

The Effect of Institutional and Macro-Economic Variables on Share Prices of Listed Companies in Nepal

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Abstract

The study examines the effect of institutional and macro-economic variables on share prices of listed companies in Nepal. The dependent variables selected for the study are market price per share and market capitalization. The selected independent variables are earnings per share, dividend per share, price earnings ratio, GDP growth rate, interest rate and inflation rate. The study is based on secondary data of 12 commercial banks with 108 observations for the study period from 2014/15 to 2022/23. The data were collected from Banking and Financial Statistics published by Nepal Rastra Bank, publications and websites of Nepal Rastra Bank (NRB), Economic Survey Report published by Ministry of Finance and annual reports of the selected commercial banks. The correlation coefficients and regression models are estimated to test the significance and importance of institutional and macro-economic variables on share prices of Nepalese commercial banks.

The study showed that earnings per share has a positive effect on market price per share and market capitalization. It means that increase in earnings per share leads to increase in market price per share and market capitalization. Similarly, dividend per share has a positive effect on market price per share and market capitalization. It means that increase in dividend per share leads to increase in market price per share and market capitalization. The results of the study also showed that price earnings ratio has a positive effect on market price per share and market capitalization. It implies that increase in price earnings ratio leads to increase in market price per share and market capitalization. Likewise, GDP growth rate has a positive effect on market price per share which indicates that higher GDP growth rate leads to increase in market price per share. However, interest rate has a negative effect on market price per share and market capitalization. It implies that higher interest rate leads to decrease in market price per share and market capitalization. Similarly, inflation rate has a positive effect on market price per share. It implies that higher inflation rate leads to increase in market price per share.

Keywords: earnings per share, dividend per share, price earnings ratio, GDP growth rate, interest rate, inflation rate, market price per share, market capitalization

1. Introduction

Stock markets facilitate the efficient allocation of resources by directing funds to companies with the most promising projects and highest returns. A stable and growing stock market can boost investor confidence, leading

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to increased spending and investment (El Wassal, 2013). Over the past two decades, capital markets in developing countries have experienced a rapid evolution. The share market is continuously moving and changing and it is affected not only by the success of the listed companies, but also by the dynamic business environment. Share prices are very volatile and keep on changing because of several reasons, both predictable and unpredictable. The knowledge of how public financial information causes stock prices to change is therefore of vital importance for the stock exchange market players bearing in mind that current future investors usually value the share price of a company (Francis et al., 2009). Stock exchange and interest rate are two crucial factors of economic growth of a country. The impacts of interest rate on stock exchange provide important implications for monetary policy, risk management practices, financial securities valuation and government policy towards financial markets. the stock exchange and interest rates are intertwined with the economic growth of a country, impacting investment, consumer behavior, corporate performance, and overall economic stability. Both stock market performance and interest rates influence the overall investment climate. A robust stock market and favorable interest rates can attract domestic and foreign investment. A vibrant stock market provides investors with opportunities to invest their funds, potentially leading to wealth generation and increased consumption (Osinubi and Amaghionyeodiwe, 2003).

The stock market plays an important role in economic development by promoting capital formation and raising economic growth. Trading of securities in this market facilitates savers and users of capital by fund pooling, risk sharing, and transferring wealth. Economic activities can be created by flow of reserves to the most productive investment. Investors take decisions to invest in particular shares of companies, keeping in view their share prices. The stock market enables companies to raise capital by issuing shares to the public. This capital is essential for businesses to invest in new projects, expand operations, and innovate, thereby contributing to economic growth (Mehr-un-Nisa and Nishat, 2011). The stock market stimulates economic activities by ensuring that reserves flow towards the most productive investments. Efficient allocation of resources results in better utilization of capital, fostering economic activities across various sectors. Overall, the stock market not only helps in mobilizing savings for investment in productive channels but also ensures efficient allocation of capital, thereby boosting economic growth and development. Abdallah et al. (2022) investigated the financial determinants of the market stock price of the industrial companies listed on

the Amman Stock Exchange in Jordan. The findings of the study revealed that the ratio of assets turnover, long-term debt-to-total assets ratio, earnings per share, return on assets, inventory-to-total current assets ratio, total current assets-to-total assets ratio, and total assets significantly affect the market stock price of Jordanian industrial companies; while the equity-to-total assets ratio and working capital ratio have no significant effect. These results are compatible with the pecking order theory and signaling theory. Besides, the shift in the market stock prices of Jordanian industrial companies is governed by financial indicators at a relatively high level.

When central banks raise interest rates (bank rate), borrowing becomes more expensive for businesses and consumers. This can lead to decreased corporate earnings as companies face higher costs for servicing debt. Consequently, investors may perceive these companies as less valuable, leading to a decrease in their stock prices. Al-Shubiri (2010) demonstrated that a tightening of interest rates driven by monetary policy has a negative effect on stock prices. Beck *et al.* (2015) explained that an increase in lending interest rates typically raises the cost of borrowing for businesses. This can lead to higher expenses for companies, reducing their profitability and potentially lowering stock prices. Conversely, a decrease in lending rates can lower borrowing costs for businesses, potentially improving their profitability and supporting higher stock prices. Nurfauzi *et al.* (2020) assessed the determinants of stock prices of financial listed firms in Indonesia capital market. Using a panel data analysis method, the empirical research result showed that leverage has a negative effect on firm share prices, profitability and firm size have a positive effect on stock prices. Meanwhile, institutional ownership and dividend policy does not affect firm stock prices. Mehr-un-Nisa and Nishat (2011) examined the empirical relationship between the stock prices, financial fundamentals and macroeconomic factors in Karachi Stock Exchange. By applying the dynamic panel Generalized Method of Moments (GMM) technique on the data of 221 firms during 1995-2006, the study found that previous behavior of stock prices, company size, previous earnings per share are the most important factors. In addition, macroeconomic indicators like, GDP growth, rate of interest and financial depth have significant relationship with the stock prices. Market to book value, share turnover ratio and inflation can also influence the stock price behavior.

Hunjra *et al.* (2014) examined the impact of dividend policy, earning per share, return on equity, and profit after tax on stock prices. The result indicated that dividend yield and dividend payout ratio which are both measures of

dividend policy have significant impact on stock price. Dividend yield is negatively related to stock price and dividend payout ratio is positively related to stock price which means that these results are against dividend irrelevance theory. Similarly, profit after tax and earnings per share have significant positive impact on stock price and return on equity which shows positive insignificant impact on stock price. Sharif et al. (2015) investigated the factors affecting share prices in the case of Bahrain stock exchange. The variables used in the study were return on equity, book value per share, earnings per share, dividend per share, dividend yield, price earnings, and debt to assets and controlled by firm size as an independent variables and market price of share as a dependent variable. The study concluded that return on equity, book value per share, dividend per share, dividend yield, price earnings, and firm size are the significant determinants of share prices in the Bahrain market. Fama and Schwert (1977) found out that stock returns were inversely related to inflationary expectations. Furthermore, Rapach (2002) measured the long-run response of real stock prices to a permanent inflation shock for 16 individual industrialized countries. The estimation results showed a negative long-run real stock price response to a permanent inflation shock.

In the context of Nepal, Panta (2020) examined the linkage between stock market prices (NEPSE index) and five macro-economic variables, namely; real GDP, broad money supply, interest rate, inflation and exchange rate using an autoregressive distributed lag (ARDL) model to explain the behavior of the Nepal Stock Exchange Index. The result showed that the fluctuation of NEPSE Index in long run is strongly associated with broad money supply, interest rate, inflation, and exchange rate. The GDP, money supply and exchange rate can positively define in short run while only money supply holds positive relationship in long run. Acharya and Pradhan (2019) assessed the effect of firm specific and macro-economic variable on share price determination of commercial banks in Nepal. The result showed that beta coefficients for earning per share, dividend per share, gross domestic product, and inflation are positive for market price of share whereas, negative for firm size, return on assets and interest rate. Gautam and Bista (2019) examined the factors affecting the share price of Nepalese insurance companies. The result showed that firm specific variables like earnings per share, dividend per share, price earnings ratio, book value per share, return on assets and size are the major determining stock price in context of insurance companies in Nepal. Among the variables, size is found to be the most important determining variable that affects the share price. Among the macro-economic variables

such as gross domestic product, inflation and money supply, gross domestic product is a major variable that affect the share price. Wagle (2021) revealed that Market to Book proportion (M/B), Price-earnings proportion (P/E) and Earning Yield proportion (E/Y) have a significant positive association with the stock market price. In contrast, the dividend yield proportion has a positive but insignificant impact on the stock market price.

The above discussion shows that empirical evidences vary greatly across the studies on the effect of institutional and macro-economic variables on share prices of banks. 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 the context of Nepal. Therefore, in order to support one view or the other, this study has been conducted.

The major objective of the study is to examine the effect of institutional and macro-economic variables on share prices of listed companies in Nepal. Specifically, it examines the relationship of earnings per share, dividend per share, price earnings ratio, GDP growth rate, interest rate and inflation rate on market price per share and market capitalization in the context of Nepalese commercial banks.

The remainder 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 aspects

The study is based on the secondary data which were collected from 12 Nepalese commercial banks from 2014/15 to 2022/23, leading to a total of 108 observations. The study employed convenience sampling method. The main sources of data collected from the Bank Supervision Report published by Nepal Rastra Bank (NRB), Economic Survey Report published by Ministry of Finance and annual reports of the selected commercial banks. This study is based on descriptive as well as causal comparative research designs. Table 1 shows the list of commercial banks selected for the study along with the study period and number of observations.

Table 1

List of commercial banks selected for the study along with study period and number of observations

S. N.	Name of the banks	Study period	Observations
1	Nepal Bank Limited	2014/15 - 2022/23	9
2	NMB Bank Limited	2014/15 - 2022/23	9
3	Himalayan Bank Limited	2014/15 - 2022/23	9
4	Everest Bank Limited	2014/15 - 2022/23	9
5	Machhapuchchhre Bank Limited	2014/15 - 2022/23	9
6	Sanima Bank Limited	2014/15 - 2022/23	9
7	Siddhartha Bank Limited	2014/15 - 2022/23	9
8	Prime Commercial Bank Limited	2014/15 - 2022/23	9
9	Citizens Bank International Limited	2014/15 - 2022/23	9
10	Agricultural Development Bank Limited	2014/15 - 2022/23	9
11	Standard Chartered Bank Nepal Limited	2014/15 - 2022/23	9
12	Nepal SBI Bank Limited	2014/15 - 2022/23	9
Total number of observations			108

Thus, the study is based on 108 observations.

The model

The model used in this study assumes that share prices of listed companies depends upon institutional and macro-economic variables. The dependent variables selected for the study are market price per share and market capitalization. Similarly, the selected independent variables are earnings per share, dividend per share, price earnings ratio, GDP growth rate, interest rate and inflation rate. Therefore, the models take the following forms:

$$MPS = \beta_0 + \beta_1 EPS_{it} + \beta_2 DPS_{it} + \beta_3 PE_{it} + \beta_4 GDP_{it} + \beta_5 IR_{it} + \beta_6 IP_{it} + e_{it}$$

$$MCAP = \beta_0 + \beta_1 EPS_{it} + \beta_2 DPS_{it} + \beta_3 PE_{it} + \beta_4 GDP_{it} + \beta_5 IR_{it} + \beta_6 IP_{it} + e_{it}$$

Where,

MPS = Market price per share as measured by the average market price per share of listed companies, in Rs.

MCAP = Market capitalization as measured by the product of market price per share and total outstanding shares, Rs. in millions.

EPS= Earnings per share as measured by the ratio of total earnings to total outstanding shares, in Rs.

DPS= Dividend per share as measured by the ratio of total dividend amount

to total outstanding shares, in Rs.

PE= Price to earnings ratio as measured by the ratio of market price per share to total earnings per share, in percentage.

IR= Interest rate as measured by the general average interest rate for the fiscal year, in percentage.

GDP= Gross domestic product growth as measured by the growth rate of total market value of goods and services produced within a country's borders in one year, in percentage.

IP= Inflation rate as measured by the change in consumer price index, in percentage.

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

Earnings per share

Ali et al. (2014) assessed the impact of dividend policy on shareholder wealth in Pakistan of textile industry. The study concluded that earnings per shares possess positive relationship in stock price. Kumar (2017) examined the impact of earning per share and price earnings ratio on the market price of share of eight companies of auto sector based on Nifty auto index and for a period of five consecutive financial years from 2011- 12 to 2015-16. The results indicated that earning per share and price earnings ratio have a significant positive impact on market price of share. Moreover, Malakar and Gupta (2002), using the data of eight major companies of cement industry in India for the period 1968 to 1988, discovered that earning per share has significant impact on market price of share (MPS). Based on it, this study develops the following hypothesis:

H_1 : There is a positive relationship between earnings per share and share price.

Dividend per share

Nazir et al. (2010) investigated the role of corporate dividend policy in determining the volatility in the stock prices in Pakistan. Using a sample of 73 firms has been selected from Karachi Stock Exchange (KSE) indexed (KSE-100) firms for the period of 2003-2008 and fixed effect and random effect models have been applied on the panel data, the study revealed that

dividend policy has a strong significant relationship with the stock price volatility in KSE. The study also found that dividend policy has a strong significant relationship with the stock price. Samiloglu et al. (2017) analyzed the impact of dividend payout policy on selected firms' share price listed in Istanbul Stock Exchange (BIST) for the period 2006 - 2015. The study revealed that cash dividend amount has a positive and significant relationship with share price. Agyei and Marfo-Yiadom (2011), using the financial ratios of 16 commercial banks quoted at GSE for the years 1999- 2003, showed that dividend payouts positively influence the bank performance and value. Based on it, this study develops the following hypothesis:

H₂: There is a positive relationship between dividend per share and share price.

Price to earnings ratio

Higher price earnings ratio indicates the greater confidence of investor in the firm's future. Hossain (2020) examined the factors of share price volatility in private commercial banks in Bangladesh. The study concluded that there is a positive correlation between market price of shares and PE ratio. Malhotra and Tandon (2013) attempted to determine the factors that influence stock prices in the context of National Stock Exchange (NSE) of 100 companies. A sample of 95 companies was selected for the period 2007- 2012 and linear regression model was used. The results indicated that firms' book value, earning per share, and price-earnings ratio are having a significant positive association with firm's stock price. Almumani (2014) attempted to identify the quantitative factors that influence share prices for the listed banks in Amman Stock Exchange over the period 2005-2011 using a linear multiple regression model. The study showed that there is a significant positive relationship between price earnings ratio and share prices. Based on it, this study develops the following hypothesis:

H₃: There is a positive relationship between price earnings ratio and share price.

Interest rate

Alam and Uddin (2009) examined the relationship between stock index and interest rate for fifteen developed and developing countries - Australia, Bangladesh, Canada, Chile, Colombia, Germany, Italy, Jamaica, Japan, Malaysia, Mexico, Philippine, S. Africa, Spain, and Venezuela. The study

found that interest rate has a significant negative relationship with share price and for six countries, it is found that changes of interest rate have significant negative relationship with changes of share price. Menike (2006) assessed the effect of macroeconomic variables on stock prices in emerging Sri Lankan stock market. The study showed that interest rate has a strong negative influence on the stock price in emerging Sri Lankan stock market. Moreover, Lael Joseph and Vezos (2006) found out that there is a negative correlation between interest rate and stock prices performance. Based on it, this study develops the following hypothesis:

H₄: There is a negative relationship between interest rate and share price.

Gross domestic product growth

Mukherjee and Naka (1995), using Vector Error Correction Model, found that there is positive and significant relationship between GDP and market price per share. Higher domestic productivity increase both domestic GDP and domestic stock prices. In the panel, countries with favorable GDP developments also have higher stock prices (Alexius and Sp, 2018). Cheung and Ng (1998) found cointegration between real stock returns and the real oil price, consumption, money balances and GDP. Nasseh and Strauss (2000) documented cointegrating relationships between stock markets and domestic and German industrial production, short term interest rates, long term interest rates, CPI, and manufacturing order surveys in a number of European countries. Based on it, this study develops the following hypothesis:

H₅: There is a positive relationship between GDP growth rate and share price.

Inflation rate

Abugri (2008) observed a positive correlation between inflationary expectations and stock market capitalization in Chile. Moreover, Wongbangpo (2002) revealed strong and positive relationship of inflation, foreign exchange rates, money supply, GDP with stock market development in ASEAN countries. Amata et al. (2016) examined the relationship between interest rate, inflation and stock market volatility in Kenya. The vector error correction model was used to analyse time series data for the long run causal relationship between inflation, interest rate and stock market volatility, while the granger causality test was used to analyze the short run relationship. The findings revealed that there was a positive and significant long run relationship between inflation rate and stock market volatility. Based on it, this study develops the following

hypothesis:

H₆: There is a positive relationship between inflation rate and share price.

3. Results and discussion

Descriptive statistics

Table 2 presents the descriptive statistics of selected dependent and independent variables during the period 2014/15 to 2022/23.

Table 2

Descriptive statistics

This table shows the descriptive statistics of dependent and independent variables of 12 Nepalese commercial banks for the study period from 2014/15 to 2022/23. The dependent variables are MPS (Market price per share as measured by the average market price per share of listed companies, in Rs) and MCAP (Market capitalization as measured by the product of market price per share and total outstanding shares, Rs. in millions). The independent variables are EPS (Earnings per share as measured by the ratio of total earnings to total outstanding shares, in Rs.), DPS (Dividend per share as measured by the ratio of total dividend amount to total outstanding shares, in Rs.), PE (Price to earnings ratio as measured by the ratio of market price per share to total earnings per share, in percentage), IR (Interest rate as measured by the general average interest rate for the fiscal year, in percentage), GDP (Gross domestic product growth as measured by the growth rate of total market value of goods and services produced within a country’s borders in one year, in percentage) and IP (Inflation rate as measured by the change in consumer price index, in percentage).

Variables	Minimum	Maximum	Mean	Std. Deviation
MPS	173.10	3600.00	577.61	552.01
MCAP	12168.00	101247.34	38743.54	17395.40
EPS	5.30	78.83	26.65	12.47
DPS	0.00	105.26	16.39	13.96
PE	5.48	78.33	21.16	11.46
GDP	-2.37	8.98	5.28	3.30
IR	4.56	8.37	6.62	1.01
IP	3.60	9.70	6.02	1.90

Source: SPSS Software

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 coefficients of dependent and independent variables of 12 Nepalese commercial banks for the study period of 2014/15 to 2022/23. The dependent variables are MPS (Market price per share as measured by the average market price per share of listed companies, in Rs) and MCAP (Market capitalization as measured by the product of market price per share and total outstanding shares, Rs. in millions). The independent variables are EPS (Earnings per share as measured by the ratio of total earnings to total outstanding shares, in Rs.), DPS (Dividend per share as measured by the ratio of total dividend amount to total outstanding shares, in Rs.), PE (Price to earnings ratio as measured by the ratio of market price per share to total earnings per share, in percentage), IR (Interest rate as measured by the general average interest rate for the fiscal year, in percentage), GDP (Gross domestic product growth as measured by the growth rate of total market value of goods and services produced within a country's borders in one year, in percentage) and IP (Inflation rate as measured by the change in consumer price index, in percentage).

Variables	MPS	MCAP	EPS	DPS	PE	GDP	IR	IP
MPS	1							
MCAP	0.623**	1						
EPS	0.622**	0.188	1					
DPS	0.703**	0.405**	0.439**	1				
PE	0.759**	0.644**	0.098	0.500**	1			
GDP	0.222*	-0.061	0.332**	0.235*	0.102	1		
IR	-0.047	-0.263**	0.018	-0.139	-0.110	0.007	1	
IP	0.310**	-0.074	0.253**	0.063	0.207*	-0.214*	0.610**	1

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

Table 3 shows that earnings per share has a positive relationship with market price per share. It means that increase in earnings per share leads to increase in market price per share. Similarly, dividend per share has a positive relationship with market price per share. It means that increase in dividend per share leads to increase in market price per share. The results of the study also shows that price earnings ratio has a positive relationship with market price per share. It implies that increase in price earnings ratio leads to increase in market price per share. Likewise, GDP growth rate has a positive relationship with market price per share which indicates that higher GDP growth rate leads to increase in market price per share. However, interest rate has a negative relationship with market price per share. It implies that higher interest rate leads to decrease in market price per share. Similarly, inflation rate has a positive relationship with market price per share. It implies that higher inflation rate leads to increase in market price per share.

On the other hand, earnings per share have a positive relationship with market capitalization. It means that increase in earnings per share leads to increase in market capitalization. Similarly, dividend per share has a positive relationship with market capitalization. It means that increase in dividend per share leads to increase in market capitalization. The results of the study also shows that price earnings ratio has a positive relationship with market capitalization. It implies that increase in price earnings ratio leads to increase in market capitalization. Likewise, GDP growth rate has a negative relationship with market capitalization which indicates that higher GDP growth rate leads to decrease in market capitalization. However, interest rate has a negative relationship with market capitalization. It implies that higher interest rate leads to decrease in market capitalization. Similarly, inflation rate has a negative relationship with market capitalization. It implies that higher inflation rate leads to decrease in market capitalization.

Regression analysis

Having indicated the Pearson's correlation coefficients, the regression analysis has been carried out and results are presented in Table 4. More specifically, it shows the regression results of earnings per share, dividend per share, price earnings ratio, GDP growth rate, interest rate and inflation rate on market price per share in the context of Nepalese commercial banks.

Table 4

Estimated regression results of earnings per share, dividend per share, price earnings ratio, GDP growth rate, interest rate and inflation rate on market price per share

The results are based on panel data of 12 commercial banks with 108 observations for the period of 2014/15-2022/23 by using the linear regression model and the model is $MPS = \beta_0 + \beta_1 EPS_{it} + \beta_2 DPS_{it} + \beta_3 PE_{it} + \beta_4 GDP_{it} + \beta_5 IR_{it} + \beta_6 IP_{it} + e_{it}$ where, the dependent variable is MPS (Market price per share as measured by the average market price per share of listed companies, in Rs). The independent variables are EPS (Earnings per share as measured by the ratio of total earnings to total outstanding shares, in Rs.), DPS (Dividend per share as measured by the ratio of total dividend amount to total outstanding shares, in Rs.), PE (Price to earnings ratio as measured by the ratio of market price per share to total earnings per share, in percentage), IR (Interest rate as measured by the general average interest rate for the fiscal year, in percentage), GDP (Gross domestic product growth as measured by the growth rate of total market value of goods and services produced within a country's borders in one year, in percentage) and IP (Inflation rate as measured by the change in consumer price index, in percentage).

Model	Intercept	Regression coefficients of						Adj. R _{bar} ²	SEE	F-value
		EPS	DPS	PE	GDP	IR	IP			
1	-156.49 (1.581)	27.54 (8.81)**						0.38	434.15	66.97
2	121.65 (2.074)*		27.81 (10.19)**					0.49	394.15	103.86
3	-196.15 (2.679)*			36.57 (12.06)**				0.57	361.02	144.15
4	381.65 (3.88)**				37.13 (2.34)*			0.04	540.73	5.507
5	748.84 (2.102)*					-25.86 (0.48)		0.07	553.98	0.236
6	33.84 (0.20)						90.29 (3.36)**	0.08	527.24	11.28
7	-225.92 (2.855)**	17.18 (5.773)**	21.07 (7.926)**					0.60	345.03	84.43
8	-793.95 (14.77)**	24.45 (16.26)**		33.97 (20.72)**				0.87	193.35	383.54
9	-165.26 (1.54)	27.28 (7.613)**			2.988 (0.221)			0.37	436.11	33.21
10	53.752 (0.184)	27.592 (8.18)**				-31.943 (0.764)		0.39	435.01	33.69
11	-394.41 (2.651)*	25.71 (7.513)**					47.58 (2.11)*	0.40	427.21	36.82
12	-741.93 (14.62)**	21.33 (13.74)**	7.17 (4.50)**	29.94 (17.10)**				0.89	177.73	309.35
13	740.60 (2.40)*				61.52 (4.34)**	-250.32 (4.37)**	194.20 (6.24)**	0.29	464.98	15.6
14	-841.91 (6.26)**	21.41 (11.93)**	7.70 (4.77)**	29.70 (15.58)**	6.70 (1.12)	-13.28 (0.54)	7.18 (0.49)	0.87	176.79	157.02

Notes:

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

Table 4 shows that the beta coefficients for earnings per share are positive with market price per share. It indicates that earnings per share have a positive impact on market price per share. This finding is similar to the findings of Malakar and Gupta (2002). Similarly, the beta coefficients for dividend per share are positive with market price per share. It indicates that dividend per share has a positive impact on market price per share. This finding is consistent with the findings of Nazir et al. (2010). Likewise, the beta coefficients for price earnings ratio are positive with market price per share. It indicates that price earnings ratio has a positive impact on market price per share. This finding is similar to the findings of Hossain (2020). In addition, the beta coefficients for GDP growth rate are positive with market price per share. It indicates that GDP growth rate has a positive impact on market price per share. This finding is consistent with the findings of Mukherjee and Naka (1995). Further, the beta coefficients for interest rate are negative with market price per share. It indicates that interest rate has a negative impact on market price per share. This finding is similar to the findings of Menike (2006). Moreover, the beta coefficients for inflation rate are positive with market price per share. It indicates that inflation rate has a positive impact on market

price per share. This finding is consistent with the findings of Abugri (2008).

Table 5 shows the regression results of earnings per share, dividend per share, price earnings ratio, GDP growth rate, interest rate and inflation rate on market capitalization in the context of Nepalese commercial banks.

Table 5

Estimated regression results of earnings per share, dividend per share, price earnings ratio, GDP growth rate, interest rate and inflation rate on market capitalization

The results are based on panel data of 12 commercial banks with 108 observations for the period of 2014/15-2022/23 by using the linear regression model and the model is $MCAP = \beta_0 + \beta_1 EPS_{it} + \beta_2 DPS_{it} + \beta_3 PE_{it} + \beta_4 GDP_{it} + \beta_5 IR_{it} + \beta_6 IP_{it} + e_{it}$ where, the dependent variable is MCAP (Market capitalization as measured by the product of market price per share and total outstanding shares, Rs. in millions). The independent variables are EPS (Earnings per share as measured by the ratio of total earnings to total outstanding shares, in Rs.), DPS (Dividend per share as measured by the ratio of total dividend amount to total outstanding shares, in Rs.), PE (Price to earnings ratio as measured by the ratio of market price per share to total earnings per share, in percentage), IR (Interest rate as measured by the general average interest rate for the fiscal year, in percentage), GDP (Gross domestic product growth as measured by the growth rate of total market value of goods and services produced within a country's borders in one year, in percentage) and IP (Inflation rate as measured by the change in consumer price index, in percentage).

Model	Intercept	Regression coefficients of						Adj. R_bar ²	SEE	F-value
		EPS	DPS	PE	GDP	IR	IP			
1	317.58 (8.11)**	262.10 (1.96)*						0.02	171.66	3.87
2	304.70 (12.81)**		262.10 (1.96)*					0.15	159.89	20.80
3	180.57 (6.66)**			977.82 (8.66)**				0.40	133.70	75.12
4	404.30 (12.74)**				-319.79 (0.626)			0.06	174.45	0.392
5	688.81 (6.35)**					-4552.62 (2.811)*		0.06	168.60	7.904
6	428.20 (7.63)**						-677.4 (0.762)	0.04	174.29	0.581
7	301.18 (8.18)**	17.42 (0.126)	497.78 (4.02)**					0.14	160.54	10.31
8	13760 (3.73)**	176.05 (1.70)		559.11 (8.53)*				0.42	132.51	39.69
9	338.95 (8.07)**	326.03 (2.32)*			-727.86 (1.37)			0.03	170.94	2.89
10	621.12 (5.57)**	268.72 (2.08)*				-4611.81 (2.89)**		0.08	166.00	6.25
11	376.96 (6.32)**	307.73 (2.24)*					-1187.91 (1.31)	0.03	171.06	2.82
12	142.75 (3.76)**	144.76 (1.24)	70.93 (0.595)	919.24 (7.01)**				0.41	132.92	26.41
13	715.69 (6.38)**				-164.10 (0.319)	-5889.33 (2.83)**	1166.90 (1.03)	0.05	169.03	3.10
14	267.13 (3.01)**	466.30 (3.93)**	8.07 (0.076)	1125.98 (8.95)**	-1802.82 (4.37)**	-1378.05 (0.589)	-3978.62 (4.17)**	0.55	116.74	22.76

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. Market capitalization is the dependent variable.

Table 5 shows that the beta coefficients for earnings per share are positive with market capitalization. It indicates that earnings per share have a positive impact on market capitalization. This finding is similar to the findings of Kumar (2017). Similarly, the beta coefficients for dividend per share are positive with market capitalization. It indicates that dividend per share has a positive impact on market capitalization. This finding is similar to the findings of Samiloglu et al. (2017). Likewise, the beta coefficients for price earnings ratio are positive with market capitalization. It indicates that price earnings ratio has a positive impact on market capitalization. This finding is similar to the findings of Almumani (2014). In addition, the beta coefficients for GDP growth rate are negative with market capitalization. It indicates that GDP growth rate has a negative impact on market capitalization. This finding is consistent with the findings of Nasseh and Strauss (2000). Further, the beta coefficients for interest rate are negative with market capitalization. It indicates that interest rate has a negative impact on market capitalization. This finding is consistent with the findings of Lael Joseph and Vezos (2006). Moreover, the beta coefficients for inflation rate are negative with market capitalization. It indicates that inflation rate has a negative impact on market capitalization. This finding is similar to the findings of Amata et al. (2016).

4. Summary and conclusion

The stock market has become an important market that plays an essential role in economic prosperity, promotes the capital formation, and maintains economic development. However, stock prices fluctuate every day or even at different trading sessions in one day. It means that the stock price is determined by supply and demand. There is no perfect market that shows the real swings of stock prices. However, two main groups of factors determine whether a stock's supply is higher, lower, or equal to its demand. The first group includes micro factors such as business efficiency, dividend, ownership structure, management features, and enterprise peculiarities. The second group includes macro factors as follows: institutional environment, inflation rate, gold price, interest rates, exchange rates, money supply, industrial output, gross domestic product per capita and other economic conditions.

This study attempts to analyse the effect of institutional and macro-economic variables on share prices of listed companies in Nepal. The study is based on secondary data of 12 commercial banks with 108 observations for the period from 2014/15 to 2022/23.

The major conclusion of this study is that earnings per share, dividend per share and price earnings ratio have positive effect on market price per share and market capitalization in the context of Nepalese commercial banks. However, GDP growth rate, interest rate and inflation rate have negative effect on market capitalization. Moreover, GDP growth rate and inflation rate have positive effect on market price per share. Similarly, the study also concluded that price earnings ratio followed by dividend per share is the most influencing factor that determines the market price per share in the context of Nepalese commercial banks.

References

- Abdallah, A., M. A. Afifa, I. H. Saleh, and F. Alsufy, 2022. Determinants of market stock price: New Evidence from an Emerging Market. *Information Sciences Letters* 11(2), 549-558.
- Abugri, B. A., 2008. Empirical relationship between macroeconomic volatility and stock returns: Evidence from Latin American markets. *International Review of Financial Analysis* 17(2), 396-410.
- Acharya, N., and S. Pradhan, 2019. Relationship between trading volume, stock return and return volatility: A case of Nepalese insurance companies. *Nepalese Journal of Insurance and Social Security* 2(2), 32-41.
- Agyei, S. K., and E. Marfo-Yiadom, 2011. Dividend policy and bank performance in Ghana. *International Journal of Economics and Finance* 3(4), 202-207.
- Alam, M. M., and G. Uddin, 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.
- Alexius, A., and D. Sp, 2018. Stock prices and GDP in the long run. *Journal of Applied Finance and Banking* 8(4), 107-126.
- Alim, W., A. Ali, and M. I. Qureshi, 2014. Impact of dividend policy on shareholder wealth in Pakistan (evidence textile industry perspective). *Gomal University Journal of Research* 30(1), 18-31.
- Almumani, M. A., 2014. Determinants of equity share prices of the listed banks in Amman stock exchange: Quantitative approach. *International Journal of Business and Social Science* 5(1), 91-104.
- Al-Shubiri, F. N., 2010. Analysis the determinants of market stock price movements:

An empirical study of Jordanian commercial banks. *International Journal of Business and Management* 5(10), 137-147.

- Amata, E., W. Muturi, and M. Mbewa, 2016. The causal relationship between inflation, interest rate and stock market volatility in Kenya. *European Journal of Business, Economics and Accountancy* 4(6), 10-23.
- 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.
- Cheung, Y., and L. Ng, (1998). International evidence on the stock market and aggregate economic activity. *Journal of Empirical Finance* 5(3), 281-296.
- El Wassal, K. A., 2013. The development of stock markets: In search of a theory. *International Journal of Economics and Financial Issues* 3(3), 606-624.
- Fama, E. F., and G. W. Schwert, 1977. Asset returns and inflation. *Journal of Financial Economics* 5(2), 115-146.
- Francis, J. R., S. Huang, I. K. Khurana, and R. Pereira, 2009. Does corporate transparency contribute to efficient resource allocation? *Journal of Accounting Research* 47(4), 943-989.
- Gautam, A., and N. B. Bista, 2019. Factors affecting share price of Nepalese non-life insurance companies. *Nepalese Journal of Insurance and Social Security* 2(2), 22-31.
- Hossain, M. Z., 2020. Factors of share price volatility: Empirical evidence from private commercial banks in Bangladesh. *Research Journal of Finance and Accounting* 11(4), 110-117.
- Hunjra, A. I., M. Ijaz, D. M. I. Chani, and U. Mustafa, 2014. Impact of dividend policy, earning per share, return on equity, profit after tax on stock prices. *International Journal of Economics and Empirical Research* 2(3), 109-115.
- Kumar, P., 2017. Impact of earning per share and price earnings ratio on market price of share: a study on auto sector in India. *International Journal of Research* 5(2), 113-118.
- Lael Joseph, N., and P. Vezos, 2006. The sensitivity of US banks' stock returns to interest rate and exchange rate changes. *Managerial Finance* 32(2), 182-199.
- Malakar, B., and R. Gupta, 2002. Determinants of share price-A System Approach:

The Modified Model. *Finance India* 16(4), 1409-1418.

- Malhotra, N., and K. Tandon, 2013. Determinants of stock prices: Empirical evidence from NSE 100 companies. *International Journal of Research in Management and Technology* 3(3), 86-95.
- Mehr-un-Nisa, M. N., and M. Nishat, 2011. The determinants of stock prices in Pakistan. *Asian Economic and Financial Review* 1(4), 276-291.
- Menike, L. M. C. S., 2006. The effect of macroeconomic variables on stock prices in emerging Sri Lankan stock market. *Sabaragamuwa University Journal* 6(1), 50-67.
- Mukherjee, T. K., and A. Naka, 1995. Dynamic relations between macroeconomic variables and the Japanese stock market: an application of a vector error correction model. *Journal of Financial Research* 18(2), 223-237.
- Nasseh, A., and J. Strauss, (2000). Stock prices and domestic and international macroeconomic activity: a cointegration approach. *The Quarterly Review of Economics and Finance* 40(2), 229-245.
- Nazir, M. S., M. M. Nawaz, W. Anwar, and F. Ahmed, 2010. Determinants of stock price volatility in Karachi stock exchange: The mediating role of corporate dividend policy. *International Research Journal of Finance and Economics* 55(55), 100-107.
- Nurfauzi, A., P. D. Jayanti, Z. S. Aminah, and M. J. Indrawan, 2020. The determinants of stock prices: A study of financial listed firms in Indonesia capital market. *PalArch's Journal of Archaeology of Egypt/Egyptology* 17(4), 3489-3499.
- Osinubi, T. S., and L. A. Amaghionyeodiwe, 2003. Stock market development and long-run growth in Nigeria. *Journal of African Business* 4(3), 103-129.
- Panta, B. P. 2020. Macroeconomic determinants of stock market prices in Nepal. *Quest Journal of Management and Social Sciences* 2(1), 64-79.
- Rapach, D. E., 2002. The long-run relationship between inflation and real stock prices. *Journal of Macroeconomics* 24(3), 331-351.
- Samiloglu, F., H. B. A. Öztop, and Y. E. Kahraman, 2017. Impact of dividend policy on share price: A case study in Istanbul Stock Exchange (BIST). *IOSR Journal of Economics and Finance* 8(4), 49-53.

- Sharif, T., H. Purohit, and R. Pillai, 2015. Analysis of factors affecting share prices: The case of Bahrain stock exchange. *International Journal of Economics and Finance* 7(3), 207-216.
- Wagle, S., 2021. Determinant of stock market prices in Nepal: A case of commercial banks. *SDMIMD Journal of Management* 12(2), 1–9.
- Wongbangpo, P., and S. C. Sharma, 2002. Stock market and macroeconomic fundamental dynamic interactions: ASEAN-5 countries. *Journal of ASEAN Economics* 13(1), 27-51.