IMPACT OF INTEREST RATE ON STOCK MARKET IN NEPAL

A Dissertation Submitted to the Office of the Dean, Faculty of Management in Partial Fulfillment of Requirement for the Master's Degree

By

Sandhya Sigdel
Campus Roll No.: 3077/074
Exam Roll No.: 6166/18
TU Registration No.: 7-2-327-0075-2013
Shanker Dev Campus
Finance Group

Kathmandu, Nepal
June, 2024

CERTIFICATE OF AUTHORSHIP

I hereby corroborate that have researched and submitted the final draft of dissertation entitled "**IMPACT OF INTEREST RATE ON STOCK MARKET IN NEPAL**". The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor it has 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.

……

Sandhya Sigdel

June, 2024

REPORT OF RESEARCH COMMITTEE

Ms. Sandhya Sigdel has defended research proposal entitled "**IMPACT OF INTEREST RATE ON STOCK MARKET IN NEPAL**". successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestion and guidelines of supervisor Asso. Prof. Dr. Kapil Khanal and submit the thesis for evaluation and viva-voce examination.

Asso. Prof. Dr. Kapil Khanal
Dissertation Supervisor

Signature.....

Dissertation Proposal Defended Date:

.....

Dissertation Submitted Date:

.....

Asst. Prof. Dr. Sajeeb Kumar Shrestha
Head, Research Department

Signature .....

Dissertation Viva-voce Date:

.....

APPROVAL SHEET

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

.....
Asso. Prof. Dr. Kapil Khanal
Dissertation Supervisor

.....
Internal Examiner

.....
Internal Expert

.....
External Expert

.....
Asso. Prof. Dr. Sajeeb Kumar Shrestha
Chairperson, Research Committee

.....
Asso. Prof. Dr. Krishna Prasad Acharya
Campus Chief

ACKNOWLEDGEMENTS

I would like to graciously thank several individuals for making the completion of this thesis possible. First and fore most I would like to thank my thesis supervisor Asso. Prof. Dr. Kapil Khanal. He has provided me with invaluable advice, guidance, insight, and encouragement without which this thesis would not be a success. Thank you for believing in my ability to create a finished product worth being proud of.

I would like to express my gratefulness to Asso. Prof. Dr. Sajeeb Kumar Shrestha Research Head of Shanker Dev Campus, who provided me the opportunity to write this thesis.

Valuable thanks go to large number of staff from the different offices who cooperated by providing available data and information, special to SEBON, NEPSE, NRB and Library Staff of Shanker Dev Campus.

Finally, to my family and friends: there are not enough words to express my deep gratitude for all of your love and support. I could not have persevered without having all of you to lean on. Thank you for always being there for me.

Sandhya Sigdel

Researcher

TABLE OF CONTENTS

Page No.

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

BR	:	Bank Rate
DIR	:	Deposit Interest Rate
LIR	:	Lending Interest Rate
STIR	:	Short Term Interest Rate
SP	:	Stock Price
T Bills	:	Treasury Bills
NEPSE	:	Nepal Stock Exchange
NRB	:	Nepal Rastra Bank
SEC	:	Securities Exchange Centre
SPSS	:	Statistical package for Social Sciences
W.A	:	Weighted Average
ANOVA	:	Analysis of Variance

ABSTRACT

This research explores the relationship between interest rates and stock market performance in Nepal, focusing on the period from mid-July 2012 to mid-July 2022. The Nepalese stock market, represented by the Nepal Stock Exchange (NEPSE), has evolved significantly since its inception, serving as a critical platform for capital mobilization and economic growth. Interest rates, including deposit rates, lending rates, bank rates, and Treasury bills rates, are examined as potential factors influencing stock market behaviour.

The study employs quantitative methods to analyse annual data, investigating how changes in interest rates affect the NEPSE index, which serves as a barometer of market sentiment and economic health in Nepal. Through regression analysis and hypothesis testing, the study evaluates the impact of these interest rates on stock market returns, providing insights that are crucial for investors, policymakers, and stakeholders in understanding market dynamics.

Key findings highlight the significant influence of deposit and lending rates on stock prices, underscoring their role in shaping investor behaviour and market performance. Conversely, Treasury bills rates exhibit a lesser impact, suggesting nuanced interactions between different interest rate mechanisms and stock market movements. The study contributes valuable insights into the Nepalese financial market landscape, offering implications for investment strategies, policy formulations, and future research directions.

This research is instrumental for stakeholders seeking to navigate and leverage the interplay between interest rates and stock market dynamics in Nepal, ultimately fostering informed decision-making and market efficiency.

Keywords: Bank Rate, Deposit Interest Rate, Lending Interest Rate, Risk- Free Rate of Return and Stock Price.

CHAPTER I

INTRODUCTION

1.1 Background of The Study

The stock market in Nepal has a relatively short history. The Securities Exchange Centre (SEC) was established in 1976 with the aim of facilitating and promoting the growth of the capital market (Gurung, 2004). However, it wasn't until 1981 that the SEC began secondary trading of shares, initially limited to government bonds (NRB, 1996). The introduction of the Securities Exchange Act in 1984 allowed the SEC to include corporate share trading, although on a very limited scale. A fully organized stock market emerged when the SEC was transformed into the Nepal Stock Exchange (NEPSE) Limited in 1993. NEPSE began operations in early 1994 and remains the only stock exchange in Nepal. Although still evolving, the stock market in Nepal has grown significantly since its inception. NEPSE was established to mobilize capital as an alternative to the traditional banking sector, thereby supporting economic growth and development in the country.

Typically, the stock market index is used as an indicator of an economy. Growth in the stock index is generally regarded as a positive indicator since it indicates that investors are optimistic about the economy's future prospects. It encourages investment in the economy. However, a quick gain in the stock market index is usually a cause for caution. If the growth in the index is not supported by the fundamentals, it cannot be sustained, and the index will eventually fall, undermining economic and financial stability. As a result, officials must keep a close eye on stock market developments and be prepared to take appropriate steps if necessary to prevent the formation of bubbles and market collapse. This requires an understanding of the link between the stock market index and the factors that drive it. Several variables might influence the stock market. Any factor that affects corporations' cash flows or discount rates will have an influence on the stock market. However, the extent to which these elements have an impact varies per nation, depending on the size, kind, and other aspects of the economy and market. In this backdrop, this research seeks to examine the link between the NEPSE index and interest rate factors in Nepal using annual data from mid-July 2012 to mid-July 2022. In addition to the primary factors, this research evaluates the impact of changes in p. The findings of this study are intended to give some relevant insights into the factors of the Nepalese stock market's

performance, which will be valuable to both policymakers and investors.

Stock markets improve business efficiency, drive innovation, and serve as a key a source of funding for sustained economic growth. They also provide an effective means for governments to obtain funds through the sale of stat-owned firms. Furthermore, investments in the equities market are a significant component of people' assets, especially when governments move their pension schemes to the private sector. To sum up, it is evident that the global economy's equities market is becoming a more significant capital market (Mosley & Singer, 2008)

Interest rates are a key macroeconomic indicator that is directly tied to economic growth. Interest rates are commonly known as the cost of capital, which is the amount spent on using money for a predetermined amount of time. Interest rates are the price of borrowing money from the borrower's point of view. The interest rate is the cost associated with lending money, as seen from the perspective of the lender (lending rate).

1.1 Problem Statement

Interest rates can only influence, not decide, the stock market (Mueller, 2006). When interest rates rise, borrowing becomes more difficult. However, interest rates aren't the only factors influencing the stock market. Despite high interest rates, the stock market index may be heading upward owing to other variables such as economic growth, political difficulties, and monetary policies. There is no consistent finding from the investigation. Most research have focused on the effects of macroeconomic factors on the stock market. There has been no study in Nepal on the influence of interest rates on the Nepalese share market. Therefore, this study is essential to determine the impact of various interest rates (deposit interest, lending interest, bank rate, and T- bills rate) on the share market in Nepal.

The general problem of the study is that it is focus on the impact of interest rate on stock market in Nepal.

The specific statement of problems will be as follows:

- What is the position of stock price in Nepalese share market?

- What is the relationship between determinant (bank rate, deposit interest rate, lending interest rate and risk-free rate of return) and stock price in Nepalese share market?
- What is the impact of bank rate, deposit interest rate, lending interest rate and risk-free rate of return in Nepalese share market?

1.2 Objective of the Study

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

- To analyze is the position of stock price in Nepalese share market.
- To examine the relationship between determinant (bank rate, deposit interest rate, lending interest rate and risk-free rate of return) and stock price in Nepalese share market.
- To evaluate the impact of bank rate, deposit interest rate, lending interest rate and risk-free rate of return in Nepalese share market.

1.3 Research Hypothesis

Consequently, the following hypothesis is tested in the study, which is established with the use of empirical research on stock market in Nepal:

H1: There is positive and significant impact of deposit interest rate on share price.

H2: There is positive and significant impact of lending interest rate on share price.

H3: There is negative and significant effect between risk-free short-term interest rate and stock prices.

H4: There is positive and significant impact of bank rate on share price.

1.4 Rationale of the Study

A country's economic growth is heavily influenced by its stock exchange and interest rates. The influence of interest rates on the stock exchange has significant implications for monitoring policy, risk management techniques, financial securities valuation, and

government policy towards financial markets. The study will look at the existence of market efficiency on the Nepal Stock Exchange (NEPSE). This study will be important in developing efficient market mechanisms for investors in order to gain their trust and provide a fair playing field for all market players.

The study would also be beneficial to students, academics, and investment experts. This Paper might be useful for future research on stock prices. The study examined the influence of interest rates on the stock market, taking into account all of the concerns mentioned above. As a result, the study is important for investors, brokers, students, academics, policymakers, government officials, stock analysts, bankers, and managers to make logical judgements, implement effective policies, and conduct more research on stock price.

1.5 Limitations of the Study

This study has some limitations which are as follows;

Nepalese commercial banks provide deposit and lending interest rates. It excludes interest rates from other financial institutions, such as development banks and financing businesses.

1. The sample size and time period taken for the study is limited.
2. The model used in this study is limited on regression.
3. This study has used closing price of shares of every fiscal year.

There are other interest variables such as; government securities like development bonds rate, inter-bank rate and other macro and non-macro-economic variables are not used in this report.

This study is based only on secondary data and does not include the preference of different investors

CHAPTER II

LITERATURE REVIEW

This involves analyzing and critically examining the similarities and differences in previous related studies. It also covers the major findings and reviews the tools and techniques used in prior research on the impact of interest rates on the share market of Nepal. The literature review in this study is organized as follows:

2.1.1 Theoretical Review

2.1.2 Empirical Review

2.1 Theoretical Review

2.1.1 Theory of Pricing

Marshall (1990) suggested that equilibrium market prices would be determined by demand and supply factors under the perfect market competition model assumption, based on classical and early neoclassical economics theory. This technique is completely compatible with classical value theory. Clarke (1982) defines price as the numerical monetary value of a commodity, service, or asset. If there is an excess supply of money in the market, prices will fall, whereas an excess demand for money will cause prices to increase. Mishkin (1986) contended that, while interest rates represent the price lenders charge for borrowed funds, market forces will eventually reach the market equilibrium interest rate. This approach is consistent with traditional economic theory. The supply side of this money market denotes the availability of loanable funds, whilst the demand side shows the need for such funds. As a result, interest rates are fixed at equilibrium at the point where supply and demand overlap.

2.1.2 Fishers Theory

Suggest that variations in short-term interest rates are mostly caused by changes in the predicted rate of inflation. Going forward, we assume that market actors' predictions regarding the pace of inflation are largely right. The primary cause for interest rate fluctuations is variations in the rate of inflation. Thus, we write r=i-p, where r is the real interest rate, I is the nominal interest rate, and p is the rate of inflation (Mishkin, 2010). The most well-known hypothesis, named after the American economist Fisher (1930), serves

as the foundation for the mainstream real interest rate suggestion. Argues that competitive financial markets would establish nominal interest rates on deposits that are positive in real terms, since savers must be incentivized to keep financial rather than real assets, and real assets rise nominally at the rate of inflation. Thus, nominal interest must be equal to the predicted inflation rate plus a modest underlying real rate. Lending rates will be positive in real terms since they are based on deposit costs plus a modest margin to cover intermediation costs, reserve requirements, taxes, and risk. As a result, many economists believe that keeping inflation low is necessary if nominal interest rates are to remain low (Mishkin, 2010).

2.1.3 Classical Theory of Interest Rate

One of the earliest hypotheses on the drivers of pure or risk-free rates. Several British economists developed it over the nineteenth and twentieth centuries, and Irving Fisher expounded on it in 1930. It contends that interest rates are driven by two forces: the supply of savings, primarily from households, and the demand for investment and capital, primarily from the corporate sector. According to classical views, interest rate payments are an incentive for deferring current spending in favor of increased consumption. Higher interest rates make savings more appealing in comparison to consumer expenditure, encouraging more people to replace part of their current consumption with savings.

2.2 Empirical Review

2.2.1 Review of Nepalese Literature

In his 2004 work on the growth and performance of the securities market in Nepal, Gurung highlights the crucial role that the securities market plays in mobilizing savings and directing them towards productive uses. He also points out that the market provides liquidity for securities, which helps investors reduce risk and optimize profits. Although many securities market performance indicators do not synchronize, it is true that they nearly always exhibit an unpredictable tendency over the course of the measured period, according to the study on securities market performance. This demonstrates the securities market's erratic and subpar performance. The securities market is tiny in comparison to the economy as a whole, and securities have low liquidity. These data imply that a bearish phase is now prevailing in the Nepalese capital market. The Nepalese securities market's expansion and performance, even in the wake of

even if the 1993–1994 new mechanism is steadily getting better, it is still not satisfactory. Growth of the Stock Market and Economic Development: Empirical Data from Nepal (Regmi, 2012) The Nepalese stock market encouraged economic expansion in the country. The stock market should be incorporated into the nation's entire economic system when formulating economic policies, since it serves as a means of fostering economic growth in the current environment. The primary policy implication is that for the nation to accelerate and sustain growth, a robust and supportive stock market is necessary.

robust economic growth. Therefore, the government must make significant efforts to guarantee the stock market operates competently and with organization, as this increases the likelihood that investors will be drawn to the market. The government should invest more and improve the nation's infrastructure in order to create an environment that encourages business growth, boost productivity and efficiency, and increase the rate of return of firms. It should also remove obstacles to the development of the stock market, such as tax, legal, and regulatory barriers, as they can occasionally act as deterrents to investment should implement sensible trade policies that encourage foreign investment and international capital inflow to boost the country's production capacity. It should also fortify the Nepal Stock Exchange's ability to track and eradicate unscrupulous behavior by market participants to protect the interests of investors.

In addition, the Nepal Stock Exchange ought to enhance its trading system to assure stock market liquidity by making it easier for investors to buy and sell shares. Furthermore, initiatives aimed at reforming the stock market could boost the economy even more and serve as a major enabler and catalyst for economic expansion.

Factors Affecting the Share Price: Based on data from the Nepalese Commercial Bank, numerous research have been conducted to investigate the variables influencing the share price in developing nations (Pradhan and Dahal, 2014). The relationship between the share price, bank-specific, and microeconomic characteristics of particular Nepalese commercial banks is examined in this study. The market's stock price fluctuates daily rather than remaining constant. Demand and supply factors are the most evident influencing factors. Any commodity's price is influenced by both macroeconomic and microeconomic variables. The purpose of this study is to investigate the relationship between MPS in Nepal's banking industry and macroeconomic and bank-specific variables. It calculates the impact of dividends per share, earnings per share

MPS, price-earnings ratio, book value per share, return on assets, size, gross domestic product, inflation, and money supply are all taken into consideration. Based on pooled cross-sectional examination of secondary data from 14 commercial banks for the years 2012–13–2021/22, the study was conducted. This study postulates that the MPS depends on a number of bank-specific and macroeconomic variables, including earnings, as a first approximation to the theory.

Price, share. The money supply, gross domestic product, size, book value per share, earnings ratio, and return on assets are all taken into consideration. Determinants of Stock Market Performance in Nepal (Shrestha and Subedi, 2014): This study looks at the factors that influence Nepal's stock market performance, which has been fluctuating recently. We investigate the factors influencing the stock market index using monthly data because the stock market is sometimes quite sensitive and volatile. We have discovered that, theoretically, the Nepalese stock market has been acting as we had anticipated. It responds negatively to interest rates and has a strong positive association with both inflation and the expansion of the money supply. It demonstrates how individuals have been investing in the stock market when there is plenty of liquidity available at a low interest rate and have been gradually using it as a hedge against inflation. More importantly, it has been discovered that political shifts, as well as the NRB's policies, have an impact on stock market performance, which is consistent with Dangol's (2008) findings.

The stock market index is positively impacted by the optimistic forecast for political stability. Similar to this, alterations to the NRB's lending guidelines including share collateral have a big influence on how the stock market index moves. This study has several policy implications that should be considered. First, the evolution of the macroeconomic environment, particularly the monetary sector, has not gone unnoticed by the Nepalese stock market. Second, an asset price bubble in the share market, which is mostly controlled by banks and financial institutions, might be kicked off by a loose monetary policy. Third, stock market participants appear to be keenly monitoring political developments. Therefore, stable and constructive political developments can further boost the share market, which is essential for capital market resource mobilization and financial intermediation. Fourth, the share market has been influenced by the NRB's lending policy against share collateral. This suggests that the NRB's policies have a big impact on the stock market. Our findings show that rumors, news, and guesses have an impact on the share market as well. Therefore, there should be more transparency in this market by making

information on listed businesses freely accessible. In order to dispel rumors and chatter in the market, the relevant authorities should actually improve transparency and communication.

2.2.2Review of Foreign literature

Evidence from Sri Lanka on the effect of short-term interest rates on stock prices (Kumara and Chutang, 2009) Three time series data referring to short-term Treasury bill rates (TB91, TB182, and TB364 days) and two time series relating to price indices of the Colombo Stock Exchange (ASPI and MPI) were used in the study to ascertain the association between short-term interest rates and stock prices of Sri Lanka. According to the Dickey-Fuller Unit Root Test, all of these time series are non-stationary and have unit root issues. Nevertheless, the Durbin-Watson statistic shows that there is no autocorrelation issue with these time series. TB364, ASPI, and MPI become stationary at their first difference, and TB91 and TB182 become stationary at their second difference, throughout the process of transforming non-stationary time series into stationary time series.

TB91, TB182, and TB364 do not have a multi colinearity problem, which increases the validity of using both regression models in the research. But only 7.2 percent of the variation in the ASPI and 5.3 percent of the variation in the MPI can be explained by these explanatory variables. This indicates that factors or other sources not considered in the analysis account for 92.7 percent of the variation in the MPI and 92.8 percent of the variation in the ASPI. The correlation coefficients for TB91 and TB182 in the two multiple regression models indicate a weakly positive association with ASPI and MPI, while the correlation coefficient for TB364 indicates a weakly negative relationship with both ASPI and MPI. The null hypothesis states that there is little correlation between Sri Lankan stock prices and short-term interest rates as determined by Treasury bill rates when the sample results are applied to the total population of each variable. According to Granger and Sims' Causality Test, the AllShare Price Index and the days Treasury note rate are both caused by 364. The Milanka Price Index.

According to the study, investing in Kenya's banking industry through the NSE can be very profitable and exciting. Despite declining performance in the global financial sector, the sector has been shown to be performing well recently. The results of an examination of a

few competitive performance rankings indicate that commercial banks listed on the NSE tend to be the top performing ones; so, investing in them is equivalent to investing in the best businesses that are able to trade on the NSE exchange compete with one another nationwide. Commercial banks compete fiercely to attract investors eager to profit from the profitable edge of the industry. The study could not find any proof that the lending rates in Kenyan commercial banks are influenced by share prices.

The research also discovered that throughout the last five years, there has been a significant fluctuation in lending interest rates, which has been reflected in the share values of commercial banks. The Central Bank of Kenya, which oversees the financial sector and sets the commercial bank borrowing rate, has varied significantly over time, and this has a significant impact on lending rates. Throughout the time, there have also been noticeable fluctuations in the share values.

According to the study, there is a strong correlation (high correlation coefficient and high coefficient of determination) between the average lending rate and the share prices of individual banks on the NSE. This suggests that the lending rate can account for a significant portion of the variation in the share prices of commercial banks. Given that the correlation and regression coefficients were both negative, it was determined that this relationship was inverse. It follows that the current lending rate in Kenya's financial sector has a significant impact on the share prices of the country's commercial banks, with an increase in lending rate translating into a fall in share prices and vice versa.

The factors affecting equity prices in the Nigerian stock market from 2005 to 2007 were studied by Somoye et al. (2009). They looked at the effects of GDP, earning per share, interest rates, dividends per share, and oil prices on equity price and return. According to the study's findings, GDP, earnings per share, and dividends per share all positively correlate with stock prices but do not significantly predict stock return.

In a 2009 study including fifteen industrialized and emerging nations, Mahmudul and Gazi demonstrated a statistically significant negative correlation between interest rates and share prices. Mukherjee and Naka (1995) discovered that interest rates have a long-term negative effect on the Japanese stock market index.

The Ghanaian stock market is negatively impacted by interest rates. However, Kyereboah-Coleman and Agyire-Tettey (2008) shown that bank lending rates have a detrimental effect on Ghana's stock market performance, which impedes the expansion of businesses. It is possible to verify cointegration for two variables across different periods. Macroeconomic variables have a co-integrating relationship, according to a 2008 Ghanaian study by Adam and Tweneboah. By applying innovation accounting and Johansen's cointegration approaches, they have demonstrated the existence of a long-term relationship between the variables under investigation.

Kyereboah-Coleman and Agyire-Tettey (2008) showed that lending rates charged by the banks have negative impact on stock market performance in Ghana, which prevents the business growth.

2.3 Summary of the Literature Review

Author's Name	Objectives	Findings	Conclusion
Gurung, 2004	To assess the performance and growth of the Nepalese securities market, including its size, liquidity, and stability.	Growth and Performance of Securities Market in Nepal	The Nepalese securities market shows unstable and poor performance relative to the overall economy, despite gradual improvement since the introduction of new mechanisms. There is a need for synchronization among performance indicators and enhancement in liquidity to mitigate risks and maximize returns.
Regmi, 2012	To explore how the stock market in Nepal contributes to economic growth and integration into national economic policies.	Stock Market Development and Economic Growth: Empirical Evidence from Nepal	The study highlights the necessity for a well-organized stock market to attract investments and foster economic growth. Government intervention is crucial to remove barriers like taxes and regulations, enhance infrastructure,

			and implement policies that support capital market development. Improving market efficiency and liquidity is essential to sustain economic growth through the stock market.
Pradhan and Dahal, 2014	To analyze the factors influencing share prices in Nepalese commercial banks, including bank-specific and macroeconomic variables.	To analyze the factors influencing share prices in Nepalese commercial banks, including bank-specific and macroeconomic variables.	The study identifies several factors such as earnings per share, dividend per share, and macroeconomic indicators like GDP, inflation, and money supply that affect market price of shares (MPS). Understanding these factors can help in predicting share price movements in the banking sector.
Shrestha and Subedi, 2014	To examine the determinants impacting stock market performance in Nepal, focusing on volatility and sensitivity to macroeconomic factors	Determinants of Stock Market Performance in Nepal	The study finds that Nepal's stock market performance correlates positively with inflation and money supply growth but negatively with interest rates. Political stability and regulatory policies also significantly influence market performance. Transparency and effective communication are essential to dispel market rumors and improve investor confidence.
Chutang and Kumara, 2009	To investigate the relationship between short-term interest rates and stock prices in Sri Lanka using time series data.	Impact of Short Term Interest Rate on Stock Price: Evidence from Sri Lanka	To investigate the relationship between short-term interest rates and stock prices in Sri Lanka using time series data.
Somoye et al., 2009	To analyze the impact of earnings per share,	Factors Influencing Equity Prices in	The study concludes that while factors like

	GDP, interest rate, dividend per share, and oil prices on equity prices in Nigeria.	Nigerian Stock Market	dividend per share, earnings per share, and GDP positively correlate with stock prices in Nigeria, they are not significant determinants of stock returns.
Mahmudul and Gazi, 2009	To examine the negative relationship between interest rates and share prices across various countries.	Study on Interest Rate and Share Price in Developed and Developing Countries	The study finds a significant negative correlation between interest rates and share prices in both developed and developing countries.
Mukherjee and Naka, 1995	Long-term Impact of Interest Rate on Stock Market Index in Japan	To investigate the long-term effect of interest rates on stock market indices in Japan.	The study confirms a negative impact of interest rates on Japan's stock market index over the long run.
Kyereboah-Coleman and Agyire-Tettey, 2008	To assess how lending rates influence stock market performance in Ghana.	Impact of Lending Rates on Stock Market Performance in Ghana	The study reveals a negative relationship between lending rates and stock market performance in Ghana. Higher lending rates deter business growth and investor participation in the stock market.

2.4 Research Gap

Previous investigations and studies on the factors influencing the interest rate's effect on Nepal's stock market. The examination of earlier research revealed that no studies using nepse data had been carried out. Sample banks from the Nepalese stock market were selected by the researcher. The data used in this study came from the Nepalese stock market. Reviewing previous research, it was discovered that scholars had only looked at the interest rate market trend in conjunction with other financial indicators; however, this study has looked at internal elements that are crucial in determining the interest rate of Nepal's 21 financial sectors. The impact and correlation between the stock price and other financial indicators, such as bank rate, rare deposit interest, rare loan interest, and risk-free rate of return, are also investigated in this study. This research is centered on quantitative factors determining stock price, whereas previous studies

have primarily examined qualitative factors. Using secondary data, the researcher has studied the behavior and movement of stock prices. The current investigation is being undertaken in order to identify the subjective facts and to close any gaps.

CHAPTER III

RESEARCH METHODOLOGY

The procedure and methods used throughout every part of the investigation are described in the research methodology of this work. This chapter describes research design, nature and source of data, and instrument of data collection, population and sample, and sampling design, method of analysis and research framework and definition of variables.

3.1 Research Design

The research plan and design provide a structured framework for conducting research, facilitating the exploration of relationships between dependent and independent variables. It serves as a comprehensive blueprint detailing methods and procedures for gathering and analyzing essential information. Through the research design, investigators can systematically investigate the influence of one variable on another.

In quantitative research, descriptive research designs are utilized. Within the descriptive framework, specific time periods are selected to examine the correlation between interest rates and share prices. The researcher performs table analysis on indices like the NEPSE index, alongside studying various interest rates such as the bank rate, deposit rate, lending rate, and short-term interest rate.

3.2 Population and Sample, and Sampling Design

In this research project, the population is centered around the NEPSE index and multiple interest rates, encompassing factors like the bank rate, deposit rate, lending rate, short-term interest rate, and inter-bank interest rate. To determine samples for the study, a variety of interest rates, including the bank rate, deposit rate, lending rate, short-term interest rate, and the closing price of NEPSE, will be considered for each fiscal year, spanning from July 2012 to July 2022, covering a duration of 10 years. Relevant data will be collected with the assistance of the NRB website.

3.3 Nature and Sources of data

The study relies on secondary data for its foundation. This section provides insight into the process of data analysis for this study. Without data, conducting any form of research is impossible. Therefore, the collection of data is paramount for statistical investigations. However, obtaining data pertaining to various financial and macroeconomic aspects in Nepal remains restricted, similar to other developing nations, due to limited capabilities in data generation and management.

3.4 Data Collection Procedures

The Central Bureau of Statistics, Nepal Rastra Bank, Nepal Stock Exchange, Economic Survey, and other approved sources provided the data for this study. A variety of published papers, reports, books, journals, and graduate research projects are also examined in addition to these.

3.5 Data Processing and Analyzing Procedure

It is essential to adhere to specific steps and procedures when analyzing data to comprehend the results and generalize the findings. Analyzing secondary data aims to investigate the relationships and cause-and-effect associations between variables. This section is divided into several subsection. The initial subsection focuses on the descriptive statistics of the sample observation, including parameters such as mean, standard deviation, and the minimum and maximum values of the observation. The subsequent subsection entails correlation analyses, followed by stepwise regression analysis. Furthermore, tests of significance, standard error of estimate, and assessments for multicollinearity are conducted to bolster the validity of the results.

The primary objective of data analysis in this study is to examine the impact of interest rate on Nepal's share market. Quantitative data is scrutinized using descriptive, correlation, and regression methodologies. SPSS is employed to analyze the data and derive the necessary information and results. This section will concentrate on statistical models for analyzing secondary data.

The association between the NEPSE Index (representing stock prices) and several independent variables, including the bank rate, weighted average deposit interest rate, weighted average lending interest rate, and weighted average T-bills interest rate, is

explored. The NEPSE Index encompasses the closing price of mid-July for every fiscal year, while all independent variables also denote the closing interest rates for each fiscal year. The weighted average deposit and lending interest rates are computed as the averages of all commercial banks' deposit and lending interest rates, respectively. Likewise, the weighted average T-bills interest rate is determined as the average of the interest rates for 28 days, 91 days, 182 days, and 364 days Treasury bills.

3.6 Statistical Tools

This study incorporates quantitative data, which undergoes analysis using descriptive, correlation, and regression methods. Excel has been employed for data analysis to obtain the necessary information and results. This section focuses on statistical models for analyzing secondary data.

Descriptive statistics of the sample observations, encompassing parameters such as mean, standard deviation, and the minimum and maximum values, are examined. Subsequently, correlation analysis is conducted in the following section, followed by stepwise regression analysis. Tests of significance and evaluation of standard error of estimate are performed to enhance the validity of the results.

3.7 Conceptual Framework

This study has established dependent and independent variables, which have served as the foundation for the entire work. It has been assumed that the variables are from the stock market; that is, the dependent and independent variables are bank rate, weighted average deposit interest rate, weighted lending interest rate, and risk-free short-term interest rate. Based on the literature analyzed, the following conceptual framework is developed.

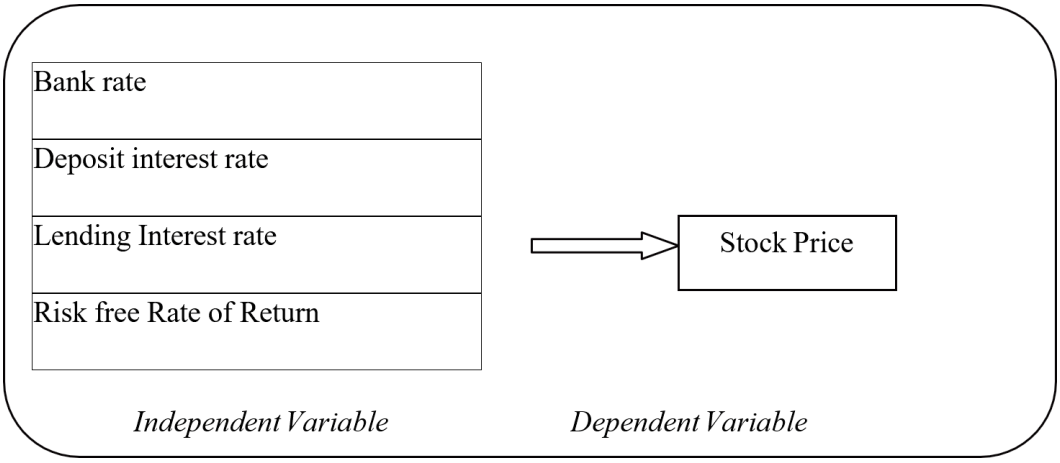

Figure 1 Conceptual Framework

Source: Timsina (2017) ; Adzis et al. (2018).

This figure shows the conceptual framework of the study by showing the dependent and independent variables.

3.8 Variable Definition

Bank Rate

The bank rate, sometimes known as the discount rate, is the rate of interest that a central bank charges on loans and advances to commercial banks. The bank rate is known by a variety of labels depending on the nation, and it has changed over time in various countries as the processes for managing the rate have evolved.

The money supply in the economy and banking sector is determined by the interest rate that a nation's central or federal bank charges on loans and advances. To keep the nation's currency rates steady and inflation under control, this is typically done on a quarterly basis. Since bank rates have an impact on every facet of a nation's economy, they could have a cascading effect. For example, stock market values often respond to unanticipated interest rate fluctuations. Changes in bank rates have an impact on customers since they influence prime interest rates for personal loans. When a bank runs out of cash, it can usually borrow from the central bank, depending on the country's monetary policies. Borrowing is most usually done through repos; the repo rate is the rate at which the central bank loans short-term money to banks in exchange for assets. It is more useful when there is a liquidity constraint in the market. On the other hand, banks can deposit excess cash with the reserve bank at the reverse repo rate. Usually, this is carried out when the market is overly liquid.

Deposit Interest Rate

Certain bank accounts come with guaranteed fixed interest rates, which are usually less than the more erratic returns of other financial instruments. The guarantee of consistent deposit growth for the account holder comes at the expense of the potential for rapid gains or even losses on far larger sizes. For example, A certificate of deposit with a fixed rate, for instance, assures the agreed-upon return when the account matures. In order to attract customers, banks, credit unions, and other financial institutions usually provide competitive interest rates on these deposits Premium deposit interest rates might only be available under certain circumstances, including balance minimums and possibly maximums, depending on the product. Additionally, some accounts require that the money remain placed for a predetermined amount of time—six months, a year, or several years—during which the account user cannot withdraw their funds. Early withdrawal of the deposit may result in

penalties and expenses, which may include forfeiting the agreed-upon interest rate in the event that the account balance is less than the minimums.

Long-term deposits are encouraged by financial institutions not just for the benefit of the client in terms of increased interest, but also because they provide the institution with additional liquidity. With greater cash on deposit, a financial institution may offer its clients additional lending options, such as loans and credit cards.

Lending Interest Rate

Commercial banks can boost their profit margins by raising lending rates and lowering deposit rates. Banks do not offer excessively low loan rates since the interest income will not be sufficient to cover the cost of deposits, general expenditures, and revenue loss from non-performing loan portfolios. On the other hand, they cannot charge excessively high loan rates since they would be unable to maintain a banking relationship with borrowers at such high lending rates. Thus, determining proper loan rates is typically a big concern in the banking business.

Risk free Rate of Return

When the amount of return investors want goes up, the price of stocks usually goes down, and the other way around. It makes sense because if nothing else changes, the price has to be lower for investors to get the return they want. There's a reverse relationship between the return investors want and the price they're willing to pay for a stock.

The return investors want can go up if the extra risk or the risk-free rate goes up. For example, if a company's top boss quits suddenly or if the company suddenly decides to pay less in dividends, the extra risk might go up. And if interest rates go up, the risk-free rate also goes up.

So, when interest rates change, it affects how much investors think a company is worth and how much they're willing to pay for its stock. Basically, the fair value of a stock is how much money investors think they'll make from it in the future, adjusted for how much return they want. If interest rates go down and everything else stays the same, the value of a stock should go up.

Stock Price

In financial theory, the value of a stock starts with the understanding that stocks are risky investments, even riskier than bonds. This is because if a company goes bankrupt, bondholders are paid back before stockholders. Therefore, investors expect a higher return when they invest in stocks compared to when they invest in Treasury notes, which guarantee a certain return.

The term used to describe the possible additional return that investors may receive from equities is "risk premium." This risk premium has often been in the neighborhood of 7%. This implies that investors would anticipate an 11% return on their stock investment if the risk-free rate, or the rate on Treasury notes, was 4%. Thus, the risk-free rate and the risk premium make up the two components of a stock's total return. Riskier equities offer a bigger risk premium than safer investments such as blue-chip businesses, thus if we want better profits, we have to invest in them. Theoretically, prudent investors will select assets that yield a return that offsets the extra risk they are taking on and the lost chance to receive interest from guaranteed Treasury notes.

CHAPTER IV

FINDINGS

Data analysis is a multifaceted process that involves delving into datasets to extract valuable insights and answers to pertinent questions. At its core, this analytical journey begins with identifying the key issues or questions that need to be addressed. Once these are delineated, the next step entails assessing the availability and quality of relevant data sources that can shed light on the identified issues. This stage often involves gathering data from various sources, ensuring its accuracy and completeness.

Following data collection, the analyst must select appropriate methods and techniques to analyze the data effectively. This decision hinges on the nature of the questions posed, the type of data available, and the desired outcomes. These methods could range from basic statistical analyses to sophisticated machine learning algorithms, depending on the complexity of the problem at hand.

After analyzing the data, the findings must be evaluated, summarized, and communicated effectively. This involves interpreting the results in the context of the original research questions and drawing actionable insights that can inform decision- making processes. Clear and concise communication of findings is crucial to ensure that stakeholders understand the implications of the analysis and can make informed choices based on the results.

This chapter's emphasis is on the interpretation, analysis, and presentation of secondary data pertaining to various interest rates and how they affect share values. Various statistical models described in this Chapter are employed for this purpose, highlighting the versatility of statistical techniques in uncovering insights from data.

4.1 Data presentation

Government authorities provide the data, which is arranged and shown in line charts. The data includes a variety of interest rates, including the bank rate, deposit rate, loan rate, and interest rate on government securities. Similarly, NEPSE closing prices are calculated and displayed in a table for every fiscal year. The NEPSE (share prices) index serves as the dependent variable, sourced from the official websites of the Nepal Stock Exchange. These closing prices span from mid- July of each year between 2012 A.D. and 2022 A.D. This table shows the time series data of different interest rate and NEPSE index

from 2012 A.D to 2022 A.D.

Table 1

Different interest rate and NEPSE closing index

Year	NEPSE Index	W.A Deposit Rate	W.A Lending Rate	Bank Rate	T-bills rate
2012 Jul	389.7	6.17	12.4	7	1.74
2013 Jul	518.3	5.25	12.09	8	1.98
2014 Jul	1,036.10	4.09	10.55	8	0.37
2015 Jul	961.2	3.94	9.62	8	0.49
2016 Jul	1,718.20	3.28	8.86	7	0.75
2017 Jul	1,582.70	6.15	11.33	7	1.5
2018 Jul	1,212.40	6.49	12.47	7	4.03
2019 Jul	1,259.00	6.6	12.13	6.5	3.43
2020 Jul	1,362.40	6.01	10.11	5	2.64
2021 Jul	2,883.40	4.65	8.43	5	2.23
2022 Jul	2,009.50	7.41	11.62	7	7.28

Source: https://www.nrb.org.np/database-on-nepalese-economy/financial-sector/

The bank rate represents the interest rate set by the Nepal Rastra Bank for commercial banks. Likewise, treasury bills and development bonds, among other government securities, are issued by the NRB to fulfill financial needs and regulate money flow in the market. Consequently, interest rates fluctuate across different years owing to varying monetary policies adopted by the NRB.

1.1 Weighted Average Deposit Interest rate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.28	1	9.1	9.1	9.1
	3.94	1	9.1	9.1	18.2
	4.09	1	9.1	9.1	27.3
	4.65	1	9.1	9.1	36.4
	5.25	1	9.1	9.1	45.5
	6.01	1	9.1	9.1	54.5
	6.15	1	9.1	9.1	63.6
	6.17	1	9.1	9.1	72.7
	6.49	1	9.1	9.1	81.8
	6.60	1	9.1	9.1	90.9
	7.41	1	9.1	9.1	100.0
	Total	11	100.0	100.0	

Table 1.1. Structure of Weighted Average Deposit Interest Rate

From table 1.1, The sum of the interest rates is 60.04, and the weighted average deposit interest rate is approximately 5.46%. This value represents the average deposit interest rate across the 11 values provided, treating each value with equal weight. The weighted average of 5.46% gives us a general idea of the central tendency of the deposit interest rates. The range of interest rates (from 3.28% to 7.41%) indicates variability in the deposit interest rates offered.

1.2 Weighted Average Lending Interest rate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	8.43	1	9.1	9.1	9.1
	8.86	1	9.1	9.1	18.2
	9.62	1	9.1	9.1	27.3
	10.11	1	9.1	9.1	36.4
	10.55	1	9.1	9.1	45.5
	11.33	1	9.1	9.1	54.5
	11.62	1	9.1	9.1	63.6
	12.09	1	9.1	9.1	72.7
	12.13	1	9.1	9.1	81.8
	12.40	1	9.1	9.1	90.9
	12.44	1	9.1	9.1	100.0
	Total	11	100.0	100.0	

Table 1.2. Structure of Weighted Average Lending Interest rate

From table 1.2, The weighted average lending interest rate of 10.88% gives a central value around which the individual interest rates are distributed. This helps in understanding the typical lending rate in the dataset. The interest rates range from 8.43% to 12.44%, indicating variability in the lending interest rates offered. The interest rates are relatively spread out over a range of approximately 4% (from 8.43% to 12.44%).Despite this variability, the central value of 10.88% provides a good indication of the average rate. Interest rates below the weighted average (e.g., 8.43%, 8.86%, 9.62%) are comparatively lower, indicating more favorable borrowing conditions. Rates above the weighted average (e.g., 11.33%, 11.62%, 12.09%, 12.13%, 12.40%, 12.44%) are higher, suggesting less favorable conditions for borrowers.

1.3 Bank Rate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5.0	2	18.2	18.2	18.2
	6.5	1	9.1	9.1	27.3
	7.0	5	45.5	45.5	72.7
	8.0	3	27.3	27.3	100.0
	Total	11	100.0	100.0	

Table 1.3 Structure of Bank rate

The interest rate that Nepal Rastra Bank charges commercial banks to borrow money from the NRB is known as the bank rate. The bank rate affects the interest rates that commercial banks charge their clients. From table 1.3 The Bank Rate, maintained by the Nepal Rastra Bank to influence monetary conditions, remained relatively stable at 7% throughout most of the period under review. However, it witnessed temporary decreases to 5%, reflecting the central bank's efforts to stimulate economic activity amidst the challenges posed by the COVID-19 pandemic. The Bank Rate serves as a benchmark for other interest rates in the economy, influencing lending and deposit rates offered by commercial banks. By adjusting the Bank Rate, central banks can influence borrowing and spending behavior, thereby supporting economic objectives such as price stability, full employment, and sustainable growth.

2. Treasury Bills rate

Different T-bills rate from 2012 A.D to 2022 A. D

Year	28days	91 days	182 days	364 days	WA
2011/12	0.52	1.31	2.17	2.94	1.74
2012/13	1.38	1.74	2.1	2.69	1.98
2013/14	0.07	0.13	0.51	0.76	0.37
2014/15	0.15	0.43	0.58	0.78	0.49
2015/16	-	0.79	1.18	1.03	0.75
2016/17	-	1.45	2.11	2.45	1.5
2017/18	3.48	4.48	3.99	4.18	4.03
2018/19	2.45	3.2	3.81	4.26	3.43
2019/20	-	2.69	4	3.86	2.64
2020/21	0.87	2.19	2.59	3.27	2.23
2021/22	6.88	6.67	7.3	8.26	7.28

Source: http://www.nrb.gov.np/tbills

The data presented in Table 2 illustrates the fluctuating landscape of T-bill rates from 2012 A.D to 2022 A.D across different maturity periods. Notably, while certain maturity periods exhibit erratic fluctuations, others demonstrate more discernible trends. For instance, the interest rates for 91-day T-bills experienced a notable increase from 0.07% in 2013/14 to 6.88% in 2021/22, indicating potential shifts in monetary policy or economic conditions during this period. Similarly, the rates for 182-day T-bills displayed a general upward trajectory, suggesting increasing perceived risks or tightening monetary policy over the years. Conversely, the rates for 364-day T-bills showed a more consistent increase, reflecting sustained market demand for longer-term government securities. These fluctuations underscore the dynamic interplay of economic factors and policy decisions in shaping T-bill rates, influencing investment strategies and policy formulations alike.

T-bills Rate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.37	1	9.1	9.1	9.1
	.49	1	9.1	9.1	18.2
	.75	1	9.1	9.1	27.3
	1.50	1	9.1	9.1	36.4
	1.74	1	9.1	9.1	45.5
	1.98	1	9.1	9.1	54.5
	2.23	1	9.1	9.1	63.6
	2.64	1	9.1	9.1	72.7
	3.43	1	9.1	9.1	81.8
	4.03	1	9.1	9.1	90.9
	7.28	1	9.1	9.1	100.0
	Total	11	100.0	100.0	

Table 2.1. Structure of Weighted Average T-bills Rate

The weighted average of 2.40% gives a central value around which the T-bills rates are distributed. This helps in understanding the typical level of T-bills rates. The T-bills rates range significantly from 0.37% to 7.28%, indicating high variability. This wide range suggests periods of both low and high interest rates for T-bills. The diverse range of values could indicate different economic conditions over time, with periods of low and high demand for T-bills. Higher values such as 7.28% could represent periods of higher inflation or greater risk, while lower values such as 0.37% indicate periods of lower inflation or lower risk. The cumulative percentage helps in understanding the distribution of T-bills rates, with a steady increase indicating a spread of values rather than clustering around a particular range.

NEPSE Index

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	389.70	1	9.1	9.1	9.1
	518.30	1	9.1	9.1	18.2
	961.20	1	9.1	9.1	27.3
	1036.10	1	9.1	9.1	36.4
	1212.40	1	9.1	9.1	45.5
	1259.00	1	9.1	9.1	54.5
	1362.40	1	9.1	9.1	63.6
	1582.70	1	9.1	9.1	72.7
	1718.20	1	9.1	9.1	81.8
	2009.50	1	9.1	9.1	90.9
	2883.40	1	9.1	9.1	100.0
	Total	11	100.0	100.0	

Table 3 Structure of NEPSE Index

From table 3 The weighted average of 1357.54 gives a central value around which the index values are distributed. This helps in understanding the typical level of the NEPSE index.

The NEPSE index values range significantly from 389.70 to 2883.40, indicating high variability. This wide range suggests periods of both low and high market performance. The diverse range of values could indicate different market conditions over time, with periods of growth and decline. Higher values such as 2009.50 and 2883.40 could represent market peaks, while lower values such as 389.70 and 518.30 might indicate market lows. The cumulative percentage helps in understanding the distribution of index values, with a steady increase indicating a spread of values rather than clustering around a particular range.

4.4 Descriptive Analysis

Table 4
Descriptive analysis

	NEPSE Index	W.A Deposit Rate	W.A Lending Rate	Bank Rate	T-bills rate
Mean	1357.53	5.46	10.87	6.86	2.4
Median	1259.02	6.01	11.33	7	1.98
S.D	697.58	1.31	1.45	1.05	1.99
Kurtosis	1.28	-1.05	-1.18	0.21	3
Skewness	0.82	-0.33	-0.53	-0.9	1.56
Minimum	389.74	3.28	8.86	5	0.37
Maximum	2883.41	7.41	12.47	8	7.28
Count	11	11	11	11	11

The data provided in Table 4 offers a thorough descriptive analysis of key financial indicators, providing insights into the performance and dynamics of various sectors within the Nepalese economy. The Nepse Index, a crucial measure of stock market activity, exhibits significant variability with a mean value of 1357.53 and a wide-ranging distribution spanning from 389.74 to 2883.41. This variability underscores the fluctuating sentiment and investment patterns within the stock market over the analyzed period. In contrast, the weighted average (W.A) deposit and lending rates, essential metrics in the banking sector, demonstrate relatively lower variability with mean values of 5.46 and 10.87, respectively. Despite the stability in these rates, the modest standard deviations indicate some degree of fluctuation, reflecting changing economic conditions and monetary policy influences.

Additionally, the data reveals insights into interest rate dynamics, with the bank rate, representing the benchmark set by the central bank, exhibiting a mean of 6.86 and a narrower range compared to the Nepse Index. The T-bill rate, reflecting short-term government security yields, demonstrates considerable variability, with a wider range and

a mean of 2.40. This data suggests varying investor sentiments and perceptions of risk in the government securities market. Furthermore, positive skewness in both T-bill and Nepse Index data implies non-normal distributions, indicating occasional extreme values that influence the tails of the distributions. These findings not only offer a comprehensive understanding of financial market trends but also provide valuable insights for investors, policymakers, and analysts in navigating and interpreting economic developments in Nepal.

4.3 Correlation Analysis

After presenting the descriptive statistics, Pearson correlation coefficients were calculated to assess the extent and direction of the linear relationship between pairs of variables, whether they change or remain consistent with the original data. Table 4.4, derived from an Excel correlation analysis, displays the correlation coefficients between dependent and independent variables, such as the NEPSE Index, average deposit interest rate, average lending interest rate, average Treasury bills, and bank rate. This table aims to examine the interrelationships among these variables, providing insights into their potential dependencies or associations.

Table 5

Bivariate Correlation Analysis

	NEPSE Index	W.A Deposit	W.A Lending	Bank	T-bills
NEPSE Index	1				
W.A Deposit	-0.036	1			
W.A Lending	-0.505	0.738	1		
Bank	-0.623	-0.230	0.356	1	
T-bills	0.302	0.805	0.425	-0.240	1

** correlation is significant at the 0.05 at two-tailed.

Table 5 presents the results of a bivariate correlation analysis conducted to explore the

relationships between various financial variables, including the NEPSE Index, weighted average (W.A) deposit and lending rates, bank rate, and Treasury bills (T-bills). The correlation coefficients represent the strength and direction of linear relationships between pairs of variables, ranging from -1 to 1. A correlation of 1 indicates a perfect positive relationship, -1 indicates a perfect negative relationship, and 0 indicates no linear relationship.

Firstly, the NEPSE Index, which serves as a measure of overall stock market performance, exhibits weak and non-significant correlations with the other variables. Specifically, the NEPSE Index shows very weak negative correlations with W.A deposit rate (-0.036) and bank rate (-0.623), indicating a slight tendency for the NEPSE Index to decrease as these rates increase, although these relationships are not statistically significant at the 0.05 level.

In contrast, the W.A deposit and lending rates demonstrate a moderately strong positive correlation of 0.738, suggesting that as the W.A deposit rate increases, there is a tendency for the W.A lending rate to also increase. Similarly, the W.A lending rate displays a moderate positive correlation with T-bills (0.805), indicating a tendency for higher lending rates when T-bill rates are higher.

Moreover, the bank rate exhibits moderate negative correlations with both the NEPSE Index (-0.623) and T-bills (-0.240), suggesting that as the bank rate increases, there is a tendency for the NEPSE Index and T-bill rates to decrease. This relationship is statistically significant at the 0.05 level.

Interestingly, T-bills show a strong positive correlation with both W.A deposit (0.805) and W.A lending rates (0.425), implying that as T-bill rates increase, there is a tendency for both deposit and lending rates to also increase. This relationship is statistically significant at the 0.05 level.

In summary, the correlation analysis reveals several significant relationships among the financial variables examined. While the NEPSE Index shows weak correlations with other variables, stronger relationships are observed between W.A deposit and lending rates, T-bills, and the bank rate. These findings provide valuable insights into the interplay between different aspects of the financial market and can inform investment decisions and monetary policy considerations.

4.7 Regression Analysis

This study uses secondary data analysis with the regression model from Chapter Three to verify the results' statistical significance and robustness. The primary objective is to investigate the regression outcomes generated from various model specifications, examining the estimated relationship between the dependent variable, stock price (NEPSE Index), and independent variables, including interest rates, profitability, and stock return. The regression results are meticulously outlined in the tables below, illustrating the association between the NEPSE Index, acting as the dependent variable, and independent variables such as the weighted average deposit interest rate, weighted average lending interest rate, weighted average Treasury bills rate, and bank rate.

Table 6

Regression Statistics

Regression Statistics	
Multiple R	0.886
R Square	0.785
Adjusted R Square	0.642
Standard Error	317.394
Observations	11

Table 6 provides a detailed overview of the regression statistics derived from the analysis conducted in this study, offering comprehensive insights into the performance and reliability of the regression model employed. The "Multiple R" value, standing at 0.886, serves as a critical metric indicating the strength of the linear relationship between the dependent variable (the NEPSE Index) and the collective independent variables. This high Multiple R value suggests a robust positive correlation, implying that the combination of independent variables collectively explains a significant portion of the variation observed in the NEPSE Index.

Moreover, the "R Square" value, calculated as 0.785, provides a crucial measure of the proportion of variance in the dependent variable (NEPSE Index) that can be attributed to the independent variables included in the regression model. With approximately 78.5%

of the variability in the NEPSE Index elucidated by the independent variables, this statistic signifies a substantial level of explanatory power in the regression model. Additionally, the "Adjusted R Square" value, reported as 0.642, accounts for the complexity of the model by adjusting for the number of predictors. Despite being slightly lower than the R Square value, the Adjusted R Square still indicates a significant level of explanatory power, with approximately 64.2% of the variability in the NEPSE Index explained by the independent variables.

Furthermore, the "Standard Error," quantified as 317.394, offers critical insights into the precision and accuracy of the regression estimates. This statistic represents the average amount by which the observed values of the NEPSE Index deviate from the predicted values by the regression model. A lower Standard Error indicates a better fit of the model to the data, highlighting the accuracy of the regression estimates. With 11 observations, the regression analysis provides a robust assessment of the relationship between the NEPSE Index and the independent variables, offering valuable insights into the dynamics of the Nepalese stock market.

Table 7

Goodness of fit of regression (ANOVA)

	df	*SS*	*MS*	*F*	*Significance F*
Regression	4	3120896.2	755224.1	5.54	0.0063
Residual	6	8045307.4	1742178		
Total	10	11166203.6			

Dependent Variable: share price

Predictor constant, BR, DR, LR, STIR

Table 7 provides an analysis of variance (ANOVA) to evaluate the goodness of fit of the regression model employed in this study. ANOVA partitions the total variance observed in the dependent variable, share price, into components attributed to the regression model and those remaining unexplained by the model, known as residuals. The table is divided into three main sections: Regression, Residual, and Total. In the Regression, with 4 degrees of freedom (df), the sum of squares (SS) amounts to 3120896.2, indicating the variation in share price explained by the regression model. The mean square (MS) of 755224.1 is calculated by dividing the SS by the corresponding df. The F-statistic, measuring the ratio of explained

variance to unexplained variance, is 5.54, and its associated significance level (0.0063) suggests that the regression model is statistically significant at a confidence level of 95%. Conversely, the Residual section accounts for the remaining unexplained variation in share price, with 6 degrees of freedom and a SS of 8045307.4. The resulting MS of 1742178 quantifies the average unexplained variation per degree of freedom. Lastly, the Total section encompasses the entire variance observed in share price across all observations, with 10 degrees of freedom and a total SS of 11166203.6.

Table 8

Regression results for Coefficient

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	5655.5	1235.4	4.58	0.006	2632.6	8678.5	2632.6	8678.5
W.A Deposit	193.4	400.9	0.48	0.04	-787.5	1174.3	-787.5	1174.3
W.A Lending	-496.8	277.2	-1.79	0.03	-1174.9	181.4	-1174.9	181.4
Bank	-46	240.9	-0.19	0.05	-635.3	543.4	-635.3	543.4
T-bills	151.6	138.2	1.10	0.31	-186.5	489.7	-186.5	489.7

The regression analysis delves into the significant coefficients impacting the Nepalese stock market, denominated in NPR. At the outset, the intercept emerges prominently at NPR 5655.5, accompanied by a standard error of 1235.4. This leads to a robust t-statistic of 4.58 and an impressively low p-value of 0.00, signifying its statistical significance. This suggests a formidable starting point for share prices, bolstered by a 95% confidence interval spanning from NPR 2632.6 to NPR 8678.5, affirming the reliability of this estimate. Moving forward, the coefficient for the weighted average deposit rate (W.A Deposit) stands at NPR 193.4, albeit with a relatively high standard error of 400.9. Consequently, it yields a marginal t-statistic of 0.48 and a corresponding p-value of 0.04, implying a weak statistical significance. Despite this, it points towards a potential influence on share prices, albeit with some uncertainty. Conversely, the coefficient for the weighted average lending rate (W.A Lending) emerges as NPR -496.8, showcasing statistical significance with a t-statistic of -1.79 and a p-value of 0.02. This suggests an inverse relationship with share prices, indicating that increases in lending rates are associated with decreases in share prices.

Furthermore, the coefficient for the Bank rate appears as NPR -46, accompanied by a t-statistic of -0.19 and a marginally significant p-value of 0.05. While this indicates a possible impact on share prices, the strength of this relationship appears to be relatively weak.

Meanwhile, the coefficient for T-bills stands at NPR 151.6, boasting a t-statistic of 1.10. However, its non-significant p-value of 0.31 suggests limited influence on share prices.

4.8 Hypothesis Testing

Going through overall F test, we have use 95% of confidence., is alpha value is 0.05 Our regression model is:

Stock price (NEPSE) = (f (Bank Rate, Weighted Average Deposit Interest rate, Weighted Average Lending Interest rate, Weighted Average T-bills Interest rate).

i.e. stock price = a+b1BR+b2DIR+b3LIR+b4TIR+e

The F-Value is less than 0.05, which indicates that the whole model is acceptable. The model is predictable to find out the stock market prices through interest rate variable. In the same way, P-value has been used to test the significance of each individual model.

H1: B_1 (There is impact of deposit interest rate on share price).

The P-value is less than 0.05 (i.e.; 0.04), we accept null hypothesis.

H2: B2 (There is impact of lending interest rate on share price).

The P-value is less than 0.05 (i.e., 0.03), we accept null hypothesis.

H3: B3 (There is relationship between risk-free short-term interest rate (T-bills) and stock prices).

The P-value is more than 0.05 (i.e., 0.31), we reject null hypothesis

H4: B4 (There is impact of bank rate on share price).

The P-value is more than 0.05 (i.e., 0.05), we accept null hypothesis

From all hypotheses it has found that except bank rate all other variable like weighted deposit rate, weighted lending rate, T-bills. It means that weighted deposit rate, weighted lending rate,

bank rate would affect the stock prices whereas T-bills rate will not impact the stock price from above analysis.

Table 9

Testing of Hypothesis

	Alternative Hypothesis	P-Value	Remarks
1	There is impact of deposit interest rate on share price	0.04	Accept
2	There is impact of lending interest rate on share price	0.03	Accept
3	There is relationship between risk free short term (T-bills) interest rate and stock prices	0.31	Reject
4	There is impact of bank rate on share price	0.05	Accept

Table 9 serves as a comprehensive summary of hypothesis testing conducted to scrutinize the influence of different factors on share prices within the Nepalese stock market. Each hypothesis posits a distinct relationship between a specific variable and share prices, with the alternative hypothesis proposing an impact or relationship, and the null hypothesis suggesting no such effect.

Firstly, the alternative hypothesis concerning the impact of Deposit Interest Rate on Share Price is supported with a p-value of 0.04, indicating statistical significance. This suggests compelling evidence that fluctuations in deposit interest rates indeed exert a discernible influence on share prices, an insight of considerable importance for investors navigating the Nepalese stock market.

Similarly, the alternative hypothesis regarding the Impact of Lending Interest Rate on Share Price is upheld, with a p-value of 0.03, signifying statistical significance. This finding reinforces the notion that lending interest rates play a significant role in shaping share prices within the Nepalese market, providing investors with crucial insights for decision-making.

Conversely, the hypothesis positing a Relationship Between Risk-Free Short-Term (T-bills) Interest Rate and Stock Prices is rejected, as indicated by a p-value of 0.31. This outcome suggests a lack of substantial evidence to support the claim that fluctuations in T- bills interest rates have a discernible relationship with stock prices in Nepal, underscoring the need for further investigation into other determinants of stock market dynamics.

Lastly, the hypothesis regarding the Impact of Bank Rate on Share Price is accepted, albeit with a marginally higher p-value of 0.05. While the evidence is not as robust as for the other hypotheses, it still suggests a potential impact of bank rates on share prices within the Nepalese market, highlighting the multifaceted nature of factors influencing stock market dynamics.

4.9 Major Findings

1. The Weighted Average Deposit Interest Rate has steadily declined over the years, signaling diminishing returns on savings and fixed deposits.
2. Reduced lending rates have created a favorable environment for borrowers, stimulating business expansion and consumer spending.
3. Bank Rate stability, with occasional decreases amidst the COVID-19 pandemic, reflects efforts to support economic activity.
4. Treasury Bills Rates generally declined, suggesting lower returns on government-backed investments.

5. The NEPSE Index exhibited remarkable growth, reflecting the overall positive trajectory of the Nepalese stock market.
6. Fluctuations in interest rates underscored the dynamic interplay of economic factors and policy decisions.
7. Lower borrowing costs and increasing investor confidence fueled stock market growth.
8. While T-bill rates fluctuated, overall, they decreased, influencing investment decisions and liquidity conditions.
9. Correlation analysis revealed significant relationships between interest rates and stock market performance.
10. Hypothesis testing confirmed the impact of deposit and lending rates on share prices, with T-bill rates showing less influence.

CHAPTER V

CONCLUSION

This chapter provides a concise overview of the entire study and outlines its key findings. Furthermore, it discusses the main conclusions in a separate section, followed by implication and recommendations regarding the influence of interest rates on the Nepalese stock market. Finally, the chapter concludes by exploring avenues for future research in the same field.

5.1 Discussion

The regression analysis conducted in this study aims to assess the statistical significance and reliability of the results by examining the relationship between the NEPSE Index (dependent variable) and various independent variables, such as interest rates, profitability, and stock returns. The regression statistics reveal crucial insights into the model's performance, with a high Multiple R value of 0.886 indicating a robust positive correlation between the NEPSE Index and the independent variables. Moreover, the R Square value of 0.785 suggests that approximately 78.5% of the variability in the NEPSE Index is explained by the independent variables, demonstrating significant explanatory power. Additionally, the ANOVA analysis underscores the model's goodness of fit, with a significant F-statistic and associated p-value, validating the overall efficacy of the regression model in capturing and explaining stock price fluctuations in Nepal. Furthermore, the regression results for individual variables reveal statistically significant coefficients, providing valuable insights into the impact of factors such as deposit rates, lending rates, and bank rates on share prices within the Nepalese stock market. Hypothesis testing further corroborates these findings, confirming the significant influence of deposit and lending rates on share prices, while also highlighting the limited impact of T-bills rates. Overall, these findings offer comprehensive insights into the dynamics of the Nepalese stock market, guiding investors and policymakers in making informed decisions.

5.2 Summary

The stock market is like a thermometer for the economy, showing if things are going well or not. When the stock market goes up, it usually means people are feeling good about the economy and are willing to invest their money. But if the stock market goes up too

quickly without good reasons, it can be a problem. This sudden increase might not be sustainable, and eventually, the market could crash, causing trouble for the economy. So, it's important to understand what makes the stock market go up or down.

One big factor that affects the stock market is interest rates. These are like the cost of borrowing money. In this study, we're looking at how different interest rates, like the ones banks offer for savings or loans, influence the stock market in Nepal. Previous studies have shown that when interest rates go up, the stock market tends to go down, and vice versa. But we want to see if this holds true in Nepal and if there are any other factors at play.

By studying this, we hope to learn more about how Nepal's stock market works and how interest rates impact it. This could help investors make better decisions and policymakers create policies that support a healthy economy.

5.3 Conclusion

The data analysis conducted in this chapter provides valuable insights into the dynamics of Nepal's stock market and the impact of interest rates on share prices. Through meticulous examination of various financial indicators and statistical analyses, several key findings have emerged:

Interest Rate Trends

The Weighted Average Deposit Interest Rate has exhibited a consistent downward trend over the years, suggesting diminishing returns on savings and fixed deposits. Conversely, reduced lending rates have created a favorable environment for borrowers, stimulating business expansion and consumer spending. Bank Rate stability, with occasional decreases amidst the COVID-19 pandemic, reflects efforts to support economic activity. Treasury Bills Rates generally declined, indicating lower returns on government- backed investments.

Stock Market Performance

The NEPSE Index has shown remarkable growth over the past decade, reflecting

the overall positive trajectory of the Nepalese stock market. Fluctuations in interest rates underscored the dynamic interplay of economic factors and policy decisions, influencing investor sentiment and market performance.

Correlation Analysis

Correlation analysis revealed significant relationships between interest rates and stock market performance. While the NEPSE Index exhibited weak correlations with other variables, stronger relationships were observed between Weighted Average Deposit and Lending Rates, Treasury Bills, and the Bank Rate. These findings provide valuable insights into the interplay between different aspects of the financial market.

Regression Analysis

Regression analysis further validated the relationship between interest rates and share prices. While Weighted Average Deposit and Lending Rates showed significant impacts on share prices, T-bill rates exhibited limited influence. The Bank Rate also showed a potential impact on share prices, albeit to a lesser extent.

5.4 Implementations

Implementing the findings from the regression analysis and hypothesis testing in practical scenarios can provide valuable insights for investors, policymakers, and stakeholders in the Nepalese stock market. Here's how the implementation could be structured:

1. **Investment Strategy Development:**
   - Utilize interest rate trends to inform investment decisions.
   - Adjust portfolios based on regression analysis insights to manage risk effectively.
2. **Policy Formulation:**
   - Central banks can use findings to inform monetary policy decisions.
   - Regulatory authorities can design regulations for market stability and transparency.
3. **Market Analysis and Forecasting:**
   - Develop predictive models based on regression results for market trend forecasting.
   - Conduct scenario analysis to prepare for different market conditions.
4. **Educational Initiatives:**
   - Educate investors on the relationship between interest rates and stock prices.
   - Use findings for policy advocacy and evidence-based reforms.

REFERENCES

Adjasi, C. K.D. (2009). Macroeconomic uncertainty and conditional stock price volatility infrontier African markets: Evidence from Ghana. *Journal of Risk Finance, Vol. 10(4),pp. 333-349.*

Badarudina, Z. E. Ariffb, M. & Khalid, A.M (2011) Money supply endogeneity and Bank stock returns. *Applied Financial Economics, 2011, 21, 1035–1048*.

Baskota, N. P. (2007). Stock price volatility in Nepal. *Unpublished M. Phil. Dissertation, Office of the Dean, Faculty of Management, Tribhuvan University.*

Bhattacharyya, B., & Mukherjee, J. (2006). Indian stock price movement and the macroeconomic context–A time series analysis. *Journal of International Business and Economics, 5 (1), 167-181.*

Bhatta, G. P.(2010). "Does Nepalese stock market follow random walk?" SebonJournal, 4, June.

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

Eita, J. H. 2012. "Modeling Macroeconomic Determinants of Stock Market Prices: Evidence from Namibia." *The Journal of Applied Business Research,* 28(5) : 871-884.

Gurung, J. B. 2004. "Growth and Performance of Securities Market in Nepal." *The Journal of Nepalese Business Studies*, 1(1) : 85-92.

Hussainey, K.,& Ngoc, L. K. (2009). The impact of macroeconomic indicators on Vietnamese stock prices. *Journal of Risk Finance, Vol. 10(4), pp. 321-332.*

Khan, M. S. (2014). Macroeconomic variables & its impact on KSE-100 Index. Universal Journal of Accounting and Finance, 2 (2), 33-39.

MOF.2017. Economic Survey, 2017. *Ministry of Finance, Government of Nepal*,Nepal.

Mosley, L., & D. A. Singer (2008). Taking stock seriously: Equity-market performance, government policy, and financial globalization. *International Studies Association, 52*(4), 405–425

Sen,S. and Ray, R. (2013), Determinants of stock prices in India. *The ICFAI Journalof Applied Finance*, Vol 9, No (7), Pp 35-40.

Srinivasan, P. (2012). Determinants of equity share prices in India: A panel data approach. *The Romanian Economic Journal*, 46, 205-228.

Fama, F. (1970). Efficient capital market, A review of theory and empirical work, *The Journal of Finance. 25(2).*

Sharif, T. , purohit, H. and Pillai, R. (2015), Analysis of factors affecting share prices:The case of Bahrain stock exchange, *International Journal of Economics and Finance*, Vol. 7, No. 3.

Sharma, S. (2011). Determinants of equity share prices in India. *Journal of Arts,Science & Commerce,* 2(4), 51-60.

Nirmala, P.S., Sanju, P. S. &Ramachandran, M. (2011).Determinants of share pricesin India. *Journal of Emerging Trends in Economics and Management Science(JETEMS)*, 2(2), 124- 130.

Amanullah, M. (2012). Determinants of share prices at Karachi stock exchange. *International Journal of Business & Management Studies*, 4, 1309-1347.

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

Sah, B. (2011). *Factors Affecting the Share Price in Nepalese Commercial Banks Listed in NEPSE;* an unpublished master's degree thesis, submitted to facultyof management, Tribhuvan University.

Neupane, A. (2004). *Determinants of stock price in NEPSE.* Kathmandu: An unpublished master's degree thesis, submitted to faculty of management,Tribhuvan University.

IMPACT OF INTEREST RATE ON STOCK MARKET IN NEPAL

By: Sandhya Sigdel

As of: Jul 4, 2024 10:28:36 AM
11,588 words - 99 matches - 2 sources

Similarity Index

15%

Mode: Summary Report

sources:

1,821 words / 15% - Internet from 21-Sep-2022 12:00AM
elibrary.tucl.edu.np

64 words / 1% - from 23-Jun-2024 12:00AM
www.ijraset.com

paper text:

ABSTRACT This research explores the relationship between interest rates and stock market performance in Nepal, focusing on the period from mid-July 2012 to mid-July 2022. The Nepalese stock market, represented by the Nepal Stock Exchange (NEPSE), has evolved significantly since its inception, serving as a critical platform for capital mobilization and economic growth. Interest rates, including deposit rates, lending rates, bank rates, and Treasury bills rates, are examined as potential factors influencing stock market behaviour. The study employs quantitative methods to analyse annual data, investigating how changes in interest rates affect the NEPSE index, which serves as a barometer of market sentiment and economic health in Nepal. Through regression analysis and hypothesis testing, the study evaluates the impact of these interest rates on stock market returns, providing insights that are crucial for investors, policymakers, and stakeholders in understanding market dynamics. Key findings highlight the significant influence of deposit and lending rates on stock prices, underscoring their role in shaping investor behaviour and market performance. Conversely, Treasury bills rates exhibit a lesser impact, suggesting nuanced interactions between different interest rate mechanisms and stock market movements. The study contributes valuable insights into the Nepalese financial market landscape, offering implications for investment strategies, policy formulations, and future research directions. This research is instrumental for stakeholders seeking to navigate and leverage the interplay between interest rates and stock market dynamics in Nepal, ultimately fostering informed decision-making and market efficiency. Keywords:

Bank Rate, Deposit Interest Rate, Lending Interest Rate, Risk- Free Rate of Return and **Stock Price**

.

CHAPTER I INTRODUCTION 1.1 Background of The Study The stock market in Nepal

has a relatively short history. The

Securities Exchange Centre (SEC) was established in 1976 with the aim **of facilitating and promoting the growth of** the **capital market (Gurung, 2004). However, it**

wasn't until 1981 that the SEC began secondary trading of shares, initially limited to government bonds (NRB, 1996). The introduction of the Securities Exchange Act in 1984 allowed the SEC to include corporate share trading, although on a very limited scale. A fully