

Firm's Characteristics and Macro-Economic Variables on Expected Stock Returns

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ABSTRACT :*This study examines the effect of firm's characteristics and macroeconomic variables on common stock return from the firms listed in Nepal Stock Exchange (NEPSE). The explained variable for the study is stock return which is calculated as the annual capital gain yield. The explanatory variables consist of firm size, book to market equity, earning yield, cash flow yield, GDP growth, rate of inflation, real interest rate, and money supply. The data are collected from the database of NEPSE, Nepal Rastra Bank (NRB), and the annual reports of the selected firms. The study is based on the 150 observations from the 10 sample firms for the period of 15 years (from 2003/4 to 2017/18). Fixed effect panel data analysis is used to examine the effect of firm characteristics and macroeconomic variables on common stock return in Nepalese firms. The findings confirms significant negative impact of firm size, book to market equity, earning yield, and cash flow yield on stock return in Nepalese context. Among the macroeconomic variables, GDP growth rate, and interest rate have significant negative impact on stock return. Contrarily, only the rate of inflation has significant positive impact on stock return in the context of Nepal. No significant effect of money supply is observed on common stock return in the context of Nepal.*

Key words: Stock Return, Firm Size, Book to Market Equity, Earning Yield, Cash flow Yield

I. GENERAL BACKGROUND

Common stocks are the major instruments to mobilize money from the surplus units (people/ institutions who have it) to the deficit units (those who need it) for productive use. Stock market is a particular component of capital market where the common stocks of corporations are traded. The prices of the common stocks are affected by various factors operating within and outside of the corporation. Investors are expected to know the theoretical relationship between the market price of the common stock and the underlying factors that determine the stock's price.

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For the pricing implication of common stocks, Markowitz (1952) laid foundation and suggested investors to select different pairs of investment portfolios. Further, Capital Assets Pricing Model (CAPM) proposed by Sharpe (1964), Lintner (1965), and Black (1972) asserted that only the market risk factors proxied by beta captures the significant variation in common stock return.

However, several studies cast doubt on the single factor's predictive power of CAPM. They examined the effects of several other factors on cross-section of expected stock return. For example, earning yield effect of Ball (1978) and Basu (1983), size effect of Banz (1981), leverage effect of Bhandari (1988), and book to market (B/M) effect of Stattman (1980), Rosenberg, Reid, and Lanstein (1985), and Chan, Hamao, and Lakonishok (1991) are some of the noted studies. Similarly, Fama and French (1992) examined the combined effect of beta, size, leverage, book-to-market equity, and earnings yield in explaining the cross-section of average stock returns.

The modern view among the investors constitutes the relevant information regarding the capital assets, and how the information affects the future return of the assets. Whenever any investor receives some relevant information on a security, that affects the decision regarding the willingness to demand for or supply of that security. Thus, the asset-pricing literature offers potential explanations for the relationship between information and securities prices tradeoffs. The literature again has a long debate regarding the relationship and predictive power of fundamental variables on expected stock return which creates confusions among investors for their investment portfolio. In the literature, the most widely examined firm characteristics variables suggested to have the significant impact on stock return are firm size, book to market equity, earning yield and cash flow yield. Banz (1981) reported that smaller firms have had higher risk-adjusted returns on average, than larger firms. Likewise, Fama and French (1992), Kumar and Sehgal (2004), Wong, Tan and Liu (2006) and Shaker and Elgiziry (2014) also reported similar findings. In contrast, Hassan and Javed (2011) and Acheampong, Agalega, and Shibu (2014) found that size has the significant positive impact on stock return; while Davis in 1994 had noted positive but insignificant impact of size on stock return.

Chan, Haamao, and Lakonishok (1991) examined the effect of book to market ratio and cash flow yield on expected return and confirmed that they have significant positive impact on expected returns. This finding was further confirmed by Davis (1994). But, Pradhan and Balampaki (2006) found negative effect of book to market equity, and cash flow yield on expected return in Nepalese context. Pradhan (2015) also reported the same findings.

In addition to firm characteristics, Chen, Roll and Ross (1986) found a strong relationship between the macroeconomic variables and expected stock return. Similarly, Flannery and Protopapadakis (2002), Maysami, Howe and Hamzah (2004), Gonsel and Cukur (2007), and others examined the impact of macroeconomic factors such as GDP growth, inflation, real interest rate and money supply on common stock returns in the context of developed capital markets such as the United States, Europe, and Japan. However, there are very few studies conducted to explore the relationship between firm's characteristics, macroeconomic

factors, and common stock returns in the context of small and emerging capital market like Nepal. Therefore, it creates future research issues on how firm's fundamental characteristics and macroeconomic variables effect the expected stock returns in the context of Nepal. Hence, the main objective of this study is to examine the effect of firm specific variables and macroeconomic variables on common stock return in Nepal.

Thus, to resolve the issues raised, the study is conducted based on the 150 observations from the sample of 10 Nepalese firms for 15 years (2003/04 to 2017/18). The findings confirmed that the significant negative impact of firm size, book to market equity, earning yield, and cash flow yield on stock return in Nepalese context. Among the macroeconomic variables, GDP growth rate, and real interest rate have significant negative impact on stock return. Contrary to the expectation, the rate of inflation has significant positive impact on stock return in the context of Nepal. No significant effect has been observed between the money supply and common stock return.

The remaining sections of the study are organized as under: section two describes the research methodology used in the study, section three analyzes the data and derives the findings, f Finally, section four presents and discussions conclusions of the study.

II. RESEARCH METHODOLOGY

The research design employed in this study consists of descriptive and causal-comparative research designs. The study is based on the secondary data of 10 listed companies covering 15 years (mid-July 2004 – mid-July 2018). Data relating to firm's characteristics are collected from the annual reports of the respective firms and data relating to stock prices are collected from the database of NEPSE. Likewise, all the data relating to macroeconomic variables are collected from the database of Nepal Rastra Bank (NRB). Table 1 shows the name of the sample firms selected for the study along with the study periods and number of observations.

Table 1
List of Sample Firms

S.N.	Name of the Sample Firms	Study Period	Observations
1	Nabil Bank Limited	2003/04-2017/18	15
2	Nepal Investment Bank Limited	2003/04-2017/18	15
3	Himalayan Bank Limited	2003/04-2017/18	15
4	Nepal SBI Bank Limited	2003/04-2017/18	15
5	Everest Bank Limited	2003/04-2017/18	15
6	Goodwill Finance Company Limited	2003/04-2017/18	15
7	Himalayan General Insurance Limited	2003/04-2017/18	15
8	United Insurance Company Limited	2003/04-2017/18	15
9	Premier Insurance Company Limited	2003/04-2017/18	15
10	Neco Insurance Company Limited	2003/04-2017/18	15

The data analyses are carried out using application software such as SPSS version 25 and Gretl version-2019. The secondary data analyses include descriptive statistics, correlation analysis, and panel data analysis, along with statistical test of significance such as F-test, Adjusted R2, and test of autocorrelation. One-way fixed effect model based on panel data is used to identify the impact of firm’s characteristics and macroeconomic variables on common stock return in Nepalese firms. The model used for the study is as follows:

$$Y_{it} = \beta_1 + \beta'X_{it} + \varepsilon_{it} \quad \dots \dots \dots (1.a)$$

Where, Y_{it} represents the dependent variable i.e. return from the common stock listed in NEPSE for firm i at time t . β_1 is constant term assumed to be constant over the time for all the firms. β' represents the coefficients of independent variables. X_{it} represents the vector of independent variables and ε_{it} is stochastic error terms assumed to be normally distributed with zero mean and constant variance.

The model can also be presented in detail as follows:

$$\text{Return}_{it} = \beta_1 + \beta_2 \text{Size}_{it} + \beta_3 \text{B/M}_{it} + \beta_4 \text{EY}_{it} + \beta_5 \text{CFY}_{it} + \beta_6 \text{GDPG}_{it} + \beta_7 \text{Inflation}_{it} + \beta_8 \text{IR}_{it} + \beta_9 \text{MS}_{it} + e_{it} \quad \dots \dots \dots (1.b)$$

The definitions of the variables used and the research hypothesis of the study are presented in the following section. This study considers the common stock return as dependent variable and firm’s characteristics and macroeconomic variables as the independent variables. Each of these variables have been defined as follows:

Return (Stock Return)

The dependent variable used for the study is stock return proxied as return. Annual average capital gain from the common stock is considered as the stock return for firm ‘ i ’ for the year ‘ t ’ over the year ‘ $t-1$ ’ which is calculated by employing equation (2).

$$\text{Return}_{it} = P_{it} - P_{i(t-1)} / P_{i(t-1)} \quad \dots \dots \dots (2)$$

Where,

- R_{it} = Annual return on common stock of firm ‘ i ’ for the year ‘ t ’
- P_{it} = Market price per share on stock of firm ‘ i ’ for the year ‘ t ’
- $P_{i(t-1)}$ = Market price per share on stock of firm ‘ i ’ for the year ‘ $t-1$ ’
- $P_{i(t-1)}$ = Market price per share of stock of i th firm for the previous year-end ‘ $t-1$ ’

Size (Market Capitalization)

Size is the proxy of market capitalization of the firm which is defined as the total market value of shares of common stock outstanding for a firm at a given time period. It is also known as the total valuation of the firm. It is calculated as closing price per share at the end of period ‘ t ’ multiplied by number of shares outstanding at the end of period ‘ t ’ which is calculated by employing equation (3).

$$Size_{it} = N_{it} \times MP_{it} \quad \dots \dots \dots (3)$$

Where,

Size_{it} = Firm size or total market capitalization of the firm 'i' at the end of the year 't'

N_{it} = Total common shares outstanding of firm 'i' at the end of year 't'

MP_{it} = Market price per share of firm 'i' at the end of the year 't'

Banz (1981) reported that smaller firms have had higher risk adjusted returns on average than larger firms. The findings have been supported by number of studies such as Wong, Tan and Liu (2006), Kumar and Sehgal (2004), and Shaker and Elgiziry (2014). Therefore, the proposed research hypothesis for the study is:

Research Hypothesis (H₁): Firm size has the significant negative impact on stock return.

B/M (Book-to-Market Equity)

B/M is the proxy of book to market equity which is the ratio of book value of equity to the market value of equity for the firm 'i' at time 't' which is calculated by employing equation (4).

$$B/M_{it} = BE_{it}/ME_{it} \quad \dots \dots \dots (4)$$

Where,

B/M_{it} = Book to market equity of the firm 'i' at the end of the year 't'

BE_{it} = Book value of the common stock of the firm 'i' at the end of the year 't'

ME_{it} = Market value of the common stock of the firm 'i' at the end of the year 't'

On the relationship between expected stock return and book to market equity, Stattman (1980), Rosenberg, Reid, and Lanstei (1985) had noted positive relation between them. Chan, Hamao and Lakonishok (1991) also found significant positive impact of book to market ratio on expected returns in Japanese firms. Similarly, Fama and French (1992) found that the cross-sectional variation in average stock returns associated with book to market equity, along with size and earning yields. Thus, research hypothesis for book to market equity is:

Research Hypothesis (H₂): Book to market equity has significant positive impact on expected stock returns

EY (Earnings Yield)

EY is the proxy of earnings yield which is defined as the ratio of earnings per share to the corresponding market price per share for firm 'i' at time 't' calculated by employing equation (5).

$$E/P_{it} = EPS_{it}/MPS_{it} \quad \dots \dots \dots (5)$$

Where,

E/P_{it} = Earning yield of firm 'i' at time 't'

EPS_{it} = Earnings per share of firm 'i' at time 't'

MPS_{it} = Market price per share of firm 'i' at time 't'

Ball (1978) documented that earning yield is a proxy for factors in expected returns and it is likely to be higher for stocks with higher risks and expected returns. Basu (1983) found that earnings yield has the significant explanatory power to explain cross section of US common stock returns. Therefore, proposed hypothesis is:

Research Hypothesis (H_3): Earning yield has significant positive impact on stock returns.

CFY (Cash Flow Yield)

CFY is the proxy of cash flow yield which is the ratio between cash flow from operating activity and the market capitalization as shown in equation (6).

$$CF/P_{it} = CF_{it}/ME_{it} \quad \dots \dots \dots (6)$$

Where,

CF/P_{it} = Cash flow yield of firm 'i' at time 't'

CF_{it} = Total cash flow (Earning per share + Noncash expenses per share) of firm 'i' at time 't'

ME_{it} = Market Equity of firm 'i' at time 't'

Examining the importance of cash flow yield, Chan, Hamao and Lakonishock (1991) found that cash flow yield has positive and highly significant impact on expected returns in Japan. Similarly, Cakici, Chan, and Topyan (2011) found strong positive predictive power of book to market equity and cash flow yield on stock returns. Thus, another research hypothesis for the study is proposed as;

Research Hypothesis (H_4): Cash flow yield has the significant positive impact on stock returns.

GDPG (Gross Domestic Product Growth)

GDP represents an economic indicator of the size of an economy. The total value of output produced by the all the sectors of the economy is termed as the GDP. The study used GDP growth rate as a proxy for real sector activity in the economy for the period from 2003/4 to 2017/18. Flannery and Protopapadakis (2002) documented significant negative impact of real gross national product on stock return. However, Giri and Joshi (2017) reported significant positive impact of GDP growth on stock prices and stock returns. The later finding is consistent with Fama (1981, 1990); and Chen, Roll, and Ross (1986). Therefore, following the findings of Fama (1981) and Chen, Roll, and Ross (1986) the research hypothesis for the study is as follows;

Research Hypothesis (H_5): GDP growth has significant positive impact on stock returns.

IR (Interest Rate)

Interest is the amount sacrificed for the borrowed capital. Long-term capital can be mobilized from the capital market to fulfill the demand of capital need to productive sectors. Average saving deposit rate has been used as proxy for interest rate. Kandiri (2008) reported that interest rate affects the portfolio returns from common stocks.

Furthermore, Adaramola (2011) reported the negative impact of interest on stock return. Therefore, the research hypothesis for the study is as follows;

Research Hypothesis (H_6): Interest rate has significant negative impact on expected stock return.

Inflation (Rate of inflation)

Inflation is defined as the annual percentage change in consumer price index (CPI). Symbolically, the rate of inflation during the year is calculated as in equation (7).

$$\text{Inflation} = (CPI - CPI_{(t-1)})/CPI_{(t-1)} \dots \dots \dots (7)$$

Where,

CP_{it} = Weighted national urban consumer price index at year t

CP_{it-1} = Weighted national urban consumer price index at year $t-1$

Schwert (1981) reported a negative reaction of stock markets to the announcement of unexpected inflation, although the magnitude of the reaction was small. Similarly, Gertler and Grinols (1982) documented that stock returns are negatively correlated with inflation. In addition, Hsing (2013) found that stock market is negatively affected by inflation rate. Hence, the research hypothesis for the study is:

Research Hypothesis (H_7): Rate of inflation has significant negative impact on stock return.

MS (Growth in money Supply)

Money supply is measured in terms of broad money (M_2). The growth in money supply has been calculated as the rate of change in money supply (broad money, M_2) for the year ' t ' over the year ' $t-1$ '. Ouma and Muriu (2014) reported that the rate of money supply positively affects stock return. Therefore, the research hypothesis proposed is:

Research Hypothesis (H_8): Money supply has the significant positive impact on stock return.

III. RESULTS

In this section of the study, the results from the analysis of secondary data are presented and discussed. Descriptive statistical measures (mean and standard deviation along with minimum and maximum value) of each variable and the relationship between the variables (correlation matrix) have been presented and analyzed first. Then, the effects of various independent variables have been examined by regressing them with the dependent variable (stock return) with regression analysis. Finally, the results are discussed in light of the findings of other studies.

Descriptive Statistics of the Variables

The descriptive statistics of variables used in the study for sample firms during the period 2003/04 to 2017/18 are summarized in table – 2. The descriptive statistics include number of observations, mean, standard deviation, minimum, and maximum values of the variables.

Table 2

Descriptive Statistics of the Variables

Table– 2 shows descriptive statistics of the variables for the firm characteristics and macroeconomics variables associated with the all 10 sample firms listed in NEPSE till July 2019 with 150 observations for the period 2003/04 to 2017/18. Return is the annual capital gain from the common stock, Size refers to market value of equity defined as number of outstanding shares multiplied by corresponding market price per share, B/M is the ratio of book to market equity, EY is the earnings yield defined as the ratio of earnings per share to market price per share, CFY is the cash flow yield ratio defined as the ratio of net cash flow to market equity. GDPG refers to the rate of change in real gross domestic product, Inflation is the rate of consumer price index used as the proxy of inflation rate. IR is the rate of interest, and MS refers to the growth in money supply.

	N	Minimum	Maximum	Mean	Std. Deviation
Return (%)	150	-82.94	619.35	23.20	96.42
Size (Rs. Billion)	150	0.05	111.46	15.57	23.51
B/M (Times)	150	0.10	2.10	0.56	0.53
EY (%)	150	-30.00	40.00	6.10	7.93
CFY (%)	150	-40.00	60.00	12.10	13.88
GDPG (%)	150	0.60	7.90	4.46	1.62
Inflation (%)	150	4.00	12.60	7.54	2.58
IR (%)	150	3.00	7.00	4.75	1.34
MS (%)	150	8.30	28.00	18.56	5.37

Table 2 reveals that stock return ranges from minimum -82.94% to maximum 619.35% with mean 23.20% and standard deviation 96.42%. This wide range and high standard deviation of stock return indicates that the return on Nepalese stock is fluctuating significantly. Similarly, firm size (value of market equity) ranges from minimum of Rs. 0.05 billion to maximum of Rs. 111.46 billion with mean Rs. 15.57 billion and standard deviation 23.51 billion. The wider range of market capitalization of equity implies that the firm included in the sample varies in terms of their size. Likewise, the Book to Market ratio ranges from minimum of 0.1 times to maximum 2.1 times with 0.45 times mean and 0.53 times standard deviation. The average earning yield of sample firms consists of 6.1% with minimum -30% to maximum of 40% with standard deviation 7.93%. Moreover, cash flow yield ranges from -40% to 60% with mean 12.1% and standard deviation of 13.88%.

Regarding the macroeconomic variables, GDP growth rate is varying from minimum 0.6% to maximum 7.9% with mean 4.46% and standard deviation of 1.62%. Furthermore, the minimum and maximum annual inflation rates are 4% and 12.6% with mean 7.54% and standard deviation 2.58%. In addition, real interest rate in Nepalese economy ranges from 3% to 7% with mean 4.75% and standard deviation 1.34%. Finally, minimum and maximum rate of money supply for the sample period are 8.3% and 28% with mean 18.56% and standard deviation 5.37%.

Correlation Analysis

The correlation coefficients between variables used for the study are presented in Table– 3. The basic purpose of correlation analysis is to examine the relationship between

variables such as, stock returns, firm size, book-to-market equity, earning yield, cash flow yield and macroeconomic variables such as GDP growth, inflation, interest rate, and money supply.

Table 3

Bivariate Pearson Correlation Coefficients

Table 3 shows the bivariate Pearson Correlation Coefficients among the firm characteristics and macroeconomic variables associated with the 10 sample firms with 150 observations for the period 2003/03 to 2017/18. Return is the annual capital gain from the common stock, Size is the market value of equity used as a proxy for firm size, B/M is the ratio of book to market equity, EY is the earnings yield defined as the ratio of earnings per share to market price per share and CFY is the cash flow yield defined as the ratio of net cash flow to market value of equity. GDPG refers to the rate of change in real gross domestic product, Inflation is the rate of consumer price index used as the proxy of inflation rate. IR is the rate of interest, and MS refers to the growth in money supply. '****' indicates that correlation coefficients are significant at 1 percent, '**' indicates that correlation coefficients are significance at 5 percent, and '*' indicates that the correlation coefficients are significant at 10% significance level. The results were obtained from the natural log of the variables.

	Return	Size	B/M	EY	CFY	GDPG	Inflation	IR	MS
Return	1								
Size	.145	1							
B/M	-.265*	-.872**	1						
EY	-.270	-.435**	.535**	1					
CFY	-.253	-.498**	.565**	.650**	1				
GDPG	-.285*	-.029	.071	-.039	-.199*	1			
Inflation	.388**	.009	-.063	.063	.045	-.351**	1		
IR	-.314**	.104	.062	-.039	-.029	.508**	.130	1	
MS	.146	.197*	-.214**	-.113	-.032	.030	.548**	.372**	1

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

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

Table 3 shows the correlation coefficients among different pairs of explanatory variables and stock return. Stock return is positively correlated with size, rate of inflation, and money supply. The positive correlation coefficients further confirmed that size, inflation rate and money supply have the positive impact on stock return. In contrast, Book to market ratio, has significant negative correlation with stock return. The negative correlation reveals that book to market equity has the significant impact on stock return. Similarly, stock return is negatively correlated with earning yield, cash flow yield, GDP growth rate and interest rate. However, the correlation coefficient is insignificant with earning yield and cash flow yield.

Regression Analysis

This section presents the regression results obtained from the various models and analyzes the impact of firm's characteristics and macroeconomic variables on expected stock return from the dataset of 10 sample firms with 150 observations during the period 2003/04 to 2017/18. Table 4 summarizes the results obtained from the regression analysis in 4 different panels. Panel A shows the results from the univariate regression

Table 4

Regression Results on Stock Return

Table 4 shows the regression results of stock return from the firm characteristics and macroeconomic variables associated with the 10 sample firms with 150 observations for the period 2003/04 to 2017/18. Return is the annual capital gain from the common stock, Size is the market value of equity used as a proxy for firm size, B/M is the ratio of book to market equity, EY is the earnings yield defined as the ratio of earnings per share to market price per share and CFY is the cash flow yield defined as the ratio of net cash flow to market value of equity. GDPG refers to the rate of change in real gross domestic product. Inflation is the rate of consumer price index used as the proxy of inflation rate. IR is the rate of interest, and MS refers to the growth in money supply. The reported values are intercepts and slope coefficients of respective explanatory variables with standard errors in the parentheses. The reported value also includes the values of coefficient of determination (Adj. R²), F-test (F), and Durbin-Watson (DW). '****' indicates that correlation coefficients are significant at 1 percent, '***' indicates that correlation coefficients are significance at 5 percent, and '**' indicates that the correlation coefficients are significant at 10% significance level. The results were obtained from the natural log of the variables.

$$\text{Model: } Return_{it} = \beta_1 + \beta_2 Size_{it} + \beta_3 B/M_{it} + \beta_4 EY_{it} + \beta_5 CFY_{it} + \beta_6 GDPG_{it} + \beta_7 Inflation_{it} + \beta_8 IR_{it} + \beta_9 MS_{it} + e_{it}$$

Models	const	Size	B/M	EY	CFY	GDPG	Inflation	IR	MS	Adj. R ²	F	DW
Panel: A												
1	-1.30 (1.39)	0.01 (0.06)								0.00	0.04	1.54
2	-1.35*** (0.24)		-0.25 (0.20)							0.03	1.71	1.50
3	-2.59** (0.82)			-0.51* (0.27)						0.06	3.49	1.41
4	-2.5*** (0.36)				-0.57*** (0.15)					0.12	14.15	1.32
5	-0.26 (0.33)					-0.63** (0.27)				0.067	5.32	1.49
6	-3.97*** (0.88)						1.49*** (0.45)			0.10	11.23	1.58
7	0.735 (1.64)							-1.27* (0.76)		0.04	2.82	1.47
8	-1.65 (3.00)								0.22 (1.07)	0.002	0.42	1.54
Panel: B												
9	4.113 (2.53)	-0.29** (0.13)	-0.88** (0.34)							0.10	3.45	1.54
10	-0.36 (1.11)	-0.135* (0.06)			-0.82*** (0.20)					0.16	8.29	1.32
11	-3.08** (1.35)					-0.55* (0.29)	1.37** (0.58)			0.14	8.57	1.53
12	-1.45 (3.07)					-0.66** (0.23)			0.44 (1.03)	0.06	7.30	1.49
13	-2.10* (1.03)						2.67*** (0.32)	-3.03*** (0.52)		0.29	59.87	1.35
14	-5.33*** (1.32)			-0.48* (0.25)			1.43** (0.56)			0.16	5.35	1.49
Panel: C												
15	-2.31 (1.65)	-0.16* (0.08)			-0.81*** (0.25)		1.34** (0.54)			0.25	5.72	1.38

Models	const	Size	B/M	EY	CFY	GDPG	Inflation	IR	MS	Adj. R ²	F	DW
16	-1.83 (1.48)	-0.16* (0.09)		-0.84*** (0.31)				0.22*** (0.08)		0.19	4.33	1.42
17	5.43** (2.55)	-0.31** (0.13)	-0.87** (0.33)			-0.63* (0.32)				0.16	3.73	1.49
Panel: D												
18	4.28 (3.94)	-0.30* (0.17)	-0.55 (0.52)	0.64 (0.53)	-0.87** (0.41)	0.02 (0.39)	2.78*** (0.72)	-2.47** (1.17)	-0.61 (0.94)	0.40	3.89	1.44

analysis. Panel B and C show the results from the bivariate and multivariate regression analysis respectively. A number of regression models were run adding and dropping different variables (including the one for only firm specific variables and the other only for macroeconomic variables) during the analysis. However, we have reported only the significant models in Panel B and C. Finally, panel D reports the results of model using all variables for the analysis.

The regression coefficient of firm size on stock return is positive and insignificant in panel A. However, robustness of the result is checked by using bivariate and multivariate models in panel B, C, and D and found that coefficients are negative and significant in all of the regression models. The significant negative coefficients confirmed that firm size as a proxy of market capitalization has the significant negative impact on stock return. More specifically, smaller firms have higher the stock returns. Therefore, there are sufficient evidences in favour of research hypothesis that firm size has the significant negative impact on common stock return.

Similarly, regression coefficients of book to market ratio are negative in all panel and significant in most of the cases. The significant negative coefficients further confirmed that book to market ratio has the significant negative impact on stock return. More clearly, higher the book to market equity, lower would be the stock return. Hence, there are no sufficient evidences in favour of research hypothesis that book to market ratio has significant positive impact on stock return. Likewise, regression results of earning yield are also negative and significant in all the panels. The significant negative coefficients further confirmed that earning yield have the significant negative impact on stock return. It means, higher the earning yield, lower would be the stock return. Therefore, there are no sufficient evidences in favour of the research hypothesis that the earning yield has significant positive impact on stock return.

In the same way, all the regression coefficients of cash flow yield are negative and statistically significant at 1% level of significance in all the panels. Therefore, it is confirmed that cash flow yield has the significant negative impact on stock return. It means, higher the cash flow, lower would be the stock return in selected Nepali firms. Hence, there are no any evidences in favour of research hypothesis that cash flow yield has the significant positive impact on stock return.

Regarding the macroeconomic variables, the beta coefficients of GDP growth are significant and negative in almost all the models. The significant negative coefficients

further confirmed that, GDP growth rate has the significant negative impact on stock return. The significant negative impact further clarifies that lower the GDP growth rate, higher would be the stock return. Thus, there are no sufficient evidences in support of the research hypothesis that GDP growth rate has significant positive impact on common stock return in Nepalese context. Likewise, all the coefficients of real interest rate in all panel are negative and statistically significant. The significant negative coefficients confirmed that interest rate has the significant negative impact on stock return. It means that higher the interest rate, lower would be the common stock returns. Therefore, there are sufficient evidences in support of research hypothesis that interest rate has the significant negative impact on common stock returns in Nepalese context.

In contrast, all the beta coefficients of inflation are statistically significant and positive in all panels. The positive and significant coefficients confirmed that inflation has the significant positive impact on stock return. More specifically, higher the inflation, higher would be the stock return. Finally, all the coefficients of money supply are observed statistically insignificant. It implies that the insignificant impact of money supply is observed on stock returns.

IV. DISCUSSION AND CONCLUSIONS

Study attempts to examine the effects of a set of variables relating to firm's characteristics and macroeconomic variables on cross section of common stock returns within several constraints associated with available data and information. Firstly, samples were taken from commercial banks, insurance companies, and finance companies only. Secondly, most commonly examined firm characteristics leverage is excluded from the sample due to inappropriate in the banking sector sample. Finally, only the capital gain yield is considered to calculate return from the stock. Therefore, there is still a research gap to examine the stock return including dividend yield.

The findings of the study show the significant negative impact of firm size on stock return. This result is consistent with the findings of Banz (1981), Wong, Tan and Liu (2006), Kumar and Sehgal (2004) and Shaker and Elgiziry (2014) Similarly, book to market equity and earning yield also have significant negative impact on stock return in Nepalese context. However, this finding contradicts with the findings of Lakonishok (1991), Stattman (1980), Rosenberg, Basu (1983), and Ball (1978). Likewise, cash flow yield has also significant negative impact on stock return in Nepali context. This finding contradicts with the findings of Chan, Hamao and Lakonishock (1991) and Cakici, Chan, and Topyan (2011)

Among the macroeconomic variables, GDP growth rate has the significant negative impact on stock return which supports the findings of Flannery and Protopapadakis (2002) whereas, contradicts with the findings of Giri and Joshi (2017); Fama (1981, 1990); Chen, Roll, and Ross (1986). Similarly, the impact of interest rate is also found to be negative and significant on common stock returns. The negative impact of interest rate on stock returns supports the findings of Kandir (2008) and Adaramola (2011).

Contrarily, the rate of inflation has the significant positive impact on stock return

in the context of Nepal. There is no significant effect of money supply is observed on common stock return in the context of Nepal.

In conclusion, the study identified that there is the significant negative impact of firm size, book to market equity, earning yield, and cash flow yield on stock return in Nepalese context. In addition, GDP growth rate, and interest rate have the significant negative impact on stock return. Contrarily, only the rate of inflation has the significant positive impact on stock return in the context of Nepal. No significant effect of money supply is observed on common stock return in the context of Nepal.

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