Impact of Sales, Net Profit, and EPS on Stock Behavior in Emerging Markets : A Study of Indian Companies

** Gagan Deep Sharma*
*** Mandeep Mahendru*
**** Sanjeet Singh*

Abstract

The present study investigated the effects of sales, net profit, and earnings per share on the stock behavior of NSE-listed companies. Thirty five major companies were chosen from the companies listed at NSE. The study is based on quarterly data of sales, net profit, and EPS from the period of 2001 to 2010. Descriptive statistics, correlation, regression, unit-root test, and Granger's causality were used for data analysis. The study found no visible effect of sales, earnings per share, and net profit on the future stock prices. These results indicated that no abnormal profits could be made by trading in the stocks on the basis of sales, earnings per share, and net profit.

Keywords: **sales, net profit, earnings per share, NSE, unit-root, Granger's causality**

JEL Classification: G10, G11, G14

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The liberalization wave in financial markets has expanded further from the developed economies to the developing economies in the last two decades (1991-2000 and 2001-2010). Interest of investors in financial markets of the developing countries has seen a resultant rise since 1990s. The stock behavior in developing countries has become far more rewarding, unpredictable, and volatile during this period. As a result, research interest in stock markets and stock behavior in the developing countries has been on a rise in recent years. Researchers largely agree that stock behavior is a very complex phenomenon in the field of financial research. Strategies in the stock markets have largely been divided into value strategies and growth strategies. Academic interest started exploring the value and growth strategies with the works of Fama and French (1992, 1996) and of Lakonishok, Shleifer, and Vishny (1994).

The security price movements operate under given economic, industry, and corporate environments. Fundamentally speaking, earnings per share, dividend per share, book value per share, and other financial ratios have a significant impact on the market price of shares. Stattman (1980) concluded that the stock return in the U.S. is negatively related to a firm's price to book value ratio. Chan, Hamao, and Lakonishok (1991) observed that the cross section of average returns are also explained by the book value to market equity ratio in Japan. Similar results were produced in the study on the Indian stock market by Vaidyanathan and Chava (1997), who found that the investments in low P/B stocks on an average gave higher returns than high P/B stocks. However, another study conducted by Vaidyanathan and Goswami (1997) maintained that the annual average returns of the portfolios formed on the basis of P/E ratios were not significantly different from each other. Sharma and Bodla (2011) argued that dividend per share and earnings per share were the strongest determinants of market price. In the

* *Assistant Professor,* University School of Management Studies, GGSIP University, Dwarka, New Delhi.
E-mail : angrishgagan@gmail.com
** *Faculty,* ICFAI Business School, Gurgaon. E-mail : mandip129@gmail.com
*** *Faculty in Management,* Chandigarh University, Gharuan, Punjab. E-mail : singh.sanjeet2008@gmail.com

securities market, whether primary or secondary market, the price of equity is significantly influenced by a number of factors, including book value of the firm, dividend per share, earnings per share, price-earning ratio, and dividend cover (Gompers, Ishii, & Metrick, 2003).

Variables like earnings per share and dividend per share actually take a great deal of impact from sales of a company. With an increase in sales, the profit normally rises, which further impacts the EPS and share price of a firm. All these variables are interdependent and affect each other. The changes in dividends declared by a company and its future performance share a direct relationship. There is also a strong relationship between asset returns and changes in operating profit performance. Moreover, declaration of a higher dividend than the previous year leads to an increased volume of trading in the stock concerned.

In recent years, Indian companies have grown at a rapid pace. They have spread their businesses both nationally and internationally. Besides, more and more individual investors have also started investing their money in Indian stock markets. Individual investors consider a variety of factors before weighing the investment opportunities. An investor gets impacted significantly if positive earning information occurs after negative dividend information. Also, a significantly negative impact occurs on equity pricing if positive dividend information is followed by negative earning information. Investors arrive at their stock purchase decisions on economic criteria combined with various other variables. There is a positive degree of relationship between behavioral finance theory and earlier empirical verification. This relationship behaves as the influencing factor for equity investors. The ordinary investors happen to be fully aware about such factors while investing in the stock market. These factors can be EPS (earning per share), dividend announcement, GDP growth, and so forth (Azam & Kumar, 2011).

These arguments lead us to the hypothesis that there can be a relationship between companies' wealth, sales, EPS, and dividend. The present study evaluates this relationship and investigates the impact of these factors on the share price of a company. Furthermore, the study attempts to explore the relationship of these variables inter-se.

Objectives of the Study

The present study aims at the following research objectives :

(i) To provide insights into the financial performance and stock market performance of the NSE-listed companies;

(ii) To find out the impact of financial performance in quarter Q on the stock return in quarter Q+1 for the NSE-listed companies; and

(iii) To find out the impact of financial performance in quarter Q on the volatility in stock return in quarter Q+1 for the NSE-listed companies.

Review of Literature

A number of research efforts have been made in the past to evaluate the relationship of stock market returns with other variables, including short sales, leverage, corporate social responsibility, liquidity, dividends, and asset pricing. A few studies have focused on the relationship between sales, profit, and earnings per share. Furthermore, fewer researchers have studied the effect of these variables on the share price in the next quarter.

Researchers have focused extensively on establishing the relation between short sales, spinoffs, and stock market performance. Aydemir and Erdal (2009) investigated the relationship between short sales and stock market returns. The results showed that the firms that undertook non-focus-increasing spinoffs were spinning off

poorly performing subsidiaries. The results for the change in operating performance were consistent with those for the stock market performance. Cross-sectionally, the stock market performance as well as the operating performance was positively associated with change in focus.

Adami, Gough, Muradoglu, and Sivaprasad (2010) and Chandrakumarmangalam and Govindasamy (2010) analyzed the impact of financial leverage on profitability of the firm and shareholders. Adami et al. (2010) studied 2673 companies listed on the London Stock Exchange to understand the relationship between abnormal stock returns and leverage. The paper found that leverage was a firm characteristic that loaded on risk factor. Hence, leverage should be priced as a risk factor and requires adequate incorporation into common asset pricing models. Chandrakumarmangalam and Govindasamy (2010) examined the selected cement companies in India and unearthed that the leverage, profitability, and growth were inter-related, while leverage impacted the profitability of the firm.

Palazzi and Starcher (2006) and Babalola (2012) explored the relationship between corporate social responsibility and profitability of the firm. Eljelly (2004), Bordeleau and Graham (2010), and Saleem and Rehman (2011) analyzed the relationship between profitability and liquidity.

The studies covering the impact of dividends and future earnings on stock market performance are rather limited. Berument, Ceylan, and Gozpinar, (2006) and Boido and Farsano (2007) examined the linkages between financial performance, sporting performance, and stock market performance for football clubs. Applying confirmatory factor analysis and regression analysis, the studies showed that financial and sporting factor scores were statistically correlated with stock returns, but not with risk. The studies further revealed that investors make decisions in managing their investment portfolios in function of sporting results.

Brooks, Charlton, and Hendershott (1998) ; Mozes and Rapaccioli (1998) ; Nissim and Ziv (2001) ; Farsio, Geary, and Moser (2004) ; and Sava (2006) examined the relationship between dividends and future earnings of firms. Brooks et al. (1998) revealed in their study that the dividend changes could be interpreted as the indicator about future profitability by investors. However, they also suggested that signaling only played a moderate role in corporate dividend policy. In contradiction, Mozes and Rapaccioli (1998) in their study of 681 firms during the time period of 1980-1990 unearthed that large dividend increases lead to a decline in future earnings, and small dividend increases lead to an increase in future earnings. They also suggested that the correlation between dividend decrease and future earnings would not be positive and linear.

Nissim and Ziv (2001), in their study on the companies listed on AMEX or NYSE, took the data from 1963-1998. The results of the study contradicted with the results obtained by Mozes and Rapaccioli (1998) and revealed that dividend increases were directly related to future increases in earnings in each of the 2 years after the dividend change. However, dividend decreases did not lead to future earnings decreases due to accounting conservatism. Farsio et al. (2004), in their study of the S&P 500 index over the 1988-2002 period, showed a disagreement with Nissim and Ziv (2001) and argued that there was no significant relationship between dividends and future earnings in the long run.

Bodla (2003) investigated the influence of firm specific fundamental factors on stock returns for the period from 1992-93 to 2001-02 with respect to selected Indian companies listed at BSE. Correlation analysis and multiple regression analysis were carried out to identify the common factors having a bearing on market price based stock returns. The study brought out that earning per share, dividend per share, dividend payout ratio, and market price to book value ratio exerted a significant effect on the stock returns. The study revealed that share market prices were also influenced by retained earnings, but the extent of influence was significantly lower than dividends. Another study regarding the effect of dividends and retained earnings on the market prices of shares by Sen, Jain, and Bala (2002) also confirmed the effect.

The studies of Fama and French (1992, 1996, 1998) raised a question mark over the asset pricing models of Sharpe (1964), Lintner (1965), and Black (1993). Using all non - financial firms in the intersection of the NYSE, AMEX, and NASDAQ, the asset pricing tests in Fama and French (1992) applied the cross-sectional regression approach of Fama and MacBeth (1973). The paper observed that when the tests allow for variation in beta that is

unrelated to size, the relation between market beta and average return is flat, even when beta is the only explanatory variable.

The review of previous studies indicates certain gaps. First, majority of these studies have been conducted with reference to advanced countries rather than emerging economies like India. Second, the results of studies do not confirm the results of each other. Third, the reference period in a majority of the studies is prior to the global financial crisis of 2008. Fourth, the earlier studies reveal a number of facts about the profit, EPS, and sales, but there is a dearth of literature about the relationship of these variables with each other as also with the stock behavior. The present study, which lays stress on the relationship amongst these variables while also evaluating the effect of these variables on the stock behavior in the next quarter, is an attempt to fill the gaps in the existing studies.

Research Methodology

The present research investigates the effect of sales, EPS, and dividend on the stock returns of the companies listed on NSE. The study considers a random sample of 35 major companies included in the National Stock Exchange (NSE)'s Nifty-50 index as in May 2011. The sample companies include ACC, Ambuja Cement, Axis Bank, BHEL, BPCL, Cipla, Dr Reddy, GAIL, Grasim, HCL Tech, HDFC Bank, HDFC, Hero Honda, Hindalco, HUL, ICICI Bank, Infosys, ITC, Jindal Steel, Kotak Bank, Mahindra & Mahindra, ONGC, Ranbaxy, Reliance Capital, Reliance Power, Reliance Industries Limited, SAIL, SBI, Sesa Goa, Siemens, Sun Pharmaceuticals, Tata Power, Tata Motors, Tata Steels, and Wipro. The quarterly data of net sales, EPS, and net profit of these companies have been taken from the 2001 to 2010 period.

The descriptive statistics, that is, mean, median, standard deviation, and coefficient of variation have been calculated to get insights into the data. The data were analyzed using econometric tools. Most of the econometric analysis can be performed on a series of stationary nature. In order to check whether or not the series are stationary, the paper prepared the line graph for each of the series. In order to further confirm the random nature of the series, auto-correlation and partial auto-correlation are computed for each of the series. Furthermore, the study performed the Augmented Dickey-Fuller test under the unit root test to finally confirm whether or not the series are stationary. For the basic understanding of unit root testing, the following equation may be looked at :

$$y_t = \rho y_{t-1} + x_t'\delta + \varepsilon_t, \quad (1)$$

where,

x_t are optional exogenous repressors which may consist of constant, or a constant and trend, ρ and δ are parameters to be estimated, and the ε_t is assumed to be white noise. If $|\rho| \geq 1$, y is a nonstationarity series and the variance of y increases with time and approaches infinity. If $|\rho|<1$, y is a (trend-)stationary series. Thus, we evaluate the hypothesis of (trend-) stationary by testing whether the absolute value of $|\rho|$ is strictly less than one.

The standard Dickey-Fuller test is carried out by estimating equation (2) after subtracting y_{t-1} from both sides of the equation.

$$\Delta y_t = \alpha y_{t-1} + x_t'\delta + \varepsilon_t, \quad (2)$$

where $\alpha = \rho - 1$. The null and alternative hypotheses may be written as :

$$H_0 : \alpha = 0$$
$$H1 : \alpha < 0 \quad (3)$$

Granger's causality model (1969) was applied in the paper after Dickey-Fuller testing. Granger's causality model helps determine whether one time series is useful in forecasting another. Normal regression "merely" reflects the correlations, but Clive Grange argues that causality in economics could be reflected by some sort of tests, although this "Granger causality" was not true causality.

Granger's causality attempts to answer the question of whether *x* Granger causes *y* ; *y* is said to be Granger-caused by *x* if *x* helps in the prediction of *y*, or equivalently if the coefficients on the lagged *x*'s are statistically significant. It is pertinent to note that two-way causation is frequently the case; *x* Granger causes *y* and *y* Granger causes *x*. It is important to note that the statement "*x* Granger causes *y*" does not imply that *y* is the effect or the result of *x*. Granger causality measures precedence and information content, but does not, by itself, indicate causality in the more common use of the term. In Granger's causality, there are bivariate regressions of the under-mentioned form :

$$y_t = \alpha_0 + \alpha_1 y_{t-1} + \ldots\ldots + \alpha_l y_{t-1} + \beta_1 x_{t-1} + \ldots\ldots + \beta_l x_{t-1} + \varepsilon_t \quad (4)$$

$$x_t = \alpha_0 + \alpha_1 x_{t-1} + \ldots\ldots + \alpha_l x_{t-1} + \beta_1 y_{t-1} + \ldots\ldots + \beta_l y_{t-1} + \varepsilon_t \quad (5)$$

for all possible pairs of *(x, y)* series in the group.

The reported *F*-statistics are the Wald statistics for the joint hypothesis:

Table 1. Descriptive Statistics

	Sales	Net Profit	EPS	Mean CMP	StdDev of CMP	CoV of CMP	Company
Mean	1325.18	200.15	10.78	546.39	40.95	7.21	ACC
StdDev	535.45	151.49	8.00				
Mean	1022.35	213.06	3.13	402.08	13.32	7.40	AMBUJA CEMENT
StdDev	590.07	184.37	1.95				
Mean	1354.42	247.01	7.26	459.15	37.64	8.91	AXIS BANK
StdDev	1150.29	251.49	5.86				
Mean	4212.86	519.90	14.52	1302.04	105.93	7.95	BHEL
StdDev	2949.73	458.87	11.01				
Mean	21065.27	282.43	14.05	380.30	31.13	8.41	BPCL
StdDev	9810.32	972.84	19.56				
Mean	845.87	144.89	6.54	1805.24	44.83	8.94	CIPLA
StdDev	421.78	77.03	4.97				
Mean	706.81	131.02	12.09	995.93	82.95	8.37	DRL
StdDev	351.59	100.53	8.74				
Mean	4343.40	607.02	6.00	250.28	16.76	7.01	GAIL
StdDev	1600.84	313.82	2.15				
Mean	1793.64	287.91	31.51	1531.27	126.26	7.81	GRASIM
StdDev	700.94	180.53	19.50				
Mean	722.83	167.48	3.83	309.14	26.46	8.81	HCL TECH
StdDev	471.97	97.55	1.66				
Mean	1955.81	338.32	8.94	886.84	55.87	5.63	HDFC BANK
StdDev	1591.87	277.30	5.62				
Mean	1561.61	402.06	14.87	1488.13	116.83	8.14	HDFC
StdDev	912.49	238.46	6.66				

Mean	2370.64	259.39	14.29	782.00	48.27	6.48	HERO HONDA
StdDev	1102.62	140.78	9.08				
Mean	3145.67	383.29	18.69	1261.26	49.46	10.28	HINDALCO
StdDev	1813.91	200.42	16.88				
Mean	3269.36	448.01	2.49	213.56	11.83	5.76	HUL
StdDev	842.55	106.89	2.93				
Mean	4341.84	661.93	7.33	531.55	43.72	8.53	ICICI BANK
StdDev	2584.16	378.23	2.65				
Mean	2908.85	802.63	28.78	2891.75	203.81	7.63	INFOSYS
StdDev	1908.16	518.52	10.11				
Mean	2786.15	642.14	9.21	1483.24	39.45	6.50	ITC
StdDev	1313.08	289.61	7.94				
Mean	972.84	200.99	33.77	6122.42	355.00	13.28	Jindal Steel
StdDev	734.54	155.80	21.75				
Mean	375.71	55.90	2.34	433.30	48.92	12.13	Kotak Bank
StdDev	352.89	56.85	1.14				
Mean	2443.39	227.56	9.20	565.73	43.21	9.44	M & M
StdDev	1467.86	210.25	5.44				
Mean	12125.95	3362.64	19.36	827.04	65.72	8.78	ONGC
StdDev	4097.57	1424.45	6.84				
Mean	955.20	102.71	5.96	837.70	46.83	8.79	Ranbaxy
StdDev	310.47	280.41	5.06				
Mean	295.63	101.81	4.68	522.80	69.67	11.25	Reliance Cap
StdDev	246.85	107.83	4.16				
Mean	25654.68	2641.35	16.34	648.30	70.04	8.90	Reliance
StdDev	16467.48	1638.91	9.30				
Mean	1412.26	171.36	8.28	1012.19	82.24	7.29	Reliance Infra
StdDev	729.41	95.31	3.59				
Mean	580.73	237.97	28.75	1476.06	8.58	11.05	Sesa Goa
StdDev	546.26	291.50	44.12				
Mean	7605.99	1030.58	2.63	1100.00	93.04	8.13	SAIL
StdDev	2891.71	835.50	1.80				
Mean	11344.72	1397.82	24.25	758.39	116.33	14.08	SBI
StdDev	4391.21	734.92	10.75				
Mean	1229.93	108.77	9.72	2658.43	155.60	10.67	Siemens
StdDev	867.76	98.06	7.21				
Mean	460.49	158.19	10.49	1783.58	76.41	8.68	Sun Pharma
StdDev	269.87	110.05	3.94				
Mean	1291.21	173.49	8.26	622.10	43.98	7.55	Tata Power
StdDev	358.61	81.05	3.61				
Mean	5526.07	309.78	7.73	500.68	43.87	9.29	Tata Motors
StdDev	2924.83	219.75	4.54				
Mean	4137.07	861.72	13.84	400.67	36.29	9.48	Tata Steel
StdDev	1772.61	555.12	6.74				
Mean	3134.29	590.24	6.70	814.28	71.46	8.74	Wipro
StdDev	1981.92	360.67	2.22				

$$\beta_1 = \beta_2 = \ldots\ldots\ldots = \beta_t = 0 \qquad (6)$$

for each equation. The null hypothesis is that *x* does not Granger-cause *y* in the first regression and that *y* does not Granger-cause *x* in the second regression for all possible pairs of *(x, y)* series in the group. In equation (6), we take lags ranging from 1 to l. In Granger's model, one can pick a lag length one that corresponds to reasonable beliefs about the longest time over which one of the variables could help predict the other.

Analysis and Results

In this part, the paper describes the results of the study about the effect of net sales, net profit, and EPS of quarter Q on the stock return (measured by mean) and volatility (measured by standard deviation and coefficient of variation) in CMP of the quarter Q+1. This effect has been worked out with respect to 35 companies from the time period of January 2001 to 2010.

The Table 1 shows the results of the descriptive statistics of the sample companies. The Table gives insights into the sales, net profit, and earnings per share of the sample companies in quarter 'Q'. The Table also presents the mean CMP, standard deviation of CMP, and coefficient of variation of CMP in the next quarter 'Q+1'. The first

Figure 1. Line Graph

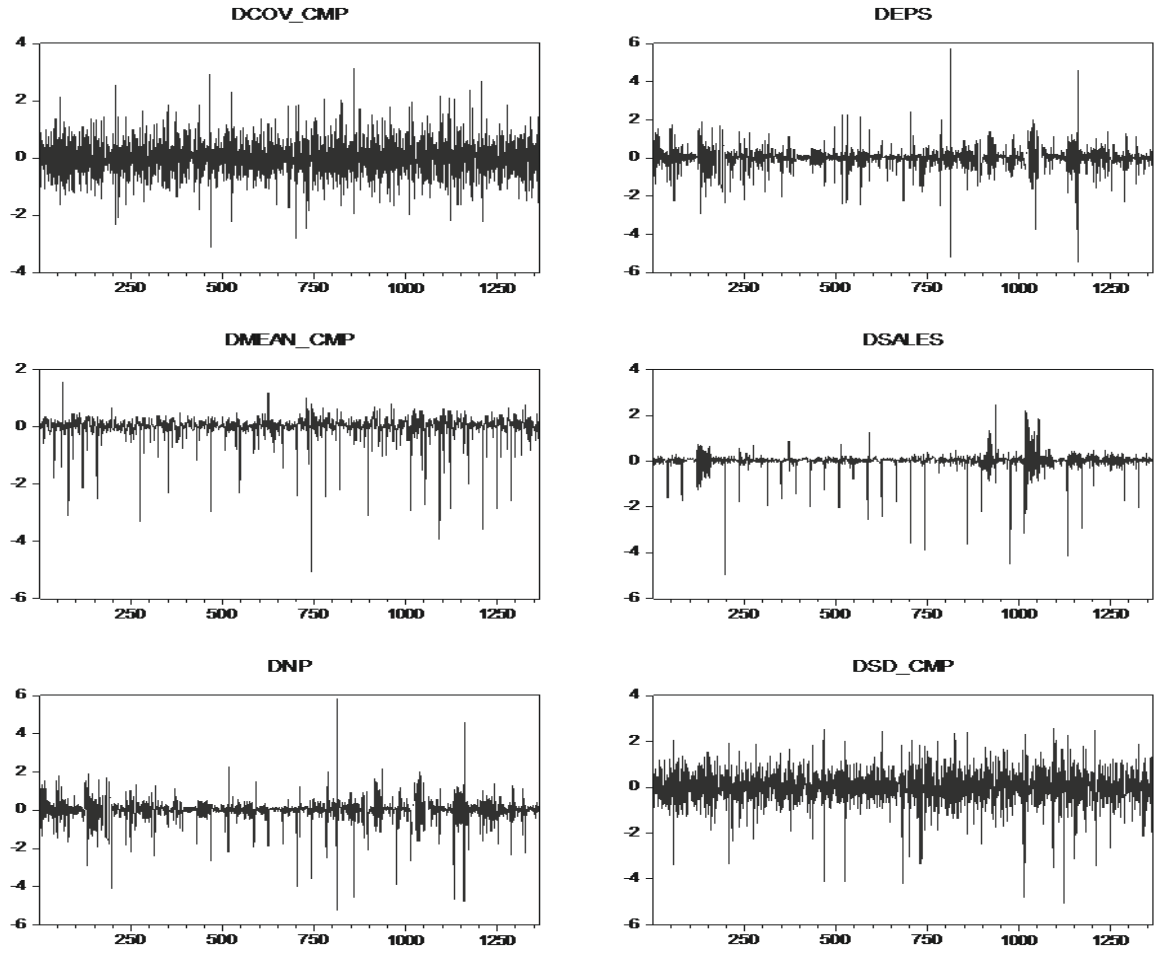

Table 2. Unit-root Test

Null Hypothesis	*t*-statistic	Probability
cov_inreturn has a unit root	-15.5991	0.0000
ineps has a unit root	-30.9377	0.0000
mean_inreturn has a unit root	-11.8395	0.0000
innp has a unit root	-26.4693	0.0000
insales has a unit root	-17.7848	0.0000
Sd_inreturn has a unit root	-24.153	0.0000

Table 3. Group Unit Root Test

Method	Statistic	Prob.	Cross-sections
Levin, Lin and Chu *t*	-28.7710	0.0000	6
Im, Pesaran and Shin W-stat	-54.5437	0.0000	6
ADF - Fisher Chi-square	1014.19	0.0000	6
PP - Fisher Chi-square	203.967	0.0000	6

four columns of the table enlist the mean and standard deviation of sales, net profit, and earnings per share of quarter Q, while the next three columns present the mean CMP, standard deviation of CMP, and coefficient of variation of CMP in quarter Q+1.

The Table 1 exhibits that while the sales, net profit, earnings per share, mean of CMP, and standard deviation of CMP differ as per the size of the companies; the coefficient of variation of the companies largely ranges between 7 to 9. The companies reporting coefficient of variation less than 7 include HDFC Bank, Hero Honda, HUL, and ITC. On the other hand, Hindalco, Jindal Steel, Kotak Bank, Mahindra & Mahindra, Reliance Capital, Sesa Goa, State Bank of India, Siemens, Tata Motors, and Tata Steel are among the companies that report coefficient of variation higher than 9.

The paper further performs an econometric analysis in order to examine the effect of sales, net profit, and earnings per share of quarter Q on the stock returns of quarter Q+1. For the purpose of econometric analysis, log of the series is taken in order to resolve any potential problems with regard to stationarity. Six new series are created with the new names as under :

Log of mean of stock return	–	mean_inreturn
Log of standard deviation of stock return	–	sd_inreturn
Log of coefficient of variation of stock return	–	cov_inreturn
Log of sales	–	insales
Log of net profit	–	innp
Log of earnings per share	–	ineps

The Figure 1 presents the line graphs of the log of six series as above. The line graphs point to the series being stationary in nature. In order to further check whether or not the series under reference are stationary, the study applies the Augmented Dickey-Fuller (ADF) unit-root testing methodology on all the variables. Null hypothesis in ADF unit-root test is that the series have a unit-root, which implies that the series are non-stationary. Determining whether a series is stationary or not is very important, for the stationarity or otherwise of a series can strongly influence its behaviour and properties. A model whose coefficients are non-stationary will exhibit the unfortunate property that previous values of the error term will have a non-declining effect on the current value of y_t as time progresses. The results of the ADF unit-root tests are produced in the Table 2 and Table 3.

Table 4. Granger Causality Tests

Null Hypothesis:	Prob.
Change in EPS does not Granger cause change in return on stock markets.	0.0618
Change in EPS does not Granger cause change in volatility in return on stock markets.	0.0536
Change in net profit does not Granger cause change in return on stock markets.	0.0990
Change in net profit does not Granger cause change in volatility in return on stock markets.	0.0315
Change in sales does not Granger cause change in return on stock markets.	0.3327
Change in sales does not Granger cause change in volatility in return on stock markets.	0.2623

The Table 2 exhibits that the probability value for the six hypotheses happens to be less than 0.05, which means that the null hypothesis in case of all the six series under reference may be rejected at the 5% level of significance. In this way, the series are found to be stationary. Similar results are also visible from the Table 3, which presents the group unit-root testing.

The Table 3 summarizes the findings of Levin, Lin, and Chu *t ;* Im, Pesaran, and Shin W-stat ; ADF-Fisher chi-square ; and PP - Fisher chi-square tests. The null hypothesis in these tests too is that the series have a unit-root, which implies the series to be non-stationary. However, the probability values of less than 0.01 imply that the null hypothesis can be rejected at the 1% level of significance. It means that the null hypotheses are rejected, and the series under reference are stationary in nature. This implies that the previous values of the error term have a declining effect on the current value of y_t as time progresses. In this way, the autocorrelation function decays to zero. The Tables 2 and 3 illustrate that the series is stationary and the 'shocks' to the system gradually die away. It implies that a shock during time t will have a smaller effect in time $t+1$, even smaller effect in time $t+2$, and so on. The implication emerging out of Tables 1, 2, and 3 is that the series under reference are stationary in nature and ,therefore, econometric analysis may be performed on the series.

After confirming the stationary nature of the data, the paper further performs the Granger's causality test to check whether the financial performance (in terms of sales, net profit, and EPS) leaves any causal impact on the stock market performance (measured by mean of stock returns) and volatility in stock market performance (measured by standard deviation of stock returns). Simply put, the Granger's causality analysis has been applied in order to find out whether the sales, net profit, and earnings per share Granger cause the return or volatility of the stock to undergo a change. The results of Granger's causality are presented in the Table 4.

The null hypothesis of Granger's causality tests, as shown in the Table 4, also state that 'A' does not Granger cause 'B'. The Table 4 tests this null hypothesis for the referred variables at a significance level of 5%. Therefore, the probability value of less than 0.05 leads us to reject the null hypothesis, while the value of more than 0.05 implies that the null hypothesis is to be accepted at the 5% level of significance. On observing Table 4, it is found that the probability values in respect of all the null hypotheses except one (change in net profit does not Granger cause change in volatility in return on stock markets) are above 0.05. This implies that all the null hypotheses except 'change in net profit does not Granger cause change in volatility in returns in stock markets' of Table 4 are accepted. Therefore, the following observations are made with respect to the Granger's causality model :

(i) Earnings per share in quarter Q do not Granger cause stock returns in quarter Q+1.

(ii) Earnings per share in quarter Q do not Granger cause volatility in stock returns in quarter Q+1.

(iii) Net profit in quarter Q does not Granger cause stock returns in quarter Q+1.

(iv) Net profit in quarter Q Granger cause volatility in stock returns in quarter Q+1.

(v) Sales in quarter Q do not Granger cause stock returns in quarter Q+1.

(vi) Sales in quarter Q do not Granger cause volatility in stock returns in quarter Q+1.

The results, as indicated by Granger's causality model summarized in Table 4, point towards the non-existing causality of earnings per share, net profit, and sales in quarter Q on stock returns in quarter Q+1. The acceptance of null hypotheses (i), (iii), and (v) is an evidence to this. The acceptance of hypotheses (ii) and (vi) further illustrates that the earnings per share and sales in quarter Q do not Granger cause the volatility in stock returns in quarter Q+1. These results imply that the investors cannot reap benefits in respect of returns in quarter Q+1 by tracking the earnings per share, net profit, and sales of quarter Q. Furthermore, it is not possible for the investors to make abnormal gains with regard to volatility in quarter Q+1 by tracking the earnings per share and sales of quarter Q. The investors may, however, hope to abnormally gain using the volatility of the share in quarter Q+1 by using the net profit information of quarter Q.

In a nutshell, the findings that the financial variables for a given quarter have minimal effect on the stock returns and volatility in the stock returns in the next quarter are quite relevant, particularly for an emerging economy like India, where the capital markets are still in the process of settling-down. The results of the study contradict the findings of other studies conducted for Indian stock exchanges, including Sen et al. (2002) and Bodla (2003). One reasoning that appeals for this contradicting result is that the stock market situations might have changed in the country over the last 10 years (since the studies of Bodla (2003) and Sen et al. (2002)). Even more interesting, however, is the fact that the results of this paper don't support the findings of Spraakman (1979) ; Tsoukalas (2003) ; and Zare, Kandi, and Beheshti (2011), who conducted studies for countries other than India.

Conclusion

The study does not reveal a visible impact of the sales, net profit, and EPS on the stock behavior of the next quarter, which indicates the efficiency of the Indian stock markets. The findings of the study contradict the findings of Chan et al. (1991), who unearthed that there was a significant relationship between current dividend and future earnings in the case of the U.S. stock exchange. This paper observes opposite results in the case of Indian companies listed on the National Stock Exchange. The results of the Granger causality test also confirm a non-existing impact of current sales, EPS, and net profit in quarter Q on the stock returns of quarter Q +1, although the impact of net profit in quarter *t* on stock return volatility in quarter *t* +1 has been observed to be significant. Spraakman (1979), Tsoukalas (2003), and Zare et al. (2011) also revealed dissimilar findings in their research, which were conducted in their respective countries. The study outlines that there is a need for conducting review studies about the impact of financial variables on stock returns and volatility. Besides, there is scope for future researchers to evaluate the financial variable(s) which have the most significant impact on stock returns and volatility.

Research Implications, Limitations of the Study, and Scope for Further Research

The study brings out that the stock returns in quarter Q+1 are not impacted by the sales, EPS, and net profit of the quarter Q. This implies that the investors cannot gain any super normal profits in quarter Q+1 on the basis of the information about sales, EPS, and net profit of the quarter Q. This is a significant implication indicating towards the efficiency of the Indian stock markets. The investors need to look beyond the information about sales, EPS, and net profit in order to earn abnormal profits. The study, however, is restricted to the National Stock Exchange of India. The findings of the paper are only based on the 35 stocks examined for the present study. Future researchers may replicate the study to other emerging markets. Besides, future research activities may focus on exploring factors other than sales, EPS, and net profit, which may have an influence over stock returns.

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