanning from 1991 to 2015. Their objective was to analyze the dynamics between interest rate changes and stock market fluctuations in China. Employing an Error Correction Model and Granger causality tests, the study revealed significant findings: the constant term exhibited a strong positive effect on the stock index, with a coefficient of 4.568 and a high t-statistic of 6.381 ($p = 0.000$). Conversely, the lagged interest rate (LNR) had a notable negative impact on the stock index, reflected in a coefficient of -0.899 and a significant t-statistic of -4.285 ($p = 0.001$). The model demonstrated a good fit with an R-squared value of 0.65, indicating that 65% of

the variation in the stock index could be explained by the independent variables. The F-statistic of 13.45 further underscored the model's overall statistical significance ($p = 0.000$). Moreover, the Error Correction Model confirmed the presence of a long-term relationship between interest rate adjustments and stock market movements. However, the Durbin-Watson statistic of 0.747 suggested some positive autocorrelation in the residuals, pointing to potential areas for further refinement in the model. In conclusion, the study provides valuable insights into the intricate relationship between interest rates and stock market dynamics in China, offering implications for economic policy and investment strategies in the region.

Alzoubi (2022) investigated the impact of economic indicators on the Amman Stock Exchange using data spanning from 1991 to 2020. The objective was to analyze how variables such as the consumer price index (CPI) and interest rates influence stock market performance in Jordan. Employing the ARDL bounds test methodology, the study found compelling results: the constant term exhibited a significant negative coefficient of -11.15994 ($t\text{-stat} = -2.997290$, $p = 0.0200$), suggesting a baseline negative impact on the stock price index, holding other variables constant. Real GDP growth (LnRGDP) showed a positive coefficient of 3.861034 ($t\text{-stat} = 4.512716$, $p = 0.0028$), indicating that a 1 percent increase in real GDP leads to a 3.86 percent increase in the stock price index. Conversely, both the consumer price index (LnCPI) and interest rates (LnIDR) displayed negative coefficients of -1.620421 ($t\text{-stat} = -5.078192$, $p = 0.0014$) and -5.338057 ($t\text{-stat} = -4.928718$, $p = 0.0017$), respectively. This suggests that a 1 percent increase in CPI results in a 1.62 percent decrease in the stock price index, while a similar increase in interest rates leads to a decline of about 5.33 percent in the stock price index. Importantly, domestic credit as a percentage of GDP (LnDCGDP) showed no statistically significant impact ($p = 0.5335$) on stock market performance over the long term. In conclusion, the study provides robust empirical evidence of how economic indicators, particularly CPI and interest rates, influence stock market dynamics in Jordan, highlighting implications for investors and policymakers alike.

Fransisca and Herijawati (2022) focused on the Food and Beverage Sub-Sector in Indonesia to analyze the influence of interest rates, exchange rates, profitability, and liquidity on stock prices from 2017 to 2020. Utilizing multiple linear regression analysis in SPSS, the study aimed to uncover how these variables impact stock prices in the

sector. The findings indicated a well-fitted model without significant autocorrelation issues, as reflected in the Durbin-Watson statistic of 1.819. Key results revealed that interest rates and exchange rates exhibited non-significant coefficients of -0.014 (t-stat = -0.046, $p = 0.964$) and -0.709 (t-stat = -0.131, $p = 0.896$), respectively, suggesting no direct impact on stock prices within the sector during the study period. In contrast, gross profit margin emerged as a significant positive predictor, with a coefficient of 0.043 (Beta = 0.609, t-stat = 4.593, $p = 0.000$), indicating that higher profit margins were associated with increased stock prices. However, the current ratio showed no significant influence on stock prices, with a coefficient of -0.001 (Beta = -0.077, t-stat = -0.580, $p = 0.565$). These findings underscore the sector-specific dynamics where profitability metrics play a more decisive role in shaping stock price movements compared to macroeconomic factors like interest and exchange rates. Such insights are valuable for stakeholders in the Food and Beverage industry and contribute to a deeper understanding of stock market behavior in Indonesia's sub-sector analysis.

Gebremeskel and Malawo (2022) analyzed the impact of interest rates and Treasury bill yields on stock prices at the Lusaka Securities Exchange, spanning from 2006 to 2022. Employing the ARDL model, their study aimed to elucidate the relationships between these variables in the Zambian context. The findings highlight several significant coefficients: lagged stock prices (LNLASI(-1)) positively influenced stock prices with a coefficient of 0.507443 (t-stat = 3.951, $p = 0.001$), underscoring a strong persistence effect in the market. Conversely, inflation (INF) did not show a significant impact on stock prices (coefficient = -0.009373, t-stat = -1.143, $p = 0.266$). Deposit interest rates (LIR and LIR(-1)) exhibited non-significant coefficients of 0.007080 (t-stat = 0.508, $p = 0.617$) and -0.032263 (t-stat = -2.142, $p = 0.044$), respectively. Notably, lagged Treasury bill rates (TBR) demonstrated a marginally significant negative effect on stock prices (coefficient = -0.017111, t-stat = -1.832, $p = 0.081$). The intercept (C) had a substantial positive impact on stock prices (coefficient = 4.317270, t-stat = 3.930, $p = 0.001$), indicating other influential factors not captured by the model. The overall model fit was robust, with an R-squared of 0.834 and an adjusted R-squared of 0.771, suggesting that the variables collectively explain a significant portion of the variation in stock prices. The F-statistic (13.195, $p = 0.000001$) confirmed the model's validity, and the Durbin-Watson statistic (1.912) indicated no significant autocorrelation issues. These findings provide valuable insights into the dynamics of the Zambian stock

market, informing stakeholders and policymakers alike on the influences of interest rates and Treasury bill yields on stock price movements.

Sitasari and Firmansyah (2022) assessed the impact of inflation, exchange rates, and interest rates on stock prices within Indonesia's financial sector from 2010 to 2020. Employing classic assumption tests and multiple regression analysis, their study aimed to uncover the relationships between these economic indicators and share prices. The findings revealed significant impacts for exchange rates and interest rates, while inflation did not show a statistically significant effect on stock prices. Exchange rates exhibited a robust positive effect with a coefficient of 90.12438 (t-stat = 14.895, $p = 0.000$), indicating that a unit increase in the exchange rate correlated with an increase of approximately 90 units in share prices. In contrast, interest rates had a notable negative impact with a coefficient of -69.94733 (t-stat = -4.442, $p = 0.000$), suggesting that higher interest rates were associated with lower stock prices. The intercept (185.1505, t-stat = 1.620, $p = 0.108$) was not statistically significant. The model demonstrated a strong overall fit with an R-squared of 0.785, implying that 78.5% of the variation in stock prices was explained by the independent variables. The highly significant F-statistic (156.211, $p = 0.000$) affirmed the model's validity. However, the Durbin-Watson statistic (0.270) indicated strong positive autocorrelation, suggesting potential time-series dynamics that merit further investigation. These findings provide valuable insights into the nuanced impacts of economic factors on Indonesia's financial sector stock prices, guiding stakeholders in understanding market behaviors and informing strategic decision-making.

Tejokusumo et al. (2022) explored the impact of real interest rates, inflation, exchange rates, and GDP on stock returns within Indonesia's property sector from 2012 to 2019. Employing panel data regression, their study aimed to uncover the nuanced relationships between these economic factors and stock returns. The findings revealed significant effects of several variables on stock returns. Real interest rates displayed a positive coefficient of 0.970072 (t-stat = 2.814, $p = 0.0049$), indicating that higher real interest rates were associated with increased stock returns in the property sector. Conversely, inflation exhibited a negative coefficient of -1.136872 (t-stat = -5.637, $p = 0.0000$), suggesting that higher inflation rates corresponded to lower stock returns. Exchange rates also had a negative impact with a coefficient of -0.0000164 (t-stat = -

6.068, $p = 0.0000$), indicating that depreciation in the exchange rate led to lower stock returns. However, GDP showed a statistically insignificant coefficient of -0.0000544 ($t\text{-stat} = -1.079$, $p = 0.2807$), suggesting it did not significantly influence stock returns in the property sector during the study period. The panel regression model achieved an adjusted R-squared of 0.029543 , indicating that approximately 2.95% of the variation in stock returns was explained by the independent variables. The highly significant F-statistic (19.989 , $p = 0.0000$) confirmed the overall validity of the model. These findings provide valuable insights into the dynamics of Indonesia's property sector stock returns, offering stakeholders empirical evidence to inform investment decisions and strategic planning amidst varying economic conditions.

Amanda et al. (2023) investigated the influence of inflation, exchange rates, and interest rates on stock prices within Indonesia's transportation sub-sector from 2018 to 2020. The study aimed to provide insights into how these economic factors impact stock prices in the specific industry context. The findings revealed significant results for inflation, which exhibited a positive effect with a coefficient of 18.00546 ($t\text{-stat} = 4.513$, $p = 0.0000$), indicating that higher inflation rates were associated with increased stock prices in the transportation sub-sector. In contrast, exchange rates showed a negligible impact with a coefficient of -0.174027 ($t\text{-stat} = -1.309$, $p = 0.1912$), suggesting no significant relationship with stock prices during the period analyzed. Interest rates had a coefficient of 4.607899 ($t\text{-stat} = 1.558$, $p = 0.1200$), indicating a positive but statistically insignificant effect on stock prices. The intercept term (C) had a coefficient of 6.225395 ($t\text{-stat} = 4.936$, $p = 0.0000$), reflecting the baseline stock price level. The model's F-statistic of 11.730 ($p = 0.0000$) underscored its overall significance. However, the Durbin-Watson statistic of 0.644 suggested the presence of mild positive autocorrelation in the residuals, indicating potential time-series dynamics that merit further investigation. Overall, the study provides valuable insights into the economic dynamics influencing stock prices in Indonesia's transportation sub-sector, offering stakeholders useful empirical evidence for decision-making and strategic planning.

Gunardi et al. (2023) examined the impact of money supply and interest rates on stock prices in Indonesia and Malaysia from 2000 to 2020. The objective was to analyze how these macroeconomic variables influence stock prices over a two-decade period using descriptive analysis and regression techniques. The findings highlighted significant

results, with money supply showing a strong positive effect on stock prices (Coefficient = 0.892191, t-stat = 8.343, p = 0.0000). In contrast, interest rates exhibited a negative relationship with stock prices, although the relationship was not statistically significant at the conventional 5% level (Coefficient = -119.7618, t-stat = -1.945, p = 0.0675). The intercept term (C) was estimated at 1590.700 (t-stat = 2.068, p = 0.0534), indicating the baseline level of stock prices. The regression model demonstrated a high goodness of fit with an R-squared of 0.925 and an adjusted R-squared of 0.916, suggesting that approximately 92.5% of the variation in stock prices can be explained by the independent variables. The F-statistic of 110.751 (p = 0.0000) confirmed the overall significance of the model. Importantly, the Durbin-Watson statistic of 0.893 indicated no significant autocorrelation in the residuals, enhancing the reliability of the findings. In conclusion, the study provides robust empirical evidence on the relationship between monetary variables and stock prices in Indonesia and Malaysia, offering valuable insights for policymakers, investors, and researchers interested in understanding the dynamics of financial markets in these countries over the past two decades.

K.C. (2023) analyzed the impact of various interest rates on stock prices and returns in Nepal from the fiscal years 2013/14 to 2020/21. The study employed correlation analysis and regression models to explore relationships between the dependent variables (stock prices and stock returns) and independent variables including bank rate, deposit rate, lending rate, base rate, and inflation. The findings revealed that bank rate had a positive impact on stock returns, with coefficients ranging from 5.449 to 8.190 across different models. In contrast, deposit interest rates consistently showed a negative impact on stock returns, with coefficients ranging from -0.206 to -0.258. Similarly, lending interest rates exhibited a negative influence on stock returns, with coefficients ranging from -0.130 to -0.211. The base rate also demonstrated a negative relationship with stock returns across various models. These results suggest that changes in interest rates, particularly bank rate, deposit rate, lending rate, and base rate, significantly influence stock market performance in Nepal. The study underscores the importance of monetary policy and interest rate dynamics in shaping investment decisions and stock market outcomes in the Nepalese context, providing valuable insights for financial analysts, policymakers, and investors.

Novandi and Falah (2023) analyzed how economic factors specifically inflation, interest rates, and exchange rates affect the Indonesia Composite Index (IHSG) from 2011 to 2015 using linear regression with a time series approach. Their findings indicate varying impacts of these factors on the IHSG. Inflation was found to have a non-significant effect (t-value = 0.675), suggesting it does not significantly influence IHSG movements. Similarly, interest rates showed a non-significant impact (t-value = -1.503), indicating they do not affect IHSG significantly. In contrast, exchange rates demonstrated a significant negative effect on the IHSG (t-value = -4.659, $p < 0.05$), rejecting the null hypothesis. The overall model explained 33.1% of the variance in IHSG (R-squared = 0.331), indicating that exchange rates, interest rates, and inflation collectively influence IHSG movements to a moderate extent. These findings underscore the importance of exchange rate dynamics as a critical factor affecting stock market performance in Indonesia, providing insights relevant for investors and policymakers navigating the Indonesian financial markets.

Wang (2023) explored the time-varying impact of the European Central Bank's interest rate policy on China's stock market, specifically focusing on the effects of Euro appreciation. Employing a VAR model with an optimal lag of 21, the study adequately captures the relationship between Euro movements and Chinese stock returns, as indicated by AIC, HQIC, and SBIC values. Additionally, employing an ARMA-GARCHX model, the study finds significant coefficients for Euro volatility (σ^2) affecting the Shanghai Stock Exchange (SSEC) and Shenzhen Stock Exchange (SZSE). Both coefficients were statistically significant ($p = 0.000$), underscoring the substantial impact of Euro fluctuations on these Chinese stock markets. These findings contribute to understanding the interconnectedness of global economic policies and their effects on emerging market economies like China's stock markets, offering insights valuable for investors and policymakers navigating international financial dynamics.

2.3 Research Gap

The research gap in the study of the impact of interest rates on the stock market in Nepal underscores the necessity for a comprehensive and longitudinal analysis integrating multiple interest rate indicators such as margin loan interest rate, bank rate, deposit interest rate, lending interest rate, and T-Bills rate to provide a nuanced understanding of their collective influence on the NEPSE Index. Existing literature often provides

insights based on restricted temporal scopes or specific aspects, failing to capture broader economic dynamics unique to the sector or conduct comparative assessments with other countries (K.C., 2023). Furthermore, there is a notable absence of research examining the long-term effects of interest rate fluctuations on stock values and their implications for economic stability and policy formulation in Nepal (Mishra & Pokharel, 2020). By incorporating recent data and additional variables, such as margin loan interest rates, this study aims to bridge these gaps, offering policymakers and investors valuable insights into navigating Nepal's intricate financial landscape. This approach not only enhances theoretical understanding but also provides practical decision-making tools to stakeholders.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Design

This study adopts a quantitative research design, incorporating both descriptive and causal research methodologies to investigate the impact of various interest rates on the stock market, specifically focusing on the NEPSE Index in Nepal. The quantitative approach allows for objective measurement and statistical analysis of the relationships between the independent variables (margin loan interest rate, bank rate, deposit interest rate, lending interest rate, and 91 days T-Bills rate) and the dependent variable (NEPSE Index). Descriptive research is used to summarize and describe the main features of the data collected, providing a clear picture of the current status of the variables under study. Causal research, on the other hand, helps in understanding and identifying the cause-and-effect relationships between the interest rates and stock market performance, thus enabling a comprehensive analysis of the dynamics at play.

3.2 Population and Sample and Sampling Design

The population for this study includes all companies listed on the Nepal Stock Exchange (NEPSE). The NEPSE Index, which is a composite index, represents the stock prices of all these companies. Thus, the study encompasses the entire population of listed companies, providing a comprehensive analysis without the need for sampling. This comprehensive approach ensures that the findings are representative of the entire stock market in Nepal, thus enhancing the generalizability of the results. The independent variables margin loan interest rate, bank rate, deposit interest rate, lending interest rate, and 91 days T-Bills rate are acquired from the economic data provided by Nepal Rastra Bank, ensuring that the data is reliable and relevant.

3.3 Nature and Sources of Data

This study utilizes secondary data sources to ensure a reliable dataset. Primary data on interest rates, including margin loan interest rate, bank rate, deposit interest rate, lending interest rate, and 91 days T-Bills rate, is sourced from publications and reports by Nepal Rastra Bank, monthly statistics and current macroeconomic situation report. This data provides a historical perspective on interest rate trends over time. Stock price data, represented by the NEPSE Index, is collected from the Nepal Stock Exchange's official

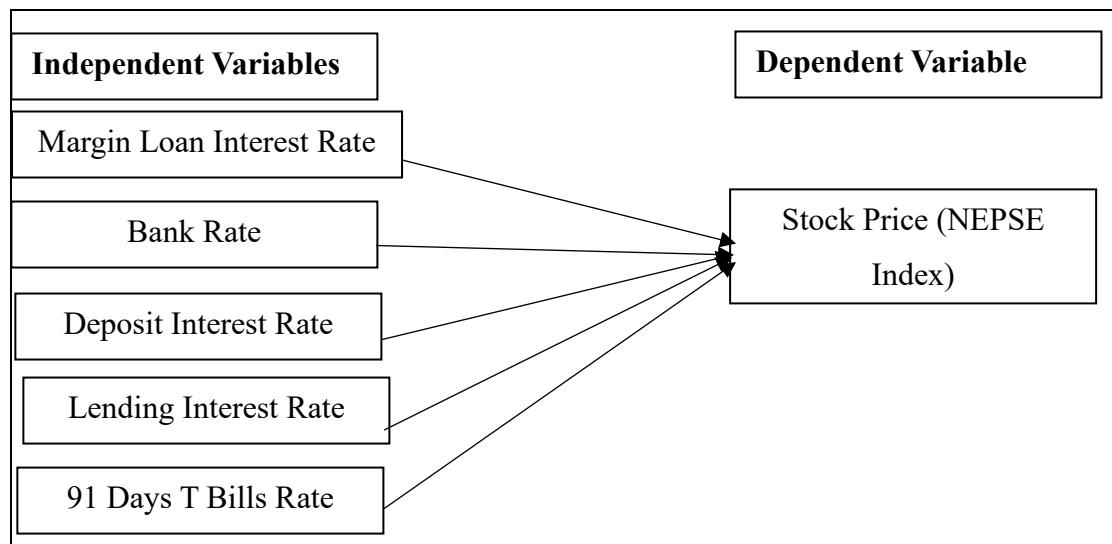
database and company financial statements. Data collection spans five years from 2018/19 to 2022/23 on a monthly basis, resulting in 60 observations for each variable. This comprehensive approach ensures the analysis is grounded in accurate and current information.

3.4 Data Collection Procedures

The data collection process involves systematically gathering reliable and relevant data from established sources to ensure the accuracy and validity of the study. Historical data on the margin loan interest rate, bank rate, deposit interest rate, lending interest rate, and 91 days T-Bills rate are sourced from the official publications i.e., monthly statistics report and macroeconomic situation report of Nepal Rastra Bank. These sources provide authoritative and comprehensive records of the interest rates over time. For the dependent variable, the NEPSE Index, monthly stock price data are collected from the annual reports of the Nepal Stock Exchange. This database offers a detailed and up-to-date account of stock market performance across all listed companies. The data is then verified for accuracy and completeness by cross-referencing with multiple sources to address any discrepancies and ensure consistency.

3.5 Research Framework and Definition of Variables

This study has focused on interest rates and stock market performance because of their importance to investment strategies and economic policy. Central banks use interest rates to regulate economic activity by influencing borrowing costs, consumer spending, and investment. Margin loan interest rate, Bank rates, deposit interest rates, lending interest rates, and short-term government securities like 91-day T-Bill rates are key indications of this monetary instruments. These interest rates have persistently correlated with stock prices, notably the NEPSE Index in Nepal, according to empirical research like K.C. (2023) and Gurung (2020). Thus, the research approach seeks to understand the complicated link between interest rates and stock market performance using a variety of empirical data. The framework of the study is presented in Figure 1.

Figure 1*Research Framework*

Sources: Mishra and Pokharel (2020); K.C. (2023)

3.5.1 Stock Price (NEPSE Index)

The NEPSE Index reflects the stock price, a measure of the overall performance of the stocks listed on the Nepal Stock Exchange. The NEPSE Index is a market capitalization-weighted index that measures the changes in the market value of the companies that make up the index. There are a number of macroeconomic variables that have an impact on stock values. These elements include interest rates, inflation, and economic growth. In his research on the link between stock prices and interest rates, Gurung (2020) employed the NEPSE Index. He discovered that there is a negative long-term correlation between the two, which highlights the vulnerability of stock market performance to changes in interest rates.

3.5.2 Margin Loan Interest Rate

Margin interest rate refers to the interest charged by brokers on loans used to purchase securities on margin. This rate impacts investors' borrowing costs when they leverage funds to buy stocks. In the context of Nepal, higher margin interest rates can reduce investors' purchasing power, potentially leading to decreased market liquidity and affecting stock market performance. As a significant factor in trading strategies, fluctuations in margin interest rates can influence investor sentiment and overall market dynamics.

3.5.3 Bank Rate

The bank rate, also known as the discount rate, is the interest rate that accompanies a country's central bank's short-term lending of money to domestic banks. The primary tool of monetary policy, it controls the level of liquidity and inflation within an economy. Changes in the bank rate have an effect on the state of the economy as a whole because they have an effect on the cost of borrowing for banks, which in turn has an effect on the interest rates and lending rates for consumers and companies. A lower bank rate stimulates borrowing and investment, whereas a higher bank rate often leads to increased borrowing costs, which may slow down economic activity. In contrast, a lower bank rate can stimulate economic activity. K.C. (2023) conducted a study which revealed that the bank rate positively impacts stock prices and returns. This finding suggests that investors pay careful attention to changes in this rate because of the implications they have for the state of the economy and the market's performance.

3.5.4 Deposit Interest Rate

Financial institutions grant the deposit interest rate to bank account holders in exchange for their deposits. Higher deposit rates may encourage consumers to save more money than they spend, which affects the amount of liquidity available in the financial system. This has an impact on consumers' saving and spending habits. Lower interest rates on deposits often make more money available for lending and investment, while higher interest rates may restrict this flow of money. K.C. (2023) observed that the interest rate on deposits negatively affects stock prices and returns. This suggests that higher deposit rates may limit the amount of liquidity available for stock investment, potentially leading to a decrease in the stock market's performance. Arhenful et al. (2021) also found a significant negative correlation between interest rates and stock prices. This finding highlights the wider influence that interest rates have on the characteristics of the market.

3.5.5 Lending Interest Rate

The interest rate that banks and other financial organizations charge borrowers is known as the lending interest rate. There is a clear correlation between this rate and the cost of consumer and commercial loans, such as mortgages, personal loans, and corporate borrowing. Higher lending rates may restrict borrowing and spending, potentially leading to a decrease in economic activity. On the other hand, lower lending rates can

boost borrowing and investment. According to K.C. (2023), loan interest rates have a negative influence on stock prices and returns. This finding suggests that increased borrowing costs might have a detrimental impact on business earnings and investment in the stock market. Gebremeskel and Malawo (2022) discovered that deposit interest rates had a short-term negative impact on stock prices, but a long-term beneficial impact. This finding highlights the complicated dynamics that are at play.

3.5.6 91 Days T Bills Rate

The 91-Day Target Bill Rate is the yield on government securities with a maturity of 91 days. Investors' perception of the economy's short-term future shapes short-term interest rates, which they view as risk-free investments and use as a benchmark. The rate of Treasury bills influences the returns of other financial assets, including stocks. Gebremeskel and Malawo (2022) employed the interest rate on the 90-day Treasury Bill to investigate its influence on the stock index. They discovered that these rates have a considerable effect on stock prices in the near term, which demonstrates their significance as a major factor in investment choices. Furthermore, Suhag and Mehta (2020) brought attention to the impact that interest rates have on stock market indices in India. They also emphasized the significance of T-Bill rates in terms of their ability to forecast the behavior of the stock market.

3.6 Method of Analysis

Different statistical tools are used to analyze the data. SPSS software was used to analyze the data in systematic manner and descriptive analysis, correlation analysis and regression analysis was conducted to analyze these data.

3.6.1 Descriptive Analysis

In the study, descriptive statistics analysis was conducted to summarize data collected over a five-year period from 2018/19 to 2022/23. The primary variables analyzed included interest rates such as margin loan interest rate, bank rate, deposit interest rate, lending interest rate, and 91 days T-Bills rate, sourced from Nepal Rastra Bank publications and official financial reports. Additionally, stock price data represented by the NEPSE Index was collected from the Nepal Stock Exchange's official database and company financial statements. For each variable, the number of observations (n), minimum and maximum values, mean, and standard deviation were computed. These statistics provide a comprehensive overview of the central tendencies and dispersion of

the data, offering insights into the variables' current status and trends throughout the study period.

3.6.2 Correlation Analysis

The study employs the correlation coefficient to assess the strength and direction of the relationship between each interest rate variable (including margin loan interest rate, bank rate, deposit interest rate, lending interest rate, and 91 days T-Bills rate) and stock prices represented by the NEPSE Index. This analysis aims to determine how closely fluctuations in interest rates align with changes in stock prices over the study period from 2018/19 to 2022/23. Understanding these correlations is crucial for uncovering potential causal links between interest rate movements and stock market trends, laying the groundwork for more in-depth regression analysis and further investigation into the dynamics between these economic indicators.

3.6.3 Regression Analysis

Multiple regression analysis is utilized in the study to assess how the independent variables margin loan interest rate, bank rate, deposit interest rate, lending interest rate, and 91 days T-Bills rate affect the dependent variable, stock prices represented by the NEPSE Index. This statistical technique allows for the quantification of the individual impact of each interest rate on stock prices while controlling for other variables in the model. The regression equation specifies how changes in these interest rates collectively contribute to fluctuations in stock prices over the study period from 2018/19 to 2022/23. Additionally, the analysis evaluates the overall goodness-of-fit of the regression model, providing insights into how well the chosen variables explain variations in stock market performance. The regression model of the study is:

$$NI = \beta_0 + \beta_1 MLIR + \beta_2 BR + \beta_3 DR + \beta_4 LR + \beta_5 TBR + \epsilon$$

Where,

NI represents the NEPSE Index

MLIR= Margin Loan Interest Rate

BR= Bank Rate

DR= Deposit Rate

LR= Lending Rate

TBR= 91 Days Treasury Bill Rate

ϵ represents the error terms

CHAPTER IV

RESULTS AND DISCUSSION

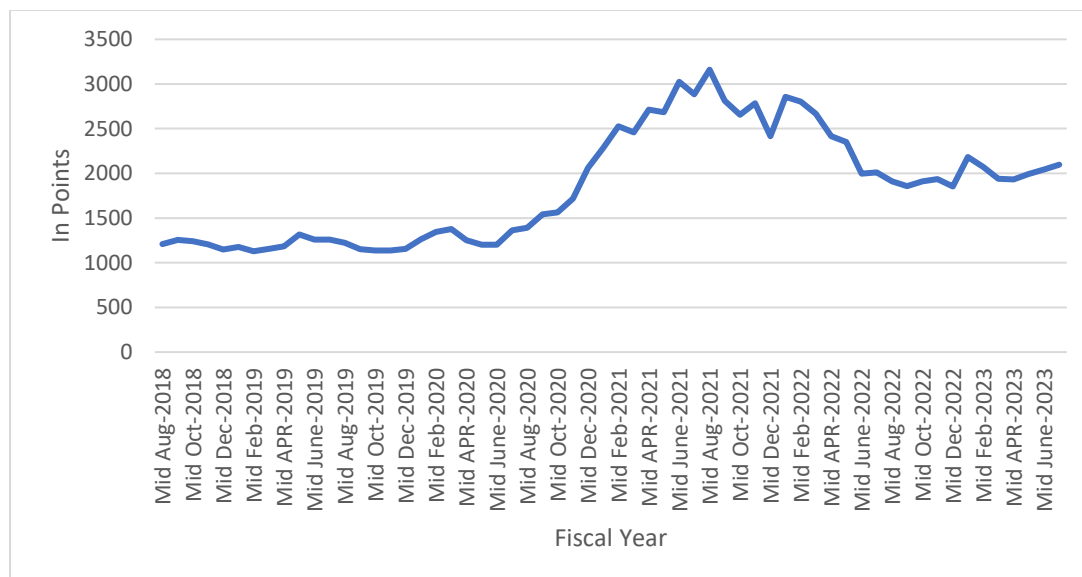
In the Results and Discussion chapter, the relationship between the NEPSE Index and various indicators, including the bank rate, deposit interest rate, lending interest rate, 91 Days T-Bill rate, and margin loan interest rate is analyzed. This chapter presents the findings on how these independent variables influence the NEPSE Index, providing insights into the dynamics of the Nepalese stock market. The analysis highlights significant trends and correlations, offering a comprehensive understanding of the factors driving market performance. Additionally, the discussion interprets the implications of these findings, emphasizing the practical relevance for investors and policymakers in making informed decisions.

4.1 Results

The results section is structured to detail the impact of each independent variable on the NEPSE Index. Each heading, such as the bank rate, deposit interest rate, lending interest rate, 91 Days T-Bill rate, and margin loan interest rate, is explored individually to assess its influence on market fluctuations. By examining these variables, a understanding of their roles in shaping the stock market environment. This section elucidates the complex interplay between interest rates and market performance, contributing valuable insights into the financial landscape of Nepal.

4.1.1 Trend of NEPSE Index

The Nepal Stock Exchange (NEPSE) Index serves as a benchmark for the overall performance of the stock market in Nepal. It reflects the changes in the market prices of listed shares and provides insight into the economic health of the country. Analyzing the trend of the NEPSE Index over time helps investors and policymakers understand market dynamics, identify patterns, and make informed decisions. This section explores the historical movements of the NEPSE Index, highlighting significant trends, fluctuations, and the factors influencing these changes. Figure 2 shows the trend of NEPSE index during the study period.

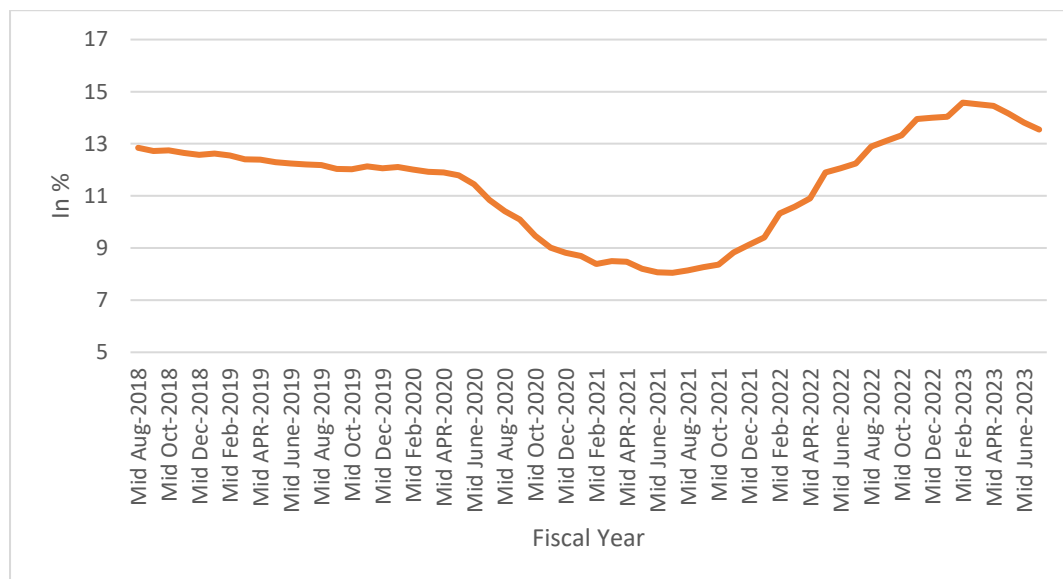
Figure 2*Trend of NEPSE Index*

Source: Appendix i

Figure 2 shows the Nepal stock exchange (NEPSE) index shows a generally upward trend over the past five years, with some fluctuations. The NEPSE Index, a key indicator of market performance, experienced fluctuations from 2018/19 through mid-2023. Initially, it saw a decline in 2018/19, suggesting reduced investor confidence or economic challenges. By mid-2020, the index began to rise significantly, reaching a peak in April 2021. This upward trend likely reflects increased investor optimism, possibly due to economic recovery post-pandemic and favorable market conditions. However, from mid-2021 onwards, the index started to decline again, indicating market corrections, potential economic uncertainties, or changes in investor sentiment, possibly due to rising interest rates or inflation concerns.

4.1.2 Margin Loan Interest Rate

The margin loan interest rate is another key independent variable influencing the NEPSE Index. It determines the cost of borrowing against securities, which can affect trading volume and market liquidity. Higher margin loan rates may discourage borrowing to purchase stocks, potentially leading to reduced market activity and downward pressure on the NEPSE Index. In contrast, lower margin loan rates can encourage more borrowing, increasing market participation and potentially boosting the NEPSE Index.

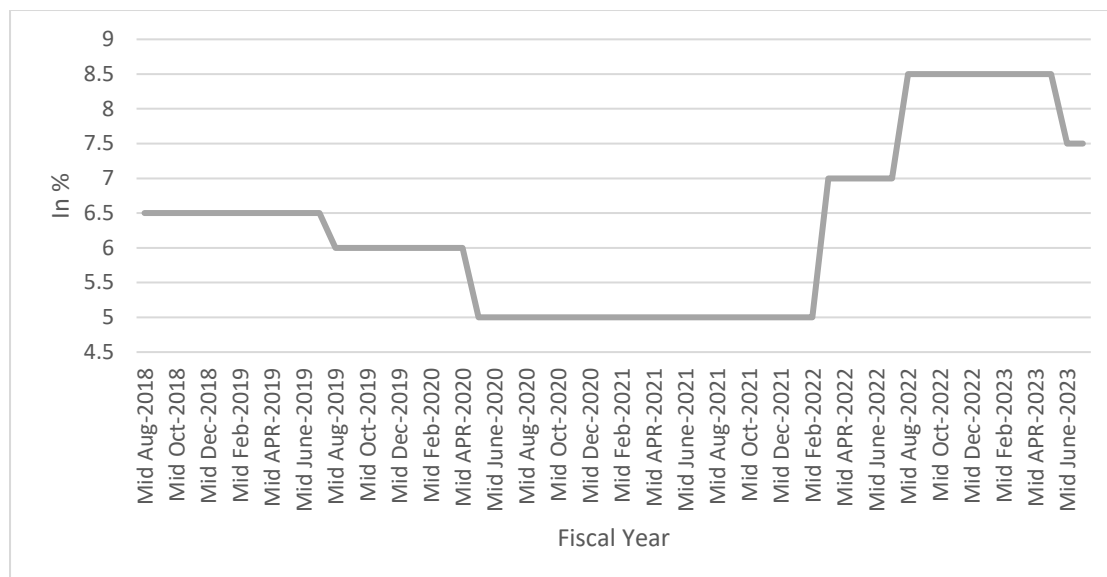
Figure 3*Margin Loan Interest Rate*

Source: Appendix i

Figure 3 shows the margin loan interest rate trended downward from 2018/19 to mid-2020/21, dropping from around 12.85% to 8.05%. This decline suggests that borrowing costs for investors were becoming more favorable, likely as a response to monetary easing policies aimed at stimulating investment during the pandemic. However, starting in mid-2021/22, there was a sharp increase, with rates reaching around 14.58% by early 2022. This upward shift indicates a tightening of credit conditions, reflecting higher perceived risks, inflationary pressures, or central bank interventions to curb excessive borrowing and manage economic stability.

4.1.3 Bank Rate

The bank rate, or the rate at which the central bank lends to commercial banks, serves as a critical independent variable affecting the NEPSE Index. Changes in the bank rate influence the cost of borrowing for financial institutions, which in turn affects liquidity in the market. A higher bank rate generally leads to increased borrowing costs, potentially slowing economic activity and impacting investor confidence, thereby exerting downward pressure on the NEPSE Index. Conversely, lower bank rates can stimulate borrowing and investment, positively influencing the stock market.

Figure 4*Bank Rate*

Source: Appendix i

Figure 4 depicts the bank rate remained stable at 6.5% from 2018/19 until early 2019/20, reflecting a consistent monetary policy stance. It then dropped to 5% during the pandemic period, indicating efforts by the central bank to lower borrowing costs and stimulate economic activity. This lower rate persisted through mid-2021/22, supporting economic recovery efforts. However, by mid-2022, the bank rate rose sharply to 8.5%, suggesting a shift in monetary policy to combat rising inflation and stabilize the economy, likely as a response to global economic challenges or domestic inflationary pressures.

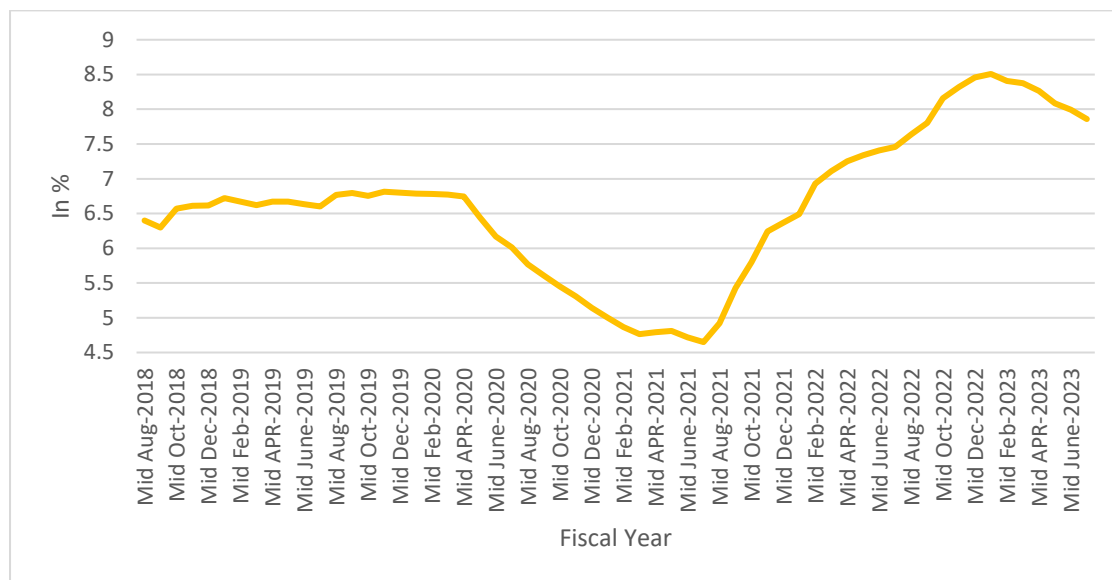
4.1.4 Deposit Interest Rate

The deposit interest rate refers to the return offered by banks on deposits held by individuals and businesses. This rate influences savings behavior and the overall level of deposits within the banking system. A higher deposit interest rate encourages savings, while a lower rate may incentivize spending or investment. In this section, we analyze trends in deposit interest rates over time, considering factors such as monetary policy, inflation, and economic conditions that contribute to rate adjustments. The analysis helps to understand how deposit rates impact consumer savings and financial planning. Higher deposit rates encourage individuals and businesses to save more, which can reduce funds available for investment in the stock market. This, in turn, may lead to a decrease in stock market activity and a potential decline in the NEPSE Index.

Conversely, lower deposit rates may encourage investment in equities, boosting market performance.

Figure 5

Deposit Interest Rate



Source: Appendix i

Figure 5 shows the deposit rate exhibited fluctuations over the period. Initially, it remained around 6.4% in 2018/19, with slight variations. The rate trended downward to about 4.65% by mid-2021, reflecting lower borrowing costs and potentially a high liquidity environment, which reduced the need for banks to offer higher rates to attract deposits. However, starting in mid-2021/22, the deposit rate began to increase, reaching approximately 8.5% by mid-2022/23. This rise indicates that banks were attempting to attract more deposits in the face of increased demand for funds or rising inflation, signaling a shift towards tighter monetary conditions.

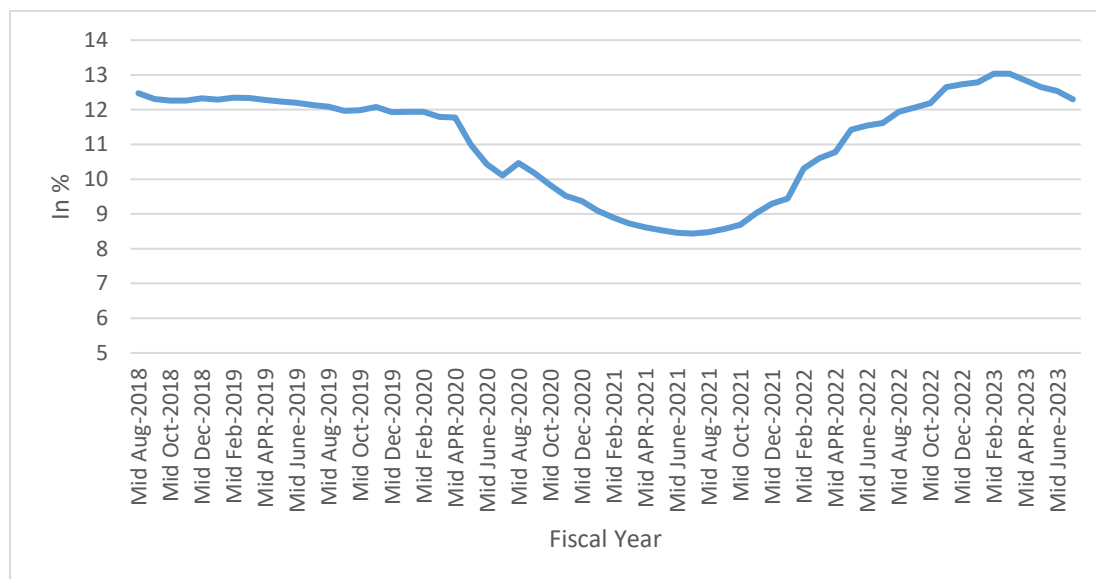
4.1.5 Lending Interest Rate

The lending interest rate is the cost of borrowing money from banks or financial institutions. It directly affects consumer and business borrowing, influencing economic activities such as investment and consumption. Variations in lending rates can impact loan demand, financial stability, and overall economic growth. This section explores the historical trends in lending interest rates, examining factors that drive changes and their implications for borrowers. Understanding these trends is crucial for assessing the affordability of loans and the broader economic impact of interest rate fluctuations.

Higher lending rates can deter borrowing, reduce investment in business expansion, and limit consumer spending, which may negatively impact stock market performance. On the other hand, lower lending rates make borrowing more attractive, potentially increasing investment and consumption, which can lead to a rise in the NEPSE Index.

Figure 6

Lending Interest Rate



Source: Appendix i

Figure 6 the lending rate also showed a downward trend from 12.47% in mid-2018/19 to around 8.5% by mid-2020/21. This decline likely reflects efforts to stimulate borrowing and investment during the pandemic by reducing the cost of credit. However, from mid-2021/22 onwards, the lending rate began to increase again, peaking at around 13% in mid-2022/23. This increase suggests a response to higher inflationary pressures, increased demand for credit, or central bank measures to control excessive lending and manage economic overheating.

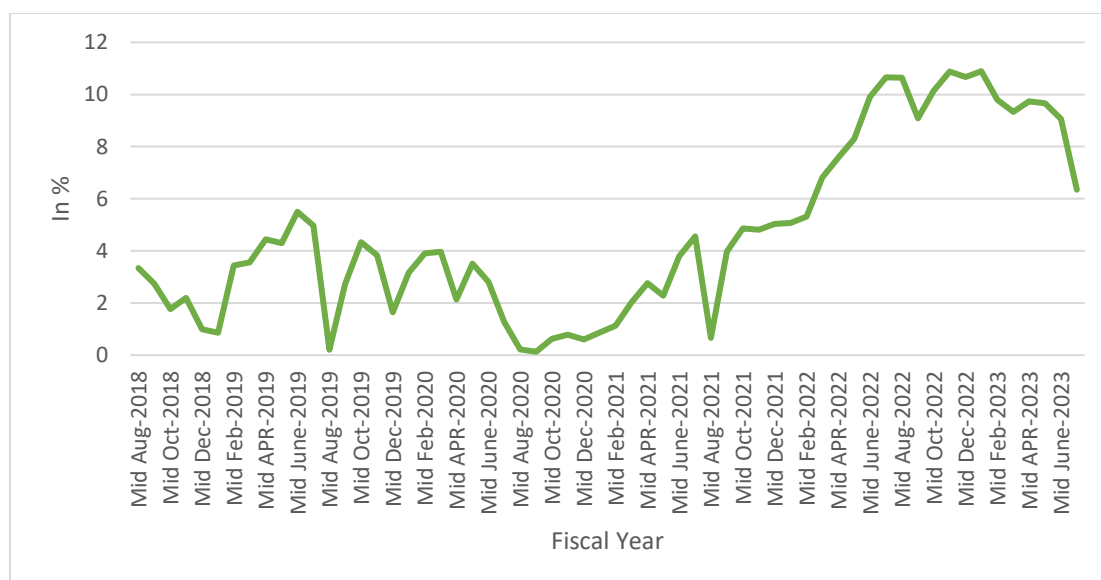
4.1.6 91 Days T Bill Rate

The 91 Days Treasury Bill (T-Bill) rate represents the yield on short-term government securities with a maturity of 91 days. It is a critical indicator of short-term interest rates and is often used as a benchmark for other interest rates in the economy. The T-Bill rate reflects government borrowing costs and can influence monetary policy and financial markets. In this section, we analyze the trends in the 91 Days T-Bill rate, discussing its significance in the context of liquidity management, inflation control, and its role as a

risk-free investment option for investors. A higher T-Bill rate can attract investors seeking lower-risk returns, diverting funds away from the stock market, which may negatively impact the NEPSE Index. Conversely, lower T-Bill rates may encourage investors to seek higher returns in the equity market, positively influencing the NEPSE Index.

Figure 7

91 Days T Bill Rate



Source: Appendix i

Figure 7 indicates the rate for 91 days Treasury Bills varied significantly throughout the period. It initially showed stability with moderate fluctuations, but there was a sharp decline during the pandemic period in mid-2020/21, reaching as low as 0.21%. This drop indicates a high liquidity environment and low short-term interest rates, reflecting efforts to boost the economy. However, from mid-2021/22, the rate began to rise significantly, peaking at around 10.66% in mid-2022/23. This increase signals tighter monetary conditions, reflecting the government's efforts to manage liquidity, control inflation, and possibly attract more investors to government securities.

4.1.7 Summary of Descriptive Statistics

The descriptive statistics serve as a critical foundation in analyzing the effect of interest rates on the stock market. By examining trends in NEPSE and various interest rates, such as margin loan rates, bank rates, and treasury bill rates, the study can explore how changes in these rates influence stock market performance. This analysis provides

insight into investor behavior and market dynamics, offering a comprehensive view of how monetary policy and interest rate fluctuations impact stock prices in the Nepalese market. The statistics set the stage for in-depth analysis and regression modeling to quantify these relationships. The summary of descriptive analysis is presented in Table 1.

Table 1

Summary of Descriptive Statistics

Variables	N	Min	Max	Mean	S.D.
NEPSE Index	60	1128.19	3160.09	1847.64	623.36
Margin Loan Interest Rate	60	8.05	14.58	11.42	1.97
Bank Rate	60	5.00	8.50	6.28	1.25
Deposit Rate	60	4.65	8.51	6.60	1.08
Lending Rate	60	8.43	13.03	11.12	1.50
91 Days T-Bill Rate	60	.13	10.89	4.68	3.37

Source: Appendix i and SPSS Output

Table 1 presents descriptive statistics for key financial variables over a 60-month period. The NEPSE Index, a key indicator of the Nepalese stock market's performance, exhibited substantial variability over the 60-month period. The index ranged from a minimum of 1128.19 to a maximum of 3160.09, illustrating significant fluctuations in market sentiment and investor confidence. The mean NEPSE Index value of 1847.64, with a standard deviation of 623.36, underscores the volatility experienced by investors during this period. Such fluctuations could be influenced by both domestic economic conditions and global market trends, impacting overall market stability and investor returns.

Margin loan interest rates, reflecting the cost of borrowing for investors trading on margin, averaged 11.42% across the 60 months. The rates ranged from a minimum of 8.05% to a maximum of 14.58%, indicating moderate variability with a standard deviation of 1.97%. These interest rates are crucial for investors leveraging their positions in the market, affecting their profitability and risk management strategies. The standard deviation suggests that while rates remained relatively stable on average, individual fluctuations could impact investors' borrowing costs significantly.

The bank rate, a key monetary policy tool set by the central bank, averaged 6.28% over the observed period. This rate influences commercial banks' lending and deposit rates, impacting broader economic activities such as consumption and investment. With a range from 5.00% to 8.50% and a standard deviation of 1.25%, the Bank Rate demonstrates the central bank's efforts to manage inflation, stimulate economic growth, and ensure financial stability. Changes in this rate signal shifts in monetary policy stance, affecting borrowing costs and economic conditions nationwide.

Deposit rates, reflecting returns on bank deposits, averaged 6.60% throughout the 60 months. These rates ranged from 4.65% to 8.51%, with a relatively low standard deviation of 1.08%, indicating stable returns for savers and depositors over the period. Deposit rates are critical for attracting savings into the banking system, influencing consumer savings behavior and liquidity within financial institutions. The stability observed suggests consistent monetary policy and investor confidence in banking sector stability during the studied timeframe.

Lending rates, representing the cost of borrowing for businesses and individuals, averaged 11.12% across the 60 months. The rates ranged from 8.43% to 13.03%, with a standard deviation of 1.50%, indicating moderate variability in borrowing costs over time. Lending rates impact economic growth by influencing investment decisions and consumer spending patterns. The observed variability reflects changes in market conditions, monetary policy adjustments, and lender risk assessments affecting borrowing costs for businesses and individuals seeking credit.

Finally, the 91 Days T-Bill Rate, a benchmark for short-term government borrowing costs, averaged 4.68% during the observed period. This rate ranged widely from 0.13% to 10.89%, with a high standard deviation of 3.37%, highlighting significant fluctuations in government debt yields over time. T-Bill rates are crucial indicators of market liquidity, investor sentiment towards government securities, and monetary policy effectiveness. The variability observed underscores the sensitivity of short-term borrowing costs to changes in economic conditions and central bank policy actions, impacting financial market stability and government fiscal management strategies.

4.1.8 Correlation Analysis

In this study, correlation analysis serves as a fundamental tool to examine relationships between key financial variables, such as the NEPSE Index, margin loan interest rates, bank rate, deposit rates, lending rates, and the 91 days T-Bill rate over a 60-month period. By calculating correlation coefficients, researchers can quantify the strength and direction of linear relationships between these variables, providing insights into how changes in one variable may correspond to changes in another. Correlations between the NEPSE Index and interest rates can reveal how market performance aligns with borrowing costs and central bank policy. Similarly, correlations among interest rates (margin loan, bank, deposit, lending, T-Bill) can indicate interdependencies within the financial system. Table 2 shows the relationship between dependent and independent variables used in this study.

Table 2

Relationship Analysis

		NI	MLIR	BR	DR	LR	TBR
NI	Pearson Correlation	1	-.521**	-.096	-.191	-.632**	.302*
	Sig. (2-tailed)		.000	.467	.144	.000	.019
MLIR	Pearson Correlation		1	.856**	.895**	.977**	.559**
	Sig. (2-tailed)			.000	.000	.000	.000
BR	Pearson Correlation			1	.895**	.789**	.808**
	Sig. (2-tailed)				.000	.000	.000
DR	Pearson Correlation				1	.835**	.788**
	Sig. (2-tailed)					.000	.000
LR	Pearson Correlation					1	.446**
	Sig. (2-tailed)						.000
TBR	Pearson Correlation						1
	Sig. (2-tailed)						

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Where,

NI= NEPSE Index

MLIR= Margin Loan Interest Rate

BR= Bank Rate

DR= Deposit Rate

LR= Lending Rate

TBR= 91 Days T-Bill Rate

Table 2 shows the relationship between independent and dependent variables in the study. Margin loan interest rates (MLIR) exhibit a moderately strong negative correlation of -0.521^{**} with the NEPSE Index (NI), indicating that increases in margin loan interest rates correspond to decreases in the performance of the Nepalese stock market. This relationship is statistically significant ($p < 0.01$), underscoring the impact of higher borrowing costs for margin trading on stock market movements. Investors borrowing on margin face higher costs, potentially reducing their purchasing power and affecting market liquidity and sentiment.

The bank rate (BR) shows a negligible correlation of -0.096 with the NEPSE Index (NI), which is not statistically significant ($p > 0.05$). This suggests that changes in the central bank's policy rate have minimal direct influence on the performance of the Nepalese stock market during the study period. The central bank's policy rate, affecting overall borrowing costs in the economy, may have indirect effects on market conditions but appears less directly correlated with stock market fluctuations observed in this study.

Similarly, deposit rates (DR) display a negligible correlation of -0.191 with the NEPSE Index (NI), also statistically insignificant ($p > 0.05$). This implies that variations in returns on bank deposits do not significantly impact the overall performance of the Nepalese stock market over the observed timeframe. Depositors' returns, although crucial for savings and investment decisions, do not appear to directly drive stock market movements during the study period, reflecting stable deposit returns amidst varying market conditions.

Lending rates (LR) demonstrate a strong negative correlation of -0.632 with the NEPSE Index (NI), indicating that higher borrowing costs for businesses and individuals are associated with lower stock market performance. This correlation is statistically significant ($p < 0.01$), suggesting that changes in lending rates impact investor sentiment and market dynamics in Nepal. Higher lending rates can constrain business expansion and consumer spending, affecting corporate profitability and investor confidence, thereby influencing stock market performance negatively.

Lastly, the 91 Days T-bill rate (TBR) shows a modest positive correlation of 0.302 with the NEPSE Index (NI). This indicates that as short-term government borrowing costs

increase, the Nepalese stock market tends to perform better. The correlation is statistically significant ($p < 0.05$), suggesting that shifts in government debt yields influence market sentiment and investment behavior among participants in Nepal's financial markets. Higher T-Bill rates may attract capital into government securities, potentially boosting overall market liquidity and investor confidence, thereby positively impacting stock market performance.

4.1.9 Regression Analysis

Regression analysis is employed in this study to examine the relationships between the NEPSE Index (dependent variable) and various independent variables such as margin loan interest rates, bank rate, deposit rate, lending rate, and 91 Days T-bill rate. By conducting regression analysis, this study can quantify the impact of these financial variables on the NEPSE Index over a 60-month period, controlling for potential confounding factors. This statistical technique allows for the identification of significant predictors of stock market performance, assessing the magnitude and direction of their effects. Through regression models this study can determine which variables exert the most influence on the NEPSE Index, providing insights into how changes in interest rates and government securities affect market dynamics in Nepal. The regression result of the study is presented in Table 3 to Table 5.

Table 3

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.940 ^a	.884	.873	.12005

a. Predictors: (Constant), TBR, LR, BR, DR, MLIR

Table 3 presents the model summary statistics for the regression analysis conducted in the study. The regression model shows a high coefficient of determination (R Square) of 0.884, indicating that approximately 88.4% of the variance in the NEPSE Index (dependent variable) can be explained by the independent variables included in the model. This suggests that the selected predictors, which include the 91 Days T-Bill Rate (TBR), lending rate (LR), bank rate (BR), deposit rate (DR), and margin loan interest rates (MLIR), collectively have a strong explanatory power for understanding changes in the NEPSE Index over the 60-month period. The adjusted R Square, which accounts

for the number of predictors in the model, is 0.873, indicating that even after adjusting for the complexity of the model, the independent variables still explain a substantial portion of the variation in the NEPSE Index. These model summary statistics validate the robustness of the regression model in capturing and explaining the relationships between interest rates and government securities with movements in the Nepalese stock market, contributing valuable insights for policymakers and investors alike.

Table 4

Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.908	5	1.182	81.985	.000 ^b
	Residual	.778	54	.014		
	Total	6.686	59			

a. Dependent Variable: NI

b. Predictors: (Constant), TBR, LR, BR, DR, MLIR

Table 4, the analysis of variance (ANOVA), assesses the overall fit and significance of the regression model applied to the NEPSE Index (NI) as the dependent variable. The table shows that the regression model as a whole is statistically significant, with an F-statistic of 81.985 and a corresponding p-value of .000. This indicates that at least one of the independent variables 91 Days T-bill rate, lending rate, bank rate, deposit rate, margin loan interest rates have a significant impact on the NEPSE Index. The significant F-statistic and low p-value suggest that the regression model is appropriate for predicting changes in the NEPSE Index based on the selected independent variables, underscoring the model's validity and reliability in analyzing the relationships between interest rates, government securities, and stock market performance in Nepal.

Table 5
Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	9.163	.194		47.351	.000
	MLIR	-.064	.053	-.373	-1.206	.233
	BR	.175	.038	.648	4.595	.000
	DR	.144	.052	.459	2.742	.008
	LR	-.279	.059	-1.242	-4.752	.000
	TBR	.018	.012	.178	1.432	.158

a. Dependent Variable: NI

Table 5 presents the regression coefficients for the model predicting the NEPSE Index (NI) based on the independent variables i.e., margin loan interest rates (MLIR), bank rate (BR), deposit rate (DR), lending rate (LR), and 91 days T-bill rate (TBR). The constant term (Constant) in the model is 9.163, indicating the estimated baseline value of the NEPSE Index when all independent variables are zero. This coefficient is highly significant ($t = 47.351$, $p < 0.001$), underscoring the robustness of the model's intercept.

Margin loan interest rates (MLIR) have an unstandardized coefficient of -0.064 with a standard error of 0.053. The standardized coefficient (Beta) is -0.373, suggesting that higher margin loan interest rates are associated with a slight decrease in the NEPSE Index, although this relationship is not statistically significant $t = -1.206$, $p = 0.233$. This implies that changes in borrowing costs for margin trading do not significantly influence stock market performance in Nepal in this model. The insignificant impact of margin loan interest rates on the NEPSE Index can be attributed to several factors. Firstly, the NEPSE is relatively small and less liquid compared to developed markets, resulting in weaker sensitivity to interest rate changes

Bank rate (BR) shows an unstandardized coefficient of 0.175 with a standard error of 0.038. The standardized coefficient (Beta) is 0.648, indicating that an increase in the central bank's policy rate leads to a proportional increase of 0.175 units in the NEPSE Index. This coefficient is statistically significant $t = 4.595$, $p < 0.001$, suggesting that

monetary policy decisions affecting the BR positively impact stock market performance in Nepal.

Deposit rate (DR) exhibits an unstandardized coefficient of 0.144 with a standard error of 0.052. The standardized coefficient (Beta) is 0.459, indicating that higher returns on bank deposits correspond to a 0.144 unit increase in the NEPSE Index. This coefficient is statistically significant $t = 2.742$, $p = 0.008$, suggesting that favorable deposit rates positively influence stock market performance by encouraging investment in financial markets.

Lending rate (LR) shows an unstandardized coefficient of -0.279 with a standard error of 0.059. The standardized coefficient (Beta) is -1.242, indicating that an increase in borrowing costs for businesses and individuals leads to a 0.279 unit decrease in the NEPSE Index. This coefficient is statistically significant ($t = -4.752$, $p < 0.001$), highlighting that higher lending rates negatively impact stock market performance in Nepal by increasing borrowing costs and potentially reducing business investment and consumer spending.

91 days T-bill rate (TBR) has an unstandardized coefficient of 0.018 with a standard error of 0.012. The standardized coefficient (Beta) is 0.178, suggesting that an increase in short-term government borrowing costs corresponds to a slight increase of 0.018 units in the NEPSE Index. However, this coefficient is not statistically significant $t = 1.432$, $p = 0.158$, indicating that variations in T-Bill rates do not significantly affect stock market performance in Nepal in this model. The 91-day T-Bill rate's insignificant effect on the NEPSE Index highlights the complex relationship between short-term government securities and the stock market. While higher T-Bill rates might attract investors seeking safer investments, this effect could be moderated by the relatively small and less liquid nature of the NEPSE. Additionally, short-term market reactions to changes in T-Bill rates may not fully capture the long-term impact on investor behavior and market dynamics. The broader economic environment and external factors also play a crucial role in influencing the stock market, potentially diluting the direct impact of T-Bill rate changes.

These regression coefficients provide a comprehensive understanding of how changes in interest rates and government securities impact the Nepalese stock market. The study

concludes that bank rate, deposit rate and lending rate are the major predictors of NEPSE index.

4.2 Discussions

The purpose of the research was to provide a detailed analysis of the current situation in Nepal regarding margin loan interest rates, bank rates, deposit interest rates, lending interest rates, and 91-day T-Bill rates, as well as their link with the NEPSE Index (Nepal Stock Exchange Index). An examination of these important financial indicators was carried out over a period of sixty months in order to identify their patterns and fluctuations. The interest rates on margin loans, which are a reflection of the cost of borrowing for investors who trade on margin, varied moderately, which had an effect on leverage and risk-taking behavior in the stock market. The central bank, managing bank interest rates, demonstrated stability with infrequent fluctuations, influencing both the overall borrowing costs and the economy's activities. Despite the fact that they remained competitive, deposit interest rates, which have an impact on the returns on savings and investments made in financial institutions, fluctuated depending on the financial circumstances. There were swings in lending interest rates, which were essential for both company and consumer borrowing. These oscillations had an effect on the profitability of corporations and the spending habits of consumers. Meanwhile, the rates on 91-day Treasury bills, which serve as benchmarks for the costs of short-term government borrowing, matched the government's overall economic circumstances and budgetary policies.

The negative but insignificant effect of margin loan interest rates on the NEPSE Index aligns with Zeng and Li (2021), who observed an inverse relationship between interest rates and stock prices. This suggests that higher rates may discourage investment due to increased borrowing costs. In contrast, Mishra and Pokharel (2020) found that while interest rates significantly affect stock prices in the short term, there is no long-term relationship. This indicates that short-term market dynamics may differ from long-term trends, reflecting investors' initial reactions to rate changes without sustained impact. The positive effect of deposit rates on the NEPSE Index is similar to the results of Alzoubi (2022), who indicated that higher deposit rates enhance liquidity and investor confidence, boosting stock prices. However, this contradicts Zeng and Li (2021), who found that increases in deposit rates typically lead to lower stock prices, as investors

may prefer secure deposits over riskier stock investments. The insignificant impact of margin loan interest rates on the NEPSE Index can be attributed to several factors. Firstly, the NEPSE is relatively small and less liquid compared to developed markets, resulting in weaker sensitivity to interest rate changes

The significant negative impact of lending rates on the NEPSE Index supports Mishra and Pokharel (2020), who emphasized that higher lending rates reduce corporate borrowing, negatively affecting stock market performance. Alzoubi (2022) also found that interest rates negatively impact stock prices in Jordan, reinforcing the notion that higher borrowing costs hinder investment. However, Gebremeskel and Malawo (2022) observed that in the long run, lending rates have a negative effect, while the short-term impact is insignificant. This suggests that immediate market reactions may differ from sustained trends, possibly due to investor adaptation over time. The positive relationship between the 91-day T-Bill rate and the NEPSE Index, though not significant, aligns with Amanda et al. (2023), who suggested that higher T-Bill rates can attract investors. Conversely, Gebremeskel and Malawo (2022) found a significant negative impact of T-Bill yields on stock prices in the short run, but an insignificant long-term effect. This contrast highlights the potential for short-term investor preferences for safer assets during periods of rising T-Bill rates, while long-term effects may be mitigated by broader market factors. The 91-day T-Bill rate's insignificant effect on the NEPSE Index highlights the complex relationship between short-term government securities and the stock market. While higher T-Bill rates might attract investors seeking safer investments, this effect could be moderated by the relatively small and less liquid nature of the NEPSE. Additionally, short-term market reactions to changes in T-Bill rates may not fully capture the long-term impact on investor behavior and market dynamics.

This study contributes to the body of knowledge by offering empirical evidence from Nepal's context, supporting some existing findings while providing new insights into the specific impacts of different interest rates on stock market performance. These comparisons underscore the importance of considering market-specific factors and investor behavior when analyzing the relationship between interest rates and stock prices.

CHAPTER V

SUMMARY AND CONCLUSION

5.1 Summary

When examining the link between interest rates and stock prices in Nepal, there are many different aspects to consider. It is generally true that higher interest rates may result in lower stock prices because they raise borrowing expenses. This discourages investment and lowers the profitability of corporations. This highlights the need for interest rate stability in order to encourage market expansion. Conversely, the demonstrated positive impact of certain interest rates on the NEPSE Index suggests that these rates could enhance investor confidence and liquidity, thereby bolstering market performance. These intricate dynamic highlights the need for well-constructed monetary policies in Nepal to strike a balance between economic development and market stability.

The primary objective of this research is to investigate the complex link that exists between the different interest rates and stock prices in Nepal, with a particular emphasis on the NEPSE Index. Given that various rates, including bank rates, lending rates, and deposit rates, have a variety of effects, it is critical to understand how these elements affect investors' behavior and market dynamics. This study aims to bridge a gap in the current literature by providing empirical information on the Nepalese setting, an area with limited research. It is essential for policymakers, investors, and financial institutions to have a solid understanding of these linkages in order to make educated choices that ultimately contribute to the development and stability of the market.

The study employs a quantitative research design, integrating descriptive and causal methodologies to examine the impact of various interest rates on the NEPSE Index in Nepal. It utilizes secondary data, including margin loan interest rate, bank rate, deposit interest rate, lending interest rate, and 91 days T-Bills rate, sourced from Nepal Rastra Bank and the Nepal Stock Exchange. The entire population of companies listed on the NEPSE is analyzed, eliminating the need for sampling and enhancing the generalizability of the results. Data collection is systematic, ensuring accuracy through cross-referencing with multiple sources. The analysis involves descriptive statistics to

summarize data characteristics, Pearson correlation to explore relationships, and multiple regression to quantify the influence of interest rates on stock prices.

The study reveals several key findings regarding the relationship between interest rates and the NEPSE Index. Margin loan interest rates (MLIR) have a moderately strong negative correlation of -0.521^{**} with the NEPSE Index, indicating significant impact, while lending rates (LR) show an even stronger negative correlation of -0.632^{**} , both statistically significant at $p < 0.01$. Conversely, the bank rate (BR) and deposit rates (DR) exhibit negligible correlations of -0.096 and -0.191 , respectively, both statistically insignificant ($p > 0.05$). The 91 Days T-bill rate (TBR) presents a modest positive correlation of 0.302^* , significant at $p < 0.05$. In regression analysis, the bank rate (BR) and deposit rate (DR) significantly impact the NEPSE Index with coefficients of 0.175 ($p < 0.001$) and 0.144 ($p = 0.008$), respectively. The lending rate (LR) has a substantial negative effect, with a coefficient of -0.279 ($p < 0.001$). Overall, the model demonstrates a high R Square of 0.884 , indicating that 88.4% of the variance in the NEPSE Index is explained by the independent variables, underscoring their collective influence on market performance in Nepal.

The findings of this research give a more comprehensive comprehension of the economic environment by providing significant insights into the ways in which various interest rates influence the performance of the stock market in Nepal. It provides assistance to policymakers in the process of formulating efficient monetary policies that encourage market expansion while also guaranteeing economic stability. Studying the unique impacts of different rates, such as the bank rate and the lending rate, accomplishes this. Having a more in-depth understanding of the market's dynamics is advantageous to investors because it allows them to make better informed investment decisions. Taking everything into consideration, this study contributes to the larger conversation about the growth of the financial sector in Nepal, highlighting the significance of adopting a balanced approach to the management of interest rates.

5.2 Conclusion

This study thoroughly evaluated the current state of key interest rates in Nepal, including margin loan interest rates, bank interest rates, deposit interest rates, lending interest rates, and 91-day T-Bill interest rates. Over the course of the research period, the analysis revealed a number of different patterns, including swings in borrowing

costs, monetary policy implications, and government securities yields. These results give a basic understanding of how these economic indicators developed and interacted within Nepal's financial markets. They also lay the groundwork for further investigation into the implications that these indicators have on the stock market's dynamics.

This research investigated the linkages between margin loan interest rates, bank rates, deposit interest rates, lending interest rates, 91-day T-Bill rates, and the NEPSE Index using rigorous correlation analysis. There were found to be significant connections, with margin loan interest rates exhibiting a significantly negative association with stock prices. This suggests that there may be possible limits on market liquidity and investor mood. On the other hand, bank rates and deposit interest rates showed positive correlations, indicating that they have an impact on improving the stock market's performance. On the other hand, lending interest rates showed a significant negative association, highlighting their role in reducing economic activity and stock market returns. These results shed light on the intricate relationship between the dynamics of interest rates and the behavior of the stock market in Nepal.

This research used regression analysis to investigate the direct effects of margin loan interest rates, bank rates, deposit interest rates, lending interest rates, and 91-day T-Bill rates on the NEPSE Index. The findings reflected their favorable impact on investor behavior and market mood, suggesting that bank rates and deposit interest rates significantly boosted stock prices and positively influenced market sentiment. Conversely, we found that lending interest rates exerted a negative influence on the NEPSE Index. This finding suggests that higher borrowing costs might limit corporations' profitability and investment, which would have a negative impact on stock market performance. While the interest rates on margin loans and 91-day Treasury bills did not reveal statistically significant influences on the NEPSE Index, our investigation did not find any such implications. These results not only provide useful insights into the specific processes through which interest rates impact the dynamics of the stock market in Nepal, but they also provide information that may guide strategic choices made by governments and investors alike.

5.3 Implications

Based on the findings, discussion and conclusion of the study, the following implications are made:

- The study highlights the critical role of various interest rates such as bank rates and deposit rates in influencing stock market performance in Nepal. Policymakers should consider these insights when formulating monetary policies aimed at promoting economic stability and investor confidence.
- Given the significant impact of bank rates on stock prices, central banks in Nepal should carefully calibrate monetary policy tools to maintain a conducive environment for investment and economic growth. Adjusting these rates judiciously can support market liquidity and bolster investor sentiment.
- Higher deposit interest rates were found to positively correlate with stock market performance. Financial institutions should consider competitive deposit rates to attract savings, thereby enhancing liquidity in the financial system and supporting capital formation in the stock market.
- The study underscores the negative impact of higher lending rates on stock prices, indicating potential constraints on corporate profitability and investment. Policymakers and financial regulators should monitor lending rates closely to mitigate adverse effects on economic activity and investor confidence.
- Although margin loan interest rates did not show significant impacts in this study, they remain crucial for margin traders. Regulators should ensure transparent and fair practices in margin trading to mitigate risks associated with volatile market conditions and borrowing costs.
- Further studies could explore the dynamic interactions between interest rates and other macroeconomic variables, such as inflation and economic growth, to provide a more holistic understanding of their collective impact on stock market dynamics in Nepal.
- Conducting longitudinal studies would enable researchers to assess how changes in interest rates over different economic cycles affect stock market resilience and long-term investor behavior in Nepal.
- Comparative analyses with other emerging markets or regional peers could offer valuable insights into the unique factors influencing stock market performance in Nepal, facilitating benchmarking and policy adaptation.

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Appendices

Appendix i

Data Utilized in the Study

FY	NEPSE	MLIR	BR	DR	LR	TBR
Mid Aug-2018	1210.32	12.85	6.5	6.40	12.47	3.34
Mid Sep-2018	1256.53	12.72	6.5	6.30	12.31	2.74
Mid Oct-2018	1241.63	12.75	6.5	6.57	12.26	1.77
Mid Nov-2018	1205.02	12.65	6.5	6.61	12.26	2.20
Mid Dec-2018	1148.78	12.58	6.5	6.62	12.32	1.00
Mid Jan-2019	1178.03	12.63	6.5	6.72	12.29	0.86
Mid Feb-2019	1128.19	12.55	6.5	6.67	12.34	3.44
Mid Mar-2019	1155.46	12.4	6.5	6.62	12.33	3.55
Mid APR-2019	1184.02	12.39	6.5	6.67	12.28	4.44
Mid May-2019	1315.45	12.29	6.5	6.67	12.23	4.29
Mid June-2019	1259.02	12.24	6.5	6.64	12.20	5.50
Mid July-2019	1259.02	12.21	6.5	6.60	12.13	4.97
Mid Aug-2019	1224.04	12.18	6	6.77	12.08	0.21
Mid Sep-2019	1150.74	12.04	6	6.80	11.97	2.73
Mid Oct-2019	1137.75	12.02	6	6.75	11.98	4.33
Mid Nov-2019	1135.95	12.13	6	6.81	12.07	3.83
Mid Dec-2019	1154.12	12.06	6	6.80	11.93	1.64
Mid Jan-2020	1263.38	12.11	6	6.79	11.94	3.17
Mid Feb-2020	1345.98	12.01	6	6.78	11.94	3.91
Mid Mar-2020	1377.18	11.93	6	6.77	11.80	3.97
Mid APR-2020	1251.46	11.9	6	6.74	11.77	2.13
Mid May-2020	1201.58	11.79	5	6.44	10.99	3.51
Mid June-2020	1201.58	11.45	5	6.17	10.43	2.81
Mid July-2020	1362.35	10.85	5	6.01	10.11	1.27
Mid Aug-2020	1391.46	10.42	5	5.77	10.47	0.21
Mid Sep-2020	1541.4	10.09	5	5.61	10.18	0.13

Mid Oct-2020	1562.46	9.47	5	5.45	9.83	0.63
Mid Nov-2020	1718.5	9.01	5	5.31	9.52	0.79
Mid Dec-2020	2061.42	8.82	5	5.14	9.37	0.60
Mid Jan-2021	2286.55	8.7	5	5.00	9.09	0.87
Mid Feb-2021	2526.92	8.39	5	4.86	8.89	1.13
Mid Mar-2021	2458.49	8.5	5	4.76	8.73	2.03
Mid APR-2021	2714.79	8.48	5	4.79	8.61	2.76
Mid May-2021	2684.09	8.2	5	4.81	8.53	2.28
Mid June-2021	3025.83	8.07	5	4.72	8.46	3.79
Mid July-2021	2883.41	8.05	5	4.65	8.43	4.55
Mid Aug-2021	3160.09	8.14	5	4.92	8.48	0.66
Mid Sep-2021	2812.26	8.26	5	5.43	8.57	3.98
Mid Oct-2021	2656.97	8.36	5	5.80	8.69	4.86
Mid Nov-2021	2784.58	8.83	5	6.24	9.02	4.81
Mid Dec-2021	2414.62	9.12	5	6.37	9.29	5.04
Mid Jan-2022	2857.75	9.41	5	6.49	9.44	5.07
Mid Feb-2022	2801.57	10.33	5	6.93	10.31	5.32
Mid Mar-2022	2668.12	10.59	7	7.11	10.60	6.82
Mid APR-2022	2415.25	10.9	7	7.25	10.78	7.58
Mid May-2022	2350.43	11.9	7	7.34	11.42	8.30
Mid June-2022	1996.26	12.06	7	7.41	11.54	9.90
Mid July-2022	2009.47	12.25	7	7.46	11.62	10.66
Mid Aug-2022	1910.38	12.89	8.5	7.64	11.94	10.64
Mid Sep-2022	1858.33	13.12	8.5	7.81	12.06	9.09
Mid Oct-2022	1911.26	13.32	8.5	8.16	12.19	10.14
Mid Nov-2022	1936.84	13.95	8.5	8.32	12.65	10.88
Mid Dec-2022	1855.07	14	8.5	8.46	12.74	10.67
Mid Jan-2023	2182.14	14.04	8.5	8.51	12.79	10.89
Mid Feb-2023	2070.41	14.58	8.5	8.41	13.03	9.79
Mid Mar-2023	1938.63	14.52	8.5	8.37	13.03	9.33
Mid APR-2023	1931.68	14.45	8.5	8.26	12.84	9.74
Mid May-2023	1994.52	14.16	8.5	8.08	12.65	9.66
Mid June-2023	2042.07	13.82	7.5	7.99	12.53	9.07

Mid July-2023	2097.09	13.55	7.5	7.86	12.30	6.35
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Source: NRB Monthly Statistics Report, NRB Macroeconomic Situation Report,
NEPSE Annual Report

IMPACT OF INTEREST RATES ON STOCK PRICE IN NEPAL

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Abstract The NEPSE Index is the primary subject of this study, which investigates the dynamics that exist between interest rates and the Nepalese stock market. The index serves as an all-encompassing indicator of market performance. The study explores the impacts of margin loan interest rates, bank rates, deposit rates, lending rates, and 91-day T-Bill rates that are obtained from Nepal Rastra Bank. The data used in the research spans numerous years. The research reveals the complex links that exist between these interest rates and the NEPSE Index by using both descriptive and causal analysis. In contrast to the negative effect that increased lending rates have on stock values, the results of the most important research indicate that bank rates have a beneficial influence on stock prices. The interest rates on deposits have a positive correlation, but the interest rates on margin loans and Treasury bills have very minimal influence. For policymakers who are interested in understanding the implications of changes in interest rates on market stability and investor behavior in Nepal's expanding financial ecosystem, these findings give useful implications that may be used to provide valuable insights. Keywords: NEPSE index, interest rate, margin loan, bank rate, deposit rate, lending rate

CHAPTER I
INTRODUCTION
1.1 Background of the Study Interest rates and stock market prices are two key factors that influence the financial landscape. While not perfectly mirrored, their relationship is significant and can be broadly described as inverse. This means that, as a general rule, when interest rates go up, stock prices tend to go down, and vice versa. Interest rates, often influenced by central banks' monetary policy activities, determine the level of economic activity. When central banks make changes to interest rates, they do so with the intention of either making the economy more competitive or making it less competitive. In general, the goal of lowering interest rates is to stimulate borrowing and investment, which will ultimately lead to an increase in economic growth. Conversely, raising interest rates aims to combat inflation by making borrowing more expensive, potentially slowing down economic activity (Mishkin, 2019). These changes in interest rates will, by extension, have an effect on the stock market. Interest rates impact the cost of capital for companies, subsequently influencing their investment choices and profitability. When interest rates rise, the cost of borrowing money goes up, reducing corporate expenditure and investment, which in turn may have a negative impact on stock values. Moreover, Bernanke and Kuttner (2005) found that when interest rates are higher, bonds and other fixed-income instruments become more appealing in comparison to equities, which results in a change in their preferences for investments. Conversely, a decrease in interest rates lowers the cost of borrowing money, potentially resulting in a rise in corporate earnings. Additionally, when compared to bonds, stocks become more appealing, which can lead to an increase in stock prices (Shrestha, 2020). Moreover, a variety of factors, such as investor emotions, market expectations, and the state of the global economy, can influence the non-linear relationship