Impact of Firm’s Fundamentals on Return of Stocks in Nepal

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ABSTRACT

Return on stock is the chief concern of firm investors. Investors prefer better stock returns, and management focuses on increasing stock returns for wealth maximization. Internal factors are the firm fundamentals, and external factors are various macroeconomic variables that influence stock returns. This paper uses descriptive and causality research designs to examine the impact of firm fundamentals on stock returns in Nepal for the fiscal year 2007/08-2021/22. In this paper, the dependent variable is stock return and firm fundamentals such as earnings per share (EPS), book-to-market equity (BME), size of market value of equity (lnME), cash flow yields (CFY), and earning yield (EY) are used as explanatory variables. The correlation result shows that EPS, BME, and EY have positive relationships, and lnME and CFY have negative relationships with stock returns. The regression results reveal the positive impact of EPS, BME, and EY on stock returns in Nepalese firms. This indicates that higher EPS, BME, and EY lead to increased firms’ stock returns. Further, the result reports that lnME and CFY have an inverse influence on returns. Finally, the finding concludes that earnings per share, book-to-market equity, size of market value equity, and cash flow yields are strong, but earnings yield has a weak impact on the stock returns of firms in Nepal. Policymakers, investors, and academicians can implement the findings of this study for effective formulation and application of policies, maximize stock returns, and research activities.

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1. INTRODUCTION

Stock pricing and returns are immense subjects in economic and finance literature. Return is the key factor for the management of business firms as well as investors. Most investors prefer firms that provide better stock returns, and management wants to focus on increasing stock returns for the firm’s wealth maximization. Internal as well as external factors affect stock returns. Internal factors are firm fundamentals, and external factors are
various macroeconomic variables. Markowitz [1] introduced the theory of portfolios to formulate efficient portfolios of various individual securities for the trade-off of risk return. A portfolio offers either higher returns with the same or lower level of risk or lower risk with the same or higher level of returns. CAPM, i.e. Capital Asset Pricing Model was introduced by Sharpe [2] and developed by Lintner [3] and Mossin [4]. CAPM argues that higher systematic risk earns more return. Beta as systematic risk determines stock returns. CAPM also assumes that the stock market is generally efficient. In the developed Arbitrage Pricing Theory, Ros [5] argued that the expected return from investment is influenced by various uncertainty risk factors (interest, inflation rates, etc.).


Roll [15] stated that risk measures are biased because of autocorrelation in the estimation of stock returns of small firms. Size effect on returns differs from earning to price; small firms can earn higher returns [8]. Higher BME earns more returns than lower BME of the firm [12]. In the stock return analysis, Bhandari [9] used the debt-equity ratio to explain the firm’s returns and found a positive association between debt-equity and stock returns by controlling both size and beta. Chan et al. [16] revealed a significant relation between BME, size, cash flow yield, and earnings yield with returns in Japan.

Fama and French [10] reported that BME and market value of equity (MVE) have a significant positive relation with stock returns, but the stock’s beta does not explain return. BME and MVE capture roles of explaining the power of earnings-to-price ratio and leverage. In a further study, authors observed that firms with relatively high BME have weaker financial and economic performance than firms with opposite characteristics. Higher stock returns are essentially a reward for the higher level of risk. High BME has lower stock returns in comparison to low BME. The BME has more explaining power of returns than the size of the firm [14]. Davis [17] reported a significant role of BME and earnings-to-price ratio in explaining stock returns. Barber et al. [18] revealed a similar association between the size of BME and the stock returns of both financial and non-
financial firms. Kim [19] argued that size has a marginal role, but earnings-to-price and BME have a strong explanatory power of stock returns.

Size and earnings yield positively and significantly affect both dividend and total yields. BME, cash flow yield, and earnings yield are positively associated with Nepalese firms' stock returns [20]. Chou et al. [21] revealed a negative association between size and returns, whereas a positive relationship between BME and stock returns. Guan et al. [22] found a negative association of size with expected returns and a positive relation with BME and earnings-to-price ratio. Simlai [23] reported that size and BME have a significant role in explaining stock returns.

Prasai [24] observed a positive effect of size and beta but an inverse impact of BME on stock returns, whereas cash flow yield and dividend yield have no explanatory power on stock returns. Shafana [25] revealed that BME has a significant inverse effect, but size does not impact returns. BME is the key indicator to explain stock returns [26]. Ltaifa and Khoufi [27] argued that firms with large sizes and higher levels of BME have more earning power of stock returns. The market risk premium has explained the power of volatility of stock returns.

There is a significant negative effect of EPS, an insignificant effect of ROE, and a quick ratio on returns [28]. Gautam [29] observed the positive effect of market equity, dividend yield, leverage, dividend payout, and the negative impact of BME, earnings-price ratio, and assets growth on stock returns. Anandasayan [30] argued the significant negative impact of EPS and dividend yield on returns, whereas the positive role of earnings yield on returns. Zainudin et al. [31] revealed the negative effect of dividend yield to explain the stock price, which affects stock returns. Silwal and Napit [32] found the positive role of price-earnings, ROE, and book value per share and the negative effect of size on returns. EPS and BME are positively related, but market equity size is inversely related to stock returns in Nepalese firms. Various empirical literature shows that firm fundamentals and macro variables significantly explain stock returns [33]–[35].

The various empirical literature shows that most studies about the impact of firm fundamentals on stock returns and their issues have been addressed in developed economies. Only limited similar studies have been administered in developing countries to address issues of risk-return of stocks. There is an absence of in-depth studies of stock returns in under-developing economies. In a dynamic, globalized, and competitive environment, Nepalese business firms are suffering from incredible challenges that adversely affect their stock returns. Inadequate numbers of listed firms, a limited number of investors, a lack of professional knowledge, a small number of transactions, a lack of pertinent information about the stock market, etc., are features of the Nepalese stock market. Thus, Nepal's stock market is still in the early growth stage (development). Various firm fundamentals and macroeconomic variables determine stock returns. In this perspective, this study addresses the research questions of (a) is there any relationship between fundamentals and returns in Nepalese firms? (b) what is the impact of firm fundamentals on returns in Nepalese firms?

The primary aim of the research is to investigate the influence of fundamentals on the returns of Nepalese firms. Specific objectives are (a) to analyze the relationship of
earnings per share, a book-to-market equity, size, cash flow yield, and earnings yield with stock returns of firms in Nepal, and (b) to examine the impact of earnings per share, book to market equity, size, cash-flow yield and earnings yield on stock returns of Nepalese firms. The best part of this paper is outlined as follows: Section Two deals with research methodology, section Three presents results and discussion, and section four concludes results along with the study's implication.

2. METHOD

This paper applies descriptive and causal research designs to address stated research questions and objectives. Descriptive measures have been used to describe the nature of firm fundamentals and stock returns. Similarly, Pearson’s correlation coefficients have been estimated to analyze the direction and relationship between explanatory variables and returns of Nepalese firms. Causality design or method is applied to examine explanatory variables’ impact on Nepal's stock returns.

This paper is solely based on secondary sources of data. Required data for this study were obtained from the Nepal Stock Exchange (NEPSE) [36], the Security Board of Nepal (SEBON) [37], and the annual report of sample firms of fifteen years from 2007/08 to 2021/22. The total number of listed firms till mid-July 2022 was 234 companies, which is the population size of this study. The 51 firms out of 234 listed companies are considered samples, including two trading companies, two hydropower, eight insurance companies, 11 development banks, 13 commercial banks, and 15 finance companies, representing 21.79 percent of the population.

This paper aims to examine the impact of firm fundamentals on stock returns. For this purpose, descriptive statistics (mean, standard deviation, minimum, and maximum values), correlation and regression analysis, F-test, t-test, Adjusted R2 Durbin- Watson test, etc. are used for data analysis.

This paper considers stock return as an independent variable. Return is estimated based on the sample firms' annual data (ending price less beginning price plus dividend whole divided by the beginning price of stocks). Literature (theoretical and empirical) observes firm fundamentals and macroeconomic factors that influence returns. In this study, only firm fundamentals such as EPS (net income divided by number of shares), BME (book-equity divided by market equity), size (logarithm of market equity, i.e., closing price per share multiplied by number of shares outstanding), cash flow yield (sum of after-tax net income and depreciation whole divided by MVE), and earnings yield (ratio of net income to MVE) are used as explanatory variables. The basic regression model to examine the impact of fundamentals on return is specified in Equation 1. This equation is a modified version of prior research work [10], [14], [20]. This equation shows the effect of earnings per share, book to equity, cash flow yield, and earnings yield on stock return.

\[
R_{it} = \alpha_0 + \alpha_1 \text{EPS}_{it} + \alpha_2 \text{BME}_{it} + \alpha_3 \ln \text{ME}_{it} + \alpha_4 \text{CFY}_{it} + \alpha_5 \text{EY}_{it} + \epsilon_{it} \tag{1}
\]

\( R_{it} \) is stock return, \( \text{EPS}_{it} \) represents earnings per share, \( \text{BME}_{it} \) stands book to market equity, \( \ln \text{ME} \) indicates logarithm of market equity, \( \text{CFY} \) represents cash flow yield, \( \text{EY} \) stands for
earning yield, $\alpha_0$ symbolizes coefficient of constant, $\alpha_1, \alpha_2, \alpha_3, \alpha_4$ and $\alpha_5$ are coefficients of independent variables, and $\epsilon_i$ is error-term.

3. RESULTS AND DISCUSSION

This section analyzes the results of firm fundamentals and stock returns of Nepalese firms. Descriptive measures describe the status of firm fundamental and stock returns. Correlation analysis shows the relationship between firm fundamentals and stock returns. Regression analysis examines the impact of explanatory variables on the stock return of firms. Finally, this section discusses the findings of this study.

3.1. Descriptive Statistics

A summary of descriptive statistics of firm fundamentals and stock returns is demonstrated in Table 1.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>-0.876</td>
<td>3.927</td>
<td>0.206</td>
<td>0.437</td>
</tr>
<tr>
<td>EPS</td>
<td>-0.43</td>
<td>177.65</td>
<td>39.68</td>
<td>0.329</td>
</tr>
<tr>
<td>BME</td>
<td>0.049</td>
<td>3.182</td>
<td>0.417</td>
<td>0.435</td>
</tr>
<tr>
<td>SIZE (lnME)</td>
<td>2.168</td>
<td>11.432</td>
<td>6.718</td>
<td>1.079</td>
</tr>
<tr>
<td>CFY</td>
<td>-0.019</td>
<td>0.395</td>
<td>0.134</td>
<td>0.291</td>
</tr>
<tr>
<td>EY</td>
<td>-0.018</td>
<td>1.219</td>
<td>0.074</td>
<td>0.189</td>
</tr>
</tbody>
</table>


Table 1 shows descriptive statistics of firm fundamentals and stock returns. Results report that mean values of R, EPS, BME, lnME, CFY, and EY of firms are positive. The maximum stock return is 392.7 percent, and the minimum is minus 87.6 percent, whereas the mean return is 20.6 percent, which implies an average stock return of firms is positive in Nepal. The mean EPS is Rs 39.68, with a minimum of minus Re 0.43 and a maximum of Rs 177.65 per share, indicating an average earning of Rs 39.68 per share. The mean value of BME is 41.7 percent, with a minimum of 4.9 percent and a maximum of 318.2 percent. The mean value of lnME is 6.718, which specifies the average size in logarithm form with a minimum of 2.168 and a maximum of 11.432. In addition, the result shows that the average value of CFY is 13.4 percent, where minimum and maximum values are minus 1.9 and 39.5 percent, respectively. In addition, the result indicates mean values of EY 7.4 percent with a minimum of minus 1.8 percent and a maximum of 121.9 percent. The standard deviation shows a 43.7 percent variation in returns. The result indicates that EY has the most negligible variation at 18.9 percent, whereas size has the highest variation at 107.9 percent.

3.2. Relationship between Firm Fundamentals and Stock Return

The correlation coefficient measures the linear relationship of firm fundamentals (earning per share, book-to-market equity, size of market equity, cash flow yield, earning yield) with stock return to explain the magnitude and direction of associations of firm
fundamentals and stock returns. Pearson’s correlation coefficients of pairs of stock return and firm fundamentals are presented in Table 2.

Table 2 states Pearson’s correlation results of firm fundamentals and stock returns. Results indicate that stock return is directly related to EPS, BME, and EY. EPS and BME have a significant association, but EY has an insignificant association with stock returns. Stock return is inversely associated with lnME and CFY, and both have a significant relationship with returns. Among firm fundamentals, earnings per share have a strong positive relation with stock returns, which implies earnings per share need to be increased to increase stock returns in Nepalese firms. Finally, correlation results show the associations between pairs of firm fundamentals.

<table>
<thead>
<tr>
<th>Variables</th>
<th>R</th>
<th>EPS</th>
<th>BME</th>
<th>SIZE (lnME)</th>
<th>CFY</th>
<th>EY</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>EPS</td>
<td>0.617**</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>BME</td>
<td>0.474*</td>
<td>-0.235</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SIZE (lnME)</td>
<td>-0.346*</td>
<td>0.281</td>
<td>-0.471**</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>CFY</td>
<td>-0.275*</td>
<td>0.219</td>
<td>0.315*</td>
<td>-0.384*</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>EY</td>
<td>0.196</td>
<td>0.352</td>
<td>0.374*</td>
<td>0.363*</td>
<td>0.458**</td>
<td>1</td>
</tr>
</tbody>
</table>

Note. Author’s calculation based on data from SEBON, NEPSE, and Annual Report of sample firms (2007/08-2021/22). "**" designates the significance level at 5 percent, "***" indicates statistical significance at 1 percent (two-tailed).

3.3. Impact of Firm Fundamentals on Stock Return

In this section, multivariate regression models, as stated in equation one, have been used to examine the impact of firm fundamentals on stock return. Regression results of firm fundamentals to examine their effect on stock returns are presented in Model 1.

Model 1. Regression results of stock return and firm fundamentals

\[ R_{it} = 0.635 + 2.76E_{it} + 0.728B_{it} - 0.461\ln ME_{it} - 0.376CFY_{it} + 0.628EY_{it} \ldots (1) \]

<table>
<thead>
<tr>
<th>t</th>
<th>(3.72)</th>
<th>(8.21)</th>
<th>(3.14)</th>
<th>(-2.17)</th>
<th>(-2.03)</th>
<th>(2.15)</th>
</tr>
</thead>
</table>

Adj R\(^2\) = 0.63, F-statistics = 21.67, Durbin-Watson = 1.90

Note. Authors’ calculation is based on data from SEBON, NEPSE, and Annual reports of sample firms (2007/08-2021/22). Regression coefficients, standard errors, t-statistics, Adjusted R\(^2\), F-statistics, Durbin Watson statistics, and p-values are exhibited in the Model 1.

Model 1 shows regression results of firm fundamentals to examine their impact on stock return. The regression coefficient of EPS is 2.763, along with t-statistics. This indicates the solid positive explanatory power of EPS to explain stock returns, which is statistically significant. This result is consistent with the findings of Shrestha and Lamichhane [38] and inconsistent with the results of Anwaar [28] and Anandasayanan [30]. Similarly, the regression coefficient of BME 0.728 and respective t-statistics show that BME significantly positively impacts stock returns. This result is consistent with the findings of Stattman [6], Fama and French [10], and Pradhan [20] and contradicts the results of Prasai [24], Shafana et al. [25], and Gautam [29]. In addition, the regression
coefficient of EY 0.628 shows a significant positive effect on stock return. This result is consistent with the findings of Pradhan [20] and Anandasayanan [30].

Further, the estimated result of Model 1 depicts negative regression coefficients of lnME and CFY. The regression coefficient of lnME is negative 0.461; t-statistics is 2.039, which indicates a significant negative effect of market equity size on firms’ stock returns. The finding is consistent with the results of Basu [8], Chou et al. [21], Guan et al. [22], Silwal, and Napit [32] and inconsistent with the findings of Fama and French [10], Pradhan [20], Prasai [24], Ltaifa and Khoufi [27]. The regression coefficient of CFY is negative 0.376 with a t-value of 2.039, which concludes that cash flow yield significantly negatively impacts stock return. This implies that cash flows need to be tight to increase returns. This negative result is inconsistent with the findings of Pradhan [20] and Chan et al. [16].

Finally, Model 1 shows adjusted R2 (coefficient of determinants) to identify the explanatory power of various firm fundamentals to explain stock returns. The estimated Adj. R2 of the regression model is 0.637, which indicates predicting the capacity of firm fundamentals is 63.7 percent to explain the stock returns of Nepalese firms. The f-statistic of 21.679 shows that the estimated model used in this paper is a good fit. The F-statistic indicates the excellent fitness of regression models in estimating stock returns based on explanatory variables. Durbin-Watson statistics of estimated models of stock return are between dU and 4-dU, which shows the absence of an autocorrelation problem. The estimated values of the variance inflation factor (VIF) of explanatory variables of stock return are less than ten, which shows the absence of multicollinearity problems in this paper’s estimated regression model.

4. CONCLUSION AND IMPLICATION

In the modern competitive, dynamic, and globalized age, financial and economic growth depends on the development of stock markets and returns. Firm-specific and macroeconomic variables influence returns. It attempts to examine the impact of fundamentals on returns using descriptive and causality research designs. The paper concludes that stock returns positively affect firms’ earnings per share, book-market equity, and earning yields, which implies that firms should focus on increasing earnings per share, book-to-market equity, and earning yields to maximize stock returns in Nepal. Further, the result reveals that the size of market equity and cash flow yields negatively affect stock returns. Finally, the regression result concludes that earnings, book-to-market equity, size of market equity, and cash flow yields are strong, and earnings yield weakly impacts Nepalese firms’ stock returns. Thus, firms should focus on increasing earnings and book-to-market equity and control the size of market equity and cash flow yields to maximize the stock returns of firms in Nepal.

This study can help Nepalese policymakers formulate and implement policies to make sound decisions about firm-specific variables to maximize stock returns. Similarly, the study results would be more beneficial to academics in the teaching-learning process and research activities. The findings of this study would be more beneficial to investors to get more information about firm fundamentals and stock returns to make the best investment decisions. Finally, the implication of the results of this study is from a
managerial perspective to maximize the utilization of various resources to maximize stock returns of firms in Nepal.

REFERENCES


