

# The Impact of Dividend Policy on the Volatility of Share Price of Manufacturing Companies in Malaysia

Bhagmal Harsya Neelanjana, Hafinaz Hasniyanti Hassan

**Abstract:** *The objective of this research is to investigate the relationship between dividend policy and share price volatility of manufacturing companies in Malaysia. For this purpose, A sample of 35 dividend and non-dividend paying listed companies in the Malaysian Stock Exchange is taken from the food, beverages, chemical, home product and consumer product manufacturing sector for the time period starting 2008 to 2017. Dividend payout, dividend yield are the main independent variables while firm size and earnings volatility are the control variables that are tested against the volatility of share price in this study. The Pearson Correlation Analysis and Multiple Linear Regression are used for analysis to examine the relationship between the independent variables and share price volatility. Financial data was collected from annual reports of the companies listed in Bursa Malaysia. Results showed that dividend payout, firm size and earning volatility had a significant negative relationship with share price volatility while dividend was found to be insignificant to share price volatility.*

**Keywords:** *Dividend policy, share price, volatility, manufacturing company*

## I. INTRODUCTION

Dividend policy is one among the major financing components to decide the return to shareholders for their investments in a company (Zakaria et al., 2012). Every company adheres to some sort of dividend pattern. Upon a company's profitability, the management can either retain it for reinvestment purposes or distribute it in the form of cash dividends (Hashemijoo et al., 2012; Ullah et al., 2015). A permanent dividend policy should be established if a company decides to make dividend payment to its investors.

The payment of dividends could indicate to investors that the company is conforming to good practices of corporate governance which are valued by a company since it implies that the business has the capacity to raise funds from the capital market on attractive base (Jo and Pan, 2009). It is believed that in the form of dividend distribution, the business can attract investors and further raise the share price of the company indirectly. This type of business may raise funds in an easy way through a new issue of shares for the expansion of the company, and this would further increase profits and the price of shares as well (Zakaria et al., 2012).

**Manuscript published on 30 January 2019.**

\*Correspondence Author(s)

**Bhagmal Harsya Neelanjana**, Asia Pacific University of Technology and Innovation, School of Accounting, Finance and Quantitative Studies, Faculty of Business Management, Technology Park Malaysia, Bukit Jalil, 57000 Kuala Lumpur, Malaysia

**Hafinaz Hasniyanti Hassan**, Asia Pacific University of Technology and Innovation, School of Accounting, Finance and Quantitative Studies, Faculty of Business Management, Technology Park Malaysia, Bukit Jalil, 57000 Kuala Lumpur, Malaysia.

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Many researchers have argued about the dividend policy relevance concerning the volatility of share prices. That argument has generated many controversies amongst financial theories from the studies of researchers such as Black, Scholes, Modigliani and Miller, Baskin, Gordon and others. This has led to two distinctive groups namely the relevance of dividend and irrelevance of dividend. This topic is still open for investigation since there are a lot of contradictions concerning the relationship between dividends and share price volatility. The discussion was firstly made by Modigliani and Miller (1961). As said in their previous research, the firm value is independent and not relevant to dividend policy. On the other hand, another school of thought states that a company which pays no dividend will be more attractive to investors that a company which gives dividend payment (Black, 1976).

Share price volatility refers to the rate of change in the price of a share during a given time period. As a consequence, the higher the volatility, the higher will be the risk of substantial loss or gain. The volatility of stock is said to be a yardstick for risk to be determined (Ullah et al., 2015). When a stock is considered as volatile, the difficulty to predict what the future share price of the firm will be is higher. Similarly, a lot of investors prefer investing in stocks which sustain more predictable earnings (Proffitt and Bacon, 2013). The stocks are likely carry less risk, which is a better option than an investment with a high risk. Since dividend yield and dividend payout ratio are the main factors that investors would look at before making an investment decision, close attention is paid to dividend policy due to the fact that the firm's share evaluation may be affected by the riskiness of investments in the long run (Baskin, 1989; Hashemijoo et al., 2012; Zakaria et al., 2012; Hussainey, 2010; Allen and Rachim, 1996; Hussainey et al., 2011; Mgbame and Chijoke-Mgbame, 2011).

Dividend policy still remains a basis of controversy in spite of many years of theoretical and empirical research. The stock market as well plays a vital role in the economy. Normally, the decision in regards dividend policy usually has a direct effect on the capital structure of a firm. This is so because dividend payment decreases the amount of funds that are available for new investments that are required for the growth of firms are likely to be reduced by dividend payment.

The purpose of this study is to define and understand the relationship between dividend policy and share price volatility on manufacturing companies listed under Bursa Malaysia in Malaysia with the hope to help companies' management and any interested user.



This research is going to put emphasis on manufacturing firms, the reason being various types of industries are included in the manufacturing sector, meaning that the scope of the study is quite big. In addition to this, the production sector is the highest sub-sector which contributes a very considerable proportion to the GDP of Malaysia. As well, financial data is easily available for listed companies in Malaysia, which facilitates this study to be undertaken. Since most previous studies on the impact of dividend policy on share price volatility have been done in developed stock markets, the Malaysia stock market is selected as an emerging market.

There have been several researches conducted in order to identify the impact of dividend policy on share price volatility in Malaysia. Dividend policy's effect on share volatility has become so popular among academics. There are many studies undertaken on this topic all around the world. Different researchers use different approaches and methods which lead to inconsistent results. Some studies show that dividend policy and share price volatility have a positive relationship, while other results show that they are negatively correlated.

For instance, according to Mohammad Hashemijoo (2012), it was found that the volatility of stock and dividend yield is negatively correlated. This value of this correlation coefficient between price volatility and dividend yield is in line with Baskin (1989)'s results whereas it is opposing to that Ullah et al. (2015) and Khan (2012) among other researchers. Dividend payout and other control variables have encountered the same problem.

Since there are so many inconsistent and opposite results from the various sources, how dividend policy affects share price volatility is difficult to obtain and this causes a lot of biasness. Besides, the Malaysian stock market is indeed volatile and share prices change frequently in the markets on a daily basis. Concerning share prices, the movement of share prices has no benchmark. Therefore, it is essential to find as much information as possible about dividend and share prices as these are one of the hottest topics in the finance industry.

In addition, investors will be more likely to invest in companies where they see the opportunity to reap the maximum profit in terms of dividends. Investment increases and stock prices have the tendency to go up. However, a high dividend yield may also be the consequence of a weak share price. Again, this generates an inconsistent result. Besides, a falling share price has the tendency of leading to corporate bankruptcy and this may have an adverse effect on the manufacturing firms in Malaysia (Boyte-White, 2018). Therefore, this study needs to be conducted in order to have a broader and clearer insight on how dividend policy might influence the movement of share prices.

It has however remained a puzzle whether a company's dividend policy really affect the firm's share market prices. Some scholars argue that dividend policy is irrelevant (Miller and Modigliani, 1958) whereas others view it otherwise. Hence the study was set to determine whether there existed a causal relationship between dividend policy and the share prices of a firm (Onchiri, 2013).

## II. LITERATURE REVIEW

### A. Share Price Volatility

The volatility of share price here is used as the dependent variable. It refers to the systemic risk that investors who own ordinary share investment face (Profflet and Bacon, 2013). When we say that the risk of common stock is determined, it implies that the higher volatility of share prices, the greater will be its risk. Volatility can also be defined as the deviation or a variation in the returns of assets from their mean. The understanding of fluctuations in share prices are essential from the point of view of an investor. It is believed that even though stock which fluctuate by higher margins tend to have a higher profitability, the risk of loss is greater as well. According to the modern portfolio theory investors are likely to be risk-averse, which means that they will prefer avoiding risk unless they receive a compensation for such investment. They have the tendency to invest where they are offered more certainty (Zainudin et al, 2016)

### B. Dividend Yield

Dividend yield shows how much a company pays out in dividend each year relative to its share price (economictimes.indiatimes.com, 2017). It is usually expected that when dividend yield is high, share price volatility is lower (Profflet and Bacon, 2013).

### The Relationship between Dividend Yield and Share Price Volatility

A research conducted by Hussainey et al. (2010) in order to identify the effect of dividend policy on share price volatility, using a sample of companies listed in the UK Stock Exchange, using multiple regression analysis indicated that there is a positive significant relationship between dividend yield and share prices. In this study, dividend yield has been calculated based on current market prices (Harshapriya, 2015). It is believed that a company with a higher dividend yield or payout ratio has the tendency to result in a low volatile share price. Rashid and Rahman (2008) undertook a research using 104 non-financial firms in the Dhaka Stock Exchange in Bangladesh within the time frame of 1996 to 2006, using dividend yield, payout ratio as independent variable and debt, growth and size as control variables. Applying the cross-sectional regression analysis, the results showed an insignificant positive result between stock price volatility and dividend yield, the reason being Bangladesh having inefficient capital market, thus the influence of dividends over share prices are still unclear (Zakaria et al., 2012). Khan (2012) analysed the impact of dividend policy on share price using a sample of 55 firms which are listed in Karachi Stock Exchange (KSE), using the random effect model and data for the period of 2001 to 2010, and found that there is positive relationship between dividend yield and with the share price movements (Ullah et al., 2015). Similarly, another study conducted by Asghar et al. (2011) found in their study that there was relationship to be positive and significant in KSE in Pakistan. In addition to the above, a research conducted by Nkobe et al. (2011)

analysing dividend policy and volatility of stock in Kenya using data from trading companies listed in the Nairobi Stock Exchange within the time frame of 1999 and 2008 and using the multiple regression analysis showed results that volatility of share prices are insignificantly and positively affected by dividend yield.

However, in a study by Mohammad Hashemijoo (2012), using a sample of 84 out of 142 product companies listed under Bursa Malaysia, the relationship between dividend policy and share price volatility was examined for a period of six years from 2005 to 2010 using multiple regression. Share price volatility being the dependent variable and two main measurements namely dividend yield and dividend payout ratio as being the independent variables. Other added control variables such as size of firms, earning volatility, leverage, debt and growth were used as independent variables.

In the end results showed that dividend policy had a negative relationship with share price volatility. Supporting the above, a research conducted in China by Xu et al. (2016) using a sample of 603 non-financial firms listed on the China Stock Market for a time period from 16 years as from 2000 to 2015 and using the fixed effect model estimation and the Breusch-Pagan test, the empirical findings showed that dividend yield and stock prices were inversely related but dividend yield was more correlated with share prices than the payout ratio.

Last but not the least, a significant negative relationship between dividend yield and volatility of share was found in a research undertaken by Shah and Noreen (2016) which consisted of the investigation of the role of dividend and stock price volatility by utilising data from a sample of 50 companies in the non-financial sectors listed on the Karachi Stock Exchange in Pakistan and using data for the period 2005 to 2012. The multi regression analysis was made by adopting the random effect model on panel data.

These results give rise to the hypothesis that:

$H_0$ : There is no relationship between dividend yield and the volatility of share price.

$H_1$ : There is a relationship between dividend yield and the volatility of share price.

### C. Dividend Payout

Dividend Payout refers to the proportion of earnings or net income which is paid out as dividends to common shareholders, typically expressed in the form of a percentage. The payout ratio can be used to measure the degree of sustainability of a firm's stream of dividend payment. A low payout ratio shows that a firm is holding more of its earnings to increase its company growth. On the other hand, a greater payout ratio shows that a company is distributing more of company earnings with its shareholders.

### Relationship between Dividend Payout Ratio and Share Price Volatility

Ullah et al. (2015) investigated the impact of dividend policy on share price in the Karachi Stock Exchange in Pakistan. The latter took a sample of five firms from the textile industry from 2003 to 2008 and the multi regression model has been used to conduct the study. Using dividend payout ratio as independent variable and earning volatility,

size of firms and growth as controlled variable, results found stated that there was a positive relationship between dividend payout and share price volatility.

Similarly, during a research conducted by Zakaria (2012) on determining whether dividend policy affected share price volatility of construction and material companies in Malaysia from 2005 to 2010, using dividend payout as independent variable and growth, size of firms and earnings as control variables and using a least square regression model, we could see that dividend payout significantly influenced the changes in share price. The role of dividend payout on share prices has been analysed by Huang et al. (2009). Results showed that the relationship between both was positive and significant, together with earnings growth. The analysis made stated that in case dividend price ratio is divided into the components of earning price ratio and payout ratio, the ability for estimation of future returns is higher, which defines the relationship between the dependent and independent variable.

Another study supporting the significance of dividend payout and fluctuation of stock price has been conducted by Masum (2014). The latter analysed the effects of dividend policy and how share prices are affected in Bangladesh by estimating market returns of stock in excess out a sample to 30 banks listed on the Dhaka Stock Exchange for the time frame of 5 years as from 2007 to 2011. Using a panel data approach for the testing, it was revealed that stock prices were significantly positively affected by dividend (Ullah et al. 2015).

On the other hand, Lashgari and Ahmadi (2014) carried out a study to examine the impact of dividend policy on price volatility in the Tehran Stock Exchange. The sample consisted of 51 companies chosen out of 470 listed companies from 2007 to 2012. The Parskinson's stock price volatility was used to evaluate the changes in stock. A multivariable regression model was used and for testing and also compound data was used. Prior to data analysis, various statistical such as Chaw test, Unit root test and Hausman test were carried out, out of which pooled and fixed effect models were chosen to do the research. Findings showed that a negative relationship existed between dividend payout ratio and price volatility.

In a research by Nazir et al. (2010) who used the financial data of 73 non-financial companies in the capital market of Pakistan for the time period of six years from 2003 to 2008 and using panel data together with doing a fixed effect regression analysis, it was found that a negative relationship exists between dividend payout and fluctuation in share prices. Supporting the above findings, the research made by Hussainey et al. (2011) which has already been discussed above brought forward a negative relationship between share price and dividend payout ratio. Baskin (1989), on the contrary, found that payout has no relation with stock price volatility.

These results give rise to the hypothesis that:

$H_0$ : There is no relationship between dividend payout and the volatility of share.

# The Impact of Dividend Policy on the Volatility of Share Price of Manufacturing Companies in Malaysia

$H_1$ : There is a relationship between dividend payout and the volatility of share.

## Firm Size

Firm size is considered to be one of the most influential factors when determining dividend policy. Size of the firms can also be associated to price fluctuations because the larger organizations are, they are considered to be diversified in their risk while small ones are less known in the market and their stocks are less liquid in nature and thus more volatile.

## Relationship between Firm Size and Share Price Volatility

Sadiq et al. (2013) investigated the stock price volatility in regards to Karachi Stock Market's dividend policy. The researcher used a sample of 35 firms which are listed on the Karachi Stock Exchange in Pakistan and applied the panel data approach and regression model. The regression model results showed that there is a positive relationship between firm size and stock price fluctuation. In addition, the research made by Rashid and Rahman (2008), already explained above supports the above finding.

The results of the research conducted by Naveed (2013) who used a sample of 15 banks from the Karachi Stock Exchange within the time frame of 2008 to 2011 in order to identify the determinants of fluctuations in share prices using the fixed effect regression model and using firm size as control variable showed that there was a positive significant between the mentioned variable and share price.

On the other hand, in the study of Hashemijoo et al. (2012) discussed above, a significant negative relationship was identified between firm size and share price volatility while applying the cross-sectional regression analysis. This result is supported by that of Lashgari and Ahmadi (2014) and Nazir et al. (2010).

Another research supporting the above result has been conducted by Ramadan (2013) who tried to analyse how dividend influence fluctuations in share prices. The latter selected a sample of 77 industrial firms that are listed on the Amman Stock Exchange in Jordan for a time period of twelve years starting 2000 to 2011. The researcher made use of the correlation analysis and multiple least square regression. Size was used as a control variable and it was found to have an insignificant relationship with share price volatility.

These results give rise to the hypothesis that:

$H_0$ : There is no relationship between firm size and the volatility of share.

$H_1$ : There is a relationship between firm size and the volatility of share price.

## Earning Volatility

Dividends paid by firms are generated from the firms' profit and is one of the ways that firms distribute earnings back to the shareholders. Therefore, earnings of firms are expected to be one of the significant factors that will influence dividend policy decisions.

## Relationship between Earning Volatility and Share Price Volatility

According to the research by Hooi et al. (2015) who used a sample of 319 firms from Bursa Malaysia for the period

starting 2003 to 2013 identified a positive significant association between earning volatility and price volatility. This result is seconded by Hashemijoo et al. (2012), and Rashid and Rahman (2008) who investigated the connection between dividend policy and share price volatility with the cross-sectional regression analysis being used and after controlling for earning volatility, its relationship with share price had an insignificant positive result.

Another research conducted by Zainudin et al. (2016) investigating 166 industrial public listed firm in Malaysia from 2003 to 2012 suggested that earning volatility significantly explained SPV of industrial product firms during the crisis period. This is seconded by Shah and Noreen (2016).

Hussainey et al. (2011) explained above, it was found that share price volatility is insignificant to earnings volatility thereby having no relationship. Similarly, the same result was found during the research conducted by Zakaria et al. (2012) and Sadiq et al. (2013) as explained earlier.

This therefore leads to the hypothesis that:

$H_0$ : There is no relationship between earnings volatility and the volatility of share price.

$H_1$ : There is a relationship between firm size and the volatility of share price.

## III. METHOD & MATERIALS

For this purpose, only secondary data will be used. Secondary data refers to data which has already been collected by other people and which is already published and available. This will provide a basic understanding of the issues discussed. Annual reports of a sample of 35 manufacturing companies out of 908 listed firms in Bursa Malaysia from subsectors like food sector, beverages sector, chemical sector, construction and material sector, consumer product manufacturing sector, will be used for the analysis of this research. In the annual reports, the researcher will be extracting data from the financial statements such as the Statement of Comprehensive income, Statement of Financial Position, Statement of Changes in equity in relation with dividend per share, earnings per share, total assets, earnings before interest and taxes of respective companies for the period of 2008 to 2017.

Other than information from the financial statements, the director's report from annual reports of the companies might be taken into consideration for data collection, such as dividend policy decisions. In addition, sources such as books, articles and journals concerning the share prices and dividend policies and other available resources relating to the topic will also be used. In case, necessary information is not available online, the researcher might visit Bank Negara for further information and DataStream will also be used to extract any additional information needed.

This study will be conducted on a sample of 35 manufacturing companies out of 908 total companies listed under Bursa Malaysia. The analysis would be done based on these companies only. The research timeline will be 10 years, from the period starting 2008 to 2017.



As mentioned earlier, the reason for choosing manufacturing companies is because the scope of study is large since the manufacturing sector includes different types of industries. In addition, the manufacturing companies will be selected based on certain properties. The companies should be listed in the Kuala Lumpur Stock Exchange since

2005. Companies which do not pay dividend may also be considered as long as they are listed in Bursa Malaysia.

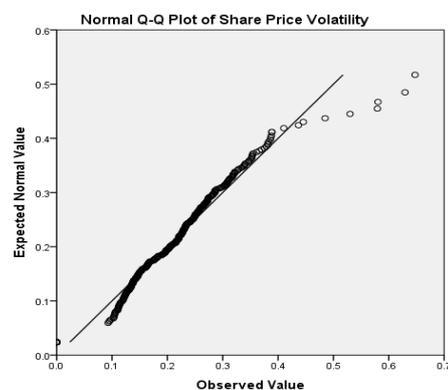
|     |  |
|-----|--|
| 1.  | BRITISH AMERICAN TOBACCO BERHAD          |
| 2.  | KAWAN FOOD BERHAD                        |
| 3.  | NESTLE (MALAYSIA) BERHAD                 |
| 4.  | DUTCH LADY MILK INDUSTRIES BERHAD        |
| 5.  | APOLLO FOOD HOLDINGS BERHAD              |
| 6.  | GENTING PLANTATIONS BERHAD               |
| 7.  | PPB GROUP BERHAD                         |
| 8.  | MALAYAN FLOUR MILLS BERHAD               |
| 9.  | SPRITZER BERHAD                          |
| 10. | HEINEKEN MALAYSIA BERHAD                 |
| 11. | CARLSBERG BREWERY MALAYSIA BERHAD        |
| 12. | MHC PLANTATIONS BERHAD                   |
| 13. | ORIENTAL FOOD INDUSTRIES HOLDINGS BERHAD |
| 14. | PANASONIC MANUFACTURING MALAYSIA BERHAD  |
| 15. | HOMERITZ CORPORATION BERHAD              |
| 16. | PENSONIC HOLDINGS BERHAD                 |
| 17. | MAGNI-TECH INDUSTRIES BERHAD             |
| 18. | PADINI HOLDINGS BERHAD                   |
| 19. | ASIA BRANDS BERHAD                       |
| 20. | BONIA CORPORATION BERHAD                 |
| 21. | COCOALAND HOLDINGS BERHAD                |
| 22. | PETRONAS CHEMICALS GROUP BERHAD          |
| 23. | MERCURY INDUSTRIES BERHAD                |
| 24. | SAPURA INDUSTRIAL BERHAD                 |
| 25. | HONG LEONG INDUSTRIES BERHAD             |
| 26. | FEDERAL INTERNATIONAL HOLDINGS BERHAD    |
| 27. | C.I. HOLDINGS BERHAD                     |
| 28. | POWER ROOT BERHAD                        |
| 29. | FRASER & NEAVE HOLDINGS BERHAD           |
| 30. | ESTHETICS INTL.GROUP BERHAD              |
| 31. | SARAWAK OIL PALMS BERHAD                 |
| 32. | NEGRI SEMBILAN OIL PALMS BERHAD          |
| 33. | SARAWAK PLANTATION BERHAD                |
| 34. | AJINOMOTO (MALAYSIA) BERHAD              |
| 35. | LONDON BISCUITS BERHAD                   |

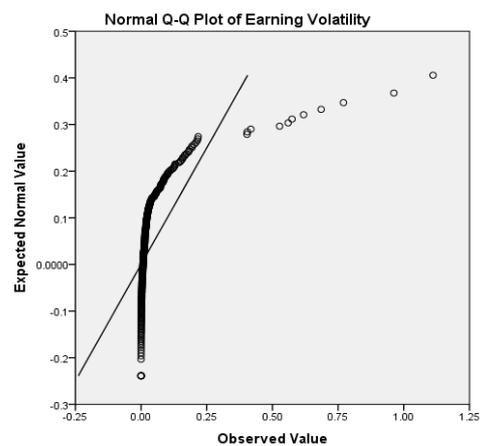
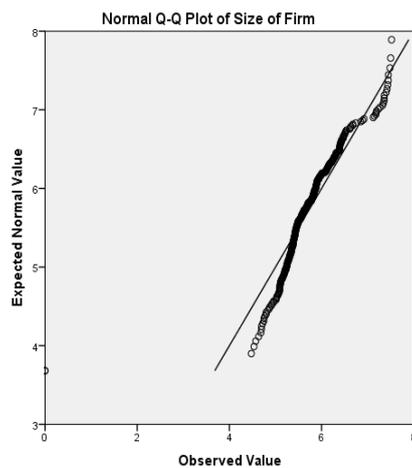
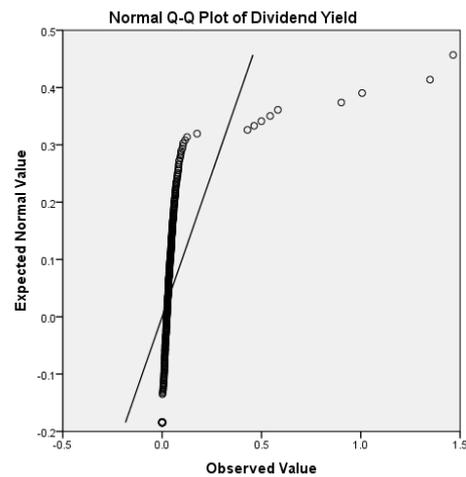
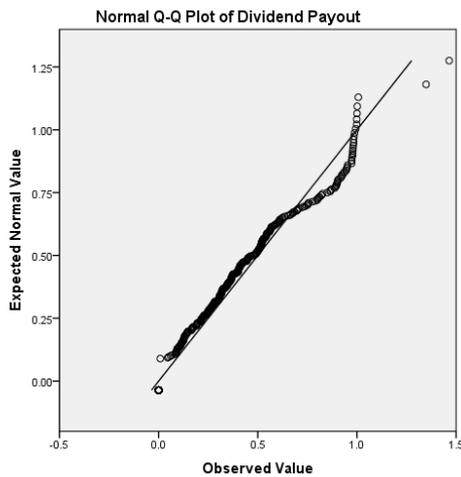
Table 1: List of Companies

IV. RESULTS

A. Normality Test: Q-Q Plot

This test is conducted to show whether the data distribution is following a normal distribution. There are two categories on how to identify this namely graphical and statistical. In order to identify the normality of the variables for the periods of 2008 to 2017 in a graphical technique, a Quantile-quantile plot (Q-Q plot) is as follows:





Based on respective chart above, it can be observed as follows:

Share price volatility - most of the points that are plotted for share price volatility lie on or next the diagonal line, suggesting that the plot is linear. Therefore, it can be concluded that the distribution for manufacturing firms for 2008 to 2017 is normal.

Dividend payout - most of the points that are plotted are on the diagonal line or near the line, which appears to be that the plot has a linear display, hence suggesting that the distribution of data is normal for the period 2008 to 2017 for the companies.

Dividend yield – the points on the Q-Q plot completely deviating from the line. This indicates that dividend yield is not linear. The pattern of the points is downward sloping from the right to left along the line. The points that are plotted on the line have a high slope. It therefore does not follow a normal distribution, but the sample data is skewed. A reason for this could probably be because many dividends have done been declared during that period of time.

Size of firm - the points indicate that most points fall along the line or are near the diagonal line and are not really likely to deviate, which therefore shows that this plot and the sample size are normally distributed.

Earning volatility –the points on the Q-Q plot completely deviating from the line and it is not linear. There is a

deviation from the normality, the reason being that the plotted point's pattern forms a downward sloping curve from right to left. This kind of plot will generally indicate that the data has a lot of extreme values than would usually be estimated in case they were normally distributed. It therefore does not follow a normal distribution.

### B. Shapiro-Wilk Test

To support the usage of the Q-Q plot test for normality, a statistical technique named the Shapiro-Wilk test is usually conducted. To test for the normality of the variables used in the study to analyse the effect of dividend policy of Malaysian manufacturing firms for the period 2008 to 2017, the test has also been undertaken. As it can be observed in the below table, since the p-value for each of the variables is less than 0.05, it is assumed the null hypothesis that the distribution is normal should be rejected due to its low significance level. However, this is more applicable in the cases of small sample sizes where the number is less than 30. In this situation, it is assumed that due to a large sample size where (N=350), the significance value may have been impacted resulting in a lower value, which is not reliable. For a bigger sample size, a Q-Q plot is more appropriate. We therefore assume that the data distribution is normal.

Tests of Normality

|                        | Kolmogorov-Smirnov <sup>a</sup> |     |      | Shapiro-Wilk |     |      |
|------------------------|---------------------------------|-----|------|--------------|-----|------|
|                        | Statistic                       | df  | Sig. | Statistic    | df  | Sig. |
| Share Price Volatility | .063                            | 350 | .002 | .960         | 350 | .000 |
| Earning Volatility     | .341                            | 350 | .000 | .402         | 350 | .000 |
| Size of Firm           | .116                            | 350 | .000 | .811         | 350 | .000 |
| Dividend Yield         | .359                            | 350 | .000 | .261         | 350 | .000 |
| Dividend Payout        | .098                            | 350 | .000 | .938         | 350 | .000 |

a. Lilliefors Significance Correction

**C. Multicollinearity Test**

This test has been undertaken to test whether any two independent variables have any relationship or any correlation among themselves that may affect the reliability of the data for the particular period. In this research, according to the results of the SPSS software as shown below table, no multicollinearity has been found among the independent variables for manufacturing companies for the period from 2008 to 2017.

Coefficients<sup>a</sup>

| Model |                    | Collinearity Statistics |       |
|-------|--------------------|-------------------------|-------|
|       |                    | Tolerance               | VIF   |
| 1     | Dividend Payout    | .795                    | 1.259 |
|       | Dividend Yield     | .868                    | 1.153 |
|       | Size of Firm       | .963                    | 1.038 |
|       | Earning Volatility | .898                    | 1.114 |

a. Dependent Variable: PV

In accordance with the above results, since all of the VIF of each particular independent variable is less than the cut-off point of 10, there is therefore no issue of multicollinearity that could cause any instability in the coefficients.

**D. Reliability Test**

When it comes to reliability testing for secondary data, it is not necessary to include the reliability because data obtained from annual reports is already considered as reliable since secondary data is audited and then published. However, just to be certain, the researcher has still undertaken the reliability test which has proved to be more than a percentage of 70%, therefore considered as reliable.

Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .880             | 5          |

**E. Descriptive Statistics Analysis**

The descriptive statistics of each variables utilized in this study are represented in Table below as follows, for the time frame of 2008 to 2017. This comprises of the range, minimum, maximum, mean as well as standard deviations of the dependent and independent variables for that particular period.

Descriptive Statistics

|                        | N   | Range | Minimum | Maximum | Mean    | Std. Deviation |
|------------------------|-----|-------|---------|---------|---------|----------------|
| Share Price Volatility | 350 | .647  | .000    | .647    | .21452  | .103846        |
| Dividend Payout        | 350 | 1.465 | .000    | 1.465   | .39223  | .303057        |
| Dividend Yield         | 350 | 1.465 | .000    | 1.465   | .05457  | .138054        |
| Size of Firm           | 350 | 7.518 | .000    | 7.518   | 5.71581 | .746419        |
| Earning Volatility     | 350 | 1.111 | .000    | 1.111   | .05014  | .121993        |
| Valid N (listwise)     | 350 |       |         |         |         |                |

The mean for share price volatility for Malaysian manufacturing companies was found to be 21.45%. This low volatility probably means that shares of manufacturing companies in Malaysia were not that risky on average during the period of 2008 and 2017 the reason being that the value of shares were likely to be steadier, therefore not fluctuating dramatically. This figure is in line with that of Hussainey et al. (2011) whereby a mean of 29.4% was observed due to the occurrence of the financial crisis that affected in 2008. On the other hand, Zakaria et al. (2012) recorded a price volatility mean of 94.41%, the reason being the less likelihood of the occurrence of a credit crisis.

Those of dividend policy that is the means for dividend payout and dividend yield were 0.392 and 0.05 respectively. These figures could be explained by the type of industries in which the production firms belong to, which could significantly have an impact on dividend policy. For instance, manufacturing companies in industries whereby earnings are stable are more likely to adopt a dividend policy which is more consistent in contrast to industries that have uncertain earnings.

## The Impact of Dividend Policy on the Volatility of Share Price of Manufacturing Companies in Malaysia

A mean of 39.2% for dividend payout could be a result of high profitability among Malaysian manufacturing firms on average for the period starting 2008 to 2017. Besides, the study also included both dividend and non-dividend paying firms to analyse the impact on share price volatility, which could further support a low dividend yield of 5.46% on average. A low dividend yield on average could be explained by the fact that probably many manufacturing companies did not declare their dividends within the period of 2008 to 2017. Dividend yield result is in line with that of Shah and Noreen with a DY mean of 6.9% and Zakaria et al. (2012), who recorded a dividend yield of 2.2% only. Similarly, the results of Hashemijoo et al. (2012) for dividend yield and dividend payout are similar to this study with a mean value of 0.04 and 0.37 respectively. Besides, this is also supported by the findings of Allen and Rachim (1996) who stated a result of 0.07 and 0.495 for dividend yield and dividend payout while studying Australian firms.

On the other hand, the mean for size of firms for the period 2008 to 2017 was 5.71, in line with the findings of

Zakaria et al. (2012) and Safian and Ali (2012) who recorded firm size mean of 5.57 and 5.81 correspondingly. Usually, large companies have the tendency to pay more dividends to shareholders since they are more likely to have more access to capital to be able to raise for funds (Alzomania and Al-Khadhiri, 2013). Hooi et al. (2015) conversely, recorded a firm size mean of 19.48 while Al-Shawawreh (2014) noted a mean of 7.74.

A mean of 5.01% for earnings volatility has been observed for manufacturing firms in Malaysia for 2008 to 2017. This could probably be a result of stable earnings for the period of 2008 to 2017. This result is in line with that of Zainudin et al. (2016) and Safian and Ali (2012) whose results showed that earnings volatility had a mean of 6.86% and 7.9% respectively. Misbah et al. (2013) alternatively recorded a mean of 21.3% for earnings volatility, while Nazir et al. (2012) got an extreme value of 560.86 for its mean of this particular variable.

### F. Pearson Correlation Analysis

Correlations

|                    |                     | PV      | Dividend Payout | Dividend Yield | Size of Firm | Earning Volatility |
|--------------------|---------------------|---------|-----------------|----------------|--------------|--------------------|
| PV                 | Pearson Correlation | 1       | -.296**         | -.015          | -.336**      | -.199**            |
|                    | Sig. (2-tailed)     |         | .000            | .775           | .000         | .000               |
|                    | N                   | 350     | 350             | 350            | 350          | 350                |
| Dividend Payout    | Pearson Correlation | -.296** | 1               | .346**         | .141**       | .310**             |
|                    | Sig. (2-tailed)     | .000    |                 | .000           | .008         | .000               |
|                    | N                   | 350     | 350             | 350            | 350          | 350                |
| Dividend Yield     | Pearson Correlation | -.015   | .346**          | 1              | -.054        | .144**             |
|                    | Sig. (2-tailed)     | .775    | .000            |                | .317         | .007               |
|                    | N                   | 350     | 350             | 350            | 350          | 350                |
| Size of Firm       | Pearson Correlation | -.336** | .141**          | -.054          | 1            | .106               |
|                    | Sig. (2-tailed)     | .000    | .008            | .317           |              | .049               |
|                    | N                   | 350     | 350             | 350            | 350          | 350                |
| Earning Volatility | Pearson Correlation | -.199** | .310**          | .144**         | .106         | 1                  |
|                    | Sig. (2-tailed)     | .000    | .000            | .007           | .049         |                    |
|                    | N                   | 350     | 350             | 350            | 350          | 350                |

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

The above table indicates the correlation matrix all for the variables and the relationship between share price volatility and dividend policy (dividend payout and dividend yield) together with the other control variables (size of firm and earning volatility) of Malaysian manufacturing companies are analyzed for the period of 2008 to 2017. In accordance to the table above, it can be observed that price volatility has been found to be significantly negatively correlated to dividend payout because it has a coefficient value of -0.296 at 1% significance level. On the other hand, in terms of the relationship between dividend yield and volatility of share price, a negative correlation can be observed between both with a value of the -0.015 and both are insignificant with the coefficient value close to zero, meaning that they are not strongly correlated. Speaking further of the control variables

included such firm size, a significant negative linkage between the mentioned variable and price volatility by a value of -0.336 can be seen at 1% significance level. Last but not the least, earning volatility has a significant negative relationship with share price volatility by a value of -0.199. On an overall basis, all of the independent variables have a correlation with share price volatility with a coefficient value ranging from -1 and 1.

### G. Multiple Linear Regression Analysis

After having conducted a multiple regression analysis from the SPSS software, the following results have been obtained for the period of 2008 to 2017 and is presented below.



Step 1 – Multiple Regression Analysis and Equation 1

**Model Summary<sup>b</sup>**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .310 <sup>a</sup> | .096     | .091              | .099017                    |

a. Predictors: (Constant), Dividend Yield, Dividend Payout

b. Dependent Variable: PV

**Regression with Dividend Policy**

**Coefficients<sup>a</sup>**

| Model |                 | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|-----------------|-----------------------------|------------|---------------------------|--------|------|
|       |                 | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant)      | .255                        | .009       |                           | 29.392 | .000 |
|       | Dividend Payout | -.113                       | .019       | -.330                     | -6.065 | .000 |
|       | Dividend Yield  | .074                        | .041       | .099                      | 1.815  | .070 |

a. Dependent Variable: PV

From the above table, the regression result for dividend policy and volatility of share price for the manufacturing firms can be determined for an overall 10-year period. The value of r-square is 0.096, meaning that only 9.6% of changes in share prices could be described by dividend policy. The results show that there is a significant relationship between dividend payout and share price volatility since it has a p-value that is less than 0.05 based on the table. On the other hand, dividend yield has been observed to be insignificant to price volatility because its p-value is 0.07, which is greater than 0.05.

Step 2- Multiple Regression Analysis and Equation 2

While adding the other control variables that could have an additional influence on the volatility of share prices to determine whether any changes in the dividend policy coefficient would be observed, we come up with the results as shown in the following table.

**Model Summary<sup>b</sup>**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .434 <sup>a</sup> | .189     | .179              | .094082                    |

a. Predictors: (Constant), Earning Volatility, Size of Firm, Dividend Yield, Dividend Payout

b. Dependent Variable: PV

**Coefficients<sup>a</sup>**

| Model |                    | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|--------------------|-----------------------------|------------|---------------------------|--------|------|
|       |                    | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant)         | .477                        | .039       |                           | 12.169 | .000 |
|       | Dividend Payout    | -.085                       | .019       | -.248                     | -4.558 | .000 |
|       | Dividend Yield     | .052                        | .039       | .070                      | 1.340  | .181 |
|       | Size of Firm       | -.040                       | .007       | -.286                     | -5.793 | .000 |
|       | Earning Volatility | -.087                       | .044       | -.102                     | -1.991 | .047 |

a. Dependent Variable: PV

An r-square value of 18.9% has been obtained in this study as it can be observed in the table above. As explained earlier, this figure means that 18.9% of the changes in the manufacturing firms for the period of 2008 and 2017 in Malaysia could be explained by the independent variables that have been tested namely dividend payout, dividend yield, size of firm and volatility in earnings. This r-square value of 0.189 may be seconded by that Profilet and Bacon (2013) with a value of 21.72% and Onchiri (2013) with 20.8%. Harshapriya (2015) and Safian and Ali (2012) who obtained a figure of 10.15% and 11.99% respectively. A low r-square value could be explained by factors such as a limited time frame since the research has been based on only 10 years. In addition, only 35 companies have been used to conduct this study. Perhaps if the research would have been undertaken over a longer time period and a greater number of companies would be used, the r-square value would have been greater. Moreover, the fact that the study results contained many outliers may have been a reason attributed to a low r-square. Also, maybe if different and additional control variables would be initiated or different models would be employed, a stronger association would have been obtained in this study.

# The Impact of Dividend Policy on the Volatility of Share Price of Manufacturing Companies in Malaysia

In accordance to the above tables, the regression result for the independent variables including dividend policy (dividend payout and dividend yield) and control variables (size and earning volatility) against the dependent variable which is fluctuations of share price for the manufacturing firms can be determined for the overall 10-year period starting 2008 to 2017. According to table 4.9, 18.9% of the changes in the manufacturing firms for the period of 2008 and 2017 in Malaysia could be explained by the independent variables combined together which are dividend payout, dividend yield, size of firm and volatility in earnings. The table indicates that a significant relationship may still be observed between dividend payout and share price volatility with a p-value less than 0.05, while dividend yield and volatility are still found to be insignificantly related with a p-value of 0.181, compared to 0.07 in the previous analysis. Firm size and earning volatility are seen to have a significant connection with the volatility of share prices with both a p-value of zero and 0.047 respectively, which are less than 0.05.

## Dividend Payout and Share Price Volatility

Dividend payout was found to have a negative correlation with share price volatility by a coefficient of -0.296. In addition, after having undertaken the different stages multiple regression analysis, the finding showed that dividend payout and price volatility have a significant relationship. This means that the null hypothesis will be rejected and the alternative hypothesis is accepted, therefore suggesting that dividend payout relates negatively and significantly to share price movements. This finding is line with Zainudin et al. (2016) who suggested that dividend payout continues to remain significant in forecasting price volatility. The same result is also in accordance with that of Shah and Noreen (2016), Hooi (2015), Lashgari and Ahmad (2014), Al-Shawawreh (2014), Ramadan (2013), Nazir et al. (2012), Hussainey (2011), among many other researchers. The finding signifies that the higher the dividend payout, lower will be the movement of share prices. Dividend payout could be an indication to the market that is likely to have an effect on fluctuations in stock prices, influencing managers to be vigilant before changing corporate policies concerning dividend payout.

## Dividend Yield and Share Price Volatility

In terms of the relationship between dividend yield and volatility of share price, a negative correlation can be observed between price volatility and dividend yield with a value of the -0.015. As well, the multiple regression result discloses that both variables are insignificantly linked. The researcher hence accepts the null hypothesis and rejects the alternative hypothesis this indicates that share price volatility and dividend yield are inversely insignificantly related. This outcome is supported by that of Zuriawati et al. (2012) whereby in the latter's research, dividend yield did not influence any change in share price movements. Rashid and Rahman (2008) who also are in line with this finding, suggest that an insignificant dividend yield might have been caused because of a capital market which is inefficient or probably due to a large proportion of stock being held by leading shareholders having a large market share in the board of the firm (Nazir et al., 2012). Conversely,

Gunarathne (2016) and Hashemijoo (2012) identified an inverse but significant relationship between share prices and dividend yield.

## Size of Firm and Share Price Volatility

Speaking of firm size, an adverse linkage between the mentioned variable and price volatility is observed by a value of -0.336, based on the correlation analysis. After analysing various stages of the multiple linear regression, it is shown that firm size and price volatility have a significant relationship, thereby influencing the researcher to reject the null hypothesis and accepting the alternative hypothesis, hence concluding that firm size and the dependent variable have a negative significant relationship. These findings are consistent with those of Zainudin et al. (2016), Hooi (2015), Lashgari and Ahmad (2014), Profilet and Bacon (2013), Naveed (2013) who also found an inverse linkage between size and price volatility. This means that the larger the size of a firm, the lesser the share price will be volatile (Hussainey et al., 2011) while small firms are more likely to be exposed to risk in relation to stock prices (Nazir et al., 2012). Shah and Noreen (2016) conversely found an insignificant relationship between firm size and price volatility. In general, bigger firms have the tendency to be more financially sound and profitable, thereby more likely to experience lower fluctuations in share prices (Zainudin et al., 2016).

## Earnings Volatility and Share Price Volatility

Based on the correlation analysis, earning volatility is found to have an inverse relationship with share price volatility by a coefficient value of -0.199. The multiple linear regression result states that earning volatility has a significant relationship with the volatility of share prices. This henceforth comes to the conclusion that the null hypothesis is rejected and accepting the alternative hypothesis, meaning that earning volatility and price volatility have a significant negative association among each other based on the multiple regression results. The findings of this study are consistent only with that of Nishat and Chaudhary (2006) and Allen and Rachim (1996). On the other hand, Hussainey et al. (2011) and Zuriawati et al. (2012) discovered an insignificant relationship between EV and price volatility while Hooi (2015) and Shah and Noreen (2016) display a significant relationship among the mentioned variables in their respective studies. Sadiq et al. (2013) seconded that there is no relationship between these two mentioned variables. As of here, it is implied that as earnings volatility increases, share price volatility decreases.

## V. RECOMMENDATIONS AND CONCLUSION

Provided that the researcher analysed only 35 manufacturing firms over a limited time frame of 10 years only, which the researcher believes is sufficient. But the use of a longer time period and a greater sample size with the inclusion of companies from different sectors and industries other than the manufacturing sector, for instance the services sector including the healthcare sector,

Telecommunication sector, financial sector among others and other capital markets or countries would probably generate a better, accurate and more reliable result in identifying the dividend policy effect on share price volatility. Another suggestion for further researches on the same topic could be to adopt the use of other models other than the multiple linear regression model and Pearson Correlation Analysis in order to explain the various associations between dependent and independent variables. For instance, the time series analysis or polynomial models could be used to consider the impact. The research included only four independent variables have been used, the results of which have mostly been negatively related to share prices. Additional studies conducted on the relationship between dividend policy and movements in share prices could be undertaken using additional control variables that could be likely to have an effect on volatility of share prices and better results could be obtained. An example would be the effect of macroeconomic variables such as inflation and interest rates could be taken into consideration. The study encountered some difficulty in obtaining some information for some few companies whose data was missing in some years. Also, since most researchers in this context have included the use of secondary data and material that has already been published, it would not be a bad idea to conduct a further study using primary data that includes the use of questionnaires or interviews so as to complement the study. Last but not the least, this paper and previous studies have been based mostly on listed companies in Bursa Malaysia and other stock exchanges, henceforth excluding small and medium firms and private companies. Supplementary research could take into consideration non-public and small-medium companies so as to get a broader perspective of dividend policy on share prices. In the light of the present discussion, this study has investigated the relationship between dividend policy and share price volatility with a concentration on 35 manufacturing firms from different sectors namely food, beverages, chemical home and consumer product companies listed in Bursa Malaysia from the years starting 2008 to 2017. Dividend payout and dividend yield have been used as main independent variables while firm size and earnings volatility have been used as control variables to further determine the influence of dividends on share prices. Using the Pearson Correlation analysis and the multiple linear regression model, findings indicated that dividend payout, size and earnings volatility are inversely related to share price volatility while dividend yield has an adverse insignificant association with the volatility of share prices. The research thereby supports the dividend relevance theory (Gordon, 1962). This study can now provide investors with a clearer picture and a greater insight in terms of dividend policy while for managers, this research may be an influence for dividend policy decisions whenever there is any investment opportunity. In short, it can be concluded that an effective method to guide the market value of manufacturing firms in Malaysia is through dividend policy.

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Quantitative Studies, Faculty of Business Management, Technology Park Malaysia, Bukit Jalil, 57000 Kuala Lumpur, Malaysia.

#### AUTHORS PROFILE

**Bhagmal Harsya Neelanjana** is working in Asia Pacific University of Technology and Innovation, School of Accounting, Finance and Quantitative Studies, Faculty of Business Management, Technology Park Malaysia, Bukit Jalil, 57000 Kuala Lumpur, Malaysia.

**Hafinaz Hasniyanti Hassan** is working Asia Pacific University of Technology and Innovation, School of Accounting, Finance and