Impact of Dividends on Stock Price Volatility – Evidence from Some Selected listed Companies in Bangladesh

Muhammad Mahbub ur Rahman
Associate Professor, Department of Business Administration
International Islamic University Chittagong
Mohammad Nazim-ud-Din
Assistant Professor, Department of Business Administration
International Islamic University Chittagong

Abstract

The aim of this paper is to examine the impact of dividends on stock price volatility in secondary stock market. The importance of stock price volatility has been considered as barometer for measuring the stock market performance. The study has used only secondary data to validate the findings. It also measures the effect of dividends on stock price sensitivity in the Bangladesh stock market using the' Correlation and Regression Method' for the period 2004 to 2012 and the sample size is 25 of A category Companies. The main reason to consider this certain period and sample size is time and financial barrier of the researcher. The study finds that dividend announcement of the sample companies have a negative and insignificant impact on the stock price sensitivity in Bangladesh. The study seems to carry an enormous academic value since a very few studies have been undertaken in this area. It may be helpful to the listed companies, stock exchanges, security and exchange commission, researchers, and national policy makers who have been making serious endeavor to protect the interest of stakeholders and to develop the Bangladesh capital market as a whole.

Keywords*:* Dividends, Stock price, Sensitivity**.**

Dividend represents the reward given to equity holders for their equity investment. Woolridge (1982) defined dividend as payment of cash or stock made by businesses to their Shareholders. This dividend is normally distribution of the business recent profit to its owners and also a reward for investing in a business. Dividend policy is equally important for managers and investors, as investors have to plan return on their investment portfolio. Dividends are not only a source of income for investors but also signal of company performance. It is important for corporate finance managers of the companies for paying dividend and making investment in other companies. So selecting a suitable dividend policy for a company is one of the most important decisions for the management and investors. The equity investment decision is normally made by the analysis of expected dividend stream on particular equity. The dividend stream may be normally formed of cash and stock

dividends. The gross return is calculated on the sum of cash dividend, stock dividend, and capital gain on particular stock. Cash dividend is the expected proportion of net income paid out to stockholders in cash. The cash dividend is paid when the firm has the availability of cash holding but not alternative attractive investment opportunity to use this cash. A stock dividend occurs when the board of directors authorizes a distribution of common stock to current shareholders. It increases the number of shares outstanding to the firm's existing shareholders which includes two benefits viz, ownership right increased and additional future benefit right. The Capital gain is that the stockholders are entitled to receive additional benefits from positive change in equity prices. The co-effect of cash, stock dividends and growth of assets determine the stock price volatility.

In empirical fact, there is such a connection, but it is not especially close, Dividends and prices both meander in ways that seem unrelated, but that prove over long run to be co integrated (www. ehow.com). Dividend policy remains a source of controversy despite years of theoretical and empirical research, including one aspect of dividend policy: the linkage between dividend policy and stock price risk (Allen and Rachim, 1996). Paying large dividends reduces risk and thus influence stock price (Gordon, 1963) and is a proxy for the future earnings (Baskin, 1989). A number of theoretical mechanisms have been suggested that cause dividend yield and payout ratios to vary inversely with common stock volatility.

Statement of the problem

The shareholders are the substantial component of the corporation. Their requirements should be remarked. The corporation should always focus on the interest of shareholders. The interest of shareholders can be protected by the means of giving adequate dividend and maintaining the intrinsic value of common stock. The objective of the company must be to create value for its shareholders. Shareholders' value is represented by the market price of the company's common stock, which in turn is a function of the firm's investment financing and dividend decisions. Dividend policy is important in determining the value of wealth for the shareholders. It is another important concept that was introduced by Gordon and Linter who gave arguments against Dividend Irrelevance Theory. According to them, Investors are normally risk averse that's why they prefer current and stable returns i.e. dividend income over capital gains. According to them, dividends provide signal about the progress of the company to shareholders and investors. Researchers tended to relate the positive relationship between the stock returns and dividend announcement with the information effect of dividend. The dividend information hypothesis postulates that cash dividend carries information regarding the future cash flows of firm that

is to be reflected in the market price of stock after announcement of dividend, particularly when dividend increases [Bhattacharya (1979) Bar-Yosef and Huffman (1986) and Yoon and Starks (1995). Recently, Bangladesh share market has been passing a tough time. It is reflecting abnormal behavior in stock prices for which about 30 lack share investors have lost their fundamental capital. The study attempts to identify the reasons for which stock prices are volatile. Literature in this area is scanty in numbers and partial in content. Existing literatures indicate that a few partial studies have been conducted, but the relationship between dividends and stock prices in Bangladesh is not studied comprehensively as a whole. It is necessary to conduct a study to examine the effect of dividends on stock prices.

Rationale of the study

Stock market is vitally significant part of financial market in Bangladesh economy. This market provides the scope of raising funds from the small investors to invest in trade, commerce and industry. The expansion of manufacturing will depends on the strength and faith of stock market. It is praiseworthy that Bangladesh stock market had become an attractive investment phase for small investors. As a result, a large number of small investors made their investments in different securities of stock market. This trend of stock market investment could be encouraged if an organized stock market exists. An organized stock market provides signal towards the stock prices thus minimize the risks and protect the interest of common stockholders. Rate of return effect, as discussed by Gordon, (1963), is that a firm with low payout and low dividend yield may tend to be valued more in terms of future investment opportunities (Donaldson, 1961). Consequently, its stock price may be more sensitive to changing estimates of rates of return over distant time periods. Thus expanding firms although may have lower payout ratio and dividend yield, exhibit price stability. This may be because dividend yields and payout ratio serves as proxies for the amount of projected growth opportunities. If forecasts of profits from growth opportunities are less reliable than forecasts of returns on assets in place, firms with low payout and low dividend yield may have greater price volatility. The study humbly attempts to identify the factors that affect common stock price. The findings of the study can be helpful to the listed companies, stock exchanges, SEC, researchers, and policymakers of stock market who have been making serious endeavor to protect the interest of stakeholders and to develop the Bangladesh stock market as a whole.

Empirical test of the previous study

Rashid and Rehman (2008) conducted a study on 104 non – financial firms for a panel data from 1999 to 2006. The study results a positive relationship between dividends in the Bangladesh stock market

and stock price but insignificant. It also indicates that the insignificant relationship between dividends and stock price exists due to inefficient capital market in Bangladesh.

Allen & Rachim (1996) studied the relation between stock prices and dividend policy. Result of their study failed to find out any relationship between the Dividend Yield and Stock Prices.

Black & Scholes (1974) studied the effect of dividend policy on stock prices and explained that dividend policy does not affect the stock prices. It depends on the investors' decision to keep either or low yielding securities; returned earned by them in both cases remain same.

Nishat and Irfan (2001) also found significant effect of dividends on stock price volatility in emerging market like Pakistan on the panel data from 2003 to 2008 of 73 firms. They analyzed the data by the regression method found a negative and significant relationship between measures of dividend policy.

Pani (2008) showed that the dividend, retention ratio is positively correlated with stock returns in case of individual sector but there is no statistically significantly relationship between dividends and stock prices. The results further showed that Debt-equity ratio has negative relation with stock returns, while size of the firm remained consistently positive and in cases it turns out to be insignificant.

Objectives of the study

The main purpose of the study is to critically examine the possible effects that dividends might have on the market price of common stock in the secondary market. Measuring the dividends effect with stock price volatility, the study would take into account the following objectives:

1. To highlight the patterns of dividends paid by sample companies.
2. To examine the impact of dividends on stock price volatility in the secondary stock market.

Hypothesis of the study

Hypothesis is usually considered as the principal instrument in research. It is the relationship between or among the variables. Its main function is to suggest new experiments and observations. In this study, it is assumed that positive changes in variable (Dividend) would take positive impact on the stock price. Hypothesis is the tentative assumption about stock prices involved in the following forms:

H_0: μ: There is no positive relationship between dividend announcement and stock price volatility

H_1: μ: There is a positive relationship between dividend announcement and stock price volatility

Research Methodology

The present study is an empirical one. Secondary data relevant to this study have been collected from available publications including different text books, journals, magazines, websites etc. by the researcher himself. Data relating to the dividends and stock prices, Annual Reports, Monthly market review of CSE and DSE of the sample companies under study period etc. have been used. Due to time and financial constraints at the disposal of the researchers, the study has been limited to 25 samples of A-category companies, which have been taken purposively considering data availability. We use time series data of dividends and stock prices for the period 2004 to 2012. The data and information thus collected have been processed manually as well as through personal computer. Statistical tools, namely, average, range, regression method and correlation method etc. have been used in the study. For measuring the effect of dividends on stock price sensitivity in the secondary market, two methods have been used: (a) Correlation method and (b) Regression method. In regression method, we consider stock price volatility as dependent variable and the dividends as independent variable and correlation method is used to explain the degree of relationship between dividend announcement and stock price. The data and results of the study have been analyzed critically in order to make the study more informative, useful and acceptable one to the readers, academicians, policymakers, and those people who are devoted to the development of stock market in Bangladesh

Result and Description

The secondary data were analyzed to examine the degree of relationship between dividends and stock price sensitivity in the stock market. Table-1 shows the degree of relationship between dividends and stock price volatility by using the Regression method and correlation method. Descriptive statistics have been used to carry out the data analysis. However, the major findings of the study and their analyses have been summarized as below:

Using the Regression Method

The relationship between dividends and stock price sensitivity is hypothesized to be a linear relationship and is estimated by ordinary least squares.

The model

As Gordon, (1962), developed a dividend relevance model that states the market value is related to dividend policy there is direct relationship between dividend policy and market value of share. We

examine the effect of dividends on stock price sensitivity within the context of the standard growth regressions specification. The general regression equation to be estimated is as follows:

$$y = \alpha + \beta x + \varepsilon$$

Where y is the dependent variable of stock price, that is, stock price volatility. α is the intercept of dividend and stock price, x is an explanatory variable (dividends) while is the vector of co-efficient to be estimated and £ is the error term.

Model result

The statistical results have been found by using panel data from 2004 to 2012 from relationship between the stock prices (Dependent variable) and dividend (Independent variable). The output provided by computer is given below:

Table-1: Estimated Values of Parameters

Multiple R	.3846			
	R Square	.1503		
	Adjusted R Square		-.153	
	Standard Error		222.330	
	Observations		9	
Pearson correlation (r) = -.143				
Parameter	*Co-efficient*	*Standard Error*	*t Stat*	*P-value*
Intercept	919.501	242.56	3.79	.009
[illegible]iable	-1.69	129.5648	1.8274	.736

Source: Estimated by author using MINITAB.

Regression Analysis

Coefficient of Determination of R^2

R^2 is the statistic that indicates how good the fit of this line to the sample observations is. It is defined as the proportion of the total variation in the dependent variables included in the model. R^2 can take the values ranging from 0, indicating that the model provides no explanation of the variation in the dependent variable, to 1.0 indicating that all the variation has explained by the independent variables. In our model, the value of R^2 is 0.1503. This figure indicates that 15.03% of the total variation in the ratio of dividends to stock price volatility has been explained by the regression model. It also indicates that 84.97% variations in stock price volatility were attributed to other factors that are not covered by the present study. Considering the fact that the stock price volatility is a multi-variate function, the value of goodness of fit (R^2) may be considered very insignificant. (In different international recent

publications of similar type of work on multi-variate function, most often reported values of R^2 are around 0.20. Grafton *et al* (2000) used the inverse demand function for Canada's Northern Cod Fishery. The value of R^2 of the demand function has been reported as 0.198).

Correlation analysis

Table 1 explains the correlation between variables that affect the price sensitivity. Price sensitivity is low negatively correlated with dividends. Result shows that correlation between dividends and stock price sensitivity is -0.153.This correlation indicates that any increase or decrease in dividends causes the decrease or increase in stock prices. Nishat and Irfan (2001) also found significant effect of dividends on stock price volatility in emerging market like Pakistan. They analyzed the data by the regression method and found a negative and significant relationship.

Standard Error of the Estimate

Another measure useful for examining the accuracy (or reliability) of the regression model as a whole is the standard error of the estimate. In other words, the standard error of the estimate is used to determine a range within which we can predict the dependent variable with varying degrees of statistical confidence. Like the standard deviation, the standard error of SP measures the variability or scatter, of the observed values of *SP* around the regression line. The square of the standard error also known as variance of the error term is the basic measure of reliability. The larger, the variance, the more significant are the magnitudes of the errors and the less reliable is the regression analysis in predicting data.

t-Statistics

Comparing our calculated t-values with t-distribution table from any econometric indicates that it is significant at 5 percent or 10 percent level of significance. we prefer to consider the ratio of dividends to stock price volatility (t = 3.79) is significantly related with the average change of stock price as because we use only one independent variable and only 9 years time series data in the study.

Table 2. ANOVA Test

Model	Sum of squares	D_f	Mean Square	F	Sig.
Model-1				0.125	0.736
Regression	6162.832	1	6162.632		
Residual	296759.166	7	49459.861		
Total	302922.000	8			

Table2 shows the overall significance of regression model. The findings show that the relationship between dividends on stock price sensitivity is insignificant as p-value is very high. This result indicates that null hypothesis is accepted i.e. stock price is not strongly affected by dividend announcement. Rashid and Rahman, (2008) found that the relationship between dividends and stock price is insignificant for 104 non-financial firms listed in the Dhaka stock exchange during the period of 1999-2006.

Table 3. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Stock price	25	574	1213	835.10	208.025
Dividends	25	34	81	47.88	17.532

Table 1 shows the descriptive statistics of variables that affect the stock price sensitivity during the period of 2004 to 2012. Price sensitivity, which is the dependent variable in the model ranges from 574 to 1213 with mean value 835.10 and standard deviation 208.025. Dividend, which is the independent variable in the model ranges from 34 to 81 with mean value 47.88 and standard deviation 17.53.

Policy Recommendations

The companies should take the following measures in order to determine the optimal dividend policy and to tackle the treats for sustainable growth of companies and to stabilize the market price sensitivity.

(1) The current market price should rationally behave that guided by the net asset value per share. It should be around the net asset value per share.

(2) There should have positive correlation between net worth per share and stock price per share.

(3) The current market price should move up or down with the consistency of growth and ability of earnings that increase the net asset value per share. The excess rise of market price makes the extent of gap between market price and net asset value. At any time, market price may fall from the net asset value.

(4) The company must disclose all effective information to the investors who can properly predict the price in the market.

(5) The company should pay dividend on its income. If the company did not generate any current income, then it should not pay any dividend. This signal provides the reality of company conditions so that investors will not be misguided.

(6) The company should pay dividends with the consistence of investment opportunity and market stock price sensitivity.

(7)The company should pay stock dividend instead of cash dividend due to shortage of cash after generating available net income. The stock dividends should be equivalent to current net income.

Conclusion

The importance of this issue has been well recognized for determining the price sensitivity as a result of dividend announcement. Gordon Model: Myron. J. Gordon developed a dividend relevance model that states the market value is related to dividend policy there is direct relationship between dividend policy and market value of share. The dividend policy determines price sensitivity in future (Gordon,1962). We examined the effect of dividends (independent variable) on the stock price volatility of stock market by taking data of 25 listed companies in DSE and CSE by using panel data from 2004 to 2011. Correlation and regression method was performed. The findings rejected the null hypothesis and we have been able to state that the dividends have negative relationship with the stock price volatility. The relationship between dividends and stock price volatility is insignificant.

Finally, we can say that the dividend announcement is an effective method to guide the stock price sensitivity. In addition to this, the stock price sensitivity may be influenced by other factors including psychological factor, external factor, internal factor, earning growth, and risk factors etc.

References

Allen, D. E. & Rachim, V. S. (1996).Dividend policy and stock price volatility: Australian evidence. *Applied Financial Economics, 6*, 175-188.

Black, F., & Scholes, M. (1974). The effects of dividend yield and dividend policy on common stock prices and returns. *Journal of Financial Economics, 1*(1), 1-22.

Ball, R., Brown, P., Finn, F., & Officer, R. R. (1979). Dividends and the value of the firm: Evidence from the Australian equity market. *Australian Journal of Management, 4*(1), 13-26.

Baskin, J. (1989). Dividend policy and the volatility of common stock. *Journal of Portfolio Management, 15* (3), 19-25.

Bar-Yosef, S., & Huffman, L. (1986). The information content of dividends: A signaling approach. *Journal of Financial and Quantitative Analysis, 21*(01), 47-58.

Bhattacharya, S. (1979). Imperfect information, dividend policy, and 'the Bird-in-Hand' Fallacy'. *Bell Journal of Economics, 10*(1), 259-270.

Brigham, E.F., & Houston, J.F. (2011).*Fundamentals of financial management*. Florida, USA: Gainsville.

Ebrahimi, M., & Chadegani, A. A. (2011, October). The relationship between earning, dividend, stock price and stock return: evidence from Iranian companies. In *International Conference on Humanities, Society and Culture*(Vol. 20, pp. 318-323).

Gordon, M. J. (1963). Optimal investment and financing policy. *Journal of Finance, 18*(2), 264-272.

Grafton, R. Q., Sandal L. K., & Steinshamn, S. I. (2000). How to improve the management of renewable resources: The case of Canada's northern cod fishery. *American Journal of Agricultural Economics*, *82*(3), 570-580.

Nishat, M., & Irfan, C. M. (2001). Dividend policy and stock price volatility in Pakistan. In *the Annual General Meeting of PSDE, Pakistan Institute of Development Economics, Pakistan*.

Pani, U. (2008). Dividend Policy and Stock Price Behaviour in Indian Corporate Sector: A panel data approach. *Indian institute of technology. [Online] Available from: http://ssrn. com/abstract*, *1216171*.

Rashid, A., & Rahman, A.Z. (2008). Dividend policy and stock price volatility: Evidence from Bangladesh. *Journal of Applied Business and Economics*, *05*, 71-81.

Woolridge, J. R. (1982). The information content of dividend changes. *Journal of Financial Research*, *5* (fall), 237-247.

Yoon, P. S. & Starks, L. T. (1995).Signaling, investment opportunities, and dividend announcements. *The Review of Financial Studies*, *8*, 995-1018.