

IMPACT OF DIVIDEND POLICY ON STOCK PRICE VOLATILITY AND MARKET VALUE OF THE FIRM: EVIDENCE FROM SRI LANKAN MANUFACTURING COMPANIES

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Abstract

The impact resulted from the dividend policy of a firm on the volatility of the market value of stocks is the major concern of this study, which is an issue bearing an utmost significance, when considering the objectives of a corporate. The focus of an entity should be aligned on the maximization of stock holders' wealth and this necessitates the selection of an optimum dividend policy. The present study, thus, attempts to shed a light on the above fact within the Sri Lankan context. Data was collected from a sample of companies listed under the manufacturing sector of the Colombo Stock Exchange from year 2006 to 2014. The study occupied panel data regression model for analysis. The outcome revealed that the dividend yield of the current year has a negative impact on the share price volatility, while the dividend payout ratio of both the current and previous years has a positive impact. In addition, the impact of dividend yield is negative on the market value of the firm, where the dividend payout ratio of the current year is also depicts the same impact. The findings of the study reassure the findings of the previous researchers within the Sri Lankan context in case of the market value of the firm while being contrary in case of the share price volatility. Accordingly, the firms' ability of utilizing the dividend policy as a mechanism of controlling the volatility of share prices is established. However, it will not be effective in altering the market value of the firm.

Key words: Dividend Policy, Market Price Volatility, Panel Data Regression

JEL Classification: G35

1. INTRODUCTION

Dividend policy refers to a company's policy which determines the amount of dividend payments and the amounts of retained earnings for reinvesting in new projects. This policy is related to dividing the firm's earning between payment to shareholders and reinvestment in new opportunities. Thus, the dividend decision of a firm becomes a crucial area of financial management.

Retained earnings are the most significant internal sources of financing the growth of the firm. And they influence the share prices principally through their effect upon future dividends (Walter,1956) . The fact is further elaborated by (Ahmed,2000) stating that the retained earnings contribute to increase a company's ability to generate additional earnings that could be distributed in future. On the other hand, dividends may be considered desirable from shareholders' point of view as they tend to increase the current return. Dividends however constitute the use of the firm's funds. Dividend as a percentage of earnings is called payout ratio and 100 per cent minus payout percentage is called retention ratio.

Dividend policy is also related to the capital structure indirectly and different dividend policies may require different capital structures. Since both of capital structure and dividend policy can have impact on the wealth of shareholders and dividend

policy can affect capital structure too, the decision about dividend policy become complex.

In theory, the objective of a dividend policy should be to maximize a shareholder's return. As a result the value of his investment may maximize. Shareholders' return consists of two components; dividends and capital gains and the dividend policy has a direct influence on both components of the return. Thus, the companies must carefully identify an efficient approach to maximize shareholders wealth simultaneously meeting the needs of financing investments (Ilaboya & Aggreh, 2003). If an enterprise wants to be self-sufficient in financial matters, or at least depends on its own savings for a major part of its requirements, it is better not to declare a high dividend but to carry a major portion of the undistributed surplus to the reserve fund (Ahmed, 2000). Consideration of aforementioned circumstances assigns a great deal of weight to the issue of selecting an optimum dividend policy, minimizing the negative consequences that could arise thereon the firm value and the share price volatility.

On the other hand, many researchers have attempted to relate the dividend policy to share price of firm but they had conflicting results and still, there is no consensus among researches about the impact of dividend policy on share price. Different researchers have investigated the association between dividend policy and volatility of

share price at different times of which the findings are not consistent. (Baskin,1989) reported significant negative association between dividend yield and volatility of stock's price. However, the findings of (Hussainey,2011) failed to support the study of (Baskin,1989). Meanwhile another study conducted in a developing economy by (Ilaboya & Aggreh, 2003) revealed a significant positive impact of dividend yield and an insignificant negative impact of dividend payout ratio over the share price volatility.

In such a way the unavailability of consensus between the previous researchers and the significance of the issue within the field of finance, created the ground for the authors to study the same stuff. Hence, this report examines the impact of dividend policy on share price volatility within the Sri Lankan stock market.

2. LITERATURE REVIEW

The impact of the dividend policy on the stock price volatility has been tested early by many researchers ((Gordon, 1959; Miller and Modigliani, 1961; Baskin, 1989, Allen and Rachim,1996). Some theories i.e irrelevant theory, bird in hand theory, signaling theory, clientele effect theory and tax preference theory were developed to explain the effect of the dividend policy on stock price volatility.

The proposition that a company's dividend policy has no effect on shareholders' wealth was first advanced by Miller and Modigliani. According to them, under a perfect market situation, the dividend policy of a firm is irrelevant, as it does not affect the value of the firm. They argue that the value of the firm depends on the firm's earnings that result from its investment policy. Thus, when investment decision of the firm is given, dividend decision - the split of earnings between dividends and retained earnings is of no significance in determining the value of the firm. MM's hypothesis of irrelevance is based on the assumptions such as the firm operates in perfect capital markets, taxes do not exist, the firm has a fixed investment policy. Risk of uncertainty does not exist.

Myron Gordon develops one very popular model explicitly relating the market value of the firm to dividend policy. According to Gordon's model, the market value of a share is equal to the present value of an infinite stream of dividends received by the shareholders. Gordon's model contends that dividend policy of the firm is relevant and that investors put a positive premium on current dividends. As investors are rational, they want to avoid risk. The term risk refers to the possibility of not getting a return on investment. The payment of current dividends completely removes any chance of risk. If, however, the firm retains the earnings, the investors can expect to get a dividend in future. The future dividend is uncertain, both with respect to the amount as well as the timing. The rational investors can reasonably be expected to prefer current dividend. The retained earnings are evaluated by the investors as a risky promise. In case the earnings are retained, the market price of the shares would be adversely affected.

Gordon concluded that investors prefer a high dividend policy because dividends are less risky than the capital gains expected from investment of retained profits. This is described as a bird in the hand argument. That a bird in hand is better than

two in the bush is based on the logic that what is available at present is preferable to what may be available in the future. However, all do not agree with this view.

3. EMPIRICAL EVIDENCE

Numerous empirical studies have been carried out to investigate the relationship between dividend policy and price volatility.

A study conducted by (Habib et al., 2012) discusses the impact of dividend policy on stock returns with special reference to Pakistan using the cross sectional regression analysis. The results revealed that payout ratio and price volatility is significantly positively related. (Nazir et al., 2010) also investigated the role of corporate dividend policy in determining the volatility in the stock prices in Pakistan using a sample of 73 firms from Karachi stock exchange (KSE) for the period of 2003-2008. Both fixed effect and random effect models on the panel data was applied and found that the dividend policy has a strong significant relationship with the stock price volatility in KSE. It concluded that price volatility may be reduced by employing an effective corporate dividend policy. In addition, (Sadiq, 2013) analyzed the stock price volatility by taking non - financial firms listed on KSE. This study concluded that price volatility of stocks has a negative relationship with the dividend yield.

Further, (Hashemijoo, 2012) examined the relationship between dividend policy and share price volatility with a focus on consumer product companies listed in Malaysian stock market. This study shows a significant negative relationship between share price volatility with two main measures of dividend policy which are dividend yield and dividend payout. Nishat & Irfan suggested that dividend policy affects stock price volatility. The research study conducted by (Irandoost et al., 2013), assessed the effect of dividend policy on stock price volatility and investment decisions using a sample of 65 firms from Tehran Stock Exchange for the period of 2007 to 2012. The research results indicated that the dividend policy has a significant effect on stock price volatility in a short time and does not have a significant effect on stock price volatility in a long time. Moreover, it discovered that the dividend policy does not have a significant effect on investment decisions in terms of cash and accrual.

Furthermore, (Ilaboya & Aggreh, 2003) conducted a study selecting 26 firms listed in the Nigerian stock exchange from year 2004 to 2011 with the objective of examining evidence from a developing country on the relationship between dividend policy and share price volatility. They have employed pooled OLS and panel EGLS in analysis and identified share price volatility as the dependent variable and the dividend yield, dividend payout ratio as the independent variables. Further, the firm size, long-term debt, earnings volatility and asset growth rate have been considered as the control variables. The findings of the study reveal that the share price volatility is positively and significantly influenced by the dividend yield and negatively and insignificantly influenced by the dividend payout ratio. Thus, they emphasize that the companies must carefully identify an efficient approach to

maximizing shareholders wealth simultaneously meeting the needs of financing investments. In another study (Ahamad, 2000) investigated the relative importance of dividends and retained earnings to explain the stock price variations in Bangladesh where there is an environment of higher market demand for dividends. The findings suggest that both dividends and retained earnings influence the stock price and they have their impact ignoring the usual expectation of stronger dividend impact on non-growth industries and retained earnings impact on growth industries. Further they recommend the Bangladesh business enterprises to follow a stable dividend policy maintaining a conservative payout ratio.

On the other hand a case study by (Foerster & Sapp, 2006) reveals significant facts on the changing role of dividends from the nineteenth to twenty first century. They have selected the Bank of Montreal, the oldest financial institution in Canada and studied how the dividend policy has evolved since its establishment in 1817. Importantly, the bank has paid dividends for 175 years consistently since 1829. As per the findings, annual dividends and earnings changes move together and are more variable in the early periods and more stable in the subsequent periods, with the dividend payout ratio decreasing since World War II. And there is a distinctive shift in dividend policy since the end of World War II to one maintaining a specific level of dividends rather than a specific payout ratio.

However, very few studies have attempted to observe the impact of dividend policy on shareholders' wealth in Sri Lanka. Periyathamby & Navaratnaseelan examined the impact of firm's dividend policy on shareholders' wealth from listed companies in the CSE during the period from 2005/06 to 2010/11. It revealed that there is no significant relation between dividends and share prices. Dewasiri & Weerakoon Banda (2014) examined the relationship between dividend policy and stock price volatility using a sample of 40 companies listed in the Colombo Stock Exchange for a period of ten years from 2003 to 2012. They found that there is a significant negative impact from dividend payout, a significant positive impact from company size and no evidence of significant impact from dividend yield on stock price volatility. The

findings suggested that high dividend payout would lead to less volatile stock price, whilst higher dividend yield pave the way towards more volatility in stock price in the short run.

4. METHODOLOGY

4.1. Sample description and data

Panel data had been utilized for this study from year 2006 to 2014 for 12 manufacturing companies which are listed and actively traded in the Colombo stock exchange for all these years. Data collected from the annual reports published by the selected companies as the sample. A single sector selected with the intention of eliminating potential industry effects that could arise.

4.2. Variables

The regression model which primarily links the volatility of share price to the dividend yield and payout ratio has been expanded by the control variables. Control variables include firm size and asset growth which have an impact on both dividend policy and stock price volatility. Possibly the size of the firm affects the price volatility because small firms usually has less diversification in their business activities. Moreover it is possible that small firms have less information available to investors about their stock market. Another reason for the impact of size on share price volatility is that firms' stock may be more liquid, so their share price can be more volatile than larger firms. (Baskin, 1989) proposed that firms which have more scatter body of shareholders are more likely to use dividend as a signaling device. Therefore the dividend policy can be affected by the firm size.

Further dividend policy may have an inverse relationship with the growth because firms in their growth stage are more likely to keep their income for investing in new investment opportunities. Based on arbitrage effect, the level of growth and share price volatility could be inversely related.

Ultimately, the regression models are expressed as follows.

$$Pvol_{ij} = \alpha + \beta_1 DY_{ij} + \beta_2 DY_{t-1,j} + \beta_3 POR_{ij} + \beta_4 POR_{t-1,j} + \beta_5 Size_{ij} + \beta_6 Growth_{ij} + \epsilon_{ij} \quad (1)$$

$$lnMV_{ij} = \alpha + \beta_1 DY_{ij} + \beta_2 DY_{t-1,j} + \beta_3 POR_{ij} + \beta_4 POR_{t-1,j} + \beta_5 Size_{ij} + \beta_6 Growth_{ij} + \epsilon_{ij} \quad (2)$$

Where

$Pvol_{ij}$ = share price volatility of firm j in period t

$lnMV_{ij}$ = natural log of market value

DY_{ij} = dividend yeild of firm j in period t

$DY_{t-1,j}$ = dividend yeild of firm j in period t - 1

POR_{ij} = payout ratio of firm j in period t

$POR_{t-1,j}$ = payout ratio of firm j in period t - 1

$Size_{ij}$ = size of the firm j in period t

$Growth_{ij}$ = Asset growth of firm j in period t

4.3. Measurement of variables

Price volatility (Pvol)

Price volatility is the dependent variable in the model 01 (equation 01). The variable had been calculated for the years from 2006 to 2014. Annual range of stock prices has been divided by the mean value of higher and lower stock prices during the one year period.

$$PVOL = \frac{Market\ price_{t,j} - Market\ Price_{t-1,j}}{\{(Market\ price_{Highest,t,j} + Market\ Price_{Lowest,t,j})/2\}} \quad (3)$$

Dividend yield (DY_{tj} and $DY_{t-1,j}$)

Dividend yield has been calculated by dividing the dividend per share by the market value per share of the company for each and every year.

$$DY_{tj} = \frac{\text{Dividend per share}_{tj}}{\text{Market price}_{tj}} \quad (4)$$

$$DY_{t-1,j} = \frac{\text{Dividend per share}_{t-1,j}}{\text{Market price}_{t-1,j}} \quad (5)$$

Payout ratio (POR_{tj} and $POR_{t-1,j}$)

The payout ratio is calculated by dividing the total amount of dividend paid by total earnings for the year.

$$POR_{tj} = \frac{\text{Dividend per share}_{tj}}{\text{Earnings per share}_{tj}} \quad (6)$$

$$POR_{t-1,j} = \frac{\text{Dividend per share}_{t-1,j}}{\text{Earnings per share}_{t-1,j}} \quad (7)$$

Firm size ($Size_{tj}$)

Firm size is calculated in terms of natural log value of the total assets.

$$Size_{tj} = \ln(\text{Total assets}_{tj}) \quad (8)$$

Growth in Assets ($Growth_{tj}$)

Growth in assets is calculated by dividing the difference of total assets in two consecutive years by the value of total assets in earlier of the two years.

$$Growth_{tj} = \frac{(\text{Total assets}_{tj} - \text{Total assets}_{t-1,j})}{\text{Total assets}_{t-1,j}} \quad (9)$$

Market Value ($\ln MV_{tj}$)

Market value has been taken as the natural log of the market capitalization of a company in the sample at the end of the each year.

$$\ln MV_{tj} = \ln(\text{market price}_{tj} \times \text{number of ordinary voting shares}_{tj}) \quad (10)$$

4.4. Data Analysis**4.4.1. Descriptive statistics**

The statistical description of the variables which are used in this research is represented in table 1. It indicates the mean, median, standard deviation and other measures of variables used in this study.

The table 4 depicts that the 78.46% of the changes in the market value of the manufacturing sector companies in Sri Lanka is explained by the Dividend Yield of the current year, Dividend Yield of the previous year, Dividend Payout Ratio of the Current year, Dividend Payout ratio of the previous year, Asset growth and the firm size by the application of the Panel Least Squares methodology.

As it is clearly demonstrated, the Dividend Yield of the present year, Dividend Yield of the previous year and the Dividend Payout Ratio of the previous year shows a negative relationship with the market value which is not significant. On the other hand the Dividend Payout Ratio of the present year shows a positive relationship which is again not significant. The only variable that shows a significant relationship is Firm Size. The Firm Size is positively related with the market value of the firms at the 5% level. In addition the Asset Growth exhibits an insignificant negative relationship with the market value. Importantly, the overall model is significant at the 1% level.

Table 1. Descriptive statistics

	Dy_t	Dy_{T-1}	$Size$	$\ln MV$	POR_t	POR_{t-1}	$Pvol$
Mean	0.038921	0.039779	15.46607	21.30240	0.840538	0.873568	-0.219389
Median	0.027995	0.027322	15.18461	21.45749	0.275229	0.291667	0.015208
Maximum	0.230769	0.230769	21.23793	24.59347	50.00000	50.00000	1.369972
Minimum	0.000000	0.000000	12.98417	17.35572	-3.305785	-3.305785	-18.85417
Std. Dev.	0.040663	0.042685	1.925212	1.457751	4.848797	4.896821	1.912734
Skewness	1.920135	1.879374	1.684593	-0.165071	9.870022	9.747877	-8.742447
Kurtosis	7.831931	7.219707	5.827054	2.489992	100.6223	98.34623	85.13733
Jarque-Bera	171.4285	139.7118	87.04642	1.660961	44225.67	41435.58	31735.18
Probability	0.000000	0.000000	0.000000	0.435840	0.000000	0.000000	0.000000
Sum	4.203442	4.176784	1670.336	2300.659	89.93757	91.72469	-23.69405
Sum Sq. Dev.	0.176927	0.189493	396.5892	227.3790	2492.148	2493.801	391.4651
Observations	108	108	108	108	108	108	108

Table 2. Correlation analysis

Covariance Analysis: Ordinary
Sample: 2006 2014
Included observations: 108
Balanced sample

Correlation							
t-Statistic							
Probability							
	Dy_t	Dy_{T-1}	$Size$	$lnMV$	POR_t	POR_{t-1}	$Pvol$
Dy_t	1.000000						

Dy_{T-1}	0.774189	1.000000					
	12.35306	-----					
	0.0000	-----					
$Size$	-0.423387	-0.436341	1.000000				
	-4.719918	-4.897670	-----				
	0.0000	0.0000	-----				
$lnMV$	0.295564	0.350369	-0.109349	1.000000			
	3.124655	3.778035	-1.111036	-----			
	0.0023	0.0003	0.2692	-----			
POR_t	0.170430	0.116773	-0.122323	0.057375	1.000000		
	1.746814	1.187471	-1.244748	0.580415	-----		
	0.0837	0.2378	0.2161	0.5629	-----		
POR_{t-1}	0.163213	0.171168	-0.126096	0.060821	-0.047648	1.000000	
	1.670769	1.754611	-1.283758	0.615402	-0.481766	-----	
	0.0978	0.0823	0.2021	0.5397	0.6310	-----	
$Pvol$	-0.055674	0.131588	0.078358	0.031718	0.015359	0.009219	1.000000
	-0.563155	1.340630	0.793814	0.320493	0.155139	0.093114	-----
	0.5746	0.1830	0.4291	0.7493	0.8770	0.9260	-----

Table 3. Regression results Model 01

Dependent Variable: PVOL
Method: Panel Least Squares
Sample: 2006 2014
Periods included: 9
Cross-sections included: 12
Total panel (balanced) observations: 108

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-31.04031	8.547661	-3.631439	0.0005
Growth	0.672030	0.652312	1.030227	0.3058
Size	1.946491	0.543031	3.584492	0.0006
Dy_t	-13.18251	8.795939	-1.498704	0.1376
Dy_{t-1}	25.49169	8.649327	2.947246	0.0041
POR_t	0.018459	0.039493	0.467402	0.6414
POR_{t-1}	0.008736	0.038971	0.224157	0.8232
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.283892	Mean dependent var		-0.231851
Adjusted R-squared	0.142336	S.D. dependent var		1.947883
S.E. of regression	1.803937	Akaike info criterion		4.173931
Sum squared resid	279.8604	Schwarz criterion		4.631614
Log likelihood	-199.0444	Hannan-Quinn criter.		4.359352
F-statistic	2.005509	Durbin-Watson stat		1.441337
Prob(F-statistic)	0.019366			

With the application of the same methodology (Panel Least Squares) it was found that the Dividend Yield of the previous year and the firm size is having a relationship with the stock price volatility which is significant at the 5% level. The dividend yield of the current year exhibited a negative relationship with the stock price volatility which is not significant. Also, the Dividend Payout Ratio and the Assets

growth demonstrate an insignificant positive relationship with the stock price volatility.

In case of the overall model, it is significant at the 5% level. Even though, the explanatory power of the model remains slightly low within the present circumstances, allowing only the changes amounting to 36.37% of the stock price volatility to explain by the identified variables within the manufacturing sector companies in Sri Lanka.

Table 4. Regression results- Model 02

Dependent Variable: LNMV
 Method: Panel Least Squares
 Sample: 2006 2014
 Periods included: 9
 Cross-sections included: 12
 Total panel (balanced) observations: 108

<i>Variable</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-Statistic</i>	<i>Prob.</i>
C	8.895340	3.466415	2.566149	0.0120
Growth	-0.219048	0.264539	-0.828037	0.4099
Size	0.820714	0.220221	3.726780	0.0003
Dy _t	-5.128517	3.567102	-1.437726	0.1541
Dy _{t-1}	-0.899720	3.507645	-0.256502	0.7982
POR _t	0.001641	0.016016	0.102456	0.9186
POR _{t-1}	-0.000464	0.015804	-0.029381	0.9766
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.784640	Mean dependent var	21.35570	
Adjusted R-squared	0.742069	S.D. dependent var	1.440466	
S.E. of regression	0.731568	Akaike info criterion	2.368858	
Sum squared resid	46.02651	Schwarz criterion	2.826541	
Log likelihood	-105.1806	Hannan-Quinn criter.	2.554278	
F-statistic	18.43127	Durbin-Watson stat	1.219717	
Prob(F-statistic)	0.000000			

5. CONCLUSION

The objective of this study is to determine the impact of dividend policy on stock price volatility and market value of Sri Lankan manufacturing companies. The empirical estimation is based on cross - sectional regression analysis of the relationship between stock price volatility and dividend policy after controlling for firm size and asset growth.

The empirical evidence revealed a negative impact from dividend yield of the current year on stock price volatility, but this relationship is not statistically significant. Dividend payout ratio for both current and previous year has shown a positive insignificant relationship with share price volatility which is contrary to the results of previous studies done in Sri Lanka. Moreover, this study implied that share price volatility has significant positive relationship with size and insignificant positive relationship with asset growth.

The empirical results of this study also showed, there is a negative relationship between dividend yield and market value. While dividend payout ratio of the previous year is showing a significant negative relationship with market value, dividend payout ratio of the current year shows an insignificant positive relationship. The findings of this study are consistent with the previous studies conducted in Sri Lanka.

According to (Miller & Modigliani, 1961) the effect of a firm's dividend policy on the current price of its shares is a matter of considerable importance, not only to the corporate officials who must set the policy, but to investors planning portfolios and to economists seeking to understand and appraise the functioning of the capital markets. Hence, the results of this study too facilitate the

managers of companies to identify the way, how they should change the volatility of their share prices by altering the dividend policy. Indeed, it may be possible for them to use dividend policy as a device for controlling their share price volatility. They may be able to reduce their share price volatility by increasing their dividend yield. However, the dividend policy does not affect the value of the firms.

The results of this study are only limited to the companies listed under the manufacturing sector in the Colombo Stock Exchange. Further studies conducted within the different sectors of the Colombo Stock Exchange is needed for expanding the results to other sectors and to the entire stock market.

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