IMPACT OF INTEREST RATE ON STOCK MARKET PREDICTION IN NEPAL

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by

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CERTIFICATE OF AUTHORSHIP

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled "**IMPACT OF INTEREST RATE ON STOCK MARKET PREDICTION 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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Ms. Sauriya Lamsal has defended research proposal entitled "*IMPACT OF INTEREST RATE ON STOCK MARKET PREDICTION IN NEPAL"* successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestion and guidance of supervisor Teacher's name and submits the thesis for evaluation and viva voce examination.

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TABLE OF CONTENTS

Page No

Cover Page *i*

Certificate of Authorship *ii*

Report of Research Committee *iii*

Approval Sheet *iv*

Acknowledgements *v*

Table of Contents *vi*

List of Tables *viii*

List of Figures *ix*

Abbreviations *x*

Abstracts *xi*

CHAPTER I 1

INTRODUCTION 1

1.1 Background of the study 1

1.2 Problems statement 5

1.3 Objectives of the study 7

1.4 Hypothesis 7

1.5 Rational of the study 7

1.6 Limitations of the study 8

CHAPTER II 9

LITERATURE REVIEW 9

2.1 Theoretical review 9

2.2 Empirical review 12

2.3 Research gap 27

CHAPTER III 28

RESEARCH METHODOLOGY 28

3.1 Research design 28

3.2 Population and sample, and sampling design 28

3.3 Nature and sources of data 28

3.4 Instrument of data collection 29

3.5 Methods of analysis 29

3.6 Validity and reliability 33
3.7 Research framework and definition of variables 33
3.7.1 Definition of variables 34
CHAPTER IV 38
RESULTS AND DISCUSSION 38
4.1 Results 38
4.1.1 Descriptive analysis 43
4.1.2 Correlation analysis 44
4.1.3 Regression analysis. 45
4.1.4 Hypothesis testing. 49
4.2 Discussion 49
CHAPTER V 51
SUMMARY AND CONCLUSION 51
5.1 Summary 51
5.2 Conclusion 52
5.3 Implications 53
REFERENCES
APPENDIX

LIST OF TABLES

Table 1 Review of Major Literature 22

Table 2 Different interest rate and NEPSE closing index 39

Table 3 Descriptive Analysis Statistics 43

Table 4 Correlation Analysis 44

Table 5 Model Summary 46

Table 6 ANOVA 47

Table 7 Coefficient 48

LIST OF FIGURE

Figure 1 Conceptual framework..... 34

Figure 2 Structure of NEPSE index..... 40

Figure 3 Structure of weighted average deposit interest rate..... 41

Figure 4 Structure of weighted average lending rate..... 41

Figure 5 Structure of discount rate..... 42

ABBREVIATIONS

AD	Anno Domini
ANOVA	Analysis of Variance
CSR	Corporate Social Responsibility
i.e.	That is
MBS	Master of Business Studies
S.D.	Standard Deviation
SDC	Shanker Dev Campus
SEE	Standard Error of Estimate
SEM	Structural Equation Modelling
SOR	Stimulus-Organism Response
SPSS	Statistical Package for the Social Sciences
TU	Tribhuvan University
WAM	Weighted Average Mean

ABSTRACTS

This study examined the impact of interest rate (deposit interest, lending interest, bank rate and T-bills rate) on share market in Nepal. This study is based on descriptive and causal comparative research design. The population is based on NEPSE index and different interest rate like: bank rate, deposit rate, lending rate, short term interest rate. In this study sample for the study included different interest rate like bank rate, deposit rate, lending rate, short-term interest rate and NEPSE index of each fiscal years starting from mid July 2012 to mid-July 2023 of 11 years. The study has based on secondary data in nature. These data are analyzed through excel and SPSS. Descriptive, Correlation and Regression analysis were used to explain the relationship between the interest rate variables and NEPSE index. The correlation analysis revealed that the NEPSE Index exhibits varied relationships with the different financial rates. Notably, a positive correlation was observed with the Weighted Average Treasury Bill Rate, suggesting that increases in Treasury Bill rates are associated with higher values in the NEPSE Index. On the other hand, significant negative correlations were found with the Weighted Average Deposit Rate, Weighted Average Lending Rate, and discount Rate. The results show that the Weighted Average Treasury Bill Rate positively influences the NEPSE Index, meaning higher Treasury Bill rates lead to higher stock market values. In contrast, the Weighted Average Deposit Rate, Weighted Average Lending Rate, and discount Rate each have significant negative effects on the NEPSE Index. Specifically, increases in these rates are associated with declines in stock market performance. These findings shows the importance of financial rates in stock market dynamics and their implications for both investors and policymakers. Investors can use this knowledge to make informed strategic decisions and manage risks, while policymakers can craft policies that either stabilize or stimulate the stock market by adjusting financial rates in response to changing economic conditions. The statistically significant relationships revealed in the analysis emphasize the robustness of the results and their relevance for understanding the interactions between financial indicators and stock market behavior.

Key words: *Deposit Interest Rate, Lending Interest Rate, T-Bill Interest Rate, Discount Rate, NEPSE Index*

CHAPTER I

INTRODUCTION

1.1 Background of the study

An important and vital part of a nation's economy is the stock market. Through encouraging capital formation and making investment easier, it supports economic growth. The dynamics of supply and demand influence changes in stock prices. One of the main options for investors looking for high returns is investing in equities shares. In addition to offering the possibility of large returns, equity investments can be used to fund a company's financial needs. However, the performance of individual stocks and shifts in stock prices can affect returns from equity investments. In addition to promoting innovation and increasing business efficiency, equity markets offer a significant source of funding for sustained economic growth. They also give governments a practical way to raise money by selling state-owned businesses. Furthermore, investments in the equities market make up a significant portion of people's assets, especially when governments move their pension systems closer to the private sector. In summary, it is evident that stocks are becoming a more significant capital market in the global economy (Narula et al., 2024).

An important economic indicator is the stock market index, whose increase is often seen favorably by investors as an indication of their confidence about the state of the economy. Therefore, it is crucial to comprehend the stock market index and the elements that influence it. The stock market may be greatly impacted by interest rates, such as the discount rate, deposit interest rate, loan interest rate, and short-term risk-free interest rate. An efficient market with equitable access to information is what a skilled investor seeks to invest in. Conversely, inefficient markets may cause investors to lose faith in the market, which would reduce demand for shares and drive down stock prices. One of the key macroeconomic factors that has a direct bearing on economic growth is interest rates. Interest rates are typically seen as the cost of capital, or the price paid for using money over time. Interest rates are the cost of borrowing money from the perspective of the borrower (borrowing rate). From the perspective of a lender, the interest rate is the cost of making a loan. Furthermore, banks may raise lending interest rates in an effort to draw depositors, which would decrease the amount of money they have available. Furthermore, economic investments can affect share prices;

according to pricing theory, the NEPSE index and interest rates have an inverse connection (Mendes, 2024).

Companies known as stock exchanges offer dealers and stash negotiators the ability to purchase and sell stocks and other securities. The stock market is extremely important to the nation's economy. By encouraging capital development and boosting economic growth, it also supports the nation's economy. The supply and demand for the stock on the market cause price fluctuations. Purchasing stock shares is one of the main investing strategies that may provide investors with significant rewards. It also serves as a source of funding for businesses' capital needs. However, the performance of the specific stock and changes in the stock price might affect the returns from such equity investments. An economy's healthy and effective financial system is largely dependent on its financial market. The stock market's performance is influenced, either directly or indirectly, by a wide range of national and international variables (Shrestha & Lamichhane, 2024).

Because it moves money from savers to borrowers, the capital market is crucial to economic growth and development, but it can only do so if it operates effectively. By examining how the NEPSE index and macroeconomic factors interact, investors and policymakers may make better investment choices and enhance the general economic climate and perception of the county. Due to the simplicity of trading securities, stock exchanges allow businesses to swiftly raise funds. Biekpe and Adjasi (2006).

A healthy financial system increases economic growth by allocating resources in an appropriate and effective manner. The stock market is an essential component of the financial system and plays a critical role in attaining economic progress. The purchasing and selling actions of investors, which are impacted by a variety of economic circumstances, are what keep the stock market running. The market is regarded as dangerous because to the NEPSE index's frequent changeability pattern, and investors are always curious in the variables that influence the index and the magnitude of those effects. Numerous studies have examined the effects of economic conditions on stock market performance. Interest rates and currency rates are regarded as two of the most important economic factors that have a major impact on the NEPSE index (Rakhal, 2018).

The goal of the majority of stock investors is to maximize their investment returns. Nevertheless, these choices are chosen without considering how macroeconomic factors like inflation and exchange rates may affect the listed businesses' NEPSE index (Kwofie & Ansah, 2018). Stock markets, according to Hussain et al. (2012), are crucial to the economy. They contend that domestic resources might be mobilized for profitable investments through stock markets. They said that the stock market has to have a strong correlation with the macroeconomic variable in order to fulfill its function.

Investors and the government are among the stakeholders that are concerned about the state of the stock market in a particular geographic area. One function of the stock market as an institution is capital production and allocation (Kim et al., 2024s). As a result, the general health of the stock market is critical to the economy's overall growth and development. In today's world, the expansion of the stock market determines a nation's economic progress. Since macroeconomic factors have a big impact on the stock market, it is impossible to overlook the connection between economic growth and an efficient and successful stock market. The NEPSE index on the stock market is determined by macroeconomic factors such industrial production, inflation, money supply, exchange rates, oil prices, and current loan rates. Research has been done in a number of nations to determine the relationship between macroeconomic behavior and economic progress (Hasan, 2024).

The goal of the current study is to examine the factors that influence commercial banks' share prices in Nepal using data from their financial statements. Examining the effect of the internal component on Nepalese commercial banks' NEPSE index is the aim of this study. In underdeveloped nations like Nepal, investors primarily consider the company's profitability when buying shares on the secondary market. One economic indicator is the stock market index. Since it shows that investors are upbeat about the state of the economy, growth in the stock index is typically seen as a good sign. Understanding the stock market index and the variables that affect it is essential for this. Interest rates that can affect the stock market include the discount rate, deposit interest rate, loan interest rate, and short-term risk-free interest rate (Zakhidov, 2024).

Investing in an efficient market is always what a good investor wants to do. Few people can make extraordinary profits in an inefficient market, which makes the broader public lose faith in the market. As a result, the demand for shares will decline, which will lower the stock's price, and vice versa. However, when banks charge high interest rates

to their clients, the number of depositors increases along with the lending interest rate, which causes the bank's total balance to decrease. Investments in the economy are another element contributing to the share price drop. Consequently, pricing theory states that there is an inverse relationship between a stock's price and interest rates.

Nepal's stock market has a very short history. In order to facilitate and encourage the expansion of the capital market, the Securities Exchange Center (SEC) was founded in 1976 (Chen & Semmle, 2024). exclusively in 1981, nevertheless, did it open its floor for secondary share trading, and then exclusively for government bonds (NRB, 2024). When the Securities Exchange Act of 1984 was passed, the SEC allowed corporate share trading on its floor as well, albeit it was severely restricted. When Securities Exchange Center changed its name to Nepal Stock Exchange (NEPSE) Limited in 1993, the structured and fully functional stock market got its start. In early 1994, the NEPSE launched its trading floor. It is now Nepal's sole stock exchange. As a result, although Nepal's stock market is still developing, it is particularly noteworthy since it has expanded greatly since its founding. It was founded to raise funds as an alternative to the conventional banking industry in order to support the nation's economic development and progress.

The stock market index is typically used as a gauge of an economy. Growth in the stock index is typically regarded as a positive indicator since it shows that investors are optimistic about the state of the economy. In the economy, it encourages investment. A sharp rise in the stock market index, however, is usually cause for alarm. The index will ultimately fall, threatening the stability of the economy and financial system, if the gain is not supported by the fundamentals. Therefore, it is crucial that policymakers monitor the evolution of the stock market and be prepared to act appropriately when necessary to stop bubbles from forming and the market from collapsing. Understanding the connection between the stock market index and the variables influencing it is essential for this. The stock market may be impacted by a number of reasons. Any element that affects a company's cash flow or discount rate will also affect the stock market. However, depending on the size, nature, and other features of the market and economy, the elements that have an impact will differ from one nation to the next.

This analysis uses annual data from mid-July 2003 to mid-July 2020 to examine the link between Nepal's interest rate variables and the NEPSE index. The influence of price changes is evaluated in this article in addition to the primary factors. It is

anticipated that the results of this study will offer some significant insights into the factors influencing the performance of the Nepalese stock market, which will be helpful to investors and policymakers alike.

1.2 Problems statement

Financial intermediation in both developed and emerging economies is significantly influenced by the stock market. This is due to the fact that it offers a means of transferring excess resources to places that are in need. Governments and organizations must provide resources for a nation's growth and development. Through the sale of their shares to investors, companies can raise money through the stock market. Stock markets are efficient in economies that are thought to be growing sustainably. The stock markets in developing nations are not as efficient as those in wealthy nations. Progressive efforts have been made, nonetheless, to guarantee that the intended result is realized in the long run. Microeconomic and macroeconomic factors combine to form a nation's economy. The stock market is significantly impacted by economic factors (Chowdhury, 2024).

The equity market plays a key role in determining how quickly changes to policy are implemented across the nation. Because of how they handle the levels of macroeconomic variables in the nation, this market is extremely susceptible to changes in monetary policy instruments. One of the key factors influencing a country's economic development is the performance of its stock market, which may also have a practical impact on macroeconomic factors to achieve desired results. Numerous macro factors, such as the interest rate, currency rate, and inflation rate, have a significant impact on this market performance (Tripathi & Seth, 2014). Details of the dynamics in an economy's development level may be found in the interest rate level, local currency value, and stock market development level (Mbulawa, 2015).

The stock exchange serves as a gauge of investor confidence and a key indicator of economic health. The relationship between stock exchange performance and macroeconomic factors such as "gross domestic product, inflation, exchange rate, short term interest rates, fiscal balance, current account balance, industrial production rate, so on" has been extensively researched by scholars and authors in both developed and developing nations. Investors place a high value on monetary policy and macroeconomic factors in determining the volatility of stock returns (Khatri, 2024).

According to Mueller (2006), interest rates have an impact on the stock market but have no control over it. An increase in interest rates will make borrowing more challenging. Profit will be impacted and the company will have less money to grow. Investors will eventually be impacted by the reduction in bonuses and dividends. At that point, the share price will lose its appeal as an investment vehicle. The share price is influenced by a number of things besides interest rates. Even when interest rates are high, other variables such as political difficulties, economic development, and monetary policies may be driving the upward trend of the stock market index. The study's findings are not consistent (Kirui et al., 2014). The majority of research has concentrated on the impact of macroeconomic factors on stock prices. No research has been done in Nepal on how interest rates affect the country's share price. Determining the effect of interest rates (deposit interest, lending interest, discount rate, and T-bills rate) on the share price in Nepal is therefore crucial.

The study's main issue is that it focuses on the factors that influence the Nepalese stock market.

The following are the precise problem statements:

i. What is the status of discount rate, deposit interest rate, lending interest rate and T-Bill interest on NEPSE index in Nepal?

ii. Is there any relationship between the discount rates, deposit interest rate, lending interest rate and T-Bill interest rate and NEPSE index in Nepal?

iii. What is the impact of discount rate, deposit interest rate, lending interest rate, and T-Bill interest rate on NEPSE index in Nepal?

1.3 Objectives of the study

The study's main goal is to determine how interest rates and share prices are related. The following are some of the study's particular goals:

i. To assess the status of discount rate, deposit interest rate and lending interest rate, and T-Bill interest rate on NEPSE index in Nepal.

ii. To examine the relationship between the discount rates, deposit interest rate, lending interest rate and T-Bill interest rate and NEPSE index in Nepal.

iii. To analyze the impact of discount rate, deposit interest rate, lending interest rate, and T-Bill interest rate on NEPSE index in Nepal.

1.4 Hypothesis

The following are the study's hypotheses:

H1: The NEPSE index is significantly impacted by the deposit interest rate.

H2: The NEPSE index is significantly impacted by lending interest rates.

H3: The T-Bill interest rate has a major effect on the NEPSE index.

H4: The NEPSE index is significantly impacted by the discount rate.

1.5 Rational of the study

Two important determinants of a nation's economic growth are the stock exchange and interest rates. Interest rate effects on the stock market have significant ramifications for government policy on financial markets, risk management procedures, monitoring policies, and the value of financial assets. The purpose of the study is to determine whether market efficiency exists on the Nepal Stock Exchange (NEPSE). This study will be helpful in creating effective market mechanisms for investors in order to gain their trust and guarantee fair competition for all market players.

Additionally, academics, investment analysts, and students would all benefit from the study. For more research on the NEPSE index, this paper would be beneficial. By taking into account all of the aforementioned factors, the study has examined how interest rates affect the stock market. In order for investors, brokers, students, academics, policymakers, government officials, stock analysts, bankers, and managers to make informed judgments, implement efficient regulations, and conduct more research on the NEPSE index, the study is important.

1.6 Limitations of the study

The following are the study's limitations:

I. Nepal's commercial banks provide the interest rates for loans and deposits. Interest rates from other financial institutions, such as financing corporations and development banks, are not included.

II. This study's model is restricted to regression. The basic statistical methods used in this study are multiple regression and correlation. Other advanced tools have been overlooked.

III. Only 11 years' worth of yearly data were used in this analysis.

IV. The closing price of shares from each fiscal year was considered in this investigation.

v. Other interest factors that are not included in this report include the rate on government assets like development bonds, the inter-discount rate, and other macro and non-macroeconomic factors.

CHAPTER II

LITERATURE REVIEW

It is the process of critically evaluating and comparing and contrasting earlier relevant research. It also covers the key conclusions and a review of the instruments and methods employed in earlier research on the effect of interest rates on the Nepalese stock market. This study's literature review is structured as follows:

2.1 Theoretical review

2.2 Empirical review

2.3 Research gap

2.1 Theoretical review

The process of monitoring and analyzing the information that is currently accessible on a certain topic that is connected to abstract concepts or ideas is known as a theoretical review. There are no real-world experiments involved. Philosophers employed conceptual inquiry to explain preexisting theories in a variety of ways or to develop new ones. Interest rate and stock market principles are included here.

Theory of pricing

In the paradigm of perfect market competition, supply and demand interact to produce the equilibrium market price (Marshall, 1990). This claim supports traditional value theory by implying that supply and demand have an impact on market prices. According to Clarke (1982), an item, service, or asset's price is its given numerical monetary worth. Clarke contends that while an excess demand for money causes price increases, an excess supply of money in the market pushes prices lower. According to Mishkin (1986), the interest rate is the cost that lenders impose on borrowed money. He also argued that the forces of supply and demand govern the equilibrium interest rate, just as they do market prices. This viewpoint aligns with traditional economic theory. The supply side of the money market shows that loanable funds are available, while the demand side shows that loanable funds are desired. Consequently, the equilibrium point where the supply and demand curves overlap is where the interest rate is established.

Fishers theory

Mishkin (2010) asserts that variations in predicted inflation rates are the main factor influencing fluctuations in short-term interest rates. Interest rate changes are mostly driven by changes in the inflation rate, assuming that market actors' assumptions about inflation are typically correct. According to Mishkin, the most well-known theory supporting the idea of real interest rates is the Fisher Equation, which bears the name of the American economist Irving Fisher (1930). According to this hypothesis, nominal interest rates on deposits that result in positive real returns would be set by competitive financial markets. This is because real assets often rise at the rate of inflation, and savers need an incentive to keep financial assets rather than physical ones. As a result, the nominal interest rate need to be equal to the anticipated rate of inflation plus a little underlying real rate. As a result, loan rates would also be positive in real terms because they are determined by the cost of deposits plus other elements including intermediation fees, reserve requirements, taxes, and risk margins. Therefore, in order to keep nominal interest rates as low as possible, economists frequently support maintaining low inflation rates. However, Fisher's theory's detractors contend that it only considers capital markets and assumes that prices for goods and services are fixed, operating within a framework of partial equilibrium (Mishkin, 2010).

Loanable fund theory of real interest rate

According to the Loanable Funds Theory of interest rate determination, the interaction of variables influencing the supply and demand of loanable funds determines the amount of interest in the financial market (Saunders, 2010). According to this idea, interest rates are created in a manner akin to that of determining the supply and demand for things. In particular, assuming all other factors remain constant, the amount of loanable cash rises as interest rates do. On the other hand, if everything else is equal, the demand for loanable money rises as interest rates fall. According to Saunders (2010), changes in the demand curve for loanable money are caused by a number of factors, including the state of the economy. This is the total amount of money available for lending that investors and consumers have sought during a certain time period. The relationship between prospective savers and borrowers shapes the interest rate model. The Loanable Funds Theory states that economic agents want to maximize their lifetime use of the resources at their disposal. Borrowing money today to take advantage of economic investment possibilities is one way to boost future real income. This approach is only feasible if the investment's rate of return is higher than the borrowing

cost. Higher real interest rates than the available rate of return on capital are unacceptable to borrowers. Conversely, savers are only motivated to save and lend if they expect a genuine return on their investment that will allow them to spend more later than they otherwise would. People's time preferences determine how much they are ready to postpone consumption (Saunders & Cornet, 2011).

Keynes liquidity preference theory of interest rate

Expectations and outside shocks may have a greater impact on saving and investing choices in an uncertain economic climate than underlying, genuine variables. Keynes (1973) defined liquidity preference theory as a component of his larger framework in "The General Theory of Employment, Interest, and Money." According to this theory, the supply of money and the demand for present claims on money in relation to deferred claims determine the interest rate. Keynes underlined that the relationship between money supply and demand determines interest rates. According to Keynes, interest rates largely affect total production by influencing the amount of money that is budgeted for investments. If an organization expects to make more money from physical capital investments than the interest cost of financing them, it will invest in factories and machinery. As a result, the investment demand schedule is significantly shaped by interest rates.

Keynes supported the use of monetary policy by the government to affect interest rates. He did acknowledge, though, that monetary policy by itself is not always sufficient to sustain full employment levels since other factors also have a substantial impact on the investment demand schedule. According to classical theory, interest rates should be adjusted effectively to distribute money for investments; however, Keynes observed that the expansion of consumer credit had an impact on the demand for investments. He emphasized the often-overlooked fact that interest rates distribute money for both investment and consumption. In conclusion, Keynesian theory acknowledges the intricate interactions between variables influencing investment demand and emphasizes the significance of interest rates in investment choices. It also promotes government involvement to impact interest rates.

Classical theory of interest rate

Several British economists first put up one of the early hypotheses on the factors influencing the pure or risk-free interest rate in the nineteenth and twentieth centuries, and Irving Fisher expanded on it in 1930. According to this hypothesis, the demand for investment and capital, which mostly comes from the business sector, and the supply of savings, which is primarily driven by consumers, have an impact on the interest rate. According to traditional beliefs, interest is paid as compensation for postponing present spending in favor of future consumption. Higher interest rates make saving more alluring than immediate consuming, which encourages people to devote more of their resources to saving as opposed to spending. The substitution effect is a phenomena that suggests a positive correlation between interest rates and the amount of saved.

2.2 Empirical review

Finding the impact of interest rates on the stock market is supported by earlier research. Interest rate variables and the share market are examined, along with the causes of share price swings, the effects of both high and low interest rates, and how these factors affect the share market. The previous research is summarized as follows.

Using country-specific bond volatility shocks as a gauge of local interest rate uncertainty, Kim et al. (2024) evaluated the impact of financial and news-driven uncertainty shocks in developing Asian economies. The consequences of local and global stock market uncertainty are also contrasted in this study. This study reveals a method via which uncertainty shocks are transmitted across the bond market using data from nine Asian economies. Unlike economic policy or global stock market uncertainty, which function more like a demand shock as described in the literature, the mechanism functions as a crowding-out effect brought on by government-led excessive market borrowing, with supply-side repercussions for the private sector. According to the study's findings, nations with rising fiscal deficits—which include bigger government bond markets or greater current account deficits—generally see higher borrowing costs as a result of interest rate uncertainty shocks or bond market volatility.

Hasan (2024) examined the effects on the economy of many economic indicators, including inflation, call money rates, and foreign exchange reserves. This research utilized the market capitalization of Bangladesh's major exchange as a stand-in for the economy, i.e. The DSE Index. The variables included in the study were collected between July 2010 and November 2022. The primary source of data for this study is

the monthly economic trends released by the Bangladeshi central bank. A total of 149 observations were made for each of the study's variables. To make sure the data are homogeneous, the study translated the data into a natural logarithmic format because the variables had varied metrics or units of values. Extremities in the dataset that might compromise the study's findings are also removed by converting the data to a natural logarithmic value. This study examines the effects of the independent variables—inflation, call money rate, and foreign exchange reserve—on the market capitalization of the Dhaka Stock Exchange by regressing them against the dependent variable, the DSE Index. The regression result shows that the variables under study have a significant link with one another. notable alteration in the dependant variable, such as... The independent variables that indicate the accuracy of the model presented in the research may be used to explain DSE market capitalization. The statistical significance of the crucial F-value supports the notion that there is a statistically significant link between the variables. With a statistically significant p-value, the market capitalization is positively impacted by the foreign currency reserve and inflation rate. The market capitalization is negatively impacted by the call money rate, with a statistically significant p-value. According to this analysis, market capitalization growth is supported by a steady foreign exchange reserve and inflation that stays within the fiscal goal range. Conversely, a rise in the call money rate, which is a sign of a financial sector liquidity shortage, has a detrimental effect on market capitalization. In order to prevent external threats to the economy and to keep inflation within the desired fiscal level, policy decisions should be made to guarantee the building of foreign exchange reserves. Last but not least, in order to guarantee the growth of stock market capitalization, decisions that might adversely affect the liquidity situation in the financial market must be avoided.

Fendoğlu and Polat (2024) examined how stock markets are affected by economic policy uncertainty, which lowers investor confidence in the economy. The nonlinear autoregressive distributed lag (ARDL) model for the years 1998:M05–2020:M09 was used to investigate such impacts in G7 nations. Symmetries and asymmetries in the interaction between stock markets and economic policy uncertainty were captured by this approach. The findings demonstrated that increased economic policy uncertainty had a considerably beneficial impact on the stock market index in Germany and Italy but a significantly negative impact in Japan. The stock market indexes in the US,

Canada, Japan, Italy, and the UK have all suffered as a result of rising interest rates. In the US, Canada, Japan, Italy, and France, the stock market index has a positive correlation with the growth of the industrial production index. Furthermore, the stock market index in the US, Canada, Japan, and Italy is asymmetrically affected by economic policy uncertainty, but Germany, France, and the UK are symmetrically affected.

By examining the causal relationship between five macroeconomic variables (interest rate, inflation, money supply, GDP, and exchange rate), the FTSE All-Share index, and its sectoral indices, Khatri (2024) investigated the effects of the 2008 financial crisis. It also examines whether or if the 2008 global financial crisis had an impact on the causality's direction. Two parts of data—one for the pre-crisis era, which ran from 1999 to 2007, and the other for the post-crisis period, which ran from 2008 to 2022—were subjected to causality testing for this purpose. The quantile Granger causality test was used to evaluate the causality, and the results of the study show a complicated relationship between the most important macroeconomic issues and the UK stock market. The study's conclusions imply that the relationship between macroeconomic variables shifted from the pre-crisis to the post-crisis era. This demonstrates how event-sensitive the UK stock market is. It was discovered that the direction of this causation changes depending on the state of the economy, the numerous sectors involved, and the specific economic conditions at different points in time. For investors, policymakers, and economic experts, the research's conclusions offer crucial insights since they clarify the intricate and dynamic link between the indicators at the sectoral and overall levels. The results of the study also highlight how crucial it is to take the distribution of the variables into account when examining the causation problem.

Chowdhury (2024) investigated how investment decisions are influenced by trends in South Asia. This study uses annual data on weather, stock indexes, borrowing opportunities, economic growth, interest rates, and inflation rates from 1995 to 2021 in order to investigate this problem using regression and the generalized technique of moments. Bangladesh, India, Pakistan, and Sri Lanka were selected as sample nations for this study based on the data that was available. The findings of the study show that weather has a big impact on investment choices and that taking weather conditions into account can reduce risk and increase investment return.

The effects of the US dollar, euro, and yen on the Bombay stock exchange and the National Stock Exchange index were investigated by Narula et al. in 2024. The study has taken into account four variables: foreign exchange, inflation, the Sensex, and the Nifty. Inflation and foreign exchange have been considered independent factors, whereas the Sensex and Nifty have been considered dependent variables. Monthly values from January 2011 to December 2020 served as the study's variables. The chosen time frame prevents biases in the results by avoiding the effect of COVID-19 on the stock market. To a certain extent, each variable influences the performance of the others.

Mendes (2024) looked at how required pension payments affected the Weighted Average Cost of Capital (WACC) and Capital Expenditures (CapEx) of American businesses. In 2006, the "Pension Protection Act 2006" (PPA 2006), a significant legislative reform driven by demographic changes, required employers having pension plans to improve their financing position in order to manage the aging of the U.S. population. According to the research hypothesis, mandated pension payments should have a negative effect on CapEx and a favorable influence on WACC. The study traverses four major economic crises using a sample of S&P 500-listed companies that report pension funds from 1991 to 2022: the financial crisis of 2008/2009, the European debt crisis, the COVID-19 crisis, and the current crisis brought on by the conflict between Russia and Ukraine. This range of time offers a strong basis for comprehending how required pension payments affect financial choices in various economic environments. The primary results confirm the hypothesis that mandated pension payments have a negative effect on capital expenditures. Following the 2006 legislative reform, this impact was strengthened, suggesting that businesses were more sensitive to post-legislation investment choices. Nevertheless, a paradoxical negative coefficient is found when analyzing the impact of mandated pension payments on WACC, indicating a complicated interaction driven by the 2006 legislative changes. Several robustness checks were carried out in order to confirm these results.

Economic indicators are essential instruments for understanding market patterns and predicting future performance, as Zakhidov (2024) examined. Economic indicators cover a wide range of measurements, from consumer spending and inflation to GDP growth and unemployment rates. Analysts and decision-makers may learn a great deal about the state of an economy by carefully examining these indicators to find trends,

strengths, and weaknesses. This essay clarifies the role that economic indicators play in helping governments, corporations, and investors make strategic decisions. It illustrates how these indicators function as gauges of economic stability through theoretical frameworks and empirical research, supporting risk assessment, trend detection, and the development of proactive policies. Gaining an understanding of economic indicators gives stakeholders the insight they need to successfully negotiate changing market environments.

By reducing financial information frictions, Zahid and Simga-Mugan (2024) examine whether the implementation of International Financial Reporting Standards (IFRS), or universal accounting standards, affects the integration of global capital markets. The additional impact of IFRS adoption on integration is measured using price-based measurements (Beta and Sigma Convergence) of integration and staggered adoption dates. Every nation having a capital market with accessible benchmark indices and pricing information is included in the sample. The implementation of IFRS appears to have no discernible effect on capital market integration, according to overall data findings.

In a disequilibrium macro model with two Phillips curves (PCs), a wage PC and a price PC, Chen and Semmle (2024) examined wage-price dynamics. This research modifies the framework but adds a Kaldorian delay effect to wage dynamics, meaning that sales and output come before wage dynamics. According to Keynes, output is driven by aggregate demand, but supply-side factors like Minsky-Kindleberger financial circumstances also affect output, which raises inflation through supply limitations and bottlenecks. By impacting the supply side, worsening financial circumstances brought on by central banks hiking interest rates to combat inflation may instead hasten the rate of inflation. This happens when external non-stationary factors, including the price of food and fossil fuels, operate as exogenous drivers of the inflation rate and create financial bottlenecks. These characteristics are experimentally investigated in a mixed Vector Error Correction Model (VECM) with a combination of stationary and non-stationary variables after first being examined in a disequilibrium intertemporal dynamic macroeconomic model. In disequilibrium macrodynamics, which is examined here both analytically and econometrically, nonlinearities in the dynamics and regime switching are demonstrated to be crucial for examining the short-term and long-term impacts of shocks.

Shrestha and Lamichhane (2021) used time series data from 1987/88 to 2019/20 to examine the co-integrating connection between macroeconomic parameters and stock market performance in Nepal. With market capitalization as the dependent variable and broad money supply (M2), GDP, and interest rates (91-days Treasury bill rate) as explanatory variables, the study used the ARDL bounds testing approach to find a co-integrating relationship between macroeconomic variables and stock market performance. The results of the ARDL bounds test showed that macroeconomic factors and stock market performance were co-integrated. The study also discovered that the broad money supply and interest rates had a large negative influence on the long-term performance of the Nepalese stock market, whereas economic growth had a considerable positive impact. The analysis comes to the conclusion that GDP, M2, and interest rates over time adjust for short-term stock market performance imbalance. In order to improve the performance of the Nepali stock market, policymakers should take macroeconomic factors into account while developing capital market, monetary, financial, and economic policies, according to the study's policy implications.

In order to include short-term changes with long-term equilibrium while preserving long-run information, Panta (2020) used the Error Correction Model (ECM), which was obtained from the Autoregressive Distributed Lag (ARDL) model by straightforward linear transformation. 25 years of yearly data, from 1994 to 2019, were used in the research. The findings showed that the broad money supply, interest rates, inflation, and exchange rates all have a major impact on the long-term fluctuations of the NEPSE Index. Interest rates and stock market prices have a negative association, which implies that lower interest rates make stocks more appealing since they have lower opportunity costs and credit costs than bank deposits. GDP, money supply, and exchange rates all show positive connections in the near term, but only the money supply does so in the long term.

Rakhal (2018) used current research from both international and Nepalese settings to examine the effects of several macroeconomic parameters, such as remittances, money supply, exchange rate, and interest rate, on stock market performance. This paper's main goal was to conduct a thorough literature assessment in order to find new research directions from a Nepalese viewpoint. The study's conclusions show that while interest rates and currency rates have a negative impact on stock market performance, remittances and the money supply have a favorable impact. Nonetheless, there is

disagreement on how each macroeconomic factor affects stock market performance, with a large number of research producing findings that are both comparable and conflicting. As a result, it is proposed that additional research using different approaches and taking these factors into account in the Nepalese context may provide a more complex understanding of the performance of the Nepalese stock market, possibly reducing the disparities observed in the literature.

An empirical study of the impact of interest rates, currency rates, and inflation rates on Pakistan's stock market performance was carried out by Khalid and Khan (2017). They made use of yearly time series data from 1991 to 2017. The researchers used econometric methods, including the Error Correction Model (ECM) for short-run analysis and the Autoregressive Distributed Lag (ARDL) bounds testing process for co-integration. The ARDL model's results showed that interest rates have a long-term, negative, and substantial effect on the market index. On the other hand, it was discovered that over time, both inflation and exchange rates had a favorable effect on stock market volatility. This implies that while fluctuations in inflation and currency rates were linked to higher stock market volatility, changes in interest rates had a long-term detrimental impact on Pakistan's stock market performance. Policymakers and investors may learn a lot from these studies about the relationship between macroeconomic factors and Pakistani stock market performance.

One important topic of interest in the finance literature is the existence of a long-term link between macroeconomic factors and the NEPSE index, which Phuyal (2016) investigated. If such a link exists, it might provide long-term investors confidence, so long as the macroeconomic climate stays steady. This study examined if such a correlation exists in the context of the Nepali stock market, a developing market, using Johansen's co-integration approach. Analysis was done on monthly data covering six macroeconomic factors and stock market returns from January 2003 to December 2012. The results showed that the Nepali stock market and a number of macroeconomic factors, such as the interest rate, inflation rate, and remittance flow, had a long-term equilibrium connection. On a monthly basis, short-term disequilibrium was rectified by 1.79%. Granger causality between these factors was also noted. The Wald test revealed that remittance income and the lagged values of the NEPSE index up to six levels had an impact on the stock market index in the near run. Policymakers, stock market regulators, investors, and analysts may all benefit from these results, which provide

useful information on the relationship between macroeconomic variables and stock prices in the Nepali market.

From April 2009 to December 2013, Kganyago and Gumbo (2015) examined the long-term correlation between money market interest rates and stock market returns in Zimbabwe. The money supply growth rate, inflation, manufacturing index volume, crude oil price, and political stability were all taken into account in their estimating methodology. Before performing Johansen co-integration tests, all variables were subjected to unit root testing using the enhanced Dickey-Fuller test. The results of the analysis showed that money market interest rates and stock market returns had a substantial and statistically significant inverse causal connection. The investigation also revealed evidence of short-term causation between money market interest rates and stock market outcomes. The Reserve Bank of Zimbabwe's incapacity to effectively regulate interest rates through monetary policy and the passive character of Zimbabwe's money market were blamed for this phenomena. According to the report, in order to revive Zimbabwe's money market, strong and practical macroeconomic policies—like the repo market—must be put in place. This might improve the efficiency of monetary policy instruments and encourage stability in the stock and money markets.

The goal of Laichena and Obwogi (2015) was to ascertain how macroeconomic factors affected East African stock returns. The study specifically looked at how the region's GDP, interest rates, inflation rate, and currency exchange rate affected stock returns. Fisher's interest rate theory, the Arbitrage Pricing Theory (APT), the Classical theory of growth, and the Purchasing Power Parity theory were all cited by the academics. Panel data from three East African nations—Kenya, Uganda, and Tanzania—spanning the years 2005–2014 were used in the study. The data was analyzed using both descriptive and panel data regression analysis. The study's findings showed a strong correlation between East African stock returns and macroeconomic factors. The study recommended that in order to improve stock returns, officials in the area concentrate on strengthening the macroeconomic environment. This suggests that initiatives to regulate currency exchange rates, reduce inflation, stabilize interest rates, and foster economic growth may result in better stock market performance in East African nations.

A research by Kirui et al. (2014) examined the connection between macroeconomic factors and stock market performance on Kenya's Nairobi Securities Exchange. They concluded from their research that interest rates and stock returns were negatively

correlated. This conclusion emphasizes how crucial it is for government authorities to limit the amount of interest rate fluctuations in the nation in order to lessen any potential detrimental effects on stock returns.

Shrestha and Subedi (2014) used monthly data from mid-August 2000 to mid-July 2014 to investigate the factors affecting the performance of the Nepali stock market. Significant political changes and Nepal Rastra Bank's lending strategy with regard to share collateral were also assessed in their research. Based on empirical study with OLS estimates, it was found that Nepal's stock market performance responded negatively to interest rates and positively to inflation and broad money growth. This suggests that stocks are seen by investors in Nepal as an alternative financial asset and as a hedge against inflation. Furthermore, it was shown that low interest rates and liquidity supported the Nepalese stock market's success. Notably, the stock market was shown to be significantly influenced by Nepal Rastra Bank's policies and shifts in the political scene. These results provide information for developing policies meant to stabilize or boost Nepal's stock market.

A research by Maswere and Kaberuka (2013) looked at the factors that influence the Uganda Securities Exchange stock market. Their results showed a long-term negative correlation between interest rates and stock prices. They did not, however, discover any notable short-term alterations in this association. This implies that although interest rates had a long-term impact on the NEPSE index, their short-term effects were not noticeable.

A research by Onasanya and Ayoola (2012) used data from 1985 to 2008 using a Vector Error Correction Model (VECM). With an emphasis on the Nigerian stock market, the researchers sought to investigate the connection between macroeconomic factors and stock returns. Based on their investigation, they came to the conclusion that stock returns were not significantly impacted by macroeconomic factors. In particular, they discovered a negative correlation between interest rates and stock returns in the Nigerian stock market, but this correlation was not considered significant. This implies that although a negative correlation between interest rates and stock returns was noted, it did not significantly affect stock returns in Nigeria throughout the research period.

Using monthly time series data from 1997 to 2010, Muktadir-al-Mukit (2012) investigated how interest rates and currency rates affected the performance of the Bangladeshi stock market. To quantify the long-term and short-term correlations between variables, the study used econometric approaches such as variance decomposition, co-integration, and the error correction model (ECM). The Granger causality test was used to examine causal links. According to the study, a one percent increase in interest rates caused the market index to fall by 1.71% over the long term, whereas a one percent gain in the exchange rate caused the market index to rise by 1.04%. In the short term, 7.8% of stock return discrepancies were rectified, according to the calculated error correction coefficient. Additionally, the Granger causality analysis indicated a unidirectional causal relationship between the interest rate and the market index as well as between the market index and the exchange rate. This suggests that there is a predictive link between the exchange rate and interest rate and that changes in the Granger-cause of the stock market index.

The Ghanaian stock market was the subject of a similar study by Owusu-Nantwi and Kuwornu (2011). Additionally, their study found that interest rates had a little effect on stock returns in the Ghanaian stock market. The 91-day Treasury bill rate was used to gauge interest rates. They discovered a negative correlation between interest rates and stock returns using the Ordinary Least Squares (OLS) approach using monthly data gathered between 1992 and 2008. Their results on the connection between interest rates and stock returns in Ghana were further supported by these findings, which were in line with a number of previous research carried out in modern society.

Table 1

Review of major literature

S.N.	Author(s)	Variables	Methodology	Major Findings
1	Kim et al. (2024)	Financial & news-driven uncertainty shocks, bond volatility shocks, global stock	Country-specific bond market data, contrast with global stock market	Transmission mechanism of uncertainty shocks via the bond market, crowding-out effect due to government borrowing, local

		market uncertainty		uncertainty affects borrowing costs, not global stock market uncertainty
2	Hasan (2024)	Foreign exchange reserve, call money rate, inflation, DSE Index	Regression analysis, data from July 2010 to November 2022, 149 observations, natural logarithmic conversion	Strong relationship between variables; foreign exchange reserve and inflation positively impact market capitalization, call money rate negatively impacts; policy decisions should bolster reserves, control inflation, and avoid liquidity crunches
3	Fendoğlu and Polat (2024)	Economic policy uncertainties, stock markets, industrial production, interest rates	Nonlinear ARDL model, data from 1998 –2020	Economic policy uncertainty impacts stock markets differently in G7 countries, with Japan negatively affected and Germany and Italy positively affected; rising interest rates negatively impact US, Canada, Japan, Italy, UK; industrial production positively related to stock markets

4	Khatri (2024)	Interest rate, inflation, money supply, GDP, exchange rate, FTSE All-Share index	Quantile Granger causality test, pre and post 2008 financial crisis data	Macroeconomic causality changes post-crisis, indicating event sensitivity of UK stock market; different sectors affected variably
5	Chowdhury (2024)	Weather, stock indices, borrowing opportunity, economic growth, interest, and inflation rates	Regression, generalized method of moments, data from 1995-2021	Weather significantly influences investment decisions; consideration of weather factors can mitigate risk and enhance returns
6	Narula et al. (2024)	Sensex, Nifty, inflation, foreign exchange	Monthly data from January 2011 to December 2020	Foreign exchange and inflation affect Sensex and Nifty; COVID-19 impact avoided in analysis
7	Mendes (2024)	Mandatory pension contributions, WACC, CapEx	Sample of S&P 500 companies, data from 1991 to 2022	Pension contributions negatively impact CapEx post-2006 legislation, complex impact on WACC
8	Zakhidov (2024)	GDP growth, unemployment rates, consumer spending, inflation	Empirical analysis, theoretical frameworks	Economic indicators guide strategic decision-making for businesses, investors, and governments, aiding in risk assessment and trend identification

9	Zahid and Simga-Mugan (2024)	IFRS adoption, capital market integration	Staggered adoption dates, Beta and Sigma Convergence	No significant impact of IFRS adoption on capital market integration
10	Chen and Semmle (2024)	Wage dynamics, inflation, financial conditions	Disequilibrium macro model, VECM, nonlinearities	Financial conditions and external variables influence inflation; central bank interest rate hikes can exacerbate inflation through supply-side effects
11	Shrestha and Lamichhane (2021)	Market capitalization, broad money supply, GDP, interest rates	ARDL bounds testing, data from 1987/88 to 2019/20	Co-integration between stock market performance and macroeconomic variables; economic growth positively, money supply and interest rates negatively impact long-term stock market performance
12	Panta (2020)	NEPSE Index, broad money supply, interest rates, inflation, exchange rates	Error Correction Model, ARDL, data from 1994 to 2019	Long-term relationship between macroeconomic variables and stock market performance; interest rates negatively related to stock prices
13	Rakhal (2018)	Remittances, money supply,	Literature review	Remittances and money supply

		exchange rate, interest rate		positively, interest rates and exchange rates negatively affect stock market performance
14	Khalid and Khan (2017)	Interest rates, exchange rates, inflation rates	ARDL bounds testing, Error Correction Model, data from 1991 to 2017	Interest rates negatively, exchange rates and inflation rates positively impact long-term stock market performance
15	Phuyal (2016)	Inflation rate, interest rate, remittance flow, stock market returns	Johansen co-integration, Granger causality, data from 2003 to 2012	Long-term equilibrium between stock market and macroeconomic variables; short-term disequilibrium corrected monthly
16	Kganyago and Gumbo (2015)	Money market interest rates, stock market returns	Johansen co-integration, data from 2009 to 2013	Inverse relationship between money market interest rates and stock market returns; suggests robust macroeconomic policies needed
17	Laichena and Obwogi (2015)	Interest rates, inflation rate, currency exchange rate, GDP, stock returns	Panel data regression, data from 2005 to 2014	Significant relationship between macroeconomic variables and stock returns in East Africa; policy improvements suggested

18	Kirui et al. (2014)	Interest rates, stock returns	Data analysis, Nairobi Securities Exchange	Negative relationship between interest rates and stock returns; government regulators should control interest rate changes
19	Shrestha and Subedi (2014)	Inflation, broad money growth, interest rates, stock market performance	OLS estimations, data from 2000 to 2014	Positive response to inflation and money growth, negative to interest rates; political and policy changes impact market
20	Maswere and Kaberuka (2013)	Interest rates, stock prices	Long-run and short-run analysis	Negative long-term relationship between interest rates and stock prices in Uganda
21	Onasanya and Ayoola (2012)	Interest rates, stock returns	Vector Error Correction Model, data from 1985 to 2008	Insignificant influence of macroeconomic variables on stock returns; negative but insignificant relationship between interest rates and stock returns in Nigeria
22	Muktadir-al-Mukit (2012)	Exchange rates, interest rates, stock market performance	Co-integration, Error Correction Model, Variance Decomposition, Granger causality, data from 1997 to 2010	Long-term positive impact of exchange rates, negative impact of interest rates on stock market; unidirectional causality from market index to exchange rate and interest rate

23	Owusu-Nantwi and Kuwornu (2011)	Interest rates, stock returns	OLS method, data from 1992 to 2008	Insignificant negative relationship between interest rates and stock returns in Ghana

2.3 Research gap

previous investigations of the factors influencing interest rates' effects on the Nepalese stock market. It was discovered during the analysis of earlier research that no studies using Nepse data had been carried out. The Nepalese stock market provided the researchers with a sample of banks. The data used in this study came from the Nepalese stock market.

This study has looked at the internal elements that are crucial in influencing the interest rate of Nepalese financial sectors, whereas previous research primarily looked at the market trend of interest rates with other financial indicators. This study also looks at how the stock price affects and relates to other financial indicators, such as the risk-free rate of return, deposit interest, loan interest, and discount rate. This study is focused on quantitative elements that impact stock price, whereas previous studies have solely examined qualitative aspects. Using secondary data, the researcher has studied the behavior and movement of stock prices. The goal of the current investigation is to fill in the gaps and determine the subjective facts.

CHAPTER III

RESEARCH METHODOLOGY

This chapter sheds information on the research methodology and procedure used to achieve the study's declared goals. The study technique examines the investigation of how interest rates affect Nepal's stock market. For the sake of simplicity, the extensive process of research methodology has been further divided into a number of subtopics, including research design and plan, sample description, instrumentation, data collection process and timeline, data analysis method, analysis plan, and study limitations. Because the study's primary goal is to examine how interest rates affect Nepal's stock market.

3.1 Research design

Descriptive and causal comparative research designs form the basis of this study. While explanatory research explains the link between the independent and dependent variables of this proposed study and illustrates the extent to which the independent variable influences the dependent variable, descriptive research uses surveys and fact findings to characterize the qualities of the variable.

3.2 Population and sample, and sampling design

The population for this study is determined by the NEPSE index and several interest rates, such as the discount rate, deposit rate, lending rate, and short-term interest rate. Different interest rates, such as the discount rate, deposit rate, lending rate, short-term interest rate, and NEPSE index of each fiscal year beginning in mid-July 2012 and ending in mid-July 2023 of 11 years, were included in the study to create a sample.

3.3 Nature and sources of data

The study's foundation is secondary data. The data analysis process used for this study is explained in detail in this section. Nothing can be researched without data. Therefore, gathering data is extremely crucial for any statistical analysis. Similar to other developing nations, Nepal still has limited access to data on a variety of financial and macroeconomic factors due to its limited capacity for data collection and administration. The data's specific source is the NEPSE return, which was gathered from the Nepal Stock Exchange's yearly closing data as of mid-July 2023. The Nepal

Rastra Bank website (www.nrb.org.np) included the deposit rates, lending rates, discount rates, and Treasury Bill statistics that the NRB issued between 2003 and 2023.

3.4 Instrument of data collection

As mentioned in the previous section of this chapter, secondary data for the study were gathered from a variety of sources. The information on the independent and dependent variables was organized in Microsoft Excel using a combination of data from various government-published reports, journals, and papers. Excel and SPSS are used to evaluate these data. The association between the interest rate factors and the NEPSE index was explained using descriptive, correlational, and regression analysis. Similar to this, the t-test and F-test are used to determine the significant level of each individual model and to determine the overall significance of the model in order to determine its validity and reliability.

3.5 Methods of analysis

To comprehend the results and extrapolate the conclusions, specific stages and procedures must be followed while evaluating data. The goal of secondary data analysis is to investigate the cause-and-effect relationships between the variables. The descriptive statistics of the sample observations, such as the mean, standard deviation, and minimum and maximum values of the observations, are covered in the first of the subsections that make up this part. In the second phase, stepwise regression analysis was conducted after correlation analyses. To increase the validity of the results, tests for multi-colinearity, significance, and standard error of estimate have also been conducted.

The primary goal of this study's data analysis is to investigate how interest rates affect Nepal's stock market. The quantitative data in this study are examined using regression, correlation, and descriptive approaches. Excel has been used to analyze the data and obtain the necessary data and outcomes. Statistical models for secondary data analysis are covered in this section.

The closing price of each fiscal year's mid-July is included in the NEPSE Index, and the closing interest rate of each fiscal year is included in all independent variables. The average of all commercial banks' lending and deposit interest rates is known as the Weighted Average Lending Interest Rate and the Weighted Average Deposit Interest

Rate. The average interest rate on 28-, 91-, 182-, and 364-day Treasury bills is known as the weighted average T-bill interest rate.

Statistical tools

The measurements or equipment used to examine the data gathered from various sources are known as statistical tools. Numerous statistical methods are available in statistics to assess different types of data. The following statistical tools were employed by the researcher to examine the data in this study.

i. Mean (X)

The arithmetic mean, or simply the mean, is the most well-known and often utilized of the several measurements of central position. It is calculated by dividing the total number of items by their sum. It always exists since it can be computed for every collection of numerical data. One way to represent the mean metaphorically is as

$$\text{Mean } (\bar{X}) = \frac{\Sigma x}{n}$$

Where,

$\bar{X}$= The total of the variables 'x'

N = Quantity of observations

ii. Standard deviation (σ)

The absolute description is measured by the standard deviation (σ). According to its definition, it is the positive square root of the square of the deviations from the arithmetic mean. The size of the variances increases with a higher standard deviation. Higher degrees of truth or actuality are indicated by smaller standard deviations, and vice versa. Symbolically, this can be expressed as:

$$\text{Standard Deviation (S.D.)} = \sqrt{\frac{\Sigma(X-\bar{X})^2}{N-1}}$$

Where,

σ= Standard deviations

n= number of observations

$\bar{X}$ = Arithmetic mean

iii. Coefficient of variation (C.V.)

The standard deviation can be expressed as a percentage of the mean to produce the coefficient of variation (C.V.), a relative measure of dispersion. When comparing the variability of two or more distributions, the CV can be used. It is a unit-independent relative metric. increased CV values correspond to increased variability, whereas lower CV values correspond to reduced variability. This is provided by:

$$\text{Coefficient of Variation} = \frac{\text{Standard Deviation}}{\text{Mean}} \times 100$$

iv. Bivariate correlation analysis

The link between two variables is evaluated using the bivariate correlation analysis. A bivariate indicator of connection (strength) between two variables is Pearson correlation. Perfect linear relationships have a correlation coefficient of 1, and perfect negative linear relationships have a correlation coefficient of -1. A direct association is shown by positive coefficients, which show that when one variable rises, the other one rises as well. When the correlation coefficient is zero, it means that the two variables are unrelated.

An indirect link is shown by negative correlation 28 coefficients, which show that as one variable rises, the other falls.

$$\text{coefficient} \quad (r) = \frac{n\Sigma xy - \Sigma x}{\sqrt{n\Sigma x^2 - (\Sigma x)^2}\sqrt{n\Sigma y^2 - (\Sigma y)^2}}$$

v. Regression analysis

The creation of a statistical model that may be used to forecast the values of the dependent variable based on the values of at least one independent variable is known as regression analysis. We can determine the relative movement of the variables with the use of regression analysis.

To characterize the variation in the value of Y of a given change in the value of X, a simple regression analysis is defined as a simple regression equation of Y on X.

$Y = a + bx$

Where,

Y = Dependent Variable

X = Independent Variable

a = Regression constant

b = Regression coefficient

Simple linear regression is expanded upon by multiple regression. When a research wants to forecast a variable's value based on the values of two or more other variables, it uses this method. The dependent variable, also known as the outcome, goal, or criteria variable, is the variable that this study is attempting to predict. The independent variables—also known as predictor, explanatory, or regression variables—are those that are used to forecast the value of the dependent variable.

The overall fit (variance explained) of the model and the relative contributions of each predictor to the total variance explained may also be ascertained using multiple regressions. You would want to know, for instance, how much of the variance in exam performance can be explained "as a whole" by gender, test anxiety, revision time, and lecture attendance, as well as the "relative contribution" of each independent variable to the explanation. Discount rate, weighted average deposit interest rate, weighted average lending interest rate, and weighted average T-bill interest rate are all multiplied by f to get the NEPSE index (NEPSE Index).

In other words, NIit is equal to $\beta 0 + \beta 1\ TRit + \beta 2\ DRit + \beta 3\ LRit + \beta 4\ DIRit + \varepsilon it.$ (1)

Where:

NIit is the NEPSE index for year t.

TRit = I in year t's Treasury Bill Rate

DRit is the deposit rate for year i.

Lending Rate of I in Year t = LRit

DIRit is the year t discount rate of i.

3.6 Validity and reliability

Validity is the degree to which study findings are reliable and if a concept's measurement captures what it is intended to capture. Although there are several ways to estimate validity, internal and external validity have been the main emphasis of this study's evaluation. The link between the study's variables and its outcome is known as internal validity (Bryman & Bell, 2007). To support the conclusion, prior research is reviewed to ensure that the parameters selected are the most significant share market determinants. The ability to transfer study results to other contexts and research settings is known as external validity (Saunders et al, 2009). The study's findings are applicable to the Nepalese market because of the vast number of enterprises and the study's comparatively long duration. The question of whether a study's conclusions would hold up if it were conducted again with the same settings and subject is known as reliability. A research is considered trustworthy if its findings are consistent. On the other hand, the study's dependability may be questioned if the results are inconsistent. Data from 2003 A.D. to 2020 A.D. were used in this study, demonstrating its high degree of reliability. The most recent time frame is used, along with several officially sanctioned government sources.

Secondary data sources are the foundation of this study. Data are gathered from several government agencies, such as the Central Bureau of Statistics, Nepal Rastra Bank, Nepal Stock Exchange, Economic Survey, and others. The study has examined the data from a variety of sources to ensure its authenticity and dependability. The same information was discovered in this investigation from all approved sources.

3.7 Research framework and definition of variables

The dependent and independent variables that have been established in this study have served as the basis for the whole investigation. The NEPSE index has been assumed to be the dependent variable, whereas the discount rate, weighted average deposit interest rate, weighted lending interest rate, and risk-free short-term interest rate are the independent variables. The conceptual framework that follows is developed from the examined literature.

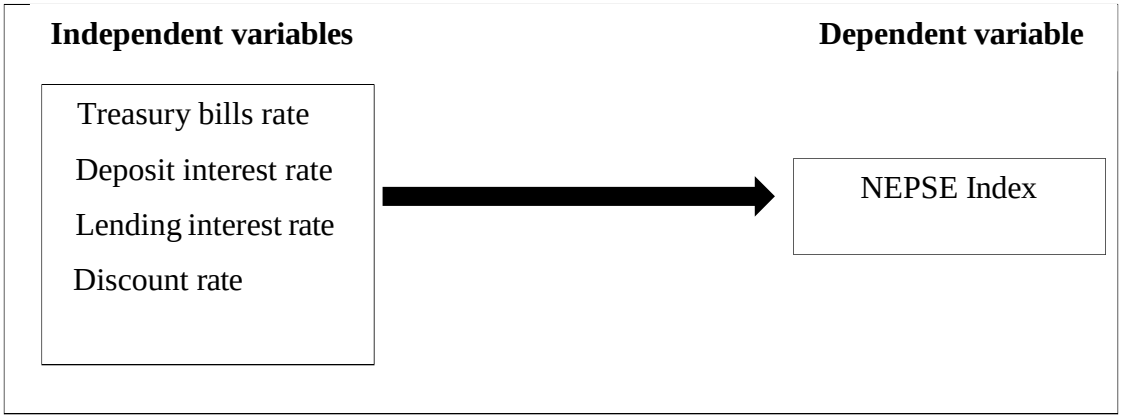

Figure 1 Conceptual framework

Source: Addo and Sunzuoye, (2013)

3.7.1 Definition of variables

The parameter whose results depend on the other independent variables is called the dependent variable. The effect on the dependent variable is changed, monitored, and documented as the experimental factor deviates from the independent variables. This study makes use of four independent variables: the discount rate, the lending rate, the deposit rate, and the rate on Treasury bills. Prior studies have frequently used these characteristics as important measures to evaluate the influence on the stock market (Neupane, 2018).

Discount rate

A central bank's interest rate on loans and advances to commercial banks is known as the discount rate, or simply the discount rate. Depending on the nation, the discount rate is referred to by a variety of names, and in certain nations, the methods employed to control it have evolved over time. Depending on the nation's monetary policies, banks can usually borrow from the central bank if they are short on cash.

The repo rate is the rate at which the central bank loans short-term funds to banks secured by securities. This type of borrowing is frequently accomplished through repos. It works better when the market is experiencing a shortage of liquidity. On the other hand, banks can store excess cash with the reserve bank at the reverse repo rate. This is typically carried out when the market has excess liquidity.

The money supply in the economy and banking industry is regulated by the interest rate that a nation's central or federal bank charges on loans and advances. Usually, this is carried out every three months in order to stabilize the nation's currency rates and

manage inflation. Because it affects every aspect of a nation's economy, a change in discount rates may have a cascading effect. Stock market values, for example, frequently respond to sudden shifts in interest rates. Customers are impacted by changes in discount rates since they have an impact on personal loan prime interest rates.

Deposit interest rate

Financial institutions pay deposit account holders this amount. Certificates of deposit, savings accounts, and self-directed deposit retirement accounts are examples of deposit accounts. Investors who desire a secure way to preserve their principal, receive a little fixed interest, and benefit from insurance find deposit accounts to be appealing places to keep their money.

Larger balances on accounts usually result in greater rates from financial organizations. This serves as a motivator to draw in valuable customers with significant assets. Naturally, the more money deposited, the larger the return over time will be due to the higher interest rate. These accounts can provide greater stability than more volatile, high-risk financial products, even if they may still be viewed as a slower growth strategy for producing profits. Certain bank accounts often guarantee fixed interest rates that are lower than the more variable returns of other financial instruments. There is a trade-off between the possibility of unexpected earnings or even losses at even larger sizes and the account holder's guarantee of steady increases to their deposit. For example, when the account matures, a certificate of deposit with a fixed rate is guaranteed to provide the specified return. In an effort to draw in more clients, banks, credit unions, and other financial organizations frequently provide competitive interest rates on these deposits. Premium deposit interest rates could only be offered under specific conditions, including balance minimums and perhaps maximums, depending on the product. Additionally, some accounts have a time limit, which might be six months, a year, or many years, during which the funds must be deposited and inaccessible to the account user. Early access to the deposit may result in fines and costs, including the possible loss of the agreed-upon interest rate in the event that the account balance drops below the minimums.

Financial institutions promote long-term deposits because they provide liquidity for the organization and benefit the client by earning interest over a longer period of time. An

organization may provide its clients additional lending services, such credit cards and loans, by keeping more cash on hand.

Lending interest rate

According to Chen et al. (1999), interest rates are determined by the firm-related risk premium and the risk-free rate. Because a rise in the risk-free rate raises the discount rate, interest rates have an inverse effect on stock return. One of the key phrases in commercial banks' lending decision-making process is the loan interest rate. As separate companies, commercial banks choose their own lending rates. The proportion of the loan amount that the lender charges in exchange for the loan is known as the lending interest rate. Interest is applied to loans made by banks to their clients for a variety of purposes, such as profit-making, risk-reduction, and value preservation. Lower deposit rates and greater lending rates are two ways that commercial banks might boost their profit margins. Because interest income will not be sufficient to pay for general expenditures, the cost of deposits, and the loss of revenue from the portfolio of non-performing loans, banks do not charge loan rates that are excessively low. However, companies cannot charge excessively high loan rates because doing so will make it impossible for them to maintain their banking connection with the borrowers.

As a result, choosing the right loan rates frequently becomes a significant problem for the banking sector. Furthermore, the variables that affect the lending rates of commercial banks are significant issues for the general public, the banking sector, and policymakers in addition to individual banks. There are several elements that might affect commercial banks' lending interest rates. According to the classical view, there are two factors that control the rate of interest. First, the demand for investable capital, which mostly comes from the business sector, and second, the savings supply, which is primarily sourced from families. Furthermore, according to the loanable funds hypothesis, the rate of interest depends on four factors: investment, savings, hoarding tendencies, and the availability of funds. According to rational expectation theory, changes in interest rates are mostly caused by unforeseen information or shifts in economic conditions, and the current spot rate is the best indicator of future interest rates.

Treasury Bill Rate

The interest rate used to issue and trade short-term government securities known as Treasury Bills (T-Bills) is known as the Treasury Bill Rate. A government may issue Treasury Bills, which are debt instruments having maturities of four, thirteen, twenty-six, or fifty-two weeks, to raise short-term funding. The rate, which represents the return an investor would receive if they hold the T-Bill until maturity, is sometimes stated as a discount to the bill's face value. Because government-issued securities are seen as low-risk assets, it acts as a standard for risk-free rates throughout the economy (Mendes, 2024).

NEPSE index

The value proposition of a stock begins there, according to financial theory: stocks are hazardous investments, much riskier than bonds, as bondholders receive their money before stockholders in the case of bankruptcy. Because stocks are more risky than Treasury notes, which are guaranteed to yield a certain return, investors want a larger return in exchange for their increased risk.

The "risk premium" is the additional return that stock investors might potentially anticipate. The risk premium has historically been about 7%. This implies that investors would expect an 11% return from a stock if the risk-free rate, or the rate on Treasury notes, was 4%. As a result, the risk-free rate and the risk premium add up to the overall return on a stock. Because riskier equities offer a bigger risk premium than, say, stronger blue chip businesses, anyone looking to increase returns must invest in them. Theoretically, prudent investors will choose an investment with a high enough return to offset the danger of taking on more risk and the missed chance to receive interest from the guaranteed Treasury note.

CHAPTER IV

RESULTS AND DISCUSSION

The act of creating answers to queries by looking at and interpreting data is known as data analysis. Finding challenges, assessing the availability of relevant data, selecting the best approaches to address the questions of interest, putting the approach into practice, and assessing, summarizing, and sharing the outcomes are the fundamental phases in the analytical process. The interpretation, analysis, and presentation of secondary data in relation to various interest rates and their effects on share prices are covered in this chapter. For this, a variety of statistical models that are discussed in chapter three have been employed. There are five sections in this chapter. Data structure and pattern analysis is covered in the first section, followed by descriptive statistics in the second, correlation analysis in the third, step-by-step regression analysis in the fourth, and closing thoughts based on the findings of the secondary data analysis in the final section. The link between interest rates and the NEPSE index is examined through data analysis using Excel and SPSS.

4.1 Results

Information is gathered from authorized government sources. Line charts are used to tabulate and display various interest rates, such as the discount rate, deposit rate, lending rate, and interest rate on government securities. In a same manner, trend line charts are used to tabulate and display the closing prices NEPSE for each fiscal year. The dependent variable, the NEPSE (share prices) index, is sourced from the Nepal Stock Exchange's official webpages. From 2013 A.D. to 2023 A.D., these closing prices are from the middle of July of each fiscal year. In a similar vein, several government agencies have offered varying interest rates for this study. Commercial banks serve as the basis for the weighted average interest rates on loans and deposits.

The time series data for various interest rates and the NEPSE index from 2013 A.D. are displayed in this table. until 2023 A.D.

Table 2

Different interest rate and NEPSE closing index

Year	WA TB rate	WA Deposit Rate	WA Lending Rate	Discount rate	Nepse Index
2012/13	1.52	5.25	12.09	8.65	518.33
2013/14	0.13	4.09	10.55	8.53	1036.1
2014/15	0.43	3.94	9.62	8.24	961.2
2015/16	0.79	3.28	8.86	7.91	1718.2
2016/17	1.45	4.45	9.86	7.68	1408.67
2017/18	4.48	6.36	11.87	10.16	1212.673
2018/19	3.20	6.59	12.29	9.86	1233.843
2019/20	2.69	6.64	11.58	9.28	2237.943
2020/21	2.19	5.07	9.18	7.23	2735.907
2021/22	6.67	6.34	9.98	8.38	2577.281
2022/23	9.51	6.49	11.96	10.18	2097.9

Source: Nepal Rastra Bank

The interest rate that Nepal Rastra Bank offers commercial banks is known as the discount rate. Treasury bills and development bonds are comparable. The NRB issues these government securities in order to restrict market money flow and satisfy financial requirements. As a result, the NRB's various monetary policies cause interest rates to fluctuate from year to year.

NEPSE Index

There are 212 businesses listed on the Nepal Stock Exchange. These businesses are divided into nine groups. These include financial institutions, development banks, insurance companies, hotels, hydropower companies, trading companies,

manufacturing and processing companies, and other types of businesses. The Nepal Stock Exchange released the Nepse Index, a transaction index, at the conclusion of the day.

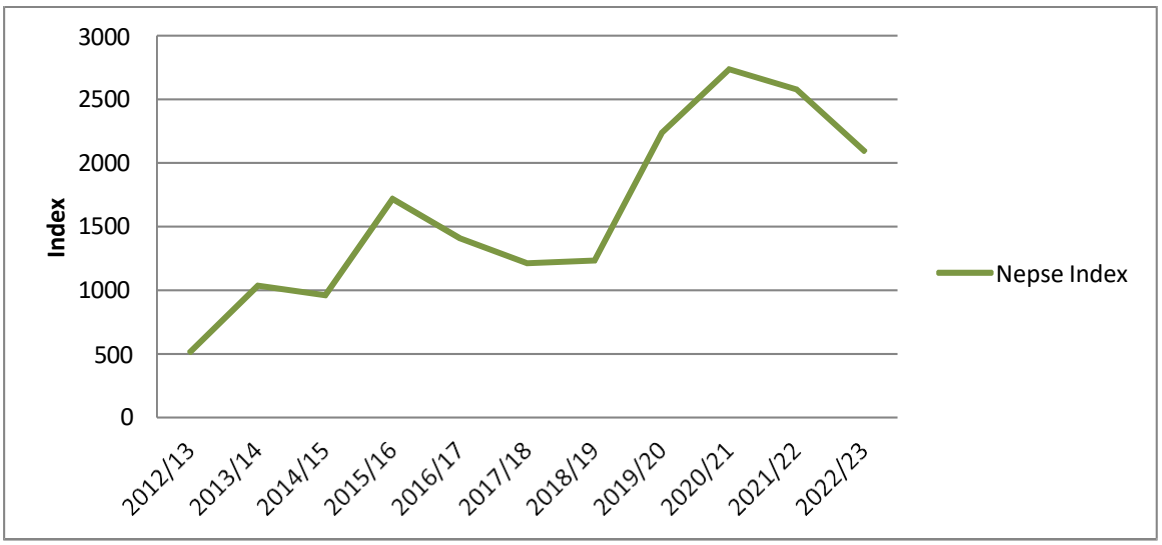

Figure 2 Structure of NEPSE index

According to Figure 2, the NEPSE index's lowest point on a year-over-year basis was 518.33 in mid-July 2013/14 A.D. In a similar vein, the NEPSE index peaked at 2735.91 in mid-July 2020–21 A.D. As the number of listed firms rises, so does the NEPSE index. The stock market jumped along with the increase in credit growth. The amount of margin lending in banks' portfolios also increased. Prices increased to enable margin lending since bank shares comprise the bulk of the stock market. However, banks suffered as a result of their real estate investments as credit growth halted and the real estate market began to cool. After a sharp increase, the share values likewise plummeted. The inflated stocks dropped to their true worth.

Weighted average deposit interest rate

The interest rate offered by commercial banks is known as the weighted average deposit interest rate. It comprises the total of all commercial banks' savings and fixed deposit interest rates.

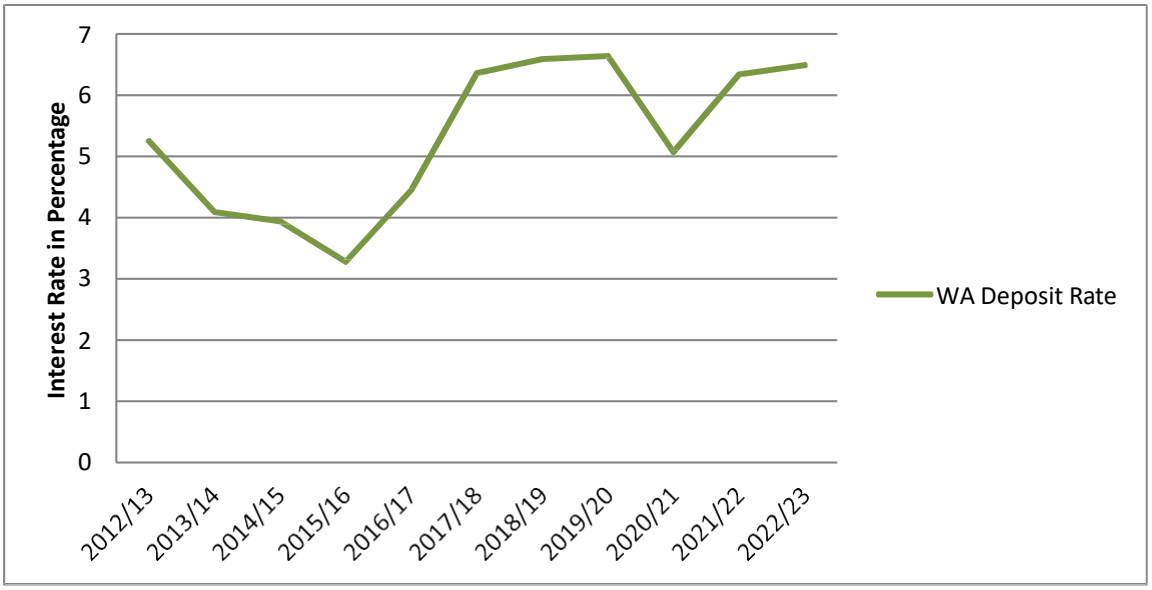

Figure 3 Structure of weighted average deposit interest rate

Figure 3 shows that in 2015–16 A.D., commercial banks offered the lowest interest rate, which was 3.28%. Similarly, in 2019–20 A.D., banks offered the highest interest rate of 6.64%.

Weighted average lending interest rate

The interest rate offered by commercial banks is known as the weighted average lending interest rate. It comprises the total of all commercial banks' lending interest rates.

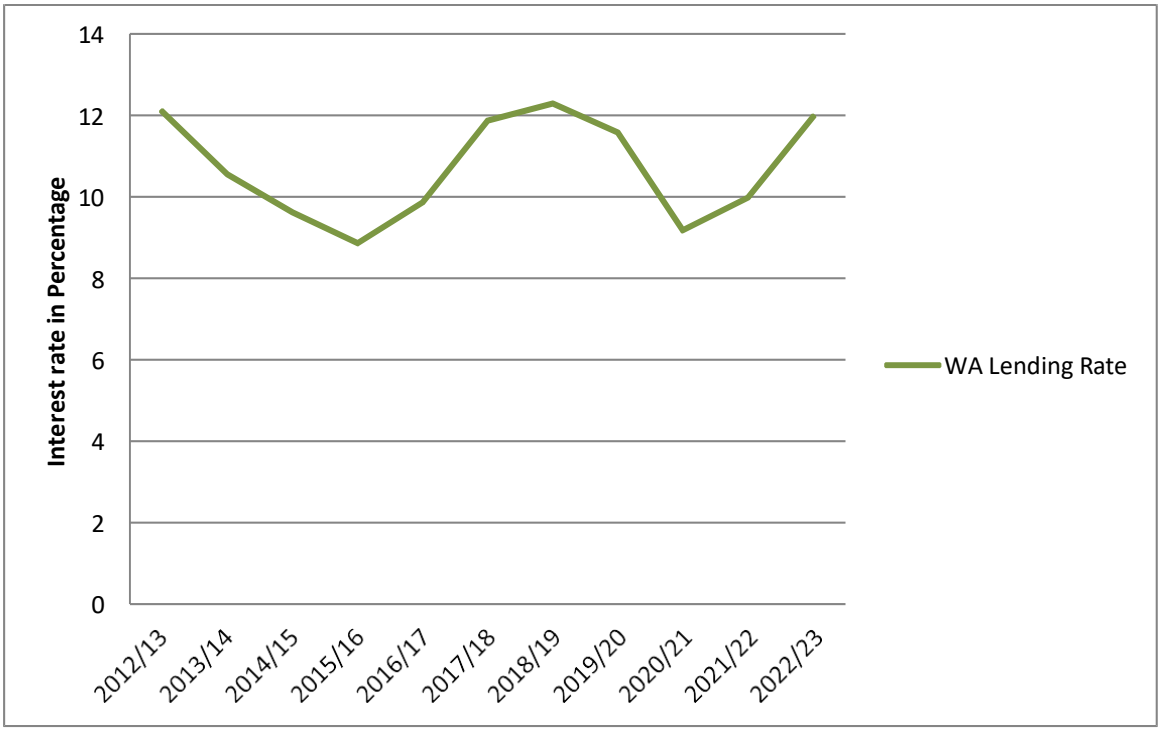

Figure 4 Structure of weighted average lending rate

According to Figure 4, the lowest interest rate offered by commercial banks during 2015–16 A.D. was 8.86%. Similarly, in 2018–19 A.D., banks offered the highest interest rate of 12.29%.

Discount rate

The interest rate that Nepal Rastra Bank offers commercial banks to borrow money from NRB is known as the discount rate. The discount rate also affects the interest rates that commercial banks offer their clients.

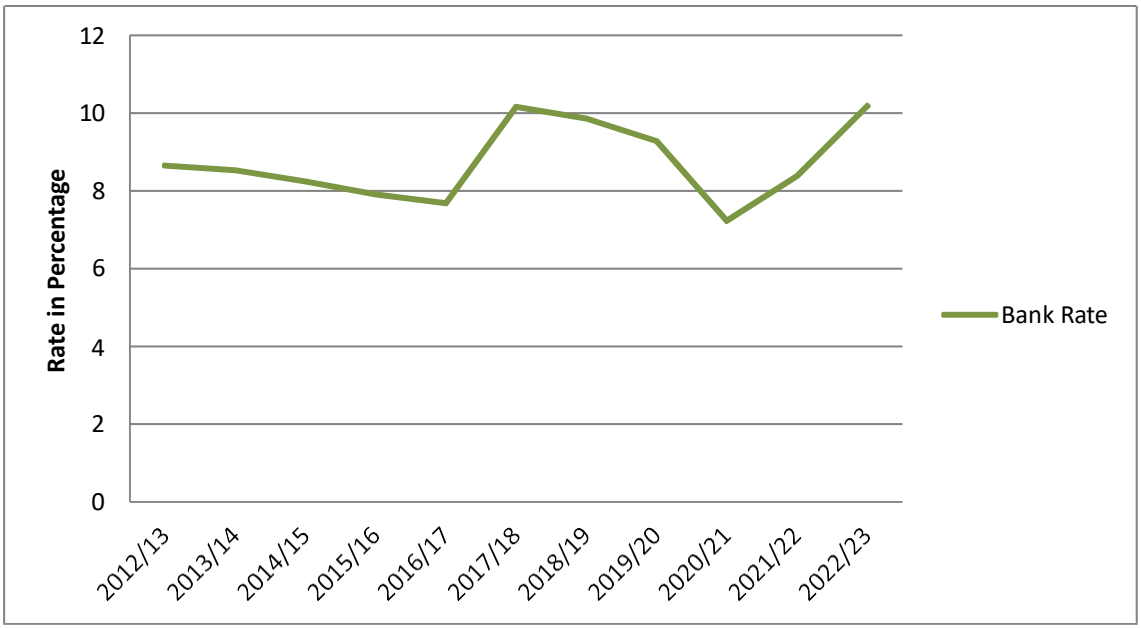

Figure 5 Structure of discount rate

The maximum discount rate, as shown in Figure 5, is 10.18% in 2022–2023 A.D. At 2020–21 A.D., the lowest discount rate is 7.23%.

Treasury bills rate

The nation's central bank issues treasury bills, which are risk-free securities, to keep the market's money supply stable. Treasury notes with varying maturity periods are issued by central banks. From 2012–13 to 2022–23 A.D., the link between the T-bill rate and stock market return is measured using the 91-day Treasury bill rate.

In order to regulate the money supply in the market and address the short-term financial imbalance, the Nepali government issues treasury bills with the assistance of the NRB. Typically, the NRB issues 28-, 91-, 182-, and 364-day Treasury notes. The weighted average Treasury bill has been reported in this study.

The average interest rate on 28-, 91-, 182-, and 364-day Treasury bills is known as the weighted average T-bill interest rate. The government hasn't issued Treasury notes in some years or months, and the NRB doesn't release rates.

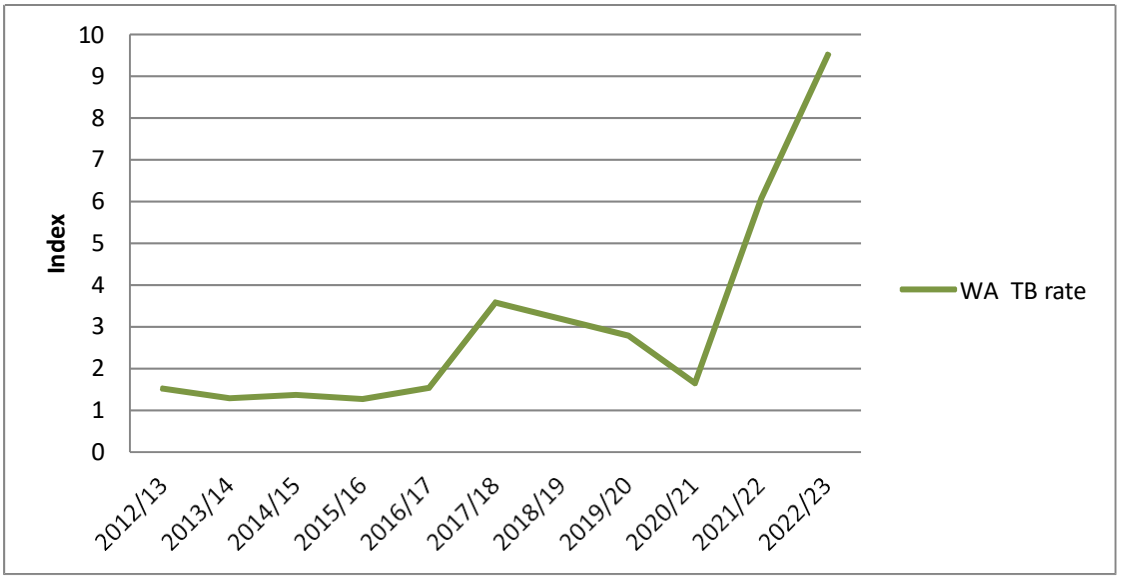

Figure 5 Structure of weighted average T-bills rate

The NRB has given the maximum interest rate of 9.51% on 91-day Treasury bills for 2022–2023 A.D. in Figure 5. In a similar vein, in 2013–14 A.D., NRB offered the lowest interest rate on 91-day Treasury bills, which was 1.29%.

4.1.1 Descriptive analysis

Table 3

Descriptive analysis statistics

Variables	Minimum	Maximum	Mean	Std. Deviation
WA TB RATE	0.13	9.51	3.005	2.884
WA DEP RATE	3.28	6.64	5.318	1.236
WA LENDING RATE	8.86	12.29	10.713	1.277
DISCOUNT RATE	7.23	10.18	8.736	1.008
NEPSE INDEX	518.33	2735.91	1612.55	716.187

Table 3 shows that the weighted average mean value of Treasury Bills is 3.005%. Weighted average Treasury Bills vary from 0.13% to 9.51%. The weighted average Treasury Bills have a mean of 3.005% and a standard deviation of 2.884. The mean and

standard deviation of the deposit interest rate are 5.318% and 1.236, respectively; these rates fall between 3.28% and 6.64%. Similarly, the loan interest rate falls between 8.86% to 12.29%, with a mean of 10.713% and a standard deviation of 1.277. The discount rate falls between 7.23% and 10.18%, with a mean of 8.736% and a standard deviation of 1.008. The NEPSE index similarly has a mean of 1612.55 and a standard deviation of 716.187, falling between a maximum of 2735.91 and a low of 518.33 points.

4.1.2 Correlation analysis

The Pearson correlation coefficients have been calculated after the descriptive statistics have been provided. In the event that the original data changes or stays the same, the correlation coefficients indicate the strength and direction of the linear link between two variables. Table: 4.4 Correlation output (The correlation analysis from SPSS is shown in this table, which has correlations with all dependent and independent variables to examine the relationship between variables such as the NEPSE Index, average interest rates on deposits and loans, average interest rates on Treasury bills, and discount rate).

Table 4

Correlation analysis

	NEPSE INDEX	WA TB RATE	WA DEP RATE	WA LENDING RATE	DISCOUNT RATE
NEPSE INDEX	1.000				
WA TB RATE	0.491*	1.000			
WA DEP RATE	-0.671**	0.631*	1.000		
WA LENDING RATE	-0.652**	0.171	0.761**	1.000	
DISCOUNT RATE	-0.611*	0.341**	0.815*	0.966**	1.000

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

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

Weighted Average Treasury Bill Rate (WA TB Rate), Weighted Average Deposit Rate (WA Dep Rate), Weighted Average Lending Rate (WA Lending Rate), and Discount rate are independent variables, whereas the NEPSE Index is the dependent variable in Table 4's correlation study. The correlation coefficients between these independent variables and the NEPSE Index, as well as between the independent variables themselves, are displayed in the table.

The Weighted Average Treasury Bill Rate and the NEPSE Index have a positive correlation of 0.491, which is statistically significant at the 0.05 level. This implies that there is a positive correlation between the two variables, with the NEPSE Index tending to rise as the WA TB Rate does. Likewise, the Weighted Average Deposit Rate and the NEPSE Index have a -0.671 connection, which is statistically significant at the 0.01 level. According to this negative connection, there is an inverse association between an increase in the WA Deposit Rate and a decline in the NEPSE Index.

The NEPSE Index and the Weighted Average Lending Rate have a negative correlation of -0.652, which is significant at the 0.01 level. This suggests an inverse link, with the NEPSE Index tending to decline when the WA Lending Rate rises. Similarly, there is a substantial negative association (-0.611) between the NEPSE Index and the discount rate at the 0.05 level. This implies that there is a negative correlation between a rise in the discount rate and a fall in the NEPSE Index.

4.1.3 Regression analysis

This study uses secondary data analysis based on the regression model described in chapter three to assess the results' statistical significance and robustness. In order to investigate the estimated association between the NEPSE index (NEPSE Index) dependent variable and interest rate as independent variables with profitability and stock return, it primarily deals with regression findings from different model configurations. The tables below display the regression findings.

The NEPSE return is the dependent variable in this table, which shows the results of regression analysis using SPSS. The independent variables are the weighted average interest rates on deposits, loans, Treasury bills, and discounts.

In other words, NIit is equal to $\beta 0 + \beta 1\ TRit + \beta 2\ DRit + \beta 3\ LRit + \beta 4\ DIRit + \varepsilon it.$ (1)

Table 5

Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.997[a]	0.993	0.966	127.78557

a. Predictors: (Constant), DISCOUNT RATE, WA TB RATE, WA DEP RATE, WA LENDING RATE

A summary of the regression model used to examine the relationship between the four independent variables—the discount rate, the weighted average lending rate (WA lending rate), the weighted average deposit rate (WA deposit rate), and the weighted average treasury bill rate (WA TB rate)—and the NEPSE Index (the dependent variable) is given in Table 5.

The variance in the dependent variable (NEPSE Index) that can be accounted for by the independent variables (Discount rate, WA TB rate, WA Dep rate, and WA Lending rate) is shown by R Square, sometimes referred to as the coefficient of determination. With a R Square of 0.993, the model explains 99.3% of the variation in the NEPSE Index. This suggests a high degree of explanatory power, demonstrating how well the model predicts the NEPSE Index using the independent variables.

The R Square value is modified by adjusted R Square to take into consideration the proportion of predictors to data points in the model. It is a more precise indicator of the explanatory capacity of the model, particularly when several predictors are included. With an Adjusted R Square of 0.966, the model continues to account for 96.6% of the variation in the NEPSE Index even after controlling for the number of predictors. This demonstrates even more how well the model predicts outcomes.

Table 6

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2412918.225	4	603229.556	36.942	0.000[b]
	Residual	16329.152	6	2721.525		
	Total	2429247.377	10			

a. NEPSE INDEX is the dependent variable.

b. Constant, DISCOUNT RATE, WA TB RATE, WA DEP RATE, and WA LENDING RATE are the predictors.

The ANOVA (Analysis of Variance) results for the regression model that uses the independent variables of discount rate, weighted average lending rate (WA lending rate), weighted average deposit rate (WA deposit rate), and weighted average treasury bill rate (WA TB rate) to predict the NEPSE Index are shown in Table 6. The F-value is 36.942, which is the result of dividing the regression's mean square by the residual's mean square (603229.556 / 2721.525). The overall statistical significance of the regression model is tested using the F-statistic. A more significant model is indicated by a higher F-value. The F-statistic's significance value (p-value) is 0.000. The regression model is considered statistically significant when the p-value is less than the standard significance level of 0.05. This indicates that the likelihood that the observed correlations between the independent variables and the NEPSE Index are the result of chance is extremely low.

Table 7 displays the regression model's coefficients, which analyze how the NEPSE Index (dependent variable) is affected by a number of independent variables, including the Weighted Average Treasury Bill Rate (WA TB Rate), Weighted Average Deposit Rate (WA Dep Rate), Weighted Average Lending Rate (WA Lending Rate), and Discount rate. The WA TB Rate's unstandardized beta value of 2.613 means that, assuming all other factors stay the same, the NEPSE Index should rise by 2.613 points for every unit increase in the Weighted Average Treasury Bill Rate. With a p-value of

0.010, this positive link is statistically significant, indicating that there is substantial evidence that changes in the Treasury Bill Rate have an effect on the NEPSE Index.

Table 7

Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	55.632	8.374		10.021	0.000
	WA TB RATE	2.613	1.146	0.506	-2.988	0.010
	WA DEP RATE	-5.515	1.732	-1.681	-8.138	0.000
	WA LENDING RATE	-9.928	1.112	-1.502	-3.140	0.006
	DISCOUNT RATE	-6.970	2.273	-0.354	-4.771	0.000

a. Dependent Variable: NEPSE INDEX

According to the WA Dep Rate's unstandardized beta value of -5.515, the NEPSE Index is expected to fall by 5.515 points for every unit rise in the Weighted Average Deposit Rate, assuming all other factors remain constant. With a p-value of 0.000, this adverse effect is highly statistically significant, suggesting a substantial correlation between declining NEPSE Index values and rising deposit rates.

With all other factors held equal, a rise of one unit in the Weighted Average Lending Rate would result in a reduction of 9.928 points in the NEPSE Index, according to the unstandardized beta coefficient of -9.928 for the WA Lending Rate. With a p-value of 0.006, this significant negative association indicates that the NEPSE Index is significantly and statistically negatively impacted by rising loan rates.

A one-unit rise in the discount rate is predicted to lower the NEPSE Index by 6.970 points, provided all other parameters stay the same, according to the discount rate's unstandardized beta coefficient of -6.970. With a p-value of 0.000, this association is

statistically significant, demonstrating that the NEPSE Index is significantly impacted negatively by increasing discount rates.

4.1.4 Hypothesis testing

We have used a 95% level of confidence for analyzing overall significance, i.e. 0.05 is the alpha value. The entire model is deemed acceptable as the p-value is less than 0.05. Using interest rate variables, the model predictably determines stock market values. The relevance of each individual model has also been tested using the p-value.

H1: The NEPSE index is significantly impacted by the deposit interest rate. There is a p-value below 0.05. Thus, the alternate theory was approved.

H2: The NEPSE index is significantly impacted by lending interest rates. There is a p-value below 0.05. Thus, the alternative theory has been adopted.

H3: The T-Bill interest rate has a major effect on the NEPSE index. There is a p-value below 0.05. Thus, the alternate theory was approved.

H4: The NEPSE index is significantly impacted by the discount rate. There is a p-value below 0.05. Thus, the alternate theory was approved.

The NEPSE index is significantly impacted by factors such as the discount rate, weighted deposit rate, weighted lending rate, and T-bills, according to all assumptions. According to the research above, the NEPSE index would be impacted by the weighted deposit rate, discount rate, weighted lending rate, and T-bills rate.

4.2 Discussion

In contrast to Panta (2020), who found no substantial influence, the results of this study showed that the Treasury Bill (T-Bill) rate had a considerable impact on the NEPSE Index. The Theory of Pricing, which contends that supply and demand interact to shape financial markets, may be used to examine this discrepancy. The study's positive correlation may be a result of advantageous market circumstances, where higher T-Bill rates boost investor confidence and raise stock prices by serving as reliable government-backed assets. This association was also noted by Laichena and Obwogi (2015), who proposed a link between T-Bill rates and the perceived stability of financial markets. These results are consistent with Fisher's Theory as rising T-Bill rates may be a sign of increased inflation expectations, which would make equities more alluring than lower-return investments like savings. This conclusion is further supported by the

Loanable Funds Theory, which suggests that higher T-Bill rates may indicate greater returns for savers, which would lower demand for borrowing and encourage stock market investments.

The study also shows that the NEPSE Index is significantly impacted negatively by lending and deposit interest rates. This result is consistent with the Keynesian Liquidity Preference Theory, which postulates that higher interest rates discourage investment and have a negative impact on the stock market by reducing liquidity. This is in line with Shrestha and Subedi (2014) but differs from Maswere and Kaberuka (2013), who found no discernible effect of deposit rates. Higher interest rates, according to Keynes, deter planned investment spending, which may account for the NEPSE Index's negative consequences. Similarly, the Loanable Funds Theory, which holds that higher borrowing costs discourage investment activity and so effect stock prices, is supported by the study's substantial negative impact of the lending rate.

The Classical Interest Rate Theory, which holds that higher discount rates encourage savings at the expense of investment and have a negative effect on the stock market, is likewise consistent with the discount rate's negative impact on the NEPSE Index. In contrast to Khalid and Khan (2017), who found no discernible impact, this supports Kganyago and Gumbo (2015). These theoretical stances offer a strong foundation for comprehending the noteworthy connections between finance rates and Nepal's stock market performance.

CHAPTER V

SUMMARY AND CONCLUSION

The main findings of the study are highlighted in this chapter along with a quick synopsis of the full investigation. Additionally, a separate portion of this chapter discusses the main results, which are followed by some implications and suggestions regarding how interest rates affect the Nepalese share market. The chapter concludes by outlining the scope of upcoming studies in the same area.

5.1 Summary

This study ascertains how interest rates—including T-bills, discount, lending, and deposit interest—affect the Nepalese stock market. Descriptive and causal comparative research designs form the basis of this study. The NEPSE index and other interest rates, such as the discount rate, deposit rate, lending rate, and short-term interest rate, are used to determine the population for this study. Different interest rates, such as the discount rate, deposit rate, lending rate, short-term interest rate, and NEPSE index of each fiscal year beginning in mid-July 2012 and ending in mid-July 2023 of 11 years, were included in the study to create a sample. The study's foundation is secondary data. Excel and SPSS are used to evaluate these data. The association between the interest rate factors and the NEPSE index was explained using descriptive, correlational, and regression analysis.

One indicator of an economy is the stock market index. Growth in the stock index is typically regarded as a positive indicator since it shows that investors are optimistic about the state of the economy. In the economy, it encourages investment. A sharp rise in the stock market index, however, is usually cause for alarm. The index will ultimately fall, threatening the stability of the economy and financial system, if the gain is not supported by the fundamentals. Understanding how the stock market index and the factors influencing it are related is essential. The stock market may be impacted by a number of reasons. However, depending on the size, nature, and other features of the market and economy, the elements that have an impact will differ from one nation to the next. Similarly, this study employed interest rate variables such as deposit interest rate, lending interest rate, discount rate, and T-bills rate to ascertain how interest rates affected Nepal's share market.

Prior research has generally shown that interest rates and the stock market have a substantial and adverse link. To determine the link between interest rates and share prices, some of them have utilized deposit interest rates, while others have used T-bill rates. Five independent variables were utilized in this paper to define the link between interest rates and share prices. In order to determine if the findings corroborate those of earlier research, this study examined these consequences within the framework of our nation.

The NEPSE Index shows a variety of links with the various financial rates, according to the correlation study. Interestingly, there was a positive association found with the Weighted Average Treasury Bill Rate, indicating that higher NEPSE Index values are linked to rising Treasury Bill rates. This may be a sign of an improving economic climate or more welcoming investment climate, which boosts investor confidence and stock market performance. However, there were notable negative relationships with the discount rate, weighted average lending rate, and weighted average deposit rate. This inverse relationship suggests that the NEPSE Index tends to decline when these rates increase, which might have a detrimental effect on stock market performance.

By measuring their influence, the regression analysis clarifies these linkages even further. According to the model's strong explanatory power, the majority of the volatility in the NEPSE Index can be explained by the chosen financial variables taken together. The findings indicate that the NEPSE Index is favorably impacted by the Weighted Average Treasury Bill Rate, indicating that higher Treasury Bill rates translate into greater stock market prices. On the other hand, the NEPSE Index is significantly impacted negatively by the Weighted Average Discount Rate, Weighted Average Lending Rate, and Weighted Average Deposit Rate. In particular, drops in stock market performance are linked to rises in these rates.

5.2 Conclusion

This study offers important new information on how different finance rates affect the NEPSE Index's performance. The NEPSE Index and the Weighted Average Treasury Bill Rate were discovered to be positively correlated using regression and correlation analysis, suggesting that rising Treasury Bill rates are linked to rising stock market prices. This implies that as Treasury Bill rates increase, the investment climate will be more attractive. On the other hand, there were notable negative correlations found with

the Weighted Average Lending Rate, Weighted Average Deposit Rate, and Discount Rate. This suggests that when these rates rise, the NEPSE Index falls, most likely as a result of increased borrowing costs and decreased liquidity.

The significance of finance rates in stock market dynamics and their consequences for investors and regulators are demonstrated by these studies. By modifying financial rates in reaction to shifting economic conditions, politicians may create policies that either stabilize or stimulate the stock market, while investors can utilize this information to manage risks and make well-informed strategic decisions. The analysis's statistically substantial correlations highlight how reliable the findings are and how applicable they are to comprehending how financial indicators and stock market activity interact.

5.3 Implications

Managerial implications:

- • The Weighted Average Treasury Bill Rate, Deposit Rate, Lending Rate, and Discount Rate are among the financial rates that managers should keep a careful eye on. Making wise investment choices and modifying plans in accordance with them may be facilitated by being aware of their influence on the NEPSE Index.
- • Managers may think about expanding their exposure to industries or equities that gain from higher Treasury Bill rates, given the Treasury Bill Rate's favorable effect on the NEPSE Index. On the other hand, as they might negatively impact market performance, care should be taken when deposit rates, lending rates, or discount rates rise.
- • Declines in the NEPSE Index are linked to high lending, discount, and deposit rates. To lessen the possibility that changes in these rates may have a negative impact on their investment portfolios, managers should create risk management plans.
- •Predicting market trends and modifying investment portfolios to maximize returns and efficiently manage risks can be facilitated by including financial rate forecasts into financial planning and forecasting.
- •Managers may promote a healthy stock market environment by using the analysis's findings to support policies that provide favorable financial circumstances, such lower interest rates.

Future research implications:

- Future research could explore how financial rates impact specific sectors within the NEPSE Index. Different sectors may respond differently to changes in financial rates, and sector-specific studies could provide more granular insights.
- Conducting longitudinal studies to examine how the relationships between financial rates and the NEPSE Index evolve over time can offer insights into long-term trends and the stability of these relationships.
- Comparative studies examining how similar financial rates affect stock indices in different countries or regions could provide valuable insights into global financial dynamics and help in benchmarking performance.
- Future research could investigate the interplay between financial rates and other macroeconomic factors, such as inflation, GDP growth, and international trade, to provide a more comprehensive understanding of stock market performance.

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IMPACT OF INTEREST RATE ON STOCK MARKET PREDICT...

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ABSTRACTS This research looked at how interest rates including bank, T-bill, deposit, and loan rates affect the Nepalese stock market. Descriptive and causal comparative research designs form the basis of this study. The NEPSE index and other interest rates, such as bank, deposit, lending, and short-term interest rates, are used to determine the population. The study's sample comprised several interest rates, including bank, deposit, loan, short- term, and NEPSE index rates for each fiscal year spanning 11 years, from mid-July 2012 to mid-July 2023. The study's foundation is secondary data. Excel and SPSS are used to evaluate these data. The association between the interest rate factors and the NEPSE index was explained using descriptive, correlational, and regression analysis. The NEPSE Index shows a variety of links with the various financial rates,

according to the correlation study. Interestingly, there was a positive association found with the Weighted Average Treasury Bill Rate, indicating that higher NEPSE Index values are linked to rising Treasury Bill rates. However, there were notable negative relationships with the discount rate, weighted average lending rate, and weighted average deposit rate. The findings indicate that the NEPSE Index is favorably impacted by the Weighted Average Treasury Bill Rate, indicating that higher

Treasury Bill rates translate into greater stock market prices. On the other hand, the NEPSE Index is significantly impacted negatively by the Weighted Average Lending Rate, Weighted Average Deposit Rate, and Discount Rate. In particular, drops in stock market performance are linked to rises in these rates. The significance of finance rates in stock market dynamics and their consequences for investors and regulators are demonstrated by these studies. By modifying financial rates in reaction to shifting economic conditions, politicians may create policies that either stabilize or stimulate the stock market, while

investors can utilize this information to manage risks and make well-informed strategic decisions. The analysis's statistically substantial correlations highlight how reliable the findings are and how applicable they are to comprehending how financial

indicators and stock market activity interact. Key words:

Deposit Interest Rate, Lending Interest Rate, T -Bill **Interest Rate** , Discount Rate, **NEPSE Index**

CHAPTER I INTRODUCTION 1.1 Background of the study An important and vital part of a nation's economy is the stock market. Through encouraging capital formation and making investment easier, it supports economic growth. The dynamics of supply and demand influence changes in stock prices. One of the main options for investors looking for high returns is