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Impact of Interest Rate on Stock Market in Nepal

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Abstract: *The study examines the impact of interest rate on the stock market in the context of listed companies in NEPSE index. Stock price and stock return are selected as the dependent variables. The selected independent variables are bank rate, deposit interest rate, lending interest rate, base rate, inflation rate and capital adequacy ratio. The study is based on secondary data of 25 listed companies in NEPSE index with 200 observations for the period from 2013/14 to 2020/21. The data were collected from Banking and Financial Statistics published by Nepal Rastra Bank, publications and websites of Nepal Rastra Bank (NRB) and Ministry of Finance and annual reports of the selected listed companies. The correlation coefficients and regression models are estimated to test the significance and impact of interest rate on stock market in the context of listed companies in NEPSE index.*

The study showed that bank rate has a positive impact on stock price and stock return. It means that increase in bank rate leads to increase in stock price and stock return. Likewise, deposit interest rate has a negative impact on stock price and stock return. It means that increase in deposit interest rate leads to decrease in stock price and stock return. Similarly, lending interest rate has a negative impact on stock price and stock return. It shows that higher the lending interest rate, lower would be the stock price and stock return. Additionally, base rate has a negative impact on stock price and stock return. It indicates that increase in base rate leads to decrease in stock price and stock return. However, inflation rate has a positive impact on stock price and stock return. It indicates that increase in inflation rate leads to increase in stock price and stock return. Further, the study also showed that capital adequacy ratio has a negative impact on stock price and stock return. It means that higher the capital adequacy ratio, lower would be the stock price and stock return.

Keywords: Bank Rate, Base Rate, Deposit Interest Rate, Inflation Rate, Lending Interest Rate, Stock Market

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Introduction

The stock market plays a vital role in the financial systems of developed and developing economies by facilitating the transfer of surplus resources to areas where there is a shortage of funds. Uddin and Alam (2009) stated that the interest rate holds significant importance as it represents the cost of borrowers to borrow and the fee charged for lenders to lend money. According to Nordin *et al.* (2014), a stock market significantly contributes to a country's economic growth and development. The interest rate plays a vital role in the economy, and changes to it can have a substantial effect on the growth of the economy. According to Lavelle (2004), equity markets boost company productivity, encourage innovation, and offer a significant source of funding for long-term economic growth. Ali (2014) explained that the stock market index is a common metric used to gauge a country's economic status. Stock exchanges are institutions that facilitate the buying and selling of stocks and other securities for traders and dealers. Coleman and Tetty (2008) stated that economies that are perceived to be growing sustainably tend to have efficient stock market. However, many developing countries struggle to establish stock markets that are comparable to those in developed countries.

Ologunde *et al.* (2006) examined the associations between the interest rate and the stock market capitalization rate in Nigeria. The study revealed that the stock market capitalization rate is positively influenced by the current interest rate. The study also discovered that both the current interest rate and the government's development stock rate have a negative impact on stock market capitalization rates. Lobo (2002) examined the impact of unexpected changes in the federal funds target on stock prices. The study found that stock values are affected by interest rate surprises on the day of the announcement. In addition, Zhou (1996) used regression analysis to investigate the relationship between interest rates and stock prices. The study found that interest rates have a significant impact on stock returns, particularly over long-term investment horizons. The study also showed that long-term interest rates account for a significant portion of the fluctuation in price dividend ratios. Furthermore, the analysis revealed that changes in discount rate

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estimations explain the relationship between the high volatility of the stock market and the volatility of long-term bond yields.

Cengiz and Basarir (2014) examined the relationship between interest rate and stock market within the framework of real gross domestic product. The study discovered a compelling and enduring association between the progress of the stock market and interest rates. Furthermore, the study demonstrated that implementing regulations to control long-term interest rates can effectively avert stock market crises. Faff *et al.* (2005) examined how changes in interest rate volatility affect the distribution of returns in the Australian financial sector. The study found that deregulation has led to a shift in the relationship between interest rates and excessive returns on large bank stocks. Prior to deregulation, the relationship was positive, while in the post-deregulation era, it has become negative. This shows that how the institutional climate has evolved from one characterized by managed credit rationing to a more competitive environment. Salisu and Sikiru (2021) explored the impact of interest rate differences on stock returns in both low-and high-rate conditions. The study indicated that, in negative interest rate environments, interest rate differentials have a more positive impact on stock returns in the short term than in positive interest rate environments. However, this effect was observed only in the short run.

Amarasinghe (2015) argued that stock prices should reflect expectations about future corporate performance. Uddin and Alam (2010) investigated the correlation between interest rates and the stock market using data from the Dhaka Stock Exchange. The findings supported the theoretical proposition that there exists a negative relationship between current interest rates and stock prices. Accordingly, effectively managing interest rates in Bangladesh by regulating supply and demand could significantly benefit the Dhaka Stock Exchange by attracting more investors and encouraging corporations to increase their investments in the market. Mbulawa (2015) explained that stock market development level, domestic currency value, and the interest rate level give details of the dynamics in the development level of an economy. The study found that there is a negative relationship between a country with a high level of inflation and the usefulness of stock price information. Lynge and Zumwalt (1980) discovered that interest rate sensitivity differed depending on the term of interest rates, namely short versus longer term interest rates. The study illustrated that the stock returns of banks were more sensitive than nonfinancial stock returns. Flannery and James (1984) conducted an in-depth analysis to determine the factors influencing the sensitivity of stock returns to interest rates and to identify the specific characteristics of banks. The study confirmed the negative correlation between stock returns and both short and long-term interest rates, which contributed to the observed sensitivity. The study also identified that the mix of asset and liability maturities played a crucial role in explaining the sensitivity of stock returns to unexpected changes in interest rates. Bashir and Hassan (1997) examined the relationship between stock returns and interest rate sensitivity in the UAE. The study showed indications that the stock returns of commercial banks in the country demonstrate a level of sensitivity to fluctuations in interest rates. The study also found that there was a long run negative relationship between long term interest rates and stock prices only in the United States. Maysami *et al.* (2004) discovered a negative relationship between long-term interest rates and stock returns in Singapore.

Aydemir and Demirhan (2009) found that the interplay between stock market capitalization rate and interest rate holds substantial importance for economists as both factors can significantly influence a country's economic development. It is crucial to have a thorough understanding of the distinctive dynamics and features of each country's economy and market in order to manage these risks and guarantee the long-term stability and expansion of the financial system. Mishkin *et al.* (1977) stated that falling interest rates raise stock values, which in turn encourage more capital investment in businesses. In general, a low interest rate encourages more savings in banks and as a result increases capital flows to the stock market in anticipation of a higher rate of return. In contrast, a high interest rate discourages more savings in banks and, therefore, decreases capital flows to the stock markets. Assefa *et al.* (2017), using a panel data analysis, examined how stock returns and interest rates are interconnected across various countries. The study found that developed economies experienced a decline in economic growth and a decrease in interest rates, which had a significant negative effect on stock returns. Conversely, stock returns in developing markets were primarily influenced by the world market portfolio. There was no significant correlation between stock returns and interest rates. These disparate effects may be attributed to variations in monetary policies and more established capital markets prevalent in developed economies.

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In the context of Nepal, using the Granger causality test, Rana (2013) found no unidirectional or bidirectional causality between stock market returns and the interest rates. Dangol (2008) stated that stock market performance is influenced by political changes and NRB's policy. Shrestha and Pokhrel (2019) assessed the variables influencing the Nepali stock index. The study revealed that the Nepalese stock index responded favorably to wide money growth and unfavorably to interest rates. Khatri (2019) investigated the dynamic relationship among the stock market and macroeconomic factors like inflation, interest rate, money supply, GDP, exchange rate and foreign direct investment in Nepal. The findings revealed that the stock price was positively and significantly related to money supply. Real economic activity and interest rates have an insignificant and negative relationship with stock price. Similarly, Lamichhane and Shrestha (2022) examined the factors influencing the performance of Nepalese stock market. The study demonstrated that remittances and money supply positively affect the stock markets, whereas interest rate and exchange rate negatively affect stock market performance. Likewise, Poudel (2017) found that market price per share is positively related to DPS, equity capital, P/E ratio, ROA, GDP and inflation. In contrast, NPLs and the interest rates of commercial banks have a negative relationship with market price per share. According to Karki (2018), macroeconomic factors alone cannot fully account for the long-term volatility in stock prices.

The above discussion shows that empirical evidences vary greatly across the studies on the impact of interest rate on stock market. Though there are above mentioned empirical evidence in the context of other countries and in Nepal, no such findings using more recent data exist in Nepal. Therefore, in order to support one view or the other, this study has been conducted.

The main purpose of the study is to analyze the impact of interest rate on stock market in the context of Nepalese listed companies. Specifically, it examines the relationship of bank rate, deposit interest rate, lending interest rate, base rate, inflation rate and capital adequacy ratio with stock price and stock return in the context of Nepalese listed companies

The reminder of this study is organized as follows. Section two describes the sample, data and methodology. Section three presents the empirical results and the final section draws the conclusion.

2. Methodological Aspect

The study is based on the secondary data which were gathered from 25 listed banks and finance companies in Nepal Stock Exchange for the study period from 2013/14 to 2020/21, leading to a total of 200 observations. The study employed stratified sampling method. The main sources of data include Banking and Financial statistics published by Nepal Rastra Bank, reports published by Ministry of Finance and the annual report of respective banks and finance companies. This study is based on descriptive as well as causal comparative research designs. Table 1 shows the list of banks and finance companies selected for the study along with the study period and number of observations.

Table 1: List of sample companies selected for the study along with study period and number of observations

S. N.	Name of listed companies	Study period	Observations
Commercial banks			
1	Nabil Bank Limited (NABIL)	2013/14-2020/21	8
2	Citizens Bank Limited (CZBIL)	2013/14-2020/21	8
3	Standard Chartered Bank (SCB)	2013/14-2020/21	8
4	Himalayan Bank Limited (HBL)	2013/14-2020/21	8
5	Nepal SBI Bank Limited ((SB)	2013/14-2020/21	8
6	Everest Bank Limited (EBL)	2013/14-2020/21	8
7	Bank of Kathmandu (BOKL)	2013/14-2020/21	8
8	NIC Asia Bank Limited (NICA)	2013/14-2020/21	8
9	Macchapuchhre Bank Limited (MBL)	2013/14-2020/21	8
10	Laxmi Bank Limited (LBL)	2013/14-2020/21	8
11	Siddhartha Bank Limited (SBL)	2013/14-2020/21	8
12	Prime Commercial Bank Limited (PCBL)	2013/14-2020/21	8
13	Sanima Bank Limited (SANIMA)	2013/14-2020/21	8
14	Sunrise Bank Limited (SRBL)	2013/14-2020/21	8
15	Global IME Bank Limited (GBIME)	2013/14-2020/21	8
16	Prabhu Bank Limited (PRVU)	2013/14-2020/21	8

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17	NMB Bank Limited (NMB)	2013/14-2020/21	8
Development banks			
18	Excel Development Bank Limited (EDBL)	2013/14-2020/21	8
19	Mahalaxmi Bikash Bank Ltd (MLBL)	2013/14-2020/21	8
20	Garima Bikash Bank Limited (GBBL)	2013/14-2020/21	8
21	Jyoti Bikash Bank Limited (JBBL)	2013/14-2020/21	8
Finance			
22	ICFC Finance Limited (ICFC)	2013/14-2020/21	8
23	Gurash Finance Limited (GUFL)	2013/14-2020/21	8
24	Shree Investment Finance Ltd (SIFC)	2013/14-2020/21	8
25	Goodwill Finance Limited (GFCL)	2013/14-2020/21	8
Total number of observations			**200**

Thus, the study is based on 200 observations.

The Model

The model used in the study assumes that the stock market depends on the changes in interest rates. The dependent variables selected for the study are stock price and stock return. Similarly, the selected independent variables in this study are bank rate, deposit interest rate, lending interest rate, base rate, inflation rate and capital adequacy ratio. Therefore, the models take the following forms:

$SP_{it}=\beta_0 + \beta_1 BR + \beta_2 DIR + \beta_3 LIR + \beta_4 BSR + \beta_5 IR + \beta_6 CAR + \varepsilon_{it}$

$SR_{it}=\beta_0 + \beta_1 BR + \beta_2 DIR + \beta_3 LIR + \beta_4 BSR + \beta_5 IR + \beta_6 CAR + \varepsilon_{it}$

Where,

SP = Stock price as measured by the average price of closing and opening share price,in Rs.

SR = Stock returnas measured by the capital gain yield, in percent.

BR = Bank rateas measured by thecost of return as a percentage of the amount by bank, in percent.

LIR = Lending interest rateas measured by theamount of charged by the lenders for certainperiod of time as percentage of the amount lent, in percent.

DIR = Deposit interest rateas measured by theinterestrate paid by banks, in percent.

BSR = Base rateas measured by the minimum interest rate set by the central bank below which

banks are not permitted to lend, in percent.

IR = Inflation rateas measured by the overall level of price of goods and services throughout the economy, in percent.

CAR = Capital adequacy ratio as measured by the ratio of total capital to total risk weighted exposure, in percent.

The following section describes the independent variables used in this study along with hypothesis formulation.

Bank Rate

The interest rate that a central bank assesses on its loans and advances to a commercial bank is known as the bank rate. Vaz*et al.* (2008) found that there is no impact on the stock returns of significant Australian banks after increases in interest rates. This is in contrast to banks in the US where an increase in interest rates has a negative impact on their stock returns. Similarly, D'Amico and Farka (2011) concluded that a tightening of interest rates driven by monetary policy has a negative effect on stock price. Moreover, Madura and Schnusenberg (2000) examined the interaction between stock return and US Federal Reserve's discount rate. The study found that stock return and US Federal Reserve's discount rate are negatively related. Based on it, this study develops the following hypothesis:

H_1: There is a negative relationship between the bank rate and the stock price and stock return.

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Deposit Interest Rate

The average interest rate on retail deposits at each bank is referred to as the deposit interest rate. According to Ben-David *et al.* (2017), bank deposit rates are determined by the supply of deposits by households and firms and the demand for deposits by banks. Smith (1984) argued that the competition for deposits among banks would result in higher deposit interest rates, which could lead banks to hold more risky portfolios, posing a threat to the stability of the banking system. Sun and Wang (2018) found that the interest rate on bank deposits has a negative impact on the stock price. Similarly, Kwan (2003) found that the deregulation of deposit interest rates in Hong Kong would lead to a reduction in banks' rents earned from IRRs and result in a decline in bank market prices. Moreover, Uddin and Alam (2009) claimed that an increase in the interest rates provided by banks to depositors could cause individuals to withdraw their capital from the stock market and invest in banks instead. This shift in investment could result in a decrease in share demand and share prices, as well as adversely affect both the stock market and deposit interest rates. Based on it, this study develops the following hypothesis:

H_2: There is a negative relationship between deposit interest rate, stock price and stock return.

Lending Interest Rate

Commercial banks are self-contained businesses that establish their own lending rates. The proportion of the loan amount that the lender charges to lend money is known as the lending interest rate. According to Sheriff and Amoakon (2014), when banks lend money to consumers, they charge interest for a variety of reasons including value preservation, risk compensation, and profit, among others. Chirchir (2014) found an existence of a relationship between stock prices and lending rates, where the direction of causation goes from interest rates to stock prices. By controlling the lending rates of banks, crises in the stock market could be prevented. Otieno *et al.* (2017) examined the stochastic features of macroeconomic variables, stock market returns and their co-integration residual. The study found that 3-month T-Bills rate and loan rate have a negative impact on stock market returns in the long term. Similarly, changes in bank lending are significant in affecting stock and housing prices (Chen, 2001). Likewise, Beck *et al.* (2015) explained that while GDP, lagged GDP, and lagged lending interest rates remained statistically significant with share prices, the nominal effective exchange rates become statistically insignificant. Furthermore, Basten and Mariathasan (2018) assessed the impact on lending margins in Switzerland using a difference in difference analysis. The study showed that the lending margin for Swiss banks increased following negative rates. The banks with larger reserve holdings increased interest rates by more.Based on it, this study develops the following hypothesis:

H_3: There is a negative relationship between the lending interest rate and the stock price and stock return.

Base Rate

The base rate affects the interest rate that customers receive because commercial banks adjust their interest rates in response to any adjustments announced by central banks. Erten and Özturk (2018) found that short-term interest rate variations are negatively associated to stock market returns, with a substantial lag effect observed. Jha (2018) found that the base interest rate plays a crucial role as a monetary policy tool used by central banks to influence economic activity. Sari and Ergul (2017) assessed the impact of changes in the base rate on stock market returns in Turkey. The study showed a negative correlation between changes in the base rate and stock returns. Similarly, Alqahtani *et al.* (2021) found that changes in the base interest rate have a significant impact on stock market returns in emerging markets. The study analyzed data from six emerging markets and found evidence of a negative relationship between changes in the base interest rate and stock market returns. However, Diasakos *et al.* (2015) revealed that change in the European Central bank's base rate has a significant impact on the profitability of commercial banks in Greece. There is a positive relationship between changes in the base rate and the banks' net interest margin. Furthermore, Elsharnouby and Alexandridis (2020) found that changes in the base interest rate have a significant negative impact on stock market returns in the United Kingdom. Based on it, this study develops the following hypothesis:

H_4: There is a negative relationship between the base rate and the stock price and stock return.

Inflation Rate

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Inflation is the rate at which prices rise over a specific time period. Chen *et al.* (1986) assessed the influence of inflation rate on stock prices from 1958 to 1984. The study identified three factors associated with inflation rate, which included anticipated inflation, anticipated changes in inflation, and unanticipated inflation. The study also found a strong negative correlation between inflation and stock prices. Fama (1981) suggested that expected actual activity, which is positively related to stock market performance, is adversely associated with predicted inflation. It is often represented by the short-term interest rate and thus, stock market returns are inversely linked to predicted inflation. Darby (1975) found a negative link between predicted inflation and expected real stock market performance. According to Eldomiaty *et al.* (2018), there is a co-movement or long-term relationship between stock prices, changes in stock prices due to inflation rates and changes in stock prices due to real interest rates. Additionally, Singh and Padmakumari (2020) found an inverse relationship between stock market returns and inflation in India from 2012 to 2018. Based on it, this study develops the following hypothesis:

H_5: There is a negative relationship between inflation rate, stock price and stock return.

Capital Adequacy Ratio

The capital adequacy ratio is defined as the ratio of a bank's available capital to risk weighted assets. According to Fahlevi *et al.* (2018), CAR and ROA have a favorable and substantial relationship with stock prices. Ziliwu and Wibowo (2020) showed that stock prices were positively and significantly impacted by the CAR. Fordian (2017) assessed the influence of CAR, LDR, and EPS on stock prices from 2012-2016. The study found that CAR has no effect on stock prices. Similarly, Salsabilla and Yunita (2020) also found that nonperforming loans (NPL), ROA, and capital adequacy ratio (CAR) have positive significant effect on stock prices. Moreover, Harahap and Hairunnisah (2017) showed that the CAR had a positive and significant effect on stock prices. Rahayu *et al.* (2018) investigated the impact of loan to deposit ratio, capital adequacy ratio, and return on assets on the stock price of an Indonesian Sharia Commercial Bank. The study found that loan to deposit ratio and capital adequacy ratio have a significant positive effect on the stock price. Based on it, this study develops the following hypothesis:

H_6: There is a positive relationship between the capital adequacy ratio and the stock price and stock return.

3. Results and Discussions

Descriptive Statistics

Table 2 presents the descriptive statistics of selected dependent and independent variables during the period of 2013/14 to 2020/21.

Table 2: Descriptive Statistics

This table shows the descriptive statistics of dependent and independent variables of 25 NEPSE listed companies of three different categories for the study period from 2013/14 to 2020/21.The dependent variables are SP (Stock price as measured by the average price of closing and opening share price, in Rs) and SR (Stock return as measured by the capital gain yield, in percent). The independent variables are BR (Bank rate as measured by the cost of return as a percentage of the amount by bank, in percent), DIR (Deposit interest rate as measured by the interest rate paid by banks, in percent), LIR (Lending interest rate as measured by the amount of charged by the lenders for certain period of time as percentage of the amount lent, in percent), BSR (Base rate as measured by the minimum interest rate set by the central bank below which banks are not permitted to lend, in percent), IR (Inflation rate as measured by the overall level of price of goods and services throughout the economy, in percent) and CAR (Capital adequacy ratio as measured by the ratio of total capital to total risk weighted exposure, in percent).

Variables	Minimum	Maximum	Mean	S. D.
SP	106	3600	563.74	548.66
SR	4.66	8.19	6.05	0.68
BR	5.00	8.00	7.00	0.97
DIR	1.02	11.25	5.55	2.04
LIR	1.78	14.05	6.67	2.37
BSR	4	15	8.95	2.04
IR	3.60	9.93	6.15	2.23
CAR	7.63	39.56	14.30	3.61

Sources: SPSS output

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Correlation Analysis

Having indicated the descriptive statistics, Pearson's correlation coefficients are computed and the results are presented in Table 3.

Table 3: Pearson's Correlation Coefficients Matrix

This table shows the bivariate Pearson's correlation coefficient of dependent and independent variables of 25 NEPSE listed companies of three different categories for the study period from 2013/14 to 2020/21.The dependent variables are SP (Stock price as measured by the average price of closing and opening share price, in Rs) and SR (Stock return as measured by the capital gain yield, in percent). The independent variables are BR (Bank rate as measured by the cost of return as a percentage of the amount by bank, in percent), DIR (Deposit interest rate as measured by the interestrate paid by banks, in percent), LIR (Lending interest rate as measured by the amount of charged by the lenders for certain period of time as percentage of the amount lent, in percent), BSR (Base rate as measured by the minimum interest rate set by the central bank below which banks are not permitted to lend, in percent), IR (Inflation rate as measured by the overall level of price of goods and services throughout the economy, in percent) and CAR (Capital adequacy ratio as measured by the ratio of total capital to total risk weighted exposure, in percent).

Variables	SP	SR	BR	DIR	LIR	BSR	IR	CAR
SP	1							
SR	0.740**	1						
BR	0.210**	0.160*	1					
DIR	-0.621	-0.748**	-0.299**	1				
LIR	-0.577**	-0.718**	-0.213**	0.935**	1			
BSR	-0.636**	-0.767**	-0.065	0.746**	0.749**	1		
IR	0.304**	0.286**	0.790**	-0.356**	-0.262**	-0.422**	1	
CAR	-0.160*	-0.292**	-0.094	0.301**	0.311**	0.417**	-0.190**	1

Note: The asterisk (**) ands (*) indicate that the results are significant at one percent and five percent levels respectively

Table 3 shows that bank rate has a positive relationship with stock price. It means that increase in bank rate leads to increase in stock price. Likewise, there is a negative relationship between deposit interest rate and stock price. It means that increase in deposit interest rate leads to decrease in stock price. Similarly, lending interest rate has a negative relationship with stock price. It shows that higher the lending interest rate, lower would be the stock price. Additionally, there is a negative relationship between base rate and stock price. It indicates that increase in base rate leads to decrease in stock price. However, inflation rate has a positive relationship with stock price. It indicates that increase in inflation rate leads to increase in stock price. Further, this study shows that there is a negative relationship between capital adequacy ratio and stock price. It means that higher the capital adequacy ratio, lower would be the stock price.

Similarly, the result also shows that bank rate has a positive relationship with stock return. It means that increase in bank rate leads to increase in stock return. However, there is a negative relationship between deposit interest rate and stock return. It means that increase in deposit interest rate leads to decrease in stock return. Likewise, lending interest rate also has a negative relationship with stock return. It shows that lower the lending interest rate, higher would be the stock return. There is also a negative relationship between base rate and stock return. It indicates that increase in base rate leads to decrease in stock return. However, inflation rate has a positive relationship with stock return. It indicates that increase in rate of inflation leads to increase in stock return. Further, this study shows that there is a negative relationship between capital adequacy ratio and stock return. It means that higher the capital adequacy ratio, lower would be the stock return.

Regression Analysis

Having indicated the Pearson's correlation coefficients, the regression analysis has been carried out and results have been presented in Table 4. More specifically, it shows the regression results of bank rate, deposit interest rate, lending interest rate, base rate, inflation rate, and capital adequacy ratio with stock price of Nepalese listed companies.

Table 4: Estimated regression results of bank rate, deposit interest rate, lending interest rate, base rate, inflation rate and capital adequacy ratio with stock price

The results are based on panel data of 25 NEPSE listed companies with 200 observations for the period of 2013/14-2020/21 by using the linear regression model and the model is $SR_{it} = \beta_0 + \beta_1 BR + \beta_2 DIR + \beta_3 LIR + \beta_4 BSR + \beta_5 IR + \beta_6 CAR + \mathcal{E}_{it}$ *where, the dependent*

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variable is SP (Stock price as measured by the average price of closing and opening share price, in Rs). The independent variables are BR (Bank rate as measured by the cost of return as a percentage of the amount by bank, in percent), DIR (Deposit interest rate as measured by the interestrate paid by banks, in percent), LIR (Lending interest rate as measured by the amount of charged by the lenders for certain period of time as percentage of the amount lent, in percent), BSR (Base rate as measured by the minimum interest rate set by the central bank below which banks are not permitted to lend, in percent), IR (Inflation rate as measured by the overall level of price of goods and services throughout the economy, in percent) and CAR (Capital adequacy ratio as measured by the ratio of total capital to total risk weighted exposure, in percent).

Model	Intercept	Regression coefficients of						Adj.R_bar^2	SEE	F-value
		BR	DIR	LIR	BSR	IR	CAR			
1	5.249 (14.676)**	0.115 (2.275)*						0.020	0.690	5.181
2	7.481 (77.941)**		-0.254 (15.651)**					0.561	0.462	224.961
3	7.473 (71.991)**			-0.210 (14.334)**				0.512	0.491	205.046
4	8.443 (55.159)**				-0.266 (15.926)**			0.593	0.467	253.630
5	5.503 (39.238)**					0.090 (4.186)**		0.087	0.670	17.152
6	912.404 (5.784)**						-0.057 (4.285)**	0.085	0.677	18.362
7	7.692 (26.130)**	-0.027 (0.759)	-0.258 (15.146)**					0.562	0.465	122.501
8	7.663 (25.895)**	0.020 (0.553)	-0.215 (4.473)**	-0.039 (0.969)				0.561	0.461	81.595
9	8.163 (29.028)**	0.022 (0.624)	-0.132 (2.826)**	-0.002 (0.043)	-0.169 (7.003)**			0.678	0.416	89.323
10	7.903 (27.469)**	0.192 (2.922)**	-0.135 (2.944)	-0.032 (0.786)	-0.233 (7.371)**	0.094 (3.044)**		0.681	0.404	76.731
11	7.776 (24.347)**	0.198 (2.996)**	-0.132 (2.869)**	-0.033 (0.800)	-0.241 (7.328)**	0.093 (3.021)**	-0.010 (0.918)	0.687	0.407	64.021

Notes:

i. *Figures in parenthesis are t-values.*
ii. *The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent level respectively.*
iii. *Stock price is the dependent variable.*

Table 4 shows that the beta coefficients for bank rate are positive with stock price. It indicates that bank rate has a positive impact on stock price. This finding is similar to the findings of Madura and Schnusenberg (2000). Likewise, the beta coefficients for deposit interest rate are negative with stock price. It indicates that deposit interest rate has a negative impact on stock price. This finding is consistent with the findings of Sun and Wang (2018). Similarly, the beta coefficients for lending interest rates are negative with stock price. It indicates that lending interest rate has a negative impact on stock price. This finding is similar to the findings of Chirchir (2014). Likewise, the beta coefficients for base rate are negative with stock price. It indicates that base rate has a negative impact on stock price. This finding is consistent with the findings of Diasakos *et al.* (2015). Similarly, the beta coefficients for inflation rate are positive with stock price. It indicates that inflation rate has a positive impact on stock price. This finding is consistent with the findings of Eldomiaty (2018). Likewise, the beta coefficients for capital adequacy ratio are negative with stock price. It indicates

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that capital adequacy ratio has negative impact on stock price. This finding is similar to the findings of Harahap and Hairunnisah (2017).

Table 5 shows the estimated regression results of bank rate, deposit interest rate, lending interest rate, base rate, inflation rate, and capital adequacy ratio with stock return of Nepalese listed companies.

Table 5: Estimated regression results of bank rate, deposit interest rate, lending interest rate, base rate, inflation rate and capital adequacy ratio with stock return

The results are based on panel data of 25 NEPSE listed companies with 200 observations for the period of 2013/14-2020/21 by using the linear regression model and the model is $SP_{it}=\beta_0 + \beta_1 BR + \beta_2 DIR + \beta_3 LIR + \beta_4 BSR + \beta_5 IR + \beta_6 CAR + \varepsilon_{it}$ *where, the dependent variable is SR (Stock return as measured by the capital gain yield, in percent). The independent variables are BR (Bank rate as measured by the cost of return as a percentage of the amount by bank, in percent), DIR (Deposit interest rate as measured by the interestrate paid by banks, in percent), LIR (Lending interest rate as measured by the amount of charged by the lenders for certain period of time as percentage of the amount lent, in percent), BSR (Base rate as measured by the minimum interest rate set by the central bank below which banks are not permitted to lend, in percent), IR (Inflation rate as measured by the overall level of price of goods and services throughout the economy, in percent) and CAR (Capital adequacy ratio as measured by the ratio of total capital to total risk weighted exposure, in percent).*

Model	Intercept	Regression coefficients of						Adj.R^2_bar	SEE	F-Value
		BR	DIR	LIR	BSR	IR	CAR			
1	5.449 (14.790)**	0.075 (1.396)						0.001	0.682	1.951
2	7.402 (76.051)**		-0.246 (15.117)**					0.574	0.441	228.534
3	7.402 (70.885)**			-0.206 (14.043)**				0.532	0.466	197.212
4	8.33 (54.064)**				-0.258 (15.390)**			0.603	0.434	236.865
5	5.553 (37.531)**					0.079 (3.263)**		0.054	0.662	10.652
6	6.699 (32.856)**						-0.048 (3.495)**	0.066	0.664	12.225
7	7.935 (26.968)**	0.070 (1.920)	-0.255 (15.127)**					0.5824	0.445	117.913
8	7.919 (26.866)**	0.065 (1.751)	-0.211 (4.342)**	-0.041 (0.985)				0.58	0.449	78.926
9	8.190 (28.876)**	0.001 (0.016)	-0.138 (2.868)**	-0.009 (0.210)	-0.162 (6.629)**			0.661	0.407	78.657
10	7.940 (28.458)**	0.208 (3.256)**	-0.137 (2.967)**	-0.048 (1.153)	-0.246 (7.735)**	0.122 (3.895)**		0.693	0.387	71.673
11	7.738 (25.223)**	0.214 (3.346)**	-0.130 (2.816)**	-0.046 (1.093)	-0.255 (7.800)**	0.121 (3.885)**	-0.013 (1.186)	0.705	0.382	60.121

Notes:

i. Figures in parenthesis are t-values.
ii. The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent level respectively.
iii. Stock return is the dependent variable.

Table 5 shows that the beta coefficients for bank rate are positive with stock return. It indicates that bank rate has a positive impact on stock return. This finding is similar to the findings of D'Amico and Farka (2011). Likewise, the beta coefficients for deposit interest rate are negative with stock return. It indicates that deposit interest rate has a negative impact on stock return. This finding is consistent with the findings of Uddin and Alam (2009). Similarly, the beta coefficients for lending interest rates are negative with stock return. It indicates that lending interest rate has a negative impact on stock return. This finding is similar to the findings of Chen (2001). Likewise, the beta coefficients for base rate are negative with stock return. It indicates that base rate has a negative impact on stock return. This finding is consistent with the findings of Alqahtani*et al.* (2021). Similarly, the beta coefficients for inflation rate are positive with stock return. It indicates that inflation rate has a positive impact on stock return. This finding is consistent with the findings of Darby (1975). Likewise, the beta coefficients for capital adequacy ratio are negative with stock return. It indicates that capital adequacy ratio has negative impact on stock return. This finding is similar to the findings of Salsabilla and Yunita (2020).

4. Summary and Conclusion

The stock market index is commonly viewed as a measure of an economy's performance, with growth in the index indicating confidence in the economy's future prospects and encouraging investment. However, a

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sudden and unchecked rise in the index can be cause for concern as it may not be supported by fundamental factors and can ultimately lead to a decline in the index, posing a risk to economic and financial stability. Understanding the relationship between the stock market and the various factors that influence it is important. The development and expansion of a nation's economy are significantly influenced by its stock market.

This study attempts to examine the impact of interest rate on stock market in the context of Nepalese listed companies. The study is based on secondary data of 25 listed companies in NEPSE with 200 observations for the period from 2013/14 to 2020/21.

The study showed that deposit interest rate, lending interest rate, base rate and capital adequacy ratio have negative effect on stock price and stock return. Similarly, bank rate and inflation rate have positive effect on stock price and stock return. Moreover, the study concluded that interest rate plays vital role in influencing stock price and stock return in the context of listed companies in NEPSE. The study also concluded that base rate followed by deposit interest rate is the most influencing factor that affects the stock market in the context of listed companies in NEPSE.

References

Ali, H. (2014). Impact of interest rate on stock market; evidence from Pakistani market. *Journal of Business and Management,* 16(1), 64-69.

Alqahtani, S. S., Y. C. Yang, and M. A. Karim (2021). The impact of changes in base interest rates on stock market returns: Evidence from selected emerging markets. *Journal of Risk and Financial Management,* 14(1), 1-23.

Amarasinghe, A. (2015). Dynamic relationship between interest rate and stock price: empirical evidence from Colombo stock exchange. *International Journal of Business and Social Science,* 6(4), 92-97.

Assefa, T. A., O. A. Esqueda, and A. V. Mollick (2017). Stock return and interest rates around the world: a panel data approach. *Journal of Economies and Business,* 89(1), 20-35.

Aydemir, O., and E. Demirhan (2009). The relationship between stock prices and exchange rates evidence from Turkey. *International Research Journal of Finance and Economics,* 1(2), 207-215.

Bashir, A., and A. Hassan (1997). Interest rate sensitivity and stock returns in the United Arab emirates. *Journal of King Saud University*, 9(2), 79-89.

Beck, R., P. Jakubik, and A. Piloiu (2015). Key determinants of non-performing loans: New evidence from a global sample. *Open Economic Review,* 26(1), 525-550.

Ben-David, I., A. Palvia, and C. Spaat (2017). Bank's internal capital markets and deposit rates. *Journal of Financial and Quantitative Analysis,* 52(5), 1797-1826.

Cengiz, T., and C. Basarir (2014). The long run relationship between stock market capitalization rate and interest rate: Co-integration approach. *Procedia- Social and Behavioral Sciences,* 143(1), 1070-1073.

Chen, N. (2001). Asset price fluctuations in Taiwan; evidence from stock and real estate prices 1973 to 1992. *Journal of Asian Economics,* 12(1), 215-232.

Chen, N.F., R. Roll, and S. S. Ross (1986). Economic forces and stock market. *The Journal of Business,* 59(3), 383-403.

Chirchir, D. (2014). The relationship between share prices and interest rates: Evidence from Kenya. *Journal of Finance and Investment Analysis,* 3(2), 91-98.

Coleman, A. K., and K. Tetty (2008). Impact of Macroeconomic Variables of Ghana Stock Exchange. *Journal of Risk and Finance,* 9(4), 365-378.

D'Amico, S., and M. Farka (2011). The fed and the stock market: an identification based on intraday future data. *Journal of Business and Economics Statistics,* 29(1), 126-137.

Darby, M. (1975). The financial and tax effects of monetary policy on interest rate. *Economic Inquiry,* 13(2), 266-276.

Diasakos, T. M., A. S. Andreou, and A. Antoniou (2015). Base rate change and their impact on commercial banks' profitability: evidence from Greece. *Journal of Economic Asymmetries,* 12(2), 89-98.

Eldomiaty, T., Y. Saeed, R. Hammam, and A. Aboulsond (2018). The association between stock prices, inflation rates, interest rates are still persistent empirical evidence from stock duration model. *Journal of Economics, Finance and Administrative Science,* 25(49), 149-161.

https://doi.org/10.55454/rcsas.3.10.2023.006

ISSN: 2583-1380 Vol. 3 | Issue No. 10 | October 2023 Impact Factor: 4.736 (SJIF)

Elsharnouby, M. H., and G. Alexandridis (2020). The relationship between base interest rate and stock market performance: The case of the United Kingdom. *International Journal of Finance and Economics,* 25(3), 347-363.

Erten, B., and Z. Ozturk (2018). Interest rates and stock market returns: Evidence from OECD countries. *International Journal of Economics and Financial Issues,* 8(3), 11-22.

Faff, R. W., A. Hodgson, and M. L. Kremmer (2005). An investigation of the impact of interest rates and interest rate volatility on Australian financial sector stock return distributions. *Journal of Business Financing and Accounting,* 32(5), 1001- 1031.

Fahlevi, R. R., S. Asmapane, and B. Oktavianti (2018). Pengaruh Kinerja Keuangan Terhadap Harga Saham Pada Perusahaan Perbankan yang Terdaftar Di Bursa Efek Indonesia. *Akuntabel,* 15(1), 39–48.

Fama, E. F. (1981). Stock return, real activity, inflation and money. *The American Economic Review,* 71(4), 545-564.

Flannery, M. J., and C. M. James (1984). The effect of interest rate changes on the common stock returns of financial institutions. *Journal of Finance*, 39(4), 1141-1153.

Fordian, D. (2017). The influence of CAR, LDR, and EPS on stock price (study of state owned bank listings on the IDX period 2012-2016). *Jurnal Bisnis Darmajaya,* 3(1), 27–38.

Harahap, D. A., and A. I. Hairunnisah (2017). The effect of NPL, LDR, GCG , NIM , ROA, ROA, CAR, BOPO on stock price in banking companies listed on the Indonesia stock exchange from 2010 - 2014. *Dimension Journal,* 6(1), 22–40.

Jha, G. K. (2018). Monetary policy and the role of central banks: the case of India. *International Journal of Management, Technology, and Social Sciences,* 3(2), 8- 20.

Karki, D. (2018). Stock market responses to macroeconomic dynamics: Testing for long run equilibrium in Nepal. *Pravaha Journal,* 1(1), 64-82.

Khatri, M. (2019). Macroeconomic influence on the Nepalese stock market. *NRB Economic Review,* 31(1), 74-64.

Kwan, S. H. (2003). Impact of deposit rate deregulation in Hong Kong on the market value of commercial banks. *Journal of Banking and Finance,* 26(1), 2231-2248.

Lamichhane, M., and S. Shrestha (2022). Factors Influencing the performance of Nepalese Stock Market. *Nepal Journal of Multidisciplinary Research*, *5*(3), 37–46.

Lavelle, K. C (2004). *The politics of Equity Finance in Emerging Markets.* New York: Oxford University Press.

Lobo, B. J. (2002). Interest rate surprises and stock prices. *The Financial Review,* 37(1), 73-92.

Lynge, M. J., and J. K. Zumwalt (1980). An empirical study of the interest rate sensitivity of commercial bank returns: A multi-index approach. *Journal of Financial and Quantitative Analysis,* 15(3), 731-742.

Madura, J., and Schnusenberg, O. (2000). Effect of Federal Reserve policies on bank equity returns. *Journal of Financial Research,* 23(4), 421-47.

Maysami, R. C., L. C. Howe, and M. A. Hamzah (2004). Relationship between macroeconomic variables and stock market indices: Cointegration evidence from stock exchange of Singapore's all-sector indices. *Journal Pengurusan,* 24(1), 47- 77.

Mbulawa, S. (2015). Effect of macroeconomic variables on economic growth in Botswana. *Journal of Economics and Sustainable Development,* 6(4), 68-78.

Mishkin, F., R. J. Gorden, and S. H. Hymans (1977). What depressed the consumer? The household balance sheet and the 1973-75 recession. *Brooking paper on Economic Activity,* 1977(1), 123-174.

Nordin, N., S. Nodin, and R. Ismail (2014). The impact of community prices, interest rate and exchange rate on stock market performance: An empirical analysis from Malaysia. *Malaysian Management Journal,* 18(1), 39-52.

Ologunde, A., D. Elumilade, and T. Saolu (2006). Stock market capitalization and interest rate in Nigeria: A time series analysis. *International Research Journal of Finance and Economics,* 4(1), 154-67.

Otieno, D. A., R. W. Ngugi, and N. H. Wawire (2017). Effects of interest rate on stock market returns in Kenya. *International Journal of Economics and Finance,* 9(8), 40-50.

Poudel, R. L. (2017). Macroeconomic and firm-specific variables affecting stock price: Evidence from commercial banks of Nepal. *Journal of Interdisciplinary,* 6(1), 17- 27.

https://doi.org/10.55454/rcsas.3.10.2023.006

ISSN: 2583-1380 Vol. 3 | Issue No. 10 | October 2023 Impact Factor: 4.736 (SJIF)

Rahayu, S., H. K. Ningsih, and I. Zukhairani (2018). The effect of loan to deposit ratio (LDR), capital adequacy ratio (CAR) and return on asset (ROA) against stock price at Sharia Commercial Bank in Indonesia. *International Conference on Multidisciplinary Research,* 7(1), 681-685.

Rana, S. B. (2013). Stock market returns and macroeconomic movements: Is there causality? *Management and Economic Review,* 3(3), 95-106.

Salisu, A. A., and A. A. Sikiru (2021). Stock returns and interest rate differential in high and low interest rate environments. *International Journal of Finance and Economics,* 1(1), 1-16.

Salsabilla, B., and I. Yunita (2020). The influence of bank health level on share price of conventional public banking listed on IDX 2014-2018. *Journal of Business Management Krisnadwipayana,* 8(2), 92–103.

Sari, H., and M. Ergul (2017). The effect of changes in the base rate on stock market returns in Turkey. *Journal of Accounting, Finance and Auditing Studies,* 3(1), 1-17.

Sheriff, I. M., and G. K. Amoako (2014). Macroeconomic determinants of interest rate spread in Ghana: Evidence from ARDL modeling approach. *Journal of Finance and Bank Management,* 2(2), 115-132.

Shrestha, P. K., and S. Pokhrel (2019). Factors affecting stock index in Nepal. *SEBON Journal,* 7(1), 33-52.

Singh, G., and L. Padmakumari (2020). Stock market reaction to inflation announcement in the Indian stock market: A sectoral analysis. *Cogent Economics and Finance,* 8(1), 1–22.

Smith, D. (1984). Private information, deposit interest rates, and the stability of the banking system. *Journal of Monetary Economics,* 14(1), 293-317.

Sun, Y., and X. Wang (2018). Asymmetric effects of China's monetary policy on the stock market: Evidence from a nonlinear VAR mode. *Asian Economic and Financial Review,* 8(6), 745–761.

Uddin, M. G., and M. M. Alam (2009). Relationship between interest rate and stock price: Empirical evidence from developed and developing countries. *International Journal of Business and Management,* 4(3), 43-51.

Vaz, J. J., M. Ariff, and R. D. Brooks (2008). Effect of interest rate change on bank stock returns. *Investment Management and Financial Innovations,* 5 (4), 221-236.

Zhou, C. (1996). Stock market fluctuations and the term structure. *Board of Governors of the Federal Reserve System, Finance and Economics Discussion,* 1(1), 1-30.

Ziliwu, P. M., and D. Wibowo (2020). Pengaruh CAR, ROA, dan NPL Terhadap Harga Saham Perbankan yang Terdaftar Di BEI (Studi Kasus Bank BUMN Periode Tahun 2010 – 2018). *Jurnal Inovatif Mahasiswa Manajemen,* 1(1), 42–52.

https://doi.org/10.55454/rcsas.3.10.2023.006