Original Research Article

The Cross-section of Expected Stock Returns

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Abstract

The primary objective of the study is to examine the cross-sectional anomalies of stock returns in Nepali capital market. Measures of common stock returns are taken as capital gain yield, dividend yield and total yield. Explanatory variables are stock BETA, total assets growth, firm specific fundamental variables, and specific macroeconomic variables. The research design is descriptive and causal-comparative to investigate the direction, magnitude and nature of relationship between dependent and independent variables following a panel data of 576 (48 listed firms) observations of 2010/11-2021/22. The primary tools of analysis are the portfolio analysis and Ordinary Least Squares (OLS) regression. The findings suggest that the market risk as well as the asset growth have a strong positive impact on cross-section of stock returns in the Nepali capital market. Moreover, firm specific fundamentals variables, and macroeconomic variables are also a major determinant of common stock returns.

Keywords: *Market Risk, Assets Growth, Stock Returns, Fundamental Variables, Macroeconomic Variables*

Introduction

Risk-return relationship of the expected stock returns has been a critical problem in financial economics. The initial theoretical backgrounds like Capital Asset Pricing Model (CAPM) of Sharpe (1964), Lintner (1965) and Black (1972) which suggested that the expected returns are exclusively given by system market risk as measured

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by stock beta. Nonetheless, the empirical evidence has identified the weaknesses in the CAPM especially in its ability to explain the long run anomalies in the financial markets.

A large body of literature now acknowledge that a variety of fundamental variables including market risk can determine common stock returns. Among them, fundamental indicators such as firm size, earnings per share (EPS), book-to-market ratio (B/M), return on equity (ROE), and debt-to-equity ratio (D/E) have been widely used to explain the variation in stock returns (Ross, 1976; Ball, 1978; Basu 1983; Banz, 1981; Bhandari, 1988; Fama & French, 1992; Lakonishok et al., 1994). These variables serve as indicators for financial risk, valuation of the financial assets, and are key in evaluating a firm's intrinsic value and the future expected returns to the investors.

Similarly, a good predictor of stock returns in the future has been asset growth variable. Cooper et al., (2008) established that there was a significant negative correlation between the growth of assets and future share performance indicating that those companies which pursued aggressive asset growth tended to give lower returns in the future. The companies with high growth rates in assets are usually linked to the low returns in the future. The phenomenon is referred to as asset growth anomaly and can be associated with either managerial over-investment, market over-optimism or mispricing, which is specific to the markets that are inefficient or less developed. Therefore, another firm-level factor that has received research attention in the explanation of the anomalies in the expected stock returns is the growth in assets.

The macroeconomic factors including interest rates, inflation, GDP growth and exchange rates have a critical role in determining the investor expectations and corporate profitability. All these affect cost of capital, level of investor sentiment and market dynamics in general hence having an aggregate effect on stock returns (Chen et al., 1986; Ferson and Harvey, 1991). These external factors can have even a more significant effect on investor behavior and market outcomes in a developing and frontier market such as Nepal where the level of macroeconomic volatility and policy uncertainty remains relatively high (Paudel, 2019; Thapa, 2023; Poudel, 2025).

Regardless of the abundance of studies worldwide, the available empirical studies that include the basic variables, growth of assets, and macroeconomic factors in one model to explain cross-section of stock returns are still very poor in the Nepali capital market. Stock market in Nepal, the Nepal Stock Exchange (NEPSE) has some

peculiarities that distinguish it among the more established markets, including low liquidity, large participation of retail investors, low institutional base, and concentration of the sector banking and insurance. The features have the potential of increasing the impact of the firm-specific and macroeconomic determinants on stocks. A systematic study of the cross-sectional variance of the returns of individual stocks, however, by using an integrated approach has not been sufficiently ventured into. Therefore, this paper will attempt to bridge the gap by analyzing the joint effect of firm fundamentals, asset growth, and macroeconomic variables on the expected returns of common stocks by applying the financial, statistical, and econometric analysis tools to the data set of 576 observations of 12 years of 48 sample firms listed in Nepal stock exchange (NEPSE).

In this manner, the study would not only add to the scholarly knowledge on asset pricing in frontier markets but also address the practical implications of the study to the investors and policymakers in Nepal. It is anticipated that the findings can be used to determine the most important factors that influence stock performance and contribute to the creation of improved investment strategies and regulatory frameworks that would be specific to the context of Nepal.

Research Methodology

Design and causal-comparative research design was used in order to examine the cross-sectional variation of the expected stock returns in the Nepali capital market in depth. The descriptive aspect characterizes the currently existing risk-return dynamics in a systematic way, which makes it easier to assess structural patterns, portfolio configurations, and the non-observation of risk-return associations. To be more accurate, the causal-comparative research design is used to analyze the observed relationship between the dependent and independent variables hence quantifying the directionality, magnitude, and functional format of the relationships between market risk, asset growth, firm specific variables, macroeconomic variables, and expected stock returns.

The study used a balanced panel dataset of 48 firms, which consisted of 576 observations of study period of 2010/11 to 2021/22. The sample was well designed to have complete representativeness of stratified industry group. Companies with less than five trades per year, or less than twelve years history of operations were filtered out

to preserve integrity of the data and to have a balanced panel structure. The rest of the sample was stratified into three functional industry categories including the banking and financial institutions (BFIs), insurance firms as well as other corporate bodies. Analytical processes included portfolio analysis where one-way sort and two-way were used, correlation analysis and regression modeling were used to analyze the data. The robustness and validity were thoroughly tested using a series of diagnostic tests, such as multicollinearity testing, t- and F-tests, Durbin-Watson testing, adjusted R^2 of model fit and tests of residual normality. Altogether, this methodological framework allows a detailed and statistically significant exploration of factors of cross-sectional stock returns in an emerging market setting.

The Model

In order to test the robustness of the analysis and the predictive power of all the explanatory variables on impact of common stock returns, a full model is applied. In doing so, the models used for the analysis are as follows:

$$CGY_{it} = \beta_1 + \beta_2 BETA_{it} + \beta_3 \Delta TA_{it} X\, DU_{it\ it} + \beta_4 Size_{it} + \beta_5 BM_{it} + \beta_6 EY_{it} + \beta_7 CFY_{it} + \beta_8 GDPG_t + \beta_9 CPI_t + \beta_{10} MS_t + \beta_{11} T\text{-}Bill_t + \beta_{12} LR_t + \varepsilon_{it} \quad \ldots (1)$$

$$DY_{it} = \beta_1 + \beta_2 BETA_{it} + \beta_3 \Delta TA_{it} X\, DU_{it} + \beta_4 Size_{it} + \beta_5 BM_{it} + \beta_6 EY_{it} + \beta_7 CFY_{it} + \beta_8 GDPG_t + \beta_9 CPI_t + \beta_{10} MS_t + \beta_{11} T\text{-}Bill_t + \beta_{12} LR_t + \varepsilon_{it} \quad \ldots (2)$$

$$TY_{it} = \beta_1 + \beta_2 BETA_{it} + \beta_3 \Delta TA_{it} X\, DU_{it} + \beta_4 Size_{it} + \beta_5 BM_{it} + \beta_6 EY_{it} + \beta_7 CFY_{it} + \beta_8 GDPG_t + \beta_9 CPI_t + \beta_{10} MS_t + \beta_{11} T\text{-}Bill_t + \beta_{12} LR_t + \varepsilon_{it} \quad \ldots (3)$$

During data analysis, it was observed that the balance sheet items of some firms increased sharply because of major mergers and acquisitions or additional public offering. To handle these extreme cases, a dummy variable was introduced. Firms with assets growth of 500% or more (5 times or higher) were identified and excluded from the analysis using the dummy variables for total assets growth.

Common Stock Returns

Return on common shares is the dependent variable in this study. This payback represents the total gain made by investors in owning ordinary stocks such as price growth in the market and returns on them in terms of dividends. In the introductory part, the discussion focused on the influence of various variables on capital gain yield.

This was checked later in combination with dividend yield and the combined measure of the returns. Consequently, the paper uses the total return, capital gain yield, and dividend yield as the outcome variables. Capital gain yield (CGY) is the amount of annual profit made because of the fluctuations in the prices of stocks. Dividend yield (DY) is the annual dividend paid to the shareholders. Total yield (TY) is calculated as an addition of CGY and DY.

$$CGY_{it} = [P_{it} - P_{i(t-1)}] / P_{i(t-1)} \quad \ldots (4)$$

$$DY_{it} = D_{it} / P_{i(t-1)} \quad \ldots (5)$$

$$TY_{it} = [D_{it} + P_{it} - P_{i(t-1)}] / P_{i(t-1)} \quad \ldots (6)$$

Where,

P_{it} = Market price per share of firm 'i' for the year 't'.

$P_{i(t-1)}$ = Market price per share of firm 'i' for the year 't-1'.

D_{it} = Dividend per share of firm 'i' for the year 't'.

$P_{i(t-1)}$ = Market price per share of firm 'I' for the year 't-1'.

Market Risk (BETA)

Beta is the responsiveness of a stock to the market movement and it is used as an indicator of system risk in the common share returns. It is calculated by the division of the covariance of stock returns of a firm and the total market returns and variance of the market returns of firm i at time t over a given time. These variances are estimated using monthly return data of every security. Beta is, therefore, calculated as:

$$BETA_{it} = Covariance\ (RJ_{it}, RM_t) / Variance\ (RM_t) \quad \ldots (7)$$

Where,

$BETA_{it}$ = Stock beta of firm 'i' for the time 't'

RJ_{it} = Returns from stock of firm 'i' for time 't'

RM_t = Returns from market for time 't'

The traditional asset pricing model which is also known as the CAPM and which was developed by Sharpe (1964), Lintner (1965), and Black (1972) suggests

that market risk as measured by beta, is a major source of the common stock returns variation. The movements of stock returns in particular are related to the proximity of a security performance to a market portfolio. Empirical data by Lakonishok and Shapiro (1984), Fletcher (2000), Pettengill et al. (1995), and Huang and Hueng (2008) indicate that high beta securities are more likely to have high returns in an increasing market and incur larger losses in a decreasing market than low beta securities. Following this line of reasoning, the research will establish the following hypothesis:

Research Hypothesis (H_1): Higher the market risk, higher would be the stock returns.

Market Capitalization (Size)

Firm size is used as a proxy for market equity. It refers to the total market value of a company over a specific period. This value is obtained by multiplying the number of outstanding shares of firm *i* by the closing market price per share at the end of period *t*. Symbolically:

$$Size_{it} = N_{it} \, x \, P_{it} \qquad \ldots (8)$$

Where,

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

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

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

Banz (1981) found that, on average, firms with smaller market value earn higher risk-adjusted returns than larger firms. This result is supported by extensive empirical evidence, including the works of Wong et al. (2006), Kumar and Sehgal (2004), and Shaker and Elgiziry (2014). Based on these findings, the study proposes the following research hypothesis:

Research Hypothesis (H_2): Firm size has the significant negative impact on stock returns.

Book to Market Equity (BM)

BM represents the book-to-market equity ratio. It is computed by dividing the book value of a firm's common equity by its market value at the end of year *t* for firm *i*. Symbolically, this can be expressed as:

$$BM_{it} = BE_{it}/ME_{it} \quad \ldots (9)$$

Where,

BM_{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'

Stattman (1980) and Rosenberg et al. (1985) reported a positive relationship between average stock returns and the book-to-market equity ratio. Likewise, Chan et al. (1991) showed that, for Japanese firms, the book-to-market ratio and cash flow yield exert the strongest positive influence on expected returns. In addition, Fama and French (1992) demonstrated that differences in average stock returns across firms are closely linked to book-to-market equity, together with firm size and earnings yield. On this basis, the research hypothesis for book-to-market equity is stated as follows:

Research Hypothesis (H_3): Book to market equity has the significant positive impact on stock returns.

Earning Yield (EY)

Earnings yield measures the proportion of earnings relative to a firm's market price per share. It is calculated by dividing earnings per share by the market price per share at the end of year *t* for firm *i*. Symbolically, earnings yield can be expressed as:

$$EY_{it} = EPS_{it}/P_{it} \quad \ldots (10)$$

Where,

EY_{it} = Earning yield of the firm 'i' at time 't'

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

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

According to Ball (1978), earnings yield is a proxy of risk-related elements of expected returns that are likely to be higher in risky stocks with higher expected returns. Similarly, Basu (1983) demonstrated that the earnings yield is a good explanatory variable in explaining the cross section of the U.S. common stock returns. In that regard, the hypothesis is as follows:

Research Hypothesis (H4): Earning yield has the significant positive impact on stock returns.

Cashflow Yield (CFY)

Cash flow yield represents the amount of cash flow generated per share relative to its market price. It is calculated by dividing total cash flow per share by the market price per share at the end of year *t* for firm *i*. Symbolically, it can be written as:

$$CFY_{it} = CF_{it}/ME_{it} \quad \ldots (11)$$

Where,

CFY_{it} = Cashflow yield of the firm 'i' at time 't'

CF_{it} = Total cashflow (cashflow form operating activities) of the firm 'i' at time 't'

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

Highlighting the role of cash flow yield, Chan et al. (1991) reported that it has a positive and highly significant effect on expected returns in the Japanese market. Likewise, Cakici et al. (2011) showed that both book-to-market equity and cash flow yield possess strong power in predicting stock returns. Therefore, the study proposes the following research hypothesis:

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

Total Assets Growth (TA)

Asset growth refers to the variation in the firm's total assets, measured at book value, as reported in the balance sheet over a given time horizon. It is expressed as the percentage increase or decrease in total assets within a fiscal year. Specifically, the asset growth rate for firm *i* in year *t* is calculated as the percentage change in total assets from fiscal year *t–1* to fiscal year *t*, computed as follows:

$$TA_{it} = \frac{[(Total\ Assets)it - (Total\ Assets)i(t-1)]}{(Total\ Assets)i(t-1)} \quad \ldots (12)$$

Cooper et al. (2008) examined the effect of asset investing at the firm level on stock returns by examining cross-sectional relationship between asset expansion and future equity performance. Their results indicate that growth of assets is a statistically

significant predictor of future returns in the U.S. equity market. Besides, the paper indicates a strong negative correlation between the rate of increase in assets of a firm and subsequent returns of the firm in terms of stock returns. In line with this finding, Polk and Sapienza (2008) as well as Zhang (2006) also conclude that various measures of corporate investment have negative relationship with cross-sectional stock returns. According to these empirical results, the hypothesis of the current research is as follows:

Research Hypothesis (H_6): Assets growth has the significant negative impact on stock returns.

Gross Domestic Product Growth (GDPG)

GDPG represents the rate of the growth of the gross domestic product. Gross domestic product is defined as the total financial worth of goods and services that are manufactured in every sector of an economy. GDP growth is commonly known as a key macroeconomic variable that affects the common stock returns. This paper uses the growth rate of GDP as a measure of real economic activity between 2010/11 and 2021/22. The existence of statistically significant positive correlation between common stock returns and GDP growth is reported in the previous empirical studies, such as the research by Fama (1981), Chen et al. (1986), and Giri and Joshi (2017). In this regard, based on the available empirical research, the research hypothesis is as follows:

Research Hypothesis (H_7): GDP growth has the significant positive impact on stock returns.

Consumer Price Index (CPI)

The Consumer Price Index (CPI) is the usual measure of inflation. Inflation refers to the rate of change in Consumer Price Index per annum in a specified time. In line with this, the rate of inflation of a given year is calculated as the annual growth rate of CPI and is mathematically represented in the Equation (13).

$$CPI_t = (CPI_t - CPI_{(t-1)}/CPI_{(t-1)} \quad \ldots (13)$$

Where,

CPI_t= Weighted national urban consumer price index at year 't'

CPI_{t-1}= Weighted national urban consumer price index at year 't-1'

Schwert (1981) observed that stock markets respond adversely to announcements of unanticipated inflation, although the effect was relatively modest. Likewise, Gertler and Grinols (1982) provided evidence of a negative association between inflation and stock returns. More recently, Hsing (2013) also reported that inflation exerts a detrimental effect on stock market performance. Consequently, based on the existing empirical evidence, the following research hypothesis is proposed for this study:

Research Hypothesis (H_8): Rate of inflation has significant negative impact on stock return.

Money Supply (MS)

Money supply (M1) would include the amount of money in the form of currency in the hands of people and demand deposits in the economy. The rate of money supply growth is calculated as the percentage change in the M1 of year t 1 to year t. According to empirical evidence given by Ouma and Muriu (2014), the statistically significant effect of the differences in money supply growth on the stock returns has been established. Consequently, on this basis, the research hypothesis of the current study has the following form:

Research Hypothesis (H_9): Money supply has the significant positive impact on common stock returns.

Treasury Bills Rate (T-Bill)

Treasury bill rate is considered as an approximation of the risk-free rate of return. The data used in this study are the Treasury bills, which are calculated and published by the Nepal Rastra Bank in terms of the weighted average yield of the 364-days Treasury bills. Mutoko (2006) examined the impact of the Treasury bill rates to the performance of the stock market and discovered that when T-bill rates are increased, the impact has more pronounced effect on the stock market as compared to the opposite. To be more precise, increasing the rates of T-bills is linked to significant negative changes in returns in all segments of the market, and the effects can be observed over a number

of weeks. Long durations of rising T-bills rates can be described as poor performances in the majority of market segments. Conversely, intervals of falling T-bill rates are likely to have short-term enhancements on market returns. Thus, basing on theoretical and empirical knowledge of Mutoko (2006), the study research hypothesis will be as follows:

Research Hypothesis (H_{10}): T-Bill has the significant negative impact on common stock returns.

Lending Rate (LR)

LR refers to the interest rate on lending used in the analysis. Interest is the amount that a borrowed money costs. Although financing of productive sectors in the long run can be obtained by use of the capital market, the lending interest rate is still a significant macroeconomic element in the making of investment decisions. One of the macroeconomic variables in this study is the weighted average lending interest rate as determined and published by Nepal Rastra Bank (NRB). Adaramola (2011) and Alam and Uddin (2009) are among the empirical leaders of the interests in stocks that show a negative impact of interest rates on stock returns. Therefore, it is proposed, according to these findings, that the following research hypothesis will be taken into consideration in the study:

Research Hypothesis (H_{11}): Lending rate has significant negative impact on stock returns.

Summary outline of the expected relationship between explained and explanatory variables has been depicted in Table – 1.

Table 1

Expected Relationship between Explained and Explanatory Variables

Variables	Expected Signs (Hypothesis)	Evidences
Stock BETA	+	Sharpe (1964), Lakonishok and Shapiro (1984), Fletcher (2000), Pettengill et al. (1995), and Huang and Hueng (2008)
Assets growth	-	Cooper et al. (2008), Polk and Sapienza (2008), and Zhang (2006)
Firm Size	-	Banz (1981), Wong et al. (2006), Kumar and Sehgal (2004), and Shaker and Elgiziry (2014)
Book to Market Equity	+	Stattman (1980), Rosenberg et al. (1985), Fama and French (1992), and Chan et al. (1991)
Earning Yield	+	Ball (1978) and Basu (1983)
Cashflow Yield	+	Chan et al. (1991) and Cakici et al. (2011)
GDP Growth	+	Fama (1981), Chen et al. (1986), and Giri and Joshi (2017)
Consumer Price Index	-	Schwert (1981) and Gertler and Grinols (1982)
Money Supply	+	Ouma and Muriu (2014)
T-Bill	-	Mutoko (2006)
Lending Rate	-	Adaramola (2011) and Alam and Uddin (2009)

Results and Discussion

Portfolio Analysis

Different properties of the common stock returns have been presented and analyzed with respect to market risk and firm specific fundamental variables (size and book to market equity) by forming different portfolios based on the two-way shorts. The motive of forming portfolios is to gain insight into the impact of different explanatory variables on cross section of expected stock returns across the different portfolios.

Properties of Two-Way Portfolios for Common Stock Returns Sorted by Stock BETA and Firm Size

One-way portfolio analysis shows the clear direction of impact on stock returns by stock beta, firm size, and book to market equity. Therefore, in order to check the robustness of the results of one-way analysis, two-dimensional portfolio analysis is

carried out. In this section, the properties and the movements of stock returns are examined with respect to stock beta by controlling firm size. In doing so, first of all, five quintiles of portfolios (1 = low to 5 = high) of stock beta are formed and each portfolio is further subdivided into five quintiles of portfolios (1 = low to 5 = high) based on the market capitalization. The results are shown in Table – 2 for both of the proxies of stock returns such as capital gain yield and total yield. The results of one-way analysis for dividend yield were not so significant, therefore, two-way analysis for dividend yield has not been reported.

Table 2

Properties of Portfolios Sorted by Stock BETA and Firm Size

Table – 2 presents the average returns of the two-way portfolios sorted on stock beta and firm size for all 48 sample firms with 576 observations for the period from 2010/11 to 2021/22. Firstly, portfolios were sorted into five quintiles for stock beta and each beta quintile is subdivided into five portfolios using firm size. Stocks sorted on beta are shown in the order of low to high in the portfolios 1 to 5 across left to right and stocks sorted by firm size are shown in the order of low to high in the portfolios 1 to 5 from top to down. 'n' denotes the number of observations in each portfolio. Reported values are fraction of percentage of common stock returns.

Panel - A: Capital Gain Yield (CGY)						
		Stock BETA				
Size	All	1 (Low)	2	3	4	5 (High)
		≤ 0.088	> 0.088 ≤ 0.512	> 0.512 ≤ 0.918	> 0.918 ≤ 1.410	> 1.410
All	0.225	0.110	0.143	0.340	0.368	0.391
1 (Low) ≤ 0.486 (Billion)	0.440	0.335	0.363	0.469	0.431	0.596
2	0.414	0.329	0.331	0.352	0.389	0.475
3	0.394	0.180	0.297	0.309	0.317	0.452
4	0.183	-0.076	0.045	0.102	0.180	0.299
5 (High) > 21.097 (Billion)	0.021	-0.203	-0.160	0.055	0.093	0.203

Panel – B: Total Yield						
		Stock BETA				
Size	All	1 (Low)	2	3	4	5 (High)
		≤ 0.088	> 0.088 ≤ 0.512	> 0.512 ≤ 0.918	> 0.918 ≤ 1.410	> 1.410
All	0.268	0.160	0.249	0.390	0.419	0.436
1 (Low) ≤ 0.486 (Billion)	0.481	0.371	0.394	0.487	0.471	0.635
2	0.455	0.363	0.368	0.383	0.421	0.555
3	0.433	0.234	0.330	0.333	0.322	0.514
4	0.220	-0.051	0.103	0.130	0.221	0.354
5 (High) > 21.097 (Billion)	0.056	-0.175	-0.124	0.083	0.126	0.228

Table – 2, Panel: A shows that average stock returns (CGY) increase strongly as increase in the stock beta from lowest to highest portfolio from minimum 11% to maximum 39.1%. If the average stock returns are further controlled by market capitalization, average capital gain yields are increased as increase in the stock beta in all portfolios of market capitalization (across rows). Whereas, average stock returns are decreased as increase in market capitalization in all portfolios (across columns). Therefore, the results further reveal that stocks with high beta and low market capitalization have the highest average capital gain yield (59.6%) as compared to stocks with low beta and high market capitalization (-20.3%).

Similarly, Panel: B shows that average total yield (TY) increases strongly as increase in the stock beta from lowest to highest portfolio from minimum 16% to maximum 43.6%. If the average stock returns are further controlled by market capitalization, again average total gain yields are increased as increase in the stock beta in all portfolios of market capitalization (across rows). Whereas average stock returns are decreased as increase in market capitalization in all portfolios (across columns). Therefore, it is further revealed that stocks with high beta and low market capitalization have the highest average total gain yield (63.5%) as compared to stocks with low beta and high market capitalization (-17.5%).

In conclusion, the results reveal that stocks with high stock beta and low market capitalization have the highest common stock returns (CGY = 59.6% & TY = 63.5%) as compared to stocks with low beta and high market capitalization.

Properties of Two-Way Portfolios for Common Stock Returns Sorted by Stock BETA and Book to Market Equity

In this section of analysis, two dimensional properties of stock returns are examined with respect to stock beta by controlling book to market equity. First of all, five quintiles of portfolios (1 = low to 5 = high) of stock beta are formed and each portfolio is further subdivided into five quintiles of portfolios (1 = low to 5 = high) based on the market capitalization. The results are shown in Table – 3 for both of the proxies of stock returns such as capital gain yield and total yield.

Table 3

Properties of Portfolios Sorted by Stock BETA and Book to Market Equity

Table – 3 presents the presents the average returns of the two-way portfolios sorted on stock beta and book to market equity for all 48 sample firms with 576 observations for the period from 2010/11 to 2021/22. Firstly, portfolios were sorted into five quintiles for stock beta and each beta quintile is subdivided into five portfolios using book to market equity. Stocks sorted on beta are shown in the order of low to high in the portfolios 1 to 5 across left to right and stocks sorted by book to market equity are shown in the order of low to high in the portfolios 1 to 5 from top to down. 'n' denotes the number of observations in each portfolio. Reported values are fraction of percentage of common stock returns.

Panel - A: Capital Gain Yield						
		Stock BETA				
BM	All	1 (Low) ≤ 0.088	2 > 0.088 ≤ 0.512	3 > 0.512 ≤ 0.918	4 > 0.918 ≤ 1.410	5 (High) > 1.410
All	0.225	0.110	0.143	0.340	0.368	0.391
1 (Low) ≤ 0.216 Times	0.637	0.687	0.773	0.443	0.478	0.883
2	0.322	0.512	-0.223	0.028	0.157	0.611
3	0.086	0.055	-0.052	0.290	-0.067	0.220
4	-0.024	0.021	-0.226	0.103	0.016	0.045
5 (High) > 0.869 Times	-0.072	-0.237	0.066	-0.083	0.1203	0.198

Panel - B: Total Yield						
		Stock BETA				
BM	All	1 (Low) ≤ 0.088	2 > 0.088 ≤ 0.512	3 > 0.512 ≤ 0.918	4 > 0.918 ≤ 1.410	5 (High) > 1.410
All	0.268	0.160	0.049	0.390	0.149	0.436
1 (Low)	0.674	0.75	0.820	.478	0.513	1.263
2	0.358	0.668	0.202	0.056	0.187	0.663
3	0.132	0.109	-0.018	0.340	-0.032	0.274
4	0.031	0.068	-0.174	0.174	0.065	0.119
5 (High)	-0.011	-0.180	0.108	-0.004	0.193	0.255

Table – 3, Panel: A shows that average stock returns (CGY) increase strongly as increase in the stock beta from lowest to highest portfolio from minimum 11% to maximum 39.1%. If the average stock returns are further controlled by book to market equity, average capital gain yields are increased as increase in the stock beta in all portfolios of lowest to highest market capitalization (across rows). Whereas, average stock returns are decreased as increase in book to market capitalization in all portfolios (across columns). Therefore, it is further examined that stocks with high beta and low book to market equity have the highest average capital gain yield (88.3%) as compared to stocks with low beta and high market capitalization (-23.7%).

Similarly, Panel: B shows that average stock returns (TY) increase strongly as increase in the stock beta from lowest to highest portfolio from minimum 16.0% to maximum 43.6%. If the average stock returns are further controlled by book to market equity, again average total gain yields are increased as increase in the stock beta in all portfolios of book to market equity (across rows). Whereas average stock returns are decreased as increase in book to market equity in all portfolios (across columns). Therefore, it is further examined that stocks with high beta and low book to market equity have the highest average total yield (126.3%) as compared to stocks with low beta and high book to market equity (-18%).

In conclusion, it is examined that stocks with high beta and low book to market equity have the highest average common stock returns (CGY = 88.26% & TY = 126.28%) as compared to stocks with low beta and high market capitalization.

Regression Analysis

The ordinary least square regression analysis is used to examine the impact of all the explanatory variables such as market risk, firm specific fundamental variables, assets growth, and macroeconomic variables on common stock returns are analyzed and presented for all samples firms (48 firms), banking and financial institutions (28 firms), insurance companies (14 firms), and other companies (6 firms). The regression results on all three measures of common stock returns such as the capital gain yield, dividend yield, and total yield are presented and analyzed in the following subsections for all and stratified sample groups in Table – 4 to 7.

Table 4

Regression Results of Market Risk, Assets Growth, Fundamental Variables, and Macroeconomic Variables on Common Stock Returns (All Samples)

Table – 4 reports the regression result of market risk, assets growth, fundamental variables, and macroeconomic variables on common stock returns. The explained variables are Capital Gain Yield (CGY), Dividend Yield (DY), and Total Yield (TY). The explanatory variables are BETA, TA, fundamental variables, and macroeconomic variables. BETA is the stock beta representing market risk. TA is the total assets growth rate from the balance sheet. Size is the Market Capitalization. BM is the Book to Market Equity. EY is the Earning Yield. And, CGY is the Cashflow. GDPG is the Gross Domestic Production growth rate. CPI is the annual percentage change in the consumer price index. MS is the annual growth rate in money supply. T-Bill is the 364 days weighted average government Treasury bills. LR is the weighted average lending rate. The reported value are intercepts and slope coefficients of respective explanatory variables with standard errors in parentheses.

$$CGY_{it} = \beta_1 + \beta_2 BETA_{it} + \beta_3 TA_{it} X\, DU_{it} + \beta_4 Size_{it} + \beta_5 BM_{it} + \beta_6 EP_{it} + \beta_7 CFY_{it} + \beta_8 GDPG_t + \beta_9 CPI_t + \beta_{10} MS_t + \beta_{11} T\text{-}Bill_t + \beta_{12} LR_t + \varepsilon_{it}$$

$$DY_{it} = \beta_1 + \beta_2 BETA_{it} + \beta_3 TA_{it} X\, DU_{it} + \beta_4 Size_{it} + \beta_5 BM_{it} + \beta_6 EP_{it} + \beta_7 CFY_{it} + \beta_8 GDPG_t + \beta_9 CPI_t + \beta_{10} MS_t + \beta_{11} T\text{-}Bill_t + \beta_{12} LR_t + \varepsilon_{it}$$

$$TY_{it} = \beta_1 + \beta_2 BETA_{it} + \beta_3 TA_{it} X\, DU_{it} + \beta_4 Size_{it} + \beta_5 BM_{it} + \beta_6 EP_{it} + \beta_7 CFY_{it} + \beta_8 GDPG_t + \beta_9 CPI_t + \beta_{10} MS_t + \beta_{11} T\text{-}Bill_t + \beta_{12} LR_t + \varepsilon_{it}$$

Regression Coefficients												
All Samples (n = 576)												
Variables	Capital Gain Yield (CYG)				Dividend Yield (DY)				Total Yield (TY)			
	Coefficients	t	P	VIF	Coefficients	t	P	VIF	Coefficients	t	P	VIF
Constant	2.977 (0.949)	3.139	0.002		0.021 (0.045)	0.468	0.640		2.956 (0.960)	3.079	0.002	
BETA	0.151 (0.058)	2.598	0.010	1.135	-0.003 (0.002)	-1.503	0.133	1.065	0.150 (0.059)	2.544	0.011	1.135
TA	0.092 (0.046)	1.999	0.046	1.065	-0.003 (0.002)	-1.503	0.133	1.065	0.088 (0.046)	1.904	0.050	1.065
Size	-0.044 (0.028)	-1.570	0.117	1.599	-0.001 (0.001)	-1.059	0.290	1.599	-0.045 (0.028)	-1.601	0.110	0.110
BM	-0.071 (0.050)	-1.411	0.159	1.321	-0.002 (0.002)	-0.907	0.365	1.321	-0.073 (0.051)	-1.437	0.151	1.321
EY	-0.996 (0.618)	-1.612	0.108	1.547	0.216 (0.030)	7.312	0.000	1.547	-0.780 (0.626)	-1.247	0.213	1.547
CFY	0.017 (0.152)	0.109	0.913	1.300	0.008 (0.007)	1.151	0.250	1.300	0.025 (0.154)	0.162	0.871	1.300
GDPG	3.468 (1.283)	2.704	0.007	1.405	0.083 (0.061)	1.345	0.179	1.405	3.551 (1.298)	2.735	0.006	1.405
CPI	4.514 (2.291)	1.970	0.049	1.779	0.390 (0.110)	3.558	0.000	1.779	4.904 (2.319)	2.115	0.035	1.779
MS	0.470 (0.915)	0.514	0.608	3.918	0.122 (0.044)	2.777	0.006	3.918	0.592 (0.926)	0.639	0.523	3.918
T-Bill	-13.288 (3.163)	-4.201	0.000	3.843	-0.102 (0.151)	-0.671	0.503	3.843	-13.389 (3.202)	-4.182	0.000	3.843
LR	-18.280 (2.912)	-6.277	0.000	1.313	0.253 (0.139)	1.817	0.070	1.313	-18.026 (2.948)	-6.115	0.000	1.313
Model Summary	F	14.507	P	0.000	F	15.883	P	0.000	F	14.423	P	0.000
	R^2	0.236	SEE	0.902	R^2	0.253	SEE	0.043	R^2	0.235	SEE	0.913
	Adjusted R^2	0.220	DW	2.256	Adjusted R^2	0.237	DW	1.799	Adjusted R^2	0.219	DW	2.259

Table 4 indicates that the F-statistics of all regression models are significant at the 1% level. The adjusted R^2 which reflects the overall goodness of fit are 0.220 for CGY, 0.237 for DY, and 0.219 for TY, implying that 22%, 23.7% and 21.9% of the variation in common stock returns are explained by the explanatory variables included in the models. The Durbin-Watson statistics are in between the acceptable range of 1.5 to 2.5 suggesting the absence of autocorrelation. In addition, the variance inflation factors (VIFs) for all variables across the three models are below 10, indicating that

multicollinearity is not a concern. Overall, these diagnostic results confirm that the estimated models are statistically sound and suitable for inference.

The explanatory variables stock beta and total assets growth still retain the explanatory power as obtained in the stratified analysis. The regression coefficients of stock beta on two measures of common stock returns are positive (CGY = 0.151 & TY = 0.150) and statistically significant (CGY = 0.010 & TY = 0.011) at 5% significance level whereas insignificant to dividend yield (0.133). The significant positive coefficients for CGY and TY further confirm that stock beta has the significant positive impact on common stock returns. More specifically, the higher the stock beta, the higher would be the common stock returns in Nepali capital market. Likewise, the regression coefficients of total assets growth are positive for two of the measures of common stock returns (CGY = 0.092 & TY = 0.088) and statistically significant (CGY = 0.046 & TY = 0.050) at 5% level of significance. The positive and significant regression coefficients further confirm that total assets growth has the significant positive impact on common stock returns. More clearly, the higher the total assets growth, the higher would be the common stock returns in Nepali capital market.

Regarding the macroeconomic variables, the regression coefficients of GDP growth are positive (CGY = 3.468 & TY = 3.551) and statistically significant (CGY & TY = 0.007, DY = 0.006) at 1% significance level. The positive and significant regression coefficients further confirm that the variable GDP growth has the significant positive impact on common stock returns. More specifically, the higher the GDP growth, the higher would be the stock returns in Nepali capital market. Similarly, the regression coefficients of consumer price index are also positive (CGY = 4.514, DY = 0.390, & TY = 4.904) and statistically significant at 1% significance level. The positive and significant regression coefficients further confirm that the variable CPI has the significant positive impact on common stock returns. More specifically, the higher the CPI the higher would be the stock returns in Nepali capital market. The regression coefficients of money supply are also positive (CGY = 0.470, DY = 0.122, & TY = 0.592) and statistically significance for DY (0.006) only at 1% level of significance. The significant positive coefficients of money supply for DY further confirm that MS has the significant positive impact on dividend yield. More clearly, the higher the money supply, the higher would be the dividend yield in Nepali capital market.

Contrarily, the regression coefficients of Treasury bills are negative for two measures of common stock returns (CGY = -13.288, DY = -0.102, & TY = -13.389)

and statistically significant at 1% significance level (CGY = TY = 0.000) whereas statistically insignificant for dividend yield (DY = 0.502). The significant and negative coefficients for CGY and TY further confirm that Treasury bills rate has the significant negative impact on common stock returns. Which means, the higher the Treasury bills rate, the lower would be the common stock returns in Nepali capital market. Likewise, the regression coefficients of lending rate are also negative (CGY = -18.280 & TY = -18.026) and statistically significant (CGY = TY = 0.000) at 1% level of significance, however, insignificant (0.070) for DY. The significant negative coefficients of T-bill for CGY and TY further confirm that lending rate has the significant negative impact on common stock returns. More clearly, the higher the lending rate, the lower would be the common stock returns in Nepali capital market.

On the other hand, regression coefficients of firm size, book to market equity, earning yield, and cashflow yield are statistically insignificant. The insignificant regression coefficients further confirm that the variables firm size, book to market equity, earning yield, and cashflow yield have the insignificant impact on common stock returns in Nepali capital market.

Table 5

Regression Results of Market Risk, Fundamental Variables, Assets growth, and Macroeconomic Variables on Common Stock Returns (BFIs Sample)

Table 5 reports the regression result of market risk, assets growth, fundamental variables, and macroeconomic variables on common stock returns. The explained variables are Capital Gain Yield (CGY), Dividend Yield (DY), and Total Yield (TY). The explanatory variables are BETA, TA, fundamental variables, and macroeconomic variables. BETA is the stock beta representing market risk. TA is the total assets growth rate from the balance sheet. Size is the Market Capitalization. BM is the Book to Market Equity. EY is the Earning Yield. And, CGY is the Cashflow. GDPG is the Gross Domestic Production growth rate. CPI is the annual percentage change in the consumer price index. MS is the annual growth rate in money supply. T-Bill is the 364 days weighted average government Treasury bills. LR is the weighted average lending rate. The reported value are intercepts and slope coefficients of respective explanatory variables with standard errors in parentheses.

$$CGY_{it} = \beta_1 + \beta_2 BETA_{it} + \beta_3 TA_{it} + \beta_4 Size_{it} + \beta_5 BM_{it} + \beta_6 EP_{it} + \beta_7 CFY_{it} + \beta_8 GDPG_t + \beta_9 CPI_t + \beta_{10} MS_t + \beta_{11} T\text{-}Bill_t + \beta_{12} LR_t + \varepsilon_{it}$$

$$DY_{it} = \beta_1 + \beta_2 BETA_{it} + \beta_3 TA_{it} + \beta_4 Size_{it} + \beta_5 BM_{it} + \beta_6 EP_{it} + \beta_7 CFY_{it} + \beta_8 GDPG_t + \beta_9 CPI_t + \beta_{10} MS_t + \beta_{11} T\text{-}Bill_t + \beta_{12} LR_t + \varepsilon_{it}$$

$$TY_{it} = \beta_1 + \beta_2 BETA_{it} + \beta_3 TA_{it} + \beta_4 Size_{it} + \beta_5 BM_{it} + \beta_6 EP_{it} + \beta_7 CFY_{it} + \beta_8 GDPG_t + \beta_9 CPI_t + \beta_{10} MS_t + \beta_{11} T\text{-}Bill_t + \beta_{12} LR_t + \varepsilon_{it}$$

Regression Coefficients

BFIs Sample (n = 336)

Variables	Capital Gain Yield (CYG)				Dividend Yield (DY)				Total Yield (TY)			
	Coefficients	t	P	VIF	Coefficients	t	P	VIF	Coefficients	t	P	VIF
Constant	7.820 (1.103)	7.087	0.000		0.548 (0.078)	7.015	0.000		8.368 (1.132)	7.389	0.000	
BETA	0.107 (0.047)	2.255	0.025	1.229	0.003 (0.003)	0.423	0.423	1.229	0.110 (0.049)	2.253	0.025	1.229
TA	0.084 (0.039)	2.151	0.032	1.093	0.006 (0.003)	2.291	0.023	1.093	0.078 (0.040)	1.938	0.045	1.093
Size	-0.105 (0.024)	-4.389	0.000	2.067	-0.012 (0.002)	-6.856	0.000	2.067	-0.117 (0.025)	-4.750	0.000	2.067
BM	-0.450 (0.109)	-4.143	0.000	2.742	-0.042 (0.008)	-5.408	0.000	2.742	-0.491 (0.111)	-4.410	0.000	2.742
EY	0.543 (0.610)	0.890	0.374	2.398	0.327 (0.043)	7.577	0.000	2.398	0.870 (0.626)	1.390	0.166	2.398
CFY	0.008 (0.095)	0.080	0.936	1.171	0.007 (0.007)	0.999	0.319	1.171	0.014 (0.098)	0.147	0.884	1.171
GDPG	1.895 (0.173)	10.971	0.000	3.823	0.060 (0.012)	4.880	0.000	3.823	1.955 (0.177)	11.027	0.000	3.823
CPI	1.363 (0.167)	8.157	0.000	4.276	0.040 (0.012)	3.357	0.001	4.276	1.402 (0.171)	8.180	0.000	4.276
MS	2.818 (0.213)	13.220	0.000	7.787	0.085 (0.015)	5.607	0.000	7.787	2.902 (0.219)	13.269	0.000	7.787
T-Bill	-0.501 (0.081)	-6.195	0.000	3.819	-0.008 (0.006)	-1.325	0.186	3.819	-0.508 (0.083)	-6.128	0.000	3.819
LR	-4.382 (0.313)	-14.002	0.000	2.627	-0.077 (0.022)	-3.459	0.001	2.627	-4.459 (0.321)	-13.882	0.000	2.627
Model Summary	F	29.564	P	0.000	F	19.380	P	0.000	F	29.606	P	0.000
	R^2	0.544	SEE	0.504	R^2	0.438	SEE	0.036	R^2	0.544	SEE	0.517
	Adjusted R^2	0.525	DW	2.058	Adjusted R^2	0.416	DW	1.867	Adjusted R^2	0.526	DW	2.061

Table 5 reveals that the explanatory variables stock beta and total assets growth still retain the explanatory power as obtained in the stratified analysis for BFIs. The regression coefficients of stock beta on common stock returns are positive (CGY = 0.107, DY = 0.003, & TY = 0.110) and statistically significant at 5% significance level (CGY = 0.025 & TY = 0.025) for two measures of common stock returns (CGY & TY) only. The significant positive coefficients of stock beta further confirm that stock beta has the significant positive impact on common stock returns among the BFIs operated in Nepali capital market. Similarly, the regression coefficients of total assets growth are positive on all three measures of common stock returns (CGY = 0.084, DY = 0.006, & TY = 0.078) and statistically significant at 5% significant level. The significant positive coefficients further confirmed that total assets growth has the significant positive impact on common stock returns among the BFIs firms in Nepali capital market.

Among the firm specific variables, firm size has the negative regression coefficients (CGY = -0.105, DY = -0.012, & TY = -0.117) on stock returns with significant p-value (0.000). The significant negative coefficient of firm size further confirmed that firm size has the significant negative impact on common stock returns in Nepali BFIs. Similarly, book to market ratio also has negative regression coefficients (CGY = -0.450, DY = -0.042, & TY = -0.491) with statistically significant p-values (0.000) for 1% level of significance confirming that negative impact on stock returns in Nepali banking and financial institutions.

On the other hand, regression coefficients of earning yield are positive for all measures of common stock returns (CGY = 0.601, DY = 0.322, & TY = 0.923). However, the statistics shows the coefficient is significant at 1% significance level for DY (P = 0.000) only. The significant positive coefficient further reveals that earning yield has the significant positive impact on dividend yield. More clearly, the higher the earning yield, the higher would be the commons stock returns (DY) in Nepali BFIs.

Regarding macroeconomic variables, the regression coefficients of GDP growth rate (CGY = 1.895, DY = 0.060, & TY = 1.955), consumer price index (CGY = 1.363, DY = 0.040, & TY = 1.402), and money supply (CGY = 2.818, DY = 0.085, & TY = 2.902) are positive and statistically significant at 1% significant level. The positive and significant coefficients further confirm that the GDP growth, CPI, and MS have the significant positive impact on stock returns in Nepali banking and financial institutions.

Contrarily, the regression coefficients of Treasury bills (CGY = -0.501 & TY = -508) and lending rate (CGY = -4.382, DY = -0.077, & TY = -4.459) are negative and statistically significant at 1% level. The significant negative coefficients further confirm that T-Bill and lending rate have the significant negative impact on stock returns in Nepali BFIs.

The regression coefficients of cashflow yield (CGY = 0.008, DY = 0.007, & TY = 0.014) are statistically insignificant showing the insignificant impact on stock returns in banking and financial institutions if the full model is applied.

Table 6

Regression Results of Market Risk, Fundamental Variables, Assets growth, and Macroeconomic Variables on Common Stock Returns (Insurance Companies Sample)

Table 6 reports the regression result of market risk, assets growth, fundamental variables, and macroeconomic variables on common stock returns. The explained variables are Capital Gain Yield (CGY), Dividend Yield (DY), and Total Yield (TY). The explanatory variables are BETA, TA, fundamental variables, and macroeconomic variables. BETA is the stock beta representing market risk. TA is the total assets growth rate from the balance sheet. Size is the Market Capitalization. BM is the Book to Market Equity. EY is the Earning Yield. And, CGY is the Cashflow. GDPG is the Gross Domestic Production growth rate. CPI is the annual percentage change in the consumer price index. MS is the annual growth rate in money supply. T-Bill is the 364 days weighted average government Treasury bills. LR is the weighted average lending rate. The reported value are intercepts and slope coefficients of respective explanatory variables with standard errors in parentheses.

$$CGY_{it} = \beta_1 + \beta_2 BETA_{it} + \beta_3 TA_{it} + \beta_4 Size_{it} + \beta_5 BM_{it} + \beta_6 EP_{it} + \beta_7 CFY_{it} + \beta_8 GDPG_t + \beta_9 CPI_t + \beta_{10} MS_t + \beta_{11} T\text{-}Bill_t + \beta_{12} LR_t + \varepsilon_{it}$$

$$DY_{it} = \beta_1 + \beta_2 BETA_{it} + \beta_3 TA_{it} + \beta_4 Size_{it} + \beta_5 BM_{it} + \beta_6 EP_{it} + \beta_7 CFY_{it} + \beta_8 GDPG_t + \beta_9 CPI_t + \beta_{10} MS_t + \beta_{11} T\text{-}Bill_t + \beta_{12} LR_t + \varepsilon_{it}$$

$$TY_{it} = \beta_1 + \beta_2 BETA_{it} + \beta_3 TA_{it} + \beta_4 Size_{it} + \beta_5 BM_{it} + \beta_6 EP_{it} + \beta_7 CFY_{it} + \beta_8 GDPG_t + \beta_9 CPI_t + \beta_{10} MS_t + \beta_{11} T\text{-}Bill_t + \beta_{12} LR_t + \varepsilon_{it}$$

Insurance Companies Sample (n = 168)												
Variables	Capital Gain Yield (CYG)				Dividend Yield (DY)				Total Yield (TY)			
	Coefficients	t	P	VIF	Coefficients	t	P	VIF	Coefficients	t	P	VIF
Constant	-4.930 2.866	-1.720	0.087		-0.390 0.114	-3.413	0.001		-5.320 2.888	-1.842	0.067	
BETA	0.241 0.141	1.708	0.090	1.511	0.006 0.006	1.115	0.266	1.511	0.247 0.142	1.740	0.084	1.511
TA	-0.239 0.538	-0.444	0.658	1.119	0.004 0.021	0.184	0.854	1.119	-0.235 0.542	-0.433	0.666	1.119
Size	-0.192 0.082	-2.353	0.020	2.579	-0.007 0.003	-2.015	0.046	2.579	-0.199 0.082	-2.415	0.017	2.579
BM	-0.109 0.084	-1.294	0.197	1.770	0.000 0.003	0.123	0.902	1.770	-0.109 0.085	-1.280	0.203	1.770
EY	-0.027 1.247	-0.022	0.983	2.100	0.135 0.050	2.725	0.007	2.100	0.108 1.257	0.086	0.932	2.100
CFY	-0.059 0.482	-0.123	0.902	2.197	0.003 0.019	0.132	0.895	2.197	-0.057 0.486	-0.117	0.907	2.197
GDPG	10.343 3.095	3.342	0.001	1.484	0.040 0.123	0.328	0.744	1.484	10.383 3.119	3.329	0.001	1.484
CPI	30.865 7.008	4.404	0.000	3.021	1.204 0.279	4.312	0.000	3.021	32.068 7.062	4.541	0.000	3.021
MS	2.725 2.426	1.123	0.263	4.883	0.301 0.097	3.113	0.002	4.883	3.026 2.444	1.238	0.218	4.883
T-Bill	-14.733 8.475	-1.738	0.048	4.995	0.657 0.337	1.947	0.053	4.995	-14.076 8.540	-1.648	0.010	4.995
LR	-20.425 7.016	-2.911	0.004	1.388	-0.988 0.279	-3.537	0.001	1.388	-19.437 7.069	-2.749	0.007	1.388
Model Summary	F	8.209	P	0.000	F	4.864	P	0.000	F	8.187	P	0.000
	R^2	0.367	SEE	1.191	R^2	0.255	SEE	0.047	R^2	0.366	SEE	1.200
	Adjusted R^2	0.322	DW	2.238	Adjusted R^2	0.203	DW	1.944	Adjusted R^2	0.321	DW	2.247

Table 6 The results reveal that the regression coefficients of firm size are negative for all three measures of common stock returns (CGY = -0.192, DY = -0.007, TY = -0.199) and statistically significant at 5% level of significance. The significant negative coefficients confirmed that firm size has the significant negative impact on common stock returns in Nepali insurance companies. In contrast, the regression

coefficient of earning yield on common stock returns is positive for DY (0.135) and statistically significant at 1% level of significance. The significant positive coefficient of earning yield further confirmed that earning yield has the significant positive impact on dividend yield.

The results further show that the regression coefficients of stock beta (CGY = 0.241, DY = 0.006, & TY = 0.247) and total assets growth (CGY = -0.239, DY = 0.004, & TY = -0.235) on common stock returns are insignificant at 5% level of significance. The insignificant regression coefficients further confirmed that stock beta and total assets growth both loses its original explanatory power among the insurance companies operated in Nepali capital market. Likewise, the results further reveal that book to market equity (CGY = -0.109, DY = 0.000, & TY = -0.109) and cashflow yield (CGY = 0.678, DY = 0.200, & TY = 0.674) have also insignificant regression coefficients on stock returns. The insignificant regression coefficients further confirmed that stock beta and cashflow yield have insignificant impact on stock returns in Nepali insurance companies.

Among the macroeconomic variables, the regression coefficients of GDP growth rate (CGY = 10.343, DY = 0.040, & TY = 10.383), consumer price index (CGY = 30.865. DY = 1.204, & TY = 32.068) and money supply (DY = 0.301) are positive and statistically significant at 1% significance level. These statistically significant regression coefficients prove that GDP growth, CPI, and money supply have significant positive impact on stock returns in Nepali insurance companies listed in Nepali capital market.

On the other hand, the results reveal that the regression coefficients of T-Bill (CGY = -14.733 & TY = -14.076) and LR (CGY = -20.425, DY = -0.988, & TY = -19.437) are negative and statistically significant at 5% significance level. The significant negative coefficients confirm that T-Bill and LR have the significant negative impact on common stock returns. It means, the higher the T-Bill and LR, the lower would be the common stock returns from the Nepali capital market specially in the case of insurance companies.

Table 7

Regression Results of Market Risk, Fundamental Variables, Assets growth, and Macroeconomic Variables on Common Stock Returns (Other Sample)

Table 7 reports the regression result of market risk, assets growth, fundamental variables, and macroeconomic variables on common stock returns. The explained variables are Capital Gain Yield (CGY), Dividend Yield (DY), and Total Yield (TY). The explanatory variables are BETA, TA, fundamental variables, and macroeconomic variables. BETA is the stock beta representing market risk. TA is the total assets growth rate from the balance sheet. Size is the Market Capitalization. BM is the Book to Market Equity. EY is the Earning Yield. And, CGY is the Cashflow. GDPG is the Gross Domestic Production growth rate. CPI is the annual percentage change in the consumer price index. MS is the annual growth rate in money supply. T-Bill is the 364 days weighted average government Treasury bills. LR is the weighted average lending rate. The reported value are intercepts and slope coefficients of respective explanatory variables with standard errors in parentheses.

$$CGY_{it} = \beta_1 + \beta_2 BETA_{it} + \beta_3 TA_{it} + \beta_4 Size_{it} + \beta_5 BM_{it} + \beta_6 EP_{it} + \beta_7 CFY_{it} + \beta_8 GDPG_t + \beta_9 CPI_t + \beta_{10} MS_t + \beta_{11} T\text{-}Bill_t + \beta_{12} LR_t + \varepsilon_{it}$$

$$DY_{it} = \beta_1 + \beta_2 BETA_{it} + \beta_3 TA_{it} + \beta_4 Size_{it} + \beta_5 BM_{it} + \beta_6 EP_{it} + \beta_7 CFY_{it} + \beta_8 GDPG_t + \beta_9 CPI_t + \beta_{10} MS_t + \beta_{11} T\text{-}Bill_t + \beta_{12} LR_t + \varepsilon_{it}$$

$$TY_{it} = \beta_1 + \beta_2 BETA_{it} + \beta_3 TA_{it} + \beta_4 Size_{it} + \beta_5 BM_{it} + \beta_6 EP_{it} + \beta_7 CFY_{it} + \beta_8 GDPG_t + \beta_9 CPI_t + \beta_{10} MS_t + \beta_{11} T\text{-}Bill_t + \beta_{12} LR_t + \varepsilon_{it}$$

Regression Coefficients												
Other Companies Sample (n = 72)												
Variables	**Capital Gain Yield (CYG)**				**Dividend Yield (DY)**				**Total Yield (TY)**			
	Coefficients	t	P	VIF	Coefficients	t	P	VIF	Coefficients	t	P	VIF
Constant	3.623 2.187	1.656	0.103		-0.228 0.127	-1.796	0.077		3.395 2.182	1.556	0.125	
BETA	0.055 0.183	0.300	0.765	1.499	-0.002 0.011	-0.203	0.840	1.499	0.053 0.183	0.289	0.774	1.499
TA	0.340 0.336	1.011	0.316	1.471	-0.016 0.019	-0.840	0.404	1.471	0.324 0.336	0.964	0.339	1.471
Size	-0.077 0.068	-1.140	0.259	1.342	0.006 0.004	1.432	0.157	1.342	-0.072 0.068	-1.060	0.293	1.342
BM	-0.293 0.254	-1.152	0.254	1.248	0.022 0.015	1.517	0.134	1.248	-0.270 0.254	-1.067	0.290	1.248
EY	0.403 1.135	0.355	0.724	1.667	0.172 0.066	2.608	0.011	1.667	0.575 1.133	0.508	0.614	1.667
CFY	-0.376 1.159	-0.324	0.747	1.374	0.118 0.067	1.760	0.083	1.374	-0.257 1.157	-0.223	0.825	1.374
GDPG	0.001 2.813	0.000	1.000	1.420	-0.069 0.163	-0.421	0.675	1.420	-0.067 2.806	-0.024	0.981	1.420
CPI	-1.367 4.764	-0.287	0.775	1.618	0.516 0.276	1.868	0.067	1.618	-0.851 4.753	-0.179	0.858	1.618
MS	0.806 2.066	0.390	0.698	4.103	0.195 0.120	1.630	0.108	4.103	1.001 2.061	0.486	0.629	4.103
T-Bill	-5.614 7.343	-0.765	0.448	4.344	0.665 0.426	1.561	0.124	4.344	-4.950 7.326	-0.676	0.502	4.344
LR	-13.247 6.418	-2.064	0.043	1.346	0.333 0.372	0.896	0.374	1.346	-12.914 6.402	-2.017	0.048	1.346
Model Summary	F	1.303	P	0.245	F	2.837	P	0.005	F	0.048	P	0.253
	R^2	0.193	SEE	0.724	R^2	0.342	SEE	0.042	R^2	0.191	SEE	0.722
	Adjusted R^2	0.045	DW	2.034	Adjusted R^2	0.222	DW	2.190	Adjusted R^2	0.043	DW	1.983

Table 7 indicates that the regression coefficient of EY (0.172) on DY is positive and statistically significant (P = 0.011) at least at 5% level of significance. The significant positive correlation coefficients further suggest that earning yield has have significant positive impact on dividend yield for other companies' sample in Nepali capital market.

On the other hand, all the explanatory variables except EY have no significant effect on common stock returns in Nepali capital market for other companies' sample.

The summarize view of the comparison of the test results obtained by the study with the expectations of theories or hypothesis formed on the basis of priori evidences are portrayed in Table 9. The results of the estimated modes are summarized as follows:

Table 8

Comparison of Expected and Observed Relationship from Full Model

Table 8 reports summarized view of market risk, assets growth, fundamental variables, and macroeconomic variables on common stock returns. The explained variables are Capital Gain Yield (CGY), Dividend Yield (DY), and Total Yield (TY). The explanatory variables are BETA, TA, fundamental variables, and macroeconomic variables. BETA is the stock beta representing market risk. TA is the total assets growth rate from the balance sheet. Size is the Market Capitalization. BM is the Book to Market Equity. EY is the Earning Yield. And, CGY is the Cashflow. GDPG is the Gross Domestic Production growth rate. CPI is the annual percentage change in the consumer price index. MS is the annual growth rate in money supply. T-Bill is the 364 days weighted average government Treasury bills. LR is the weighted average lending rate. The reported signs are expected and the observed relationship between the dependent and independent variables.

Variables	Expected Sign	Capital Gain Yield (CGY)				Dividend Yield (DY)				Total Yield (TY)			
		All	BFIs	Insurance	Other	All	BFIs	Insurance	Other	All	BFIs	Insurance	Other
BETA	+	+*	+*	+	NA	-	+	+	-	+*	+*	+	NA
TA	-	+*	+*	-	NA	-	+*	+	-	+*	+*	-	NA
Size	-	-	-*	-*	NA	-	-*	-*	+	-	-*	-*	NA
BM	+	-	-*	-	NA	-	-*	+	+	-	-*	-	NA
EY	+	-	+	-	NA	+*	+*	+*	+*	-	+	+	NA
CFY	+	+	+	-	NA	+	+	+	+	+	+	-	NA
GDPG	+	+*	+*	+*	NA	+	+*	+	-	+*	+*	+*	NA
CPI	-	+*	+*	+*	NA	+*	+*	+*	+	+*	+*	+*	NA
MS	+	+	+*	+	NA	+*	+*	+*	+	+	+*	+	NA
T-Bill	-	-*	-*	-*	NA	-	-	+	+	-*	-*	-*	NA
LR	-	-*	-*	-*	NA	+	-*	-*	+	-*	-*	-*	NA

Where, '+' = Positive Impact, '-' = Negative Impact, '*' = Statistically Significant, and 'NA' = Model is Not Applicable

Market risk as proxied by stock BETA exhibits a significant positive impact on capital gain yield and total yield. The positive and significant coefficients of beta confirm that market risk plays an important role in explaining common stock returns. In simple terms, higher market risk is associated with higher stock returns in the Nepali capital market. This result is consistent with major financial theories, particularly the CAPM of Sharpe (1964); Lintner (1965); and Black (1972) and with proior empirical studies such as Lakonishok and Shapiro (1984); Pettengill et al. (1995); and Huang and Hueng (2008). Investors in the secondary market seek higher returns from market movements, which are directly linked to market risk captured by stock beta. The traditional risk-return trade-off, which states that higher risk leads to higher expected returns, is strongly supported by the findings of the study. Hence, there is sufficient evidence to accept the hypothesis that market risk has a significant positive impact on common stock returns in the Nepali capital market.

Among the firm specific fundamental variables, firm size is found to be the very important variable to determine the common stock returns. The regression results of firm size are negative and significant in almost all of the models for all stratified units of sample. Therefore, it is concluded that firm size has the significant negative impact on common stock returns. More clearly, investors in the small firms earn higher rate of return as compared to the investors in big firms in Nepali capital market. Another important firm specific variable observed is book to market equity. Similar to the firm size, book to market equity shows the significant negative impact on common stock returns in Nepali capital market. However, the results of book to market equity are not robust to all industries groups. The earning yield shows the significant negative impact on capital gain yield and total yield whereas significantly positive impact on dividend yield. It means, the investors who focus on the returns as the function of dividend can concern only on the earning of the individual firm. Cashflow yield on common stock returns is not significant in Nepali capital market. However, this variable is very importantly addressed in the global market. Therefore, cashflow is the irrelevant factor in predicting common stock returns in Nepali capital market.

More interestingly, the results show that Nepali capital market is highly influenced by macroeconomic variables. Among the macroeconomic variables, GDP growth rate, and inflation rate have the significant positive impact on Nepali capital market even in the stratified sample groups. In contrast, lending rate and Treasury bills have the significant negative impact on common stock returns.

Conclusion

Based on the results obtained from the analysis, the study has attempted to generate the following conclusions: Firstly, the significant positive impact of market risk on cross-section of common stock returns is observed in Nepali capital market too. This finding is in support of existing financial theory of 'return is a reward for bearing risk, and the higher reward is accompanied by the greater risk'. Secondly, assets growth has the positive explanatory power on common stock returns in Nepali capital market. This finding contradicts with the existing empirical evidence that fast-growing firms have the lower returns to the investors. Thirdly, the study explores the significant variation on capital gain yield, dividend yield, and total yield. However, the findings reveal that the inclusion of dividend yield as a measure of common stock returns do not play such a significant role in predicting common stock returns. Therefore, it is concluded that capital gain yield only can justify the strong measure of common stock returns. Finally, all the results obtained from the analysis for risk-return tradeoff are very strong and consistent throughout the estimations.

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