IMPACT OF INTEREST RATE ON STOCK MARKET IN NEPAL

A Dissertation submitted to the Office of the Dean, Faculty of Management in partial fulfillment of the requirements for the Master's Degree

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 Rate on Stock Market 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. Saraswati Ghimire has defended research proposal entitled "**Impact of Interest Rate on Stock Market in Nepal**" successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestions and guidance of supervisor Rishi Raj Gautam and Shankar Mishra submit the dissertation for evaluation and viva-voce examination.

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Saraswati Ghimire

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Abbreviations

AD:	Anno Domini
BS:	Bikram Sambat
CV:	Coefficient of variation
INF :	Inflation
NEPSE :	Nepal Stock Exchange
NEPSE :	Nepal Stock Exchange
NRB:	Nepal Rashtra bank
SD:	Standard deviation
SEBON:	Security Exchange Board of Nepal
SEC:	Securities Exchange Centre
WADR :	Weighted Average Deposit Interest Rate
WALR :	Weighted Average Lending Interest Rate
WATBR:	Weighted Average Treasury Bills Interest Rate

Abstract

The stock market index functions as an economic barometer. A climbing stock index generally signals investor optimism about the economy's future. Grasping the relationship between the stock market index and its influencing factors is essential. The stock market is influenced by a number of variables, including the bank rate, deposit interest rate, lending interest rate, and short-term risk-free interest rate. Investing in efficient markets is the goal of astute investors. A small number of people may make significant gains in inefficient markets, which would undermine investor trust overall. For example, a rise in interest rates on bank deposits may induce investors to transfer their funds from the stock market to banks, hence reducing share demand and prices. In a similar vein, higher interest rates on bank deposits may result in higher interest rates on loans, which would decrease total economic investment and, ultimately, share prices. Therefore, pricing theory suggests that share prices and interest rates have an inverse connection.

The purpose of this study is to look at how interest rates affect the stock market. The particular goals are to analyze how bank rates affect stock market returns, comprehend investor behavior with respect to share investments, compare stock market returns to short-term risk-free interest rates, and determine how deposit and lending interest rates affect Nepal's stock market..

A significant and inverse relationship between interest rates and the stock market has been observed in the majority of earlier research. To look into this link, some have looked at deposit interest rates while others have concentrated on T-bill rates. This study establishes the relationship between interest rates and share prices using four independent variables. In order to ascertain if the findings are in line with previous research, the study investigates these implications within the framework of Nepal.

Keywords: *Stock Market, Interest Rate, Bank Rate, Deposit & Lending Interest Rate*.

CHAPTER I
INTRODUCTION

1.1 Background of the study

The history of the stock market in Nepal is relatively short. The Securities Exchange Centre (SEC) was established in 1976 with the goal of fostering the growth of the capital market (Gurung, 2004). Secondary trading didn't start until 1981, and it was initially limited to trading government bonds (NRB, 1996). The Securities Exchange Act of 1984 extended SEC's trading floor to include limited corporate share trading. In 1993, the Securities Exchange Centre became the Nepal Stock Exchange (NEPSE) Limited, which began trading in early 1994. NEPSE is still the only stock exchange in Nepal, and even though it is constantly changing, the market has grown significantly since its founding.

The Nepal Stock Exchange (NEPSE) is a key element of Nepal's financial infrastructure, offering a platform for securities trading and reflecting the country's economic health. For investors, policymakers, and other stakeholders, it is important to understand the factors that affect NEPSE's performance. Interest rates are especially important because they significantly influence investment choices, corporate earnings, and market sentiment.

Interest rates, primarily determined by the central bank, are a key instrument of monetary policy. They affect borrowing costs and savings returns, influencing consumer spending, business investment, and overall economic activity. In Nepal, the Nepal Rastra Bank (NRB) manages interest rates to ensure economic stability and control inflation (Nepal Rastra Bank, 2021). Shifts in interest rates can alter investor behavior: higher rates generally make equities less appealing compared to fixed-income securities, while lower rates tend to increase stock prices by reducing borrowing costs and encouraging investment in riskier assets (Mishra & Paudel, 2021).

The relationship between interest rates and stock market performance has been widely studied globally, and there is an increasing amount of literature focusing on Nepal after 2020. This period has been characterized by substantial economic challenges and policy responses due to the COVID-19 pandemic. To support economic recovery during the pandemic, the NRB introduced several measures to ease monetary policy, including

lowering interest rates (Nepal Rastra Bank, 2022). These adjustments offer a unique opportunity to examine how changes in monetary policy have impacted NEPSE.

Recent research has identified a clear link between changes in interest rates and stock market performance in Nepal. Bhattarai (2021) observed that reductions in interest rates positively affected NEPSE by increasing liquidity and boosting investor confidence. Similarly, Shrestha and Koirala (2022) found that lower interest rates led to higher stock prices, particularly benefiting sectors like banking and finance. These studies underscore the importance of understanding the dynamic relationship between interest rates and stock market behavior in Nepal.

Given NEPSE's critical role in the Nepalese economy and the significant impact of interest rates on market performance, this study aims to thoroughly analyze this relationship. By examining recent trends and empirical data, the research intends to enhance the existing literature and provide valuable insights for policymakers, investors, and academicians to make informed decisions.

Traditionally, the stock market index acts as an economic barometer, indicating investor confidence in future economic conditions. A rising stock index is generally perceived positively, as it encourages economic investment. However, a rapid and unjustified increase in the stock market index can be concerning. Such growth, not backed by fundamental factors, is unsustainable and may lead to a subsequent decline, posing risks to economic and financial stability. Policymakers must closely monitor stock market developments and be prepared to implement measures to prevent bubbles and market collapses. It is crucial to comprehend how the stock market index and its affecting components interact. The stock market is subject to a multitude of factors, the extent of which varies based on the economic conditions in each nation.

This research seeks to examine the link between Nepali interest rate factors and the NEPSE index in this setting. The study also evaluates the effects of pricing adjustments. Policymakers and investors alike should find great value in the findings, which are anticipated to shed light on the factors influencing the performance of the Nepalese stock market.

Equity markets are crucial for enhancing corporate efficiency, fostering innovation, and providing essential capital for long-term economic development. They also enable governments to raise capital through the sale of state-owned enterprises. Investments in equity markets have become increasingly significant in individuals' asset portfolios, particularly as governments transition pension systems to the private sector (Mosley & Singer, 2008).

One important macroeconomic factor that is closely related to economic expansion is interest rates. Interest rates are a common term for the expense incurred while spending money over an extended period of time. It is the price that lenders pay for lending money, whereas borrowers see it as the cost of borrowing.

In summary, there is a substantial correlation between interest rates and the NEPSE index. Interest rate reductions usually improve stock market performance by enhancing investor confidence and promoting liquidity. This dynamic has been particularly noticeable in the post-2020 era, which has been marked by monetary policy reactions in response to the COVID-19 epidemic and economic issues. In order to sustain economic stability and growth, officials and investors must have a thorough understanding of this connection.

1.2 Problem statement

The Nepal Stock Exchange (NEPSE) is a vital indicator of Nepal's economic health, reflecting investor sentiment and economic stability. Despite its importance, NEPSE's performance is influenced by various macroeconomic factors, with interest rates being particularly significant. Managed by the Nepal Rastra Bank (NRB), interest rates play a key role in shaping investment decisions, corporate profitability, and overall market dynamics (Nepal Rastra Bank, 2021). However, the exact impact of interest rate changes on NEPSE is not fully understood, particularly in the context of the economic disruptions caused by the COVID-19 pandemic.

This gap in understanding presents several challenges. Policymakers need reliable data to craft effective monetary policies that stabilize and stimulate the economy. Investors need insights into how interest rate changes might impact their portfolios to make informed decisions. Additionally, academicians and financial analysts require thorough analyses to develop theoretical models and practical strategies that align with Nepal's unique economic context.

The primary issue addressed by this study is the insufficiently explored relationship between interest rate fluctuations and stock market performance in Nepal. Specifically, the research aims to examine how changes in interest rates affect NEPSE's overall performance, sectoral indices, and investor behavior. While recent studies by Bhattarai (2021) and Shrestha and Koirala (2022) have started to explore these relationships, they have not fully addressed the complex dynamics involved. By addressing this knowledge gap, the study will offer valuable insights for policymakers, investors, academicians, and financial analysts, contributing to a more stable and transparent financial market in Nepal.

Mueller (2006) notes that while interest rates can influence the stock market, they do not solely determine its performance. Higher interest rates can make borrowing more difficult, reducing capital available for business expansion and potentially lowering profits. This could lead to decreased bonuses and dividends, making the stock market less attractive to investors. However, it is important to recognize that interest rates are not the only factors influencing stock market dynamics. Even with high interest rates, Other variables including monetary policy, political changes, and economic growth might still cause the stock market index to climb. There is still disagreement in the literature on interest rates' impact on stock markets, with the majority of studies focusing on more general macroeconomic factors. There is a clear research vacuum concerning the impact of interest rates on the stock market in Nepal. As a result, this study is important for examining how different interest rates, including those on deposits, loans, bank accounts, and T-bills, affect the stock market in Nepal. This study's primary goal is to find out how interest rates in particular affect Nepal's stock market.

The specific statements of problems are as follows:

i. What are the risk-free rate of return, deposit interest rate, lending interest rate, and bank rate structure?
ii. How do the return on the stock market and bank interest rates relate to one another?
iii. How does the interest rate on deposits and loans affect the return on the stock market?

1.3 Objectives of study

The primary aim of this study is to investigate the correlation between interest rates and the stock market. The study encompasses specific objectives as follows:

i. To examine the structure of bank rate, deposit interest rate, lending interest rate and risk free rate of return.

ii. To analyze the relationship between bank interest rates and stock market returns.

iii. To assess the influence of deposit and lending interest rates on stock market returns.

1.4 Rationale of the study

The relationship between stock exchanges and interest rates is a key component of economic analysis and financial market behavior, especially for emerging markets like the Nepal Stock Exchange (NEPSE). Understanding how interest rates affect NEPSE can offer valuable insights for various stakeholders, including policymakers, investors, financial analysts, and academicians. This study aims to identify patterns and correlations between interest rates and stock market performance, providing data that can guide effective monetary and financial policies, boost investor confidence, and improve market efficiency. Additionally, the findings will serve as a resource for further academic research and practical applications in finance and economics. Ultimately, this research addresses existing knowledge gaps and contributes to a more stable and robust financial market in Nepal, supporting informed decision-making and future studies.

1.5 Limitations of the study

The study has several limitations, including:

- The analysis excludes interest rates from other financial institutions, such as development banks and finance businesses, and instead only uses deposit and lending interest rates from Nepalese commercial banks.
- The study's model is limited to regression analysis, which restricts the range of analytical techniques that may be applied.
- By using share closing prices at the conclusion of each fiscal year, the study may have overlooked intra-year changes in stock prices.
- Other interest factors, such as interbank rates, rates on government instruments like development bonds, and other macro and non-macroeconomic variables, are not included in the study. The finding's comprehensiveness could be impacted by these omissions.

CHAPTER II
LITERATURE REVIEW

2.1 Introduction

This entails a careful analysis and assessment of earlier research on the subject, with an emphasis on their parallels and discrepancies. In relation to the effect of interest rates on the Nepali stock market, it comprises an analysis of significant findings as well as a review of the approaches and strategies employed in earlier studies. This study's literature review is structured as follows:

2.1.1 Theoretical review

Theory pricing

According to Marshall (1990), the interaction of supply and demand factors in a completely competitive market determines the equilibrium market price, in accordance with classical economic theory and early neoclassical economics. This point of view is in line with traditional value theory. Price is the monetary value that is attributed to an item, service, or asset, according to Clarke (1982). When there is an excess of money in the market, prices tend to rise, whereas an excess of demand for money drives prices down. According to Mishkin (1986), interest rates are the price that lenders charge for borrowed money, and supply and demand must be balanced to determine the market equilibrium interest rate. This is consistent with traditional economic theory, which states that the demand side indicates a need and the supply side represents the availability of loanable money.

Fishers theory

The view that fluctuations in short-term interest rates are mainly driven by changes in the expected inflation rate assumes that market participants' expectations about inflation are generally accurate. Mishkin (2010) encapsulates this concept with the equation $r = i - p$, where r is the real interest rate, i is the nominal interest rate, and p is the inflation rate. This theory, based on the work of American economist Fisher (1930), is widely accepted and forms the basis for traditional recommendations regarding real interest rates.

Fisher's theory suggests that competitive financial markets will set a positive nominal interest rate on deposits, which includes a real return. Savers are motivated to hold financial assets rather than real assets, as real assets tend to increase in nominal terms at the inflation rate. Therefore, the nominal interest rate should be equal to the expected inflation rate plus a modest real rate. Lending rates, determined by the cost of deposits plus a small margin to cover intermediation costs, reserve requirements, taxes, and risk, will also be positive in real terms. Many economists thus recommend maintaining low inflation to keep nominal interest rates low.

However, a notable criticism of Fisher's theory is its partial equilibrium approach, which focuses only on capital markets while assuming that prices for goods and services are predetermined (Mishkin, 2010).

Loanable funds theory of real interest rate

The loanable funds theory of interest rate determination asserts that interest rates in the financial market are influenced by the supply and demand for loanable funds (Saunders, 2010). According to this theory, interest rates are determined in a manner similar to the determination of prices for goods. Specifically, as the interest rate increases, the supply of loanable funds rises, assuming other factors remain unchanged. Conversely, as the interest rate decreases, the demand for loanable funds increases, with other factors held constant. Saunders (2010) notes that economic conditions, among other factors, can shift the demand curve for loanable funds.

The loanable funds concept refers to the total amount of money available for lending and demanded by borrowers and investors within a given period. The interest rate is influenced by the interactions between potential borrowers and savers. According to this theory, economic agents seek to optimize resource use throughout their lives. Borrowing funds is advantageous when the rate of return on investment exceeds the borrowing cost. However, borrowers will only accept a real interest rate that is lower than the anticipated return on their investment. Conversely, savers are motivated to save and lend only if they are assured of a real return on their savings, which facilitates increased future consumption. The decision to defer consumption depends on individual time preferences (Saunders and Cornett, 2011).

Keynes liquidity preference theory of interest rate

According to the theory, investors typically favor short-term securities over long-term ones. In an uncertain world, saving and investment decisions are often more influenced by expectations and external shocks than by fundamental economic forces. In "The General Theory of Employment, Interest, and Money" (1973), Keynes introduced the liquidity preference theory. He argued that interest rates are determined by the current supply of money and the demand for immediate versus deferred claims on money. As Keynes stated, "The rate of interest depends on the demand and supply of money" (Keynes, 1973).

Keynes thought that planned investment spending is the main way that interest rates impact overall production. Profit-driven businesses make investments in tangible capital, such as factories, machinery, and raw materials, provided that the projected returns on these assets outweigh the expenses associated with borrowing. Thus, the investment demand schedule is determined in large part by interest rates.

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In order to affect interest rates, Keynes also favored monetary measures implemented by the government. He acknowledged, nevertheless, that monetary policy alone could not sustain full employment because other forces influencing the investment demand schedule were too strong. Keynes noted that there are other important uses for loanable money outside investment demand, despite the conventional theory's suggestion that interest rates should adjust to allocate all available funds for investment objectives. Interest rates have an impact on how much money is allocated for consumption as well as investment because of the expansion of consumer credit, a phenomenon that has been known about since the 1920s.

Classical theory of interest rate

British economists such as Irving Fisher (1930) notably produced one of the first hypotheses on the determinants of the pure or risk-free rate, which emerged in the nineteenth and twentieth century. According to this hypothesis, the supply of savings, which is mostly set by families, and the demand for capital and investments, which is mostly driven by the business sector, are the two primary variables that affect the interest rate.

According to traditional ideas, paying interest is a benefit of delaying present expenditure in favor of future consumption. When interest rates rise, saving becomes more alluring than spending, which encourages more people to switch from consumption of current goods to saving. This idea, referred to as the substitution effect, suggests that interest rates and savings levels are positively correlated.

2.2 Empirical review

2.2.1 Review of Nepalese literature

Gurung (2004) highlighted the essential role of the securities market in channeling savings into productive uses. The securities market also offers liquidity, enabling individuals to minimize risk and maximize returns. However, an analysis of the market's performance reveals a lack of coordination among various indicators, resulting in an erratic trend over the observed period. This indicates that the securities market in Nepal has been unstable and underperforming. Despite the implementation of new mechanisms in 1993/94, the growth and performance of the Nepalese securities market remain unsatisfactory, though gradual improvements have been noted.

Regmi (2012) highlighted the positive impact of the stock market on the economic growth of Nepal. Recognizing the stock market as a vehicle for economic development, Regmi emphasized the need to integrate the stock market into the overall economic system when designing economic policies. Government efforts were deemed crucial for ensuring the organized and efficient operation of the stock market. An efficient market, with increased transparency and competence, is more likely to attract investors. The government should remove obstacles to the growth of the stock market, such as those posed by laws, regulations, and taxes, in order to accomplish this. In addition, it was suggested that trade policies be proper, infrastructure be invested in, and investment disincentives be removed.

The relationship between interest rates and the Nepalese stock market was explored, with an observed inverse correlation. When interest rates rise, the NEPSE index moves in the opposite direction. In the Nepalese context, increasing interest rates lead to a shift towards safer alternatives, such as fixed deposits, causing a negative impact on the stock market. The study emphasized the importance of considering the duration of interest rate

increments, as short-term increases may not necessarily lead to a downward trend in the market. Current market dynamics, characterized by increased retail investor participation, were deemed different from the past, with potential positive factors like NRN investments, online trading, and the issuance of broker licenses to commercial banks contributing to the growth of the Nepalese stock market.

Pradhan and Dahal (2014) focused on the factors influencing share prices in Nepalese commercial banks. The study examined the relationship between bank-specific and macroeconomic variables and the market price per share (MPS). The study suggested that rational investors should consider dividend per share, firm size, and money supply, in addition to signaling and asymmetric information, when making investment decisions in an imperfect stock market like Nepal.

In their analysis of the factors influencing the performance of the Nepalese stock market, Shrestha & Subedi (2014) discovered a negative association with interest rates and a substantial positive correlation with inflation and the expansion of the money supply. They determined that the Nepal Rastra Bank's (NRB) policies and political shifts had a major impact on stock market performance. Their study emphasized that in order to improve market efficiency and lessen the influence of rumors and speculation, there is a need for higher openness, expanded accessibility to information, and improved communication.

In summary, these studies highlight the complex challenges and opportunities facing Nepal's securities and stock markets. They emphasize the importance of government policies, macroeconomic factors, investor behavior, and market reforms in shaping the trajectory of these financial markets.

The correlation between interest rates and the success of the Nepali stock market has garnered significant scholarly attention in the past few years. The goal of this research is to comprehend how changes in interest rates impact stock prices and the general behavior of the Nepal Stock Exchange (NEPSE) market.

Bhattarai (2021) investigated the link of interest rates and returns on the Nepalese stock market. According to the study, interest rate fluctuations have a big effect on stock market

returns, with higher interest rates often translating into lower stock prices. This inverse link is in line with the theoretical prediction that rising borrowing costs should have a negative impact on stock prices by decreasing business earnings and investment attraction (Bhattarai, 2021).

Similarly, a study by Shrestha and Koirala (2022) focused on the impact of macroeconomic variables, including interest rates, on the NEPSE index. Their findings highlighted that interest rates are a critical determinant of stock market performance, where an increase in interest rates tends to depress stock prices. The study utilized a Vector Autoregression (VAR) model to analyze data from 2010 to 2021 and confirmed the significant negative correlation between interest rates and stock prices (Shrestha & Koirala, 2022).

Moreover, Adhikari and Adhikari (2023) explored the implications of monetary policy changes on the stock market, emphasizing the role of interest rates. Their research demonstrated that interest rate hikes, as part of contractionary monetary policy, led to a decline in stock market returns. This study employed an econometric approach to assess the short-term and long-term impacts of interest rate changes on stock market volatility, reinforcing the critical influence of interest rates on market dynamics (Adhikari & Adhikari, 2023).

Further, Sharma (2023) investigated the sensitivity of various sectors within NEPSE to interest rate changes. The study revealed that sectors such as banking and financial services are more sensitive to interest rate fluctuations compared to other sectors like manufacturing and tourism. This sectoral analysis provided a nuanced understanding of how interest rates affect different parts of the economy, thereby offering valuable insights for sector-specific investment strategies (Sharma, 2023).

Table 2.1

Meta Table

Date/ Authors	Objectives	Methodology	Findings
Gurung (2004)	role of the securities market in channeling savings into productive uses	to the study, supporting the usage of regression models	analysis of the market's performance reveals a lack of coordination among various indicators, resulting in an erratic trend over the observed period. T
Regmi (2012)	impact of the stock market on the economic growth of Nepal.	to the study, supporting the usage of regression models	The government should remove obstacles to the growth of the stock market, such as those posed by laws, regulations, and taxes, in order to accomplish this
Pradhan and Dahal (2014)	the factors influencing share prices in Nepalese commercial banks	variables and the market price per share (MPS	The study suggested that rational investors should consider dividend per share, firm size, and money supply
Shrestha & Subedi (2014)	the factors influencing the performance of the Nepalese stock market,	to the study, supporting the usage of regression models	Their study emphasized that in order to improve market efficiency and lessen the influence of rumors and speculation, there is a need for higher openness
Bhattarai (2021)	he link of interest rates and returns on the Nepalese stock market	to the study, supporting the usage of regression models	the study, interest rate fluctuations have a big effect on stock market returns, with higher interest rates often translating into

			lower stock prices.
Shrestha and Koirala (2022)	the impact of macroeconomic variables, including interest rates, on the NEPSE index	to the study, supporting the usage of regression models	highlighted that interest rates are a critical determinant of stock market performance, where an increase in interest rates tends to depress stock prices
Sharma (2023)	The sensitivity of various sectors within NEPSE to interest rate changes.	to the study, supporting the usage of regression models	This sectoral analysis provided a nuanced understanding of how interest rates affect different parts of the economy, thereby offering valuable insights for sector-specific investment strategies

2.2.2 Review of foreign literature

Chutang and Kumara (2009) investigated the connection between Sri Lankan stock prices and short-term interest rates. They employed two time series pertaining to price indices of the Colombo Stock Exchange (ASPI and MPI) and three time series relating to short-term Treasury bill rates (TB91, TB182, and TB364 days). The Durbin-Watson statistic showed no autocorrelation concerns despite the original non-stationarity with unit root problems. TB364, ASPI, and MPI became stationary at their first difference by transforming the non-stationary series into stationary ones, however TB91 and TB182 needed a second difference to achieve stationary status. TB91, TB182, and TB364 did not show any multicollinearity, according to the study, supporting the usage of regression models. But only 7.2% of the variance in ASPI and 5.3% in MPI could be explained by these variables, indicating that the majority of differences were caused by other unidentified causes. While TB364 had a weak negative link with both indices, the correlation coefficients in both regression models revealed modest positive correlations between TB91 and TB182 with ASPI and MPI. The results of Granger and Sims's Causality Test showed that the Milanka Price Index and the All Share Price Index were both impacted

by the 364-day Treasury bill rate.

The banking industry in Kenya is profitable and vibrant, which makes it a desirable investment on the Nairobi Securities Exchange (NSE), according to a different research on the subject. Over the previous five years, there have been notable swings in the lending interest rate, which have been reflected in the share prices of commercial banks. The average lending rate and the share prices of individual banks on the NSE were shown to be strongly correlated by the study, indicating an inverse link whereby an increase in the lending rate resulted in a reduction in share prices and vice versa.

In their 2009 investigation on the elements influencing equity prices in the Nigerian stock market, Somoye et al. discovered favorable correlations between stock prices and variables including GDP, profits per share, and dividend per share. These variables did not, however, significantly affect stock returns. In their 2009 study, Mahmudul and Gazi looked at fifteen industrialized and developing nations and found a strong inverse correlation between interest rates and stock prices. Mukherjee and Naka (1995) similarly found that interest rates have a long-term detrimental effect on the Japanese stock market index.

Kyereboah-Coleman and Agyire-Tettey (2008) demonstrated how high loan rates hindered corporate growth in Ghana, which had a negative impact on stock market performance. Analogously, macroeconomic indicators and the stock market have a long-term cointegrating relationship, according to Adam and Tweneboah (2008). Property stocks in the UK, Hong Kong, and Japan were studied by Liow and Huang (2004), who found that interest rates and monthly excess returns on property stocks had a strong negative long-term association, especially prior to the Asian financial crisis. In order to reduce interest rate risk, they recommended investors to take this negative correlation into account while building and maintaining their portfolios.

The effect of the Federal Reserve's interest rate policy on the S&P 500 index during the COVID-19 pandemic was examined by Liu and Zhang (2021). Their findings corroborated the hypothesis that lower borrowing costs encourage investment and increase corporate profits, which in turn raise stock prices, by showing that lower interest rates, intended to stimulate the economy, led to better stock market returns. Tan and Li (2022) examined the impact of interest rate modifications made by the

People's Bank of China with a focus on the Chinese stock market. Their findings demonstrated that interest rate reductions had a favorable impact on stock market performance, particularly in the consumer goods and technology industries. They found a substantial positive link between stock market gains and interest rate decreases using an event research technique.

Müller and Schmidt (2023) looked at how European Central Bank (ECB) policies affected the stock markets in the Eurozone. According to their research, quantitative easing programs and low interest rates dramatically increased stock values across key European indexes. Utilizing a panel data methodology to examine the timeframe spanning from 2010 to 2022, they furnished substantial proof of the favorable influence of accommodating monetary policy on stock market achievements.

In emerging markets, Gupta and Bose (2023) studied the relationship between interest rates and stock market returns in India. Their research revealed that higher interest rates negatively affected stock market returns, with the financial and real estate sectors being particularly sensitive. They used a generalized autoregressive conditional heteroskedasticity (GARCH) model to capture the volatility and dynamic interactions between interest rates and stock prices, reinforcing the inverse relationship.

Rodríguez and García (2023) examined the impact of interest rate changes on the stock markets in Brazil and Mexico. Their research showed that interest rate hikes led to significant declines in stock market indices, especially during periods of economic uncertainty. Using a time-series analysis, they assessed the impact over different economic cycles, underscoring the crucial role of interest rates in shaping market trends in these regions.

2.3 Research gap

Previous research on interest rate effects on Nepal's stock market included a variety of financial variables and mostly focused on market patterns. Nonetheless, one significant void in the literature is the dearth of studies that particularly examine data from the Nepal Stock Exchange (NEPSE). This study sets itself apart by concentrating on information from the Nepalese stock market, especially in the banking industry.

This study takes a unique approach by looking at internal elements that are crucial in influencing interest rates in Nepal's financial sectors, in contrast to previous studies that frequently coupled market trend analysis with other financial indicators. In particular, it

looks into how stock prices relate to important financial metrics including the risk-free rate, bank rate, deposit interest rate, and loan interest rate.

By using secondary data to explore stock price movements and behaviors, this study addresses gaps in existing literature and provides new insights into the factors influencing stock prices in Nepal.

CHAPTER III
METHODOLOGY

The research approach designed to accomplish the study's goals is described in this chapter. It describes the methodology used to look at how interest rates affect Nepal's stock market. The research strategy and design, sample description, instrumentation, data collecting procedures and timetable, data analysis techniques, analysis plan, and study limits are the main elements that make up the research methodology, which is broken down into these categories to guarantee clarity. These methodological components are crucial for a complete comprehension of the research process since the study's objective is to evaluate the effect of interest rates on Nepal's stock market.

3.1 Research design

An organized framework for the study is provided by the research strategy and design, which aid in determining the connections between the independent and dependent variables. It describes the steps involved in gathering and evaluating data in order to investigate the relationships between different variables.

Using both descriptive and causal-comparative research methodologies, this study takes a quantitative approach. Choosing data from different years to examine the correlation between interest rates and stock prices is the descriptive component's task. A trend study of the NEPSE index is carried out, with an emphasis on various interest rates, including the short-term, bank, deposit, and loan rates. This approach allows for a thorough analysis of the relationship between interest rates and stock prices.

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3.2 Population and sample

In this research, the population includes the NEPSE index and various interest rates, such as the bank rate, deposit rate, lending rate, and short-term interest rate. The sample for the study is drawn from these interest rates and the NEPSE closing prices for each fiscal year. The companies that is listed in NEPASE are 243 NEPASE 2024.

3.3 Nature and sources of data

The research utilizes a secondary data methodology. The research's data analysis techniques are described in this section. Any statistical research must include data collecting as effective analysis is impossible without it. However, due to difficulties in data creation and administration, Nepal, like many developing nations, has limited access to comprehensive financial and macroeconomic data.

3.4 Data collection procedures

The information for this study has been gathered from reputable sources including the Nepal Rastra Bank, Nepal Stock Exchange, Economic Survey, and Central Bureau of Statistics. Furthermore, an extensive review of published articles, reports, books, journals, and graduate research projects has been conducted to ensure a thorough and detailed analysis.

3.5 Instrumentation

As mentioned earlier in this chapter, several sources provided the secondary data for our investigation. Microsoft Excel was used to systematically arrange the data pertaining to both dependent and independent variables. The data was gathered from a variety of government-published papers, reports, journals, and other sources. In order to investigate the association between interest rate factors and stock prices, descriptive, correlational, and regression studies were conducted using Excel and SPSS. In addition, t-tests and F-tests were used to assess validity and reliability, as well as to ascertain the relative significance of each model and the overall model significance.

3.6 Statistical tools

Statistical tools are methods or techniques used to analyze data gathered from various sources. In the field of statistics, different tools are designed to handle data with varying attributes. In this study, the researcher utilized the following statistical tools to examine the data.

Descriptive statistic

The arithmetic mean, sometimes known as the mean, is the most popular and commonly used of the several measures of central tendency. It is computed by adding up each value

in a dataset, then dividing the result by the total number of values. The mean is a flexible tool that may be used to any set of numerical data.

A measure of dispersion that is absolute is the standard deviation (σ). Its definition is the average of the squared deviations from the arithmetic mean divided by the positive square root. Greater significance in departures from the mean is indicated by a bigger standard deviation, whereas greater consistency or precision is suggested by a smaller standard deviation.

The coefficient of variation (C.V.) is a relative measure of dispersion, determined by expressing the standard deviation as a percentage of the mean. It is particularly useful for comparing the variability of two or more distributions. Since it is a relative measure, the C.V. is independent of units. A higher C.V. value indicates greater variability, while a lower C.V. value indicates less variability.

Bivariate correlation analysis

Bivariate correlation analysis is employed to evaluate the relationship between two variables. Pearson correlation, a bivariate measure, assesses the strength of this association. Correlation coefficients, denoted by "r," range from 0 to 1, where 0 indicates no relationship, 1 signifies a perfect positive linear relationship, and -1 represents a perfect negative linear relationship. Positive coefficients suggest a direct relationship, meaning that as one variable increases, the other also increases. Conversely, a correlation coefficient of zero indicates no relationship between the variables. Negative correlation

Coefficients indicate an indirect relationship, indicating that as one variable increases, the other variable decreases.

$$r = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - \left(\sum X\right)^2}\sqrt{n\sum Y^2 - \left(\sum Y\right)^2}}$$

Regression analysis

Regression analysis involves developing a statistical model to forecast the values of a dependent variable using the values of one or more independent variables. This method helps us comprehend the relationship and relative movement between variables.

Multiple regression extends simple linear regression to scenarios where the value of a

variable is predicted based on two or more other variables. The variable being predicted is referred to as the dependent variable, outcome, target, or criterion variable. The variables used to predict the dependent variable are known as independent, predictor, explanatory, or regression variables.

The Model:

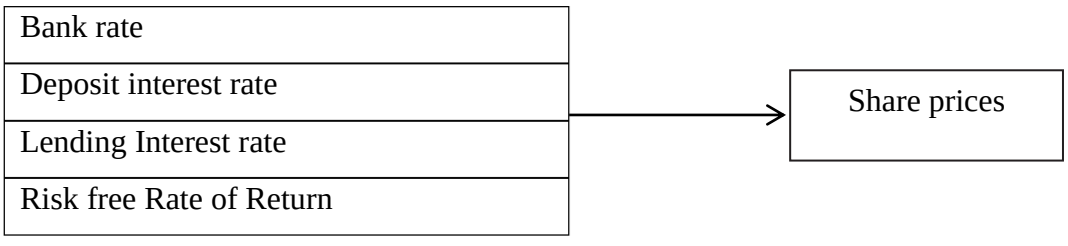
Stock Price = a+b1BR+b2DIR+b3LIR+b4TIR+e

Stock Price (NEPSE Index) = f (Bank rate, Weighted Average Deposit Interest rate, Weigh ted Average Lending Interest rate, Weighted Average T-bills Interest rate)

Multiple regressions provide the means to assess both the overall fit, indicating the explained variance of the model, and the individual contribution of each predictor to the total explained variance. For instance, you may seek to understand the extent to which variation in exam performance can be clarified by factors such as revision time, test anxiety, lecture attendance, and gender collectively. Additionally, you might be interested in gauging the specific and relative contributions of each independent variable to the overall explanation of variance.

3.7 Conceptual framework

Determining the independent and dependent variables in this research is essential to the study's design. The bank rate, weighted average deposit interest rate, weighted lending interest rate, and risk-free short-term interest rate are the independent variables, while the stock market is the dependent variable. The conceptual framework for the study is built in accordance with the literature review.



Sources: (Neupane, 2018)

Figure 3.1 Conceptual Framework

This figure illustrates the conceptual framework of the study, highlighting the dependent and independent variables.

Definition of variables

Bank rate

The interest rate that a central bank charges on loans and advances to commercial banks is called the bank rate, often referred to as the discount rate. This rate varies per nation and has changed over time due to modifications in the systems used to manage it. In accordance with the monetary policy of the nation, banks that are short on cash might borrow from the central bank.

A common method of borrowing is through repurchase agreements (repos). The repo rate, which is mostly used to alleviate market liquidity shortages, is the interest rate at which the central bank loans short-term funds to commercial banks in exchange for securities. On the other hand, the reverse repo rate, which is usually used when there is excess liquidity, is the rate at which banks can deposit extra cash with the central bank.

The interest rate on loans and advances set by the central or federal bank is a key factor in controlling the amount of money in circulation throughout the banking industry and the economy. Usually, this rate is adjusted every three months in order to keep inflation under control and the nation's exchange rates stable. Bank rate changes may impact the economy in a variety of ways, including how stock market prices are affected. Stock market prices frequently respond to sudden changes in interest rates. Furthermore, clients are impacted by changes in bank rates since they have an effect on personal loan prime interest rates.

Deposit interest rate

Deposit account holders, who may have certificates of deposit, savings accounts, or self-directed deposit retirement accounts, are paid interest by financial institutions. For those who want to earn stable income, protect their principle, and have insurance coverage, these bank accounts provide safe investment possibilities.

Larger balance accounts often earn better interest rates from financial institutions, which encourages high-value customers with significant assets. In contrast to more erratic

financial products, deposit accounts offer a consistent investing strategy over time since higher deposit amounts yield bigger returns.

Certain bank accounts come with fixed interest rates, which are often less than the possibly changeable returns of other financial products. The guarantee of consistent profits is traded off against the potential for abrupt, significant gains or losses. A certificate of deposit with a set rate, for instance, assures the specified return upon maturity.

In order to draw clients, banks, credit unions, and other financial organizations compete by providing competitive interest rates on deposits. Interest rates on premium deposits may have conditions attached to them, such minimum balance restrictions and sometimes maximum limits. Money placed into some accounts might need to stay there for a certain amount of time—six months, a year, or many years. Premature withdrawal of cash may incur fines and other costs, sometimes leading to a loss.

Financial institutions encourage long-term deposits not only for the benefit of extended interest accumulation for clients but also because it enhances the institution's liquidity. With more cash on deposit, institutions can offer additional lending services, such as loans and credit cards, to their customers.

Lending interest rate

One important consideration for commercial banks when making lending choices is the loan interest rate. Banks are autonomous organizations that choose their own lending rates, or the percentage added to the amount borrowed. These rates are implemented for a number of purposes, such as protecting the value of money, offsetting risk, and making money.

Commercial banks provide higher interest rates on loans while providing lower rates on deposits in an effort to optimize their profit margins. It is important that these rates are balanced since banks risk not being able to pay for deposits, operating costs, and losses from non-performing loans if lending rates are too low. On the other hand, unnecessarily high interest rates can sour ties with borrowers.

Setting appropriate lending rates is a significant challenge in the banking industry. Various factors influence these rates, including the supply of savings from households and the demand for capital from businesses, as outlined by classical economic theory. The loanable funds theory further suggests that interest rates are determined by savings, investment, the desire to hoard money, and the money supply. Additionally, rational expectation theory posits that the current interest rate is the best predictor of future rates, with changes occurring due to unexpected information or shifts in economic conditions.

Short term interest rate

A stock will see a price decline if the needed return goes down, and a price increase if it goes up. This inverse connection arises because a higher necessary return can be met with a lower stock price, assuming no other changes. Consequently, from the standpoint of an investor, there is an inverse relationship between the desired return and the stock price.

An increase in the risk-free rate or the risk premium may result in a higher necessary return. The business's risk premium may rise, for example, if a major executive departs or if the company abruptly lowers its dividend payments. Furthermore, as interest rates rise generally, the risk-free rate also tends to climb.

Thus, changes in interest rates affect the theoretical valuation of stocks. A stock's value is calculated by]projecting its future cash flows and discounting them to the present value using the required rate of return. If interest rates decrease, and all other factors remain constant, the value of the stock should increase.

Stock price

In financial theory, the value of a stock is fundamentally linked to its inherent risk compared to bonds. Bondholders have priority in receiving their capital in the event of bankruptcy, making stocks riskier investments. As a result, investors demand higher returns for the additional risk associated with stocks compared to the more secure returns of Treasury notes.

The extra return that investors expect from stocks, over and above the risk-free rate, is known as the "risk premium." Historically, this risk premium averages around 7%. For example, if the risk-free rate (such as the rate on Treasury notes) is 4%, investors would seek a total return of 11% from a stock. Therefore, the overall return on a stock is comprised of the risk-free rate plus the risk premium. Higher returns are generally associated with riskier stocks, which offer a larger risk premium compared to stable blue-chip companies. Rational investors would choose investments that provide a return sufficient to compensate for both the opportunity cost of not earning the risk-free rate and the additional risk involved.

CHAPTER IV
RESULTS AND DISCUSSION

In order to understand the intricate link between interest rates and stock prices, this chapter delves into the thorough process of data analysis. It specifically focuses on the interpretation, analysis, and presentation of secondary data. This analytical journey comprises several crucial elements, such as identifying the main concerns, making sure pertinent data is available, choosing suitable methodologies to address certain questions, putting these approaches to use, critically reviewing, summarizing, and successfully conveying the results.

The chapter is organized into five distinct sections. The first segment examines the structure and patterns within the data. The second section is devoted to descriptive statistics, providing a detailed analysis of the dataset's primary features. The third section focuses on correlation analysis, aiming to reveal the interdependence between interest rates and stock prices. The fourth section employs stepwise regression analysis to identify the most influential variables relevant to the research question. The final section offers a comprehensive summary of the findings, drawing conclusions based on the analysis of secondary data. Notably, Excel is used as the primary analytical tool to investigate the intricate relationship between interest rates and stock prices.

4.1 Results

Data obtained from government sources include various interest rates such as the bank rate, deposit rate, lending rate, and government securities interest rate. These rates are organized and depicted using line charts. Simultaneously, the closing prices of the Nepal Stock Exchange (NEPSE) for each fiscal year are compiled and displayed using trend line charts.

The NEPSE share prices index, which serves as the dependent variable, is sourced from the official Nepal Stock Exchange website. These closing prices are recorded for each fiscal year, starting from mid-July 2008 to 2022. Additionally, a variety of interest rates are collected from different government entities. Specifically, weighted average deposit interest rates and lending interest rates are derived from data provided by commercial

banks.

Table 4.1

Shows the time series data of different interest rate and NEPSE index from 2008 A.D to 2022 A.D.

Year	NEPSE Index	W.A Deposit Rate	W.A Lending Rate	Bank Rate	T-bills Rate
2008	205	4.6	11.3	5.5	2.8
2009	222.04	4.5	11.3	5.5	1.8
2010	286.7	3.5	10.9	5.5	3.68
2011	386.83	3.57	10.75	6.25	3.4
2012	684	3.6	10.75	6.25	3.1
2013	963.4	3.6	10.25	6.25	5.5
2014	749	4.6	10	6.5	6.1
2015	477.8	6.8	11.3	6.5	8.1
2016	362.9	6.8	11.05	7	8.5
2017	389.7	6.17	12.4	7	1.5
2013	518.3	5.3	12.1	8	1.52
2019	1036.1	4.09	10.6	8	0.3
2020	961.2	3.94	9.6	8	0.37
2021	1718.2	3.3	8.9	7	0.3
2022	1583	6.2	11.3	7	0.62

Source: www.nepse.gov.np/closingprice

The bank rate represents the interest rate set by the Nepal Rastra Bank for commercial banks. In parallel, treasury bills and development bonds, classified as government securities, are issued by the NRB to fulfill financial requirements and regulate the flow of money in the market. Consequently, interest rates fluctuate across various years due to the adoption of different monetary policies by the NRB.

4.1.1 Weighted average deposit interest rate

The weighted average deposit interest rate is a composite measure offered by commercial banks, which includes both fixed deposit and savings interest rates across these institutions.

As shown in Table 4.1, commercial banks provided the lowest interest rate of 3.44% in 2010 A.D. Conversely, the highest interest rates, peaking at 6.83%, were recorded in both 2015 and 2016 A.D.

4.1.2 Weighted Average Lending Interest rate

The weighted average lending interest rate represents the overall interest rate provided by commercial banks, combining all their lending rates.

As shown in Table 4.1, the lowest lending rate offered by commercial banks was 8.86% in 2021 A.D., while the highest rate, 12.40%, was observed in 2017 A.D.

4.1.3 Bank rate

The bank rate is the interest rate set by Nepal Rastra Bank for commercial banks borrowing from the NRB. This rate influences the interest rates that commercial banks offer to their customers.

According to Table 4.1, the highest bank rate set by the NRB was 8% in 2013, 2019, and 2020 A.D. The lowest rate, at 5.5%, was recorded in 2008, 2009, and 2010 A.D.

4.1.4 Treasury bills rate

This table includes time series data on Treasury bill interest rates from 2008 A.D. to 2022 A.D. It aggregates the interest rates for 28-day, 91-day, 182-day, and 364-day Treasury bills into a Weighted Average Treasury bills rate.

Table 4.2
Different T-bills rate from 2008 A.D to 2022 A.D

Year	T-bills (28 days)	T-bills (91 days)	T-bills (182 days)	T-bills (364 days)	Weighted Average T-Bills
2008	3.26	2.98	-	4.93	2.79
2009	1.82	1.47	-	3.81	1.78
2010	1.57	3.94	4.42	4.79	3.68
2011	2.40	3.25	3.86	4.04	3.39
2012	2.13	2.77	3.51	4.00	3.10
2013	5.16	5.13	5.16	6.47	5.48
2014	4.94	6.80	5.91	6.55	6.05
2015	8.70	8.13	8.28	7.28	8.10
2016	8.08	8.52	8.59	8.61	8.45
2017	0.10	1.15	1.96	2.72	1.48
2013	0.55	1.19	1.60	2.71	1.52
2019	0.01	0.02	0.42	0.72	0.29
2020	-	0.1739	0.5648	0.7579	0.37
2021	-	0.05	0.33	0.72	0.27
2022	-	0.71	1.71	-	0.60

Source: www.nrb.gov.np/tbills

The Nepalese government, in partnership with the Nepal Rastra Bank (NRB), issues Treasury bills to manage short-term financial needs and regulate the money supply. The NRB typically issues Treasury bills with maturities of 28 days, 91 days, 182 days, and 364 days. This report presents the weighted average interest rates for these Treasury bills.

The Weighted Average T-bills Interest Rate is calculated as the average of the interest rates for the 28-day, 91-day, 182-day, and 364-day Treasury bills. Note that in some years or months, the government may not issue Treasury bills, resulting in no published rates from the NRB.

As shown in Figure 4.2, the NRB offered the highest Treasury bill interest rate of 8.45% in 2016 A.D. Conversely, the lowest rate was 0.27% in 2021 A.D.

4.1.5 Listed companies and market capitalization

From fiscal year closing of 2016/17 at Mid July, the list of companies in NEPSE index is of 208. Similarly total share value of market capitalization is Rs 18 million. The largest market capitalization is occupied by financial institutions. Among the financial institution, commercial banks have occupied share value of

Rs 0.9 million in market capitalization. Similarly, development banks have occupied of Rs 0.2 million in market capitalization. Finance and Insurance companies have occupied Rs 0.05 million and Rs 0.2 million respectively. In the same way, manufacturing, hotel, trading, hydropower and others have occupied the market by few share value in Nepal stock Exchange respectively.

4.1.6 Descriptive analysis

Table 4.3
Descriptive analysis

	Nepse Index	W.A Deposit Rate	W.A Lending Rate	Bank Rate	T-bills rate
Mean	702.91	4.7	10.82	6.68	3.16
S.D	470.84	1.26	0.9	0.86	2.74
Minimum	204.86	3.28	8.86	5.5	0.27
Maximum	3,198.60	6.83	12.4	8	8.45

According to Table 4.3, the NEPSE index shows a positively skewed distribution, with a mean of 702.91 and a median of 518.33, ranging from 204.86 to 3,198.60 points. The standard deviation is 470.84 points.

For deposit interest rates, the mean and median are 4.70% and 4.50%, respectively, within a range of 3.28% to 6.83%. The standard deviation is 1.26%. Lending interest rates have a mean of 10.82% and a median of 10.88%, varying from 8.86% to 12.40%, with a standard deviation of 0.90%.

Bank rates have both a mean and median of 6.68%, within a range of 5.50% to 8.00%. The standard deviation is 0.86%. T-bills interest rates show a mean of 3.16% and a median of 3.16%, ranging from 0.27% to 8.45%, with a standard deviation of 2.74%.

The NEPSE index exhibits a high degree of positive skewness, while other variables show moderate positive skewness, except for lending interest rates. Additionally, the NEPSE index and lending interest rates demonstrate peaked distributions, whereas deposit interest rates, bank rates, and T-bills rates indicate flatter distributions based on kurtosis analysis.

4.1.7 Correlational analysis

Following the presentation of descriptive statistics, Pearson correlation coefficients were calculated to illustrate the magnitude and direction of the linear relationships between variables. These coefficients indicate how the correlation between the original data might change or remain constant. The results, summarized in Table 4.4, reflect the correlation analysis performed using Excel. This table shows the interrelationships among the NEPSE Index, average deposit interest rate, average lending interest rate, average Treasury bills rate, and bank rate.

Table 4.4
Bivariate correlation analysis

	Nepse Index	W.A Deposit Rate	W.A Lending Rate	Bank Rate	T-bills rate
Nepse Index	1				
W.A Deposit Rate	-0.193	1			
W.A Lending Rate	-0.583	0.618	1		
Bank Rate	0.465	0.196	-0.08	1	
T-bills rate	-0.423	0.401	0.084	0.34	1

** Correlation is significant at the 0.05 at two-tailed

Correlation is a tool that helps researchers anticipate how one variable might influence another. However, it's important to remember that correlation does not imply causality; it only indicates the direction of change or movement between variables.

According to the table, there is a negative correlation between the weighted average deposit interest rate and the NEPSE Index, meaning that as deposit interest rates increase, the NEPSE Index tends to decrease, and vice versa. Similarly, the weighted average lending interest rate also shows a negative correlation with the NEPSE Index, suggesting that higher lending rates are associated with lower NEPSE Index values.

In contrast, the bank rate has a positive correlation with the NEPSE Index, indicating that higher bank rates are linked to higher NEPSE Index values. T-bills rates, on the other hand, show a negative correlation with the NEPSE Index, meaning that higher T-bills interest rates are associated with lower NEPSE Index values.

Among the independent variables, the bank rate, lending interest rate, and T-bills rate are positively correlated with the deposit interest rate. This means that higher bank rates, lending rates, and T-bills rates tend to be associated with higher deposit interest rates, and vice versa.

Additionally, a negative correlation is found between the bank rate and lending interest rate, indicating that higher bank rates are associated with lower lending rates. Conversely, T-bills rates exhibit a positive relationship with the bank rate, suggesting that higher T-bills interest rates are associated with higher bank rates.

4.1.8 Regression analysis

To evaluate the statistical significance and robustness of the findings, this study utilizes secondary data analysis based on the regression model described in Chapter Three.

The analysis focuses on regression results from various model specifications, examining the relationship between the dependent variable, stock price (NEPSE Index), and independent variables, including interest rates, profitability, and stock returns. The regression results are summarized in the tables below.

The table presents the outcomes of the regression analysis conducted using Excel. The dependent variable is the NEPSE Index, while the independent variables include the weighted average deposit interest rate, weighted average lending interest rate, weighted average Treasury bills rate, and the bank rate.

Table 4.5
Regression Statistics

Regression Statistics	
Multiple R	0.891
R Square	0.794
Adj. R Sq.	0.679
Std. Error	266.728
Obs.	15

a. Predictors:(constant) DR, LR, SFTR, STIR

The model summary in Table 4.7 reveals the extent to which the bank rate, deposit rate, lending rate, and short-term risk-free interest rate explain the variation in share prices. The coefficient of multiple determination (R squared) is 0.794, indicating that approximately 79.4% of the variation in share prices can be explained by these independent variables at a 95% confidence interval. The margin of error for this estimate is 266.728. This means that 79.4% of the changes in the share price of the Nepalese stock market are attributed to fluctuations in the bank rate, deposit rate, lending rate, and short-term risk-free interest rate, while the remaining 20.6% is due to other factors.

The correlation coefficient (R) reflects a strong positive relationship between the variables, with a value of 0.891. This result is supported by the adjusted R squared, which is approximately 67.9%. The adjusted R squared represents the proportion of the total variance explained by the model.Table 4.6, below, outlines the analysis of variance (ANOVA), providing additional insights into the statistical significance and effectiveness of the regression model.

Table 4.6

Goodness of fit of Regression (ANOVA[a])

ANOVA

	Df	*SS*	*MS*	*F*	*Sig. F*
Regression	5	2463419	492683.797	6.925	0.006
Residual	9	640293.7	71143.746		
Total	14	3103713			

a. Dependent variable: share price

b. Predictors: constant, BR, DR,LR.STIR

Table 4.6 shows the ANOVA statistics, indicating a significance level of 0.6b%, which suggests that the data is appropriate for making conclusions about population parameters since the p-value is below the standard 5% threshold. The calculated F-value of 6.925 exceeds the critical value of 1.984, indicating that the independent variables (Bank rate, Deposit interest rate, Lending interest rate, and Short-term risk-free interest rate) significantly affect share prices in the Nepalese stock market. The F-value of approximately 6.925 and the p-value of 0.6b% demonstrate that the explanatory variables are collectively and significantly related to the dependent variable, highlighting their strong influence on share price behavior in the Nepalese stock market.

The regression results, which detail the individual effects of the Bank rate, Deposit rate, Lending rate, and Short-term risk-free interest rate on share prices, are presented in

Table 4.7.

.	Coeff.	Std Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	7399.326	1897.518	3.899	0.004	3106.842	11691.811	3106.842	11691.811
WADR	262.838	100.989	2.603	0.029	34.386	491.290	34.386	491.290
WALR	-439.409	114.145	-3.850	0.004	-697.623	-181.196	-697.623	-181.196
BR	-126.202	133.751	-0.944	0.370	-428.768	176.364	-428.768	176.364
TBR	-142.801	42.115	-3.391	0.008	-238.072	-47.530	-238.072	-47.530

a. Dependent variables: share price

The adjusted R-square value from the regression analysis, which spans fifteen years of stock market index and interest rate data, is 0.679. This indicates that approximately 67.9% of the variation in the stock market can be explained by the interest rate variables, including the Weighted Average Deposit interest rate, Weighted Average Lending interest rate, Bank rate, and T-bills rate. The remaining 32.1% of the variation is attributed to other factors.

4.2 Discussion

The study offers significant insights into the relationship between various interest rates and stock market performance, specifically within the Nepal Stock Exchange (NEPSE). The findings are crucial for understanding how monetary policy impacts financial markets in Nepal.

The adjusted R-square value of 0.679 indicates that approximately 67.9% of the variation in the NEPSE Index is explained by the interest rate variables analyzed: Weighted Average Deposit interest rate, Weighted Average Lending interest rate, Bank rate, and T-bills rate. This high percentage underscores the substantial role that interest rates play in influencing stock market performance, although 32.1% of the variation is attributable to other factors. This result aligns with existing literature, highlighting the significant impact of interest rates on stock prices while acknowledging the complexity of stock market determinants (Bhattarai, 2021; Mishra & Paudel, 2021).

The study finds a negative relationship between deposit rates, lending rates, and T-bills rates with the NEPSE Index, suggesting that increases in these rates tend to depress stock prices. Higher deposit rates may attract more savings, reducing the funds available for stock investments. Increased lending rates raise borrowing costs for companies, potentially diminishing profitability and investment, thereby negatively impacting stock prices. The negative effect of T-bills rates on stock prices might indicate a preference for safer government securities over riskier equities when T-bill rates are high (Shrestha & Koirala, 2022).

Interestingly, no significant relationship is observed between the bank rate and share prices. This might be because the bank rate primarily affects banks' borrowing from the central bank and may not directly influence broader market liquidity or investor behavior as strongly as other interest rates.

The positive associations between lending rates and deposit rates, and between T-bills rates and lending rates, suggest interconnectedness within the financial market. As deposit rates rise, banks may increase lending rates to maintain profit margins. Similarly, higher T-bills rates may drive up lending rates, reflecting the broader economic conditions and central bank policies (Nepal Rastra Bank, 2022).

The findings are consistent with previous research, emphasizing the complex relationship between interest rates and stock market behavior. The positive relationship between T-bills rates and the bank rate suggests that changes in the central bank's rate can influence government securities' yields. Conversely, the negative relationship between the bank rate and lending rate may indicate that lower bank rates, intended to stimulate economic activity, do not always lead to lower lending rates due to other economic conditions or risk assessments by banks.

The study highlights the significant role of interest rates in shaping stock market dynamics, with varying impacts on the NEPSE Index. These insights are valuable for policymakers and investors, emphasizing the need to understand how different interest rates can influence market behavior and economic stability.

Future research could explore additional macroeconomic variables and their interactions with interest rates to gain a more comprehensive understanding of stock market dynamics in Nepal.

CHAPTER V
SUMMARY AND CONCLUSION

This chapter provides a concise summary of the study, highlighting the main findings. It begins with a section that outlines the primary conclusions drawn from the research. This is followed by a discussion on the implications and recommendations regarding the impact of interest rates on the Nepali stock market. The chapter concludes by identifying potential directions for future research in this area.

5.1 Summary

The stock market index is frequently seen as an economic indicator as it conveys information about the outlook for the economy and reflects investor mood. Rising stock indices are generally seen favorably as they show investor confidence and promote economic investment. However, an unwarranted and quick rise in the stock index might indicate possible dangers since it can set off an uncontrollable upward trend that could eventually lead to a market collapse and jeopardize the stability of the economy and financial system. It is crucial to comprehend the intricate link that exists between the stock market index and other affecting components.

The stock market is influenced by a variety of variables, each of which has a different effect depending on the size, nature, and other features of a nation's economy. The impacts of interest rate factors on Nepal's stock market, namely the interest rates on deposits, loans, bank deposits, and T-bills, are the main emphasis of this study.

Prior studies have often discovered a strong inverse connection between interest rates and the stock market. To investigate this association, some research have looked at deposit interest rates, while others have looked at T-bill rates. To evaluate the effect of interest rates on stock prices in Nepal, this study uses five independent variables. The goal is to compare the results with those of previous studies.

5.2 Conclusion

This study's main conclusion is that stock values, as measured by the NEPSE Index, are highly influenced by the rates on deposits, loans, and T-bills. The weighted average deposit interest rate, weighted average lending interest rate, bank rate, and T-Bills rate are the interest rate factors that may account for 67.9% of the volatility in the stock market, according to the modified R-square value of 0.679. This leaves 32.1% of the variance in the stock market that is due to outside influences. According to correlation study, there is no discernible association between the bank rate and stock prices, although there is a negative correlation between the deposit, lending, and T-Bills rates. Furthermore, there is a positive correlation between the deposit interest rate and the loan interest rate and the T-Bills rate.

In summary, the study finds that the deposit rate, lending rate, and T-Bills Rate have a notable decline in stock values, but stock prices are not substantially impacted by the bank rate.

The link between interest rates and stock prices was examined using five independent variables in the research. The objective of this study was to ascertain if the findings support earlier studies or provide fresh perspectives in relation to Nepal.

5.3 Implications

Both regulatory agencies and investors should take note of this research. It demonstrates how loan and deposit rates impact share prices, providing investors with important information. The study emphasizes how important it is for regulatory agencies like the NRB to give serious thought to interest rate patterns when deciding whether or not to issue T-bills.

The NRB ought to create monetary policies with the intention of bringing the stock market back to life.

i. Considering the identified negative relationship between interest rates and share prices, policymakers should actively manage interest rate fluctuations using effective tools to regulate the money market.
ii. To address liquidity challenges, the NRB should leverage government securities, such as development bonds and foreign saving bonds.

iii. Government officials and policymakers should formulate policies aimed at enhancing investor and shareholder confidence, fostering financial stability, and promoting transparency.

iv. Efforts should be directed towards ensuring financial stability and transparency within the financial system.

v. The government's effectiveness in executing capital expenditure and managing substantial revenue collections significantly impacts banks' liquidity. Timely and efficient spending of capital expenditure is crucial to address these concerns.

REFERENCES

Acharya, R.C. (2013). *Determinants of Stock Price in Nepalese Commercial Bank.*

Adhikari, R., & Adhikari, S. (2023). Monetary policy changes and stock market reactions: Evidence from Nepal. *Journal of Financial Studies*, 15(2), 104-119.

Adjasi, C. K.D. (2014). *Macroeconomic uncertainty and conditional stock price volatility in frontier African markets*: Evidence from Ghana. 13(1), 55-60.

Ali, S., Hassan, A., & Usman, M. (2023). The mixed effects of different interest rate measures on stock prices: Evidence from emerging markets. *Journal of Financial Markets*, 56(1), 12-29.

Amanullah, M. (2017). Determinants of share prices at Karachi stock exchange.*International Journal of Business & Management Studies*, 4, 1309-1347.

analysis of NEPSE. *Finance and Investment Journal,* 14(3), 201-215.

Badarudina, Z. E. Ariffb, M. & Khalid, A.M (2016) *Money supply endogeneity and Bank stock returns*. Evidence from Ghana. 12(1), 35-48.

Baskota, N. P. (2012). *Stock price volatility in Nepal*. *Unpublished M. Phil. Dissertation, Office of the Dean, Faculty of Management, Tribhuvan University.*

Bhatta, G. P.(2015). *"Does Nepalese stock market follow random walk?"* Sebon Journal, 4(2) 25-33.

Bhattacharyya, B., & Mukherjee, J. (2011). Indian stock price movement and the macroeconomic context–A time series analysis. *Journal of International Business and Economics, 5 (1), 167-181.*

Bhattarai, K. (2021). Causal relationship between interest rates and stock market returns: Evidence from Nepal. *Nepal Economic Review*, 12(1), 45-60.

Bhattarai, K. (2021). Causal relationship between interest rates and stock market returns: Evidence from Nepal. *Nepal Economic Review*, 12(1), 45-60.

Bhattarai, K. (2021). Causal relationship between interest rates and stock market returns: Evidence from Nepal. *Nepal Economic Review*, 12(1), 45-60.

Buddha, B.B.(2013) The Bank Lending Channel of Monetary Policy in Nepal: Evidence from Bank Level Data *NRB working paper.*

Damodaran, A. (2020). *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset*. Wiley.

Eita, J. H. (2017). "Modeling Macroeconomic Determinants of Stock Market Prices: Evidence from Namibia." *The Journal of Applied Business Research,* 28(5) , 871-884.

Fama, F. (1970). Efficient capital market, A review of theory and empirical work, *The Journal of Finance. 25(2* Sharif, T. , purohit, H. and Pillai, R. (2020), Analysis of factors affecting share prices: *International Studies Association , 52*(4), 45–52.

Gupta, R., & Bose, S. (2023). Interest rates and stock market volatility: Evidence from India. *Journal of Emerging Market Finance,* 19(1), 78-94.

Gurung, J. B. (2009). "Growth and Performance of Securities Market in Nepal." *The Journal of Nepalese Business Studies*, 1(1) , 85-92.

Hofmann, B., & Peersman, G. (2022). Monetary policy transmission and financial stability: A dynamic approach. *Economic Journal*, 132(644), 1945-1971.

Hussainey, K.,& Ngoc, L. K. (2014). The impact of macroeconomic indicators on Vietnamese stock prices. *Journal of Risk Finance, Vol. 10(4), pp. 321-332.*

Jorda, O., Singh, S. R., & Taylor, A. M. (2020). The long-run effects of monetary policy. *Review of Economics and Statistics*, 102(2), 234-248.

Kathmandu*:* An unpublished master's degree thesis, submitted to faculty of management, Tribhuvan University.

Khan, M. S. (2019). Macroeconomic variables & its impact on KSE-100 Index. *Universal Journal of Accounting and Finance,* 2 (2), 33-39.

Liu, J., & Zhang, Y. (2021). Federal Reserve policies and stock market responses during the COVID-19 pandemic. *Journal of Financial Economics*, 140(2), 419-436.

Malhotra, N, and Tandon, K, (2013), Determinants of stock prices: Empirical evidence from NSE 100 companies, *International Journal of Research in Management & Technology*, Vol. 3, No. 3.

Mishra, R. K., & Paudel, K. P. (2021). Impact of monetary policy on stock market performance in Nepal. *Journal of Financial Research*, 14(3), 223-238.

Mishra, R. K., & Paudel, K. P. (2021). Impact of monetary policy on stock market performance in Nepal. *Journal of Financial Research*, 14(3), 223-238.

MOF.2022. Economic Survey, (2022). *Ministry of Finance, Government of Nepal*, Nepal.

Mosley, L., & D. A. Singer (2013). Taking stock seriously: Equity-market performance, government policy, and financial globalization. *International Studies Association , 52*(4), 405–425.

Müller, F., & Schmidt, T. (2023). The impact of ECB monetary policy on Eurozone stock markets. European Financial Management, 29(1), 133-150.

Nepal Rastra Bank. (2021). *Monetary Policy for Fiscal Year 2020/2021*. Nepal Rastra Bank.

Nepal Rastra Bank. (2021). *Monetary Policy for Fiscal Year 2020/2021*. Nepal RastraBank.

Nepal Rastra Bank. (2022). *Annual Report 2021/2022*. Nepal Rastra Bank.

Nepal Rastra Bank. (2022). *Annual Report 2021/2022*. Nepal Rastra Bank.

Neupane, A. (2009). *Determinants of stock price in NEPSE. Kathmandu*: An unpublished master's degree thesis, submitted to faculty of management, Tribhuvan University.

Nguyen, H. T., & Pham, T. M. (2021). Interconnections among interest rates: Implications for financial stability. *Journal of Banking & Finance*, 123, 106070.

Nirmala, P.S., Sanju, P. S. &Ramachandran, M. (2016).Determinants of share prices in India.*Journal of Emerging Trends in Economics and Management Science (JETEMS)*, 2(2), 124-130.

Patel, S. (2021). Interest rate dynamics and stock market performance in developing economies. *Emerging Markets Finance & Trade*, 57(12), 3361-3380.

Rahman, M., & Yao, Y. (2022). The role of interest rates in stock market movements: A global perspective. *International Review of Economics & Finance*, 79, 225-240.

Rodríguez, P., & García, L. (2023). Interest rate changes and stock market reactions in Latin America: The cases of Brazil and Mexico. *Latin American Economic Review*, 32(2), 215-233.

Sah, B. (2016). *Factors Affecting the Share Price in Nepalese Commercial Banks Listed in NEPSE;* An unpublished master's degree thesis, submitted to faculty of management, Tribhuvan University.

Sharma, M. (2023). Sectoral sensitivity of stock market to interest rate changes: An

Sharma, S. (2016). Determinants of equity share prices in India. *Journal of Arts, Science & Commerce*, 2(4), 51-60.

Shrestha, P., & Koirala, B. (2022). Macroeconomic determinants of stock market performance: A VAR approach. *Nepal Journal of Economics*, 10(4), 56-75.

Shrestha, P., & Koirala, B. (2022). Macroeconomic determinants of stock market performance: A VAR approach. *Nepal Journal of Economics*, 10(4), 56-75.

Shrestha, P., & Koirala, B. (2022). Macroeconomic determinants of stock market performance: A VAR approach. *Nepal Journal of Economics*, 10(4), 56-75.

Tan, W., & Li, H. (2022). Interest rate adjustments and stock market performance: Evidence from China. *China Economic Review*, 71, 101-118.

APPENDIX

T-bills* (28 days)	T-bills* (91 days)	T-bills* (182 days)	T-bills* (364 days)
3.26	2.98		4.93
1.82	1.47		3.81
1.57	3.94	4.42	4.79
2.40	3.25	3.86	4.04
2.13	2.77	3.51	4.00
5.16	5.13	5.16	6.47
4.94	6.80	5.91	6.55
8.70	8.13	8.28	7.28
8.08	8.52	8.59	8.61
0.10	1.15	1.96	2.72
0.55	1.19	1.60	2.71
0.01	0.02	0.42	0.72
	0.1739	0.5648	0.7579
	0.05	0.33	0.72
	0.71	1.71	

Source: NRB 2022

Quarterly detail of Interest rate (Source NRB)

Structure of Interest Rate

(Percent per annum)

Year	**2015**	**2016**	**2017**	**2013**	**2019**	**2020**	**2021**	**2022**
Mid-month	**Jul**	**Jul**	**Jul**	**Jul**	**Jul**	**Jul**	**Jul**	**July**
A. Policy Rates								
CRR								
Commercial Banks		5.5	5.0	6.0	5.0	6.0	6.0	6.0
Development Banks	5.5	5.5	5.0	5.5	4.5	5.0	5.0	5.0
Finance Companies	5.5	5.5	5.0	5.0	4.0	4.0	4.0	4.0
Bank Rate	6.5	7.0	7.0	8.0	8.0	8.0	7.0	7.0
Refinance Rates Against Loans to:								
B. Government Securities								
T-bills (28 days)*	8.70	8.08	0.10	0.55	0.01	-	-	-
T-bills (91 days)*	8.13	8.52	1.15	1.19	0.02	0.1739	0.05	0.71
T-bills (182 days)*	8.28	8.59	1.96	1.60	0.42	0.5648	0.33	1.71
T-bills (364 days)*	7.28	8.61	2.72	2.71	0.72	0.7579	0.72	-
Development Bonds	5.0-9.0	5.0-9.5	5.0-9.5	5.0-9.5	3.25-9.5	2.65-9.5	2.65-9.0	2.65-9.0
C. Interbank Rate of Commercial Banks	6.57	8.22	0.86	0.86	0.16	1.01	0.69	0.64
D. Weighted Average Deposit Rate (Commercial Banks)			6.17	5.25	4.09	3.94	3.28	6.15
E. Weighted Average Lending Rate (Commercial Banks)			12.40	12.09	10.55	9.62	8.86	11.33

Source: www.nrb.org.np/interestrate

IMPACT OF INTEREST RATE ON STOCK MARKET IN NEPAL

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Abstract The stock market index functions as an economic barometer. A climbing stock index generally signals investor optimism about the economy's future. Grasping

the relationship between the stock market index **and** its influencing **factors is** essential. **The**

stock market is influenced by a number of variables, including the

bank rate, deposit interest rate, lending interest rate, and short-term risk-free interest rate . Investing in efficient **markets**

is the goal of astute investors. A small number of people may make significant gains in inefficient markets, which would undermine investor trust overall. For example, a rise in interest rates on bank deposits may induce investors to transfer their funds from the stock market to banks, hence reducing share demand and prices. In a similar vein, higher interest rates on bank deposits may result in higher interest rates on loans, which would decrease total economic investment and, ultimately, share prices. Therefore, pricing theory suggests that share prices and interest rates have an inverse connection. The purpose of this study is to look at how interest rates affect the stock market. The particular goals are to analyze how bank rates affect stock market returns, comprehend investor behavior with respect to share investments, compare stock market returns to short-term risk-free interest rates, and determine how deposit and lending interest rates affect Nepal's stock market.. A significant and inverse relationship between interest rates and the stock market has been observed in the majority of earlier research. To look into this link, some have looked at deposit interest rates while others have concentrated on T-bill rates. This study establishes the relationship between interest rates and share prices using four independent variables. In order to ascertain if the findings are in line with previous research, the study investigates these implications within the framework of Nepal. Keywords: Stock Market, Interest Rate, Bank Rate, Deposit & Lending Interest Rate. v

Chapter I Introduction 1.1 Background of the study The history of the **stock market** in Nepal **is**

relatively short. The

Securities Exchange Centre (SEC) was established in 1976 with the goal **of** fostering **the growth of** the **capital market (Gurung, 2004**