Factors That Influence Stock Market Volatility:
A Case Study from Malaysia

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| A B S T R A C T	A R T I C L E I N F O
The purpose of this study is to investigate to what extent earning per share, net income, dividends and sharia compliance affects the stock market volatility in Malaysia. A sample of 53 firms has been selected from FBM KLCI for the period of 2014 when the oil price decline over 55% and leads to lower share prices. Multiple regression methods have been applied to the data. The result found that earning per share and dividend have a strong significant relationship, while net income and Shari'ah-compliance are not significance towards stock price volatility. It is hoped that the outcomes of this study will serve as the reference for the investor and manager to create better and effective strategy, as well as, to improve the financial market industry.	
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INTRODUCTION

In the last 20 years, many things have happened in the stock market in the whole world. The stock market has fluctuated more wildly and unstable. The study of stock market volatility has been discussed earlier by Poterba and Lawrence (1984), Edwards (1988), Berument and Kiymaz (2001), etc. Early papers finding the volatility of stock market tend to follow the cluster pattern. When the stock market has high volatility in one period, it will impact and create high volatility in the next period. In the other hand, when the stock market has low volatility, it will be followed by low volatility in the next period (Bollerslev, Chou, and Kroner, 1992; Bollerslev, Engle, and Nelson, 1994; Kroner and Ng, 1998). According to Ching and Siok (2013), stock

market volatility can be used as tools to forecast the stock return.

According to IMF (2016), there are various events that cause uncertainty condition in the stock market, such as a decline in oil price, slowing growth in China, the decline in the global equity market and fragility in the high-yield bond market. This is supported by Sadorsky (1999) that the volatility of oil price can affect the stock return. Dendramis et al., (2015) added that the high level of stock volatility can create a negative stock return. In Malaysia, the stock market has been going through the fluctuating pattern with the high uncertainty on economic's growth. The price of oil fell plummet

over 55% during 6 months' period (July 2014-January 2015). It affected the whole market which leads to lower share prices. Weak oil prices and local currency (Myr) have affected the local market to remain volatile. According to FSM (2014), the KLCI index level declined about 1673.94. It causes a negative return around -7.57% on a year-to-date basis.
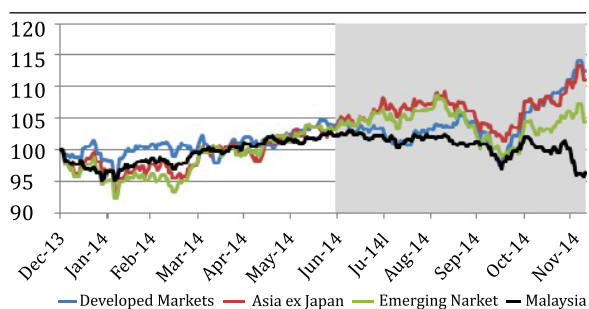
Source: Bloomberg, iFast Compilations as of 10 December 2014
Figure 1. Comparative Performances of Stock Market

There are some news that causes the recent drop of KLCI index, for examples are the case of Petronas reduce its capital expenditure by 15-20% in 2015 and decline of Q3 earnings reported by Malaysian Companies. Investor and manager tend to use current's earning performance as their guidance for future expectations, therefore negative earnings have sent a pessimistic signal to them. It causes them to reduce their holding in the companies.
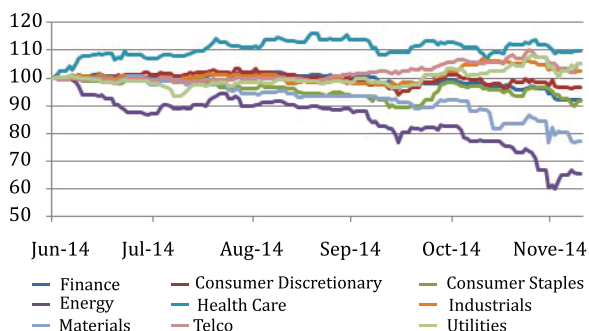
Source: Bloomberg, iFast Compilations as of 10 December 2014
Figure 2. Comparative Performance Between Sectors in KLCI Index

This situation gives variety performance on a sector basis. As seen on table 1, Utilities, telecommunications, and healthcare sectors had positive returns about 5.0%, 5.2%, and 9.3% respectively. It increases the return of stock market about 2.11%. In the other hand, financial, materials,

and energy sectors had negative return. That sector was dramatically affected by the crude oil rout. The financial sector had declined around -7.7%, energy sectors had the biggest decline around -35%. This situation has forced the investors to sell the shares of companies that may have exposure to the oil industry, like certain banks.

Table 1. Comparative Performance between Earnings Revision and Price Movement

Sectors (GIC S classifications)	Earning revision (%)	Returns (%)
Utilities	12.36	5.03
Health Care	0.00	9.57
Industrials	-0.87	2.39
Financials	-4.14	-7.68
Telco	-4.58	5.16
Energi	**-9.77**	**-34.41**
Consumer Discretionary	-12.96	-3.44
Consumer Staples	-13.91	-8.18
Material	-19.78	-22.73

Source: Bloomberg, iFast Compilations as of 26th August 2014

Given the fact that stock market was volatile, people are worried about the higher risk. However, the reasons of particular stocks rise and fall can be complex. Previous research conducted by Crestmont research (2011) stated that stock market volatility has the strong relationship with market performance. If the stock market better, the level of volatility will decline, on the other hand, if the stock market worst, the rate of volatility will increase and decrease the investment returns. However, Nandha and Faff (2008) stated that there is a negative correlation between oil price and stock market returns.

The different perspective about the causes of stock price volatility has driven the investor and manager to investigate how the volatility occurs and what are the factors that influence the stock price volatility. In this regard, this research is guided by the research questions; To what extent does net income, earning per share, dividend and Shari'ah-compliance affect the volatility of share price with a particular focus on the Malaysia Capital Market?. The finding of this study will serve as a reference to the stock market, guide the investor and manager before making a decision. Moreover, it will be very helpful for students and

instructors in equity market management.

The remaining of this paper is organized as follows: section 2 discusses the literature review. Section 3 describes the methodology. Section 4 discusses result and finding. This paper concludes with a summary and concluding remarks in section 5.

LITERATURE REVIEW

Research about stock price volatility has been explored at different times by different researchers. Collins and Kothari (1989) found that the earnings have a low relationship with stock price (R-square is 7%). This finding is in line with the study conducted by Dumont and Labelle (1998) which stated that the R-square of earning and stock price of French firms is 7.7% in the one-year period. The weak relationship between earning and stock price is associated with the use of data over a period of one-year. Therefore, the study should increase the time series to examine the relationship between earning and stock price (Lev, 1989; Wild and Warfield, 1992; Easton, Harris, and Ohlson, 1992; Dumont and Labelle, 1998; Martinez, 2003).

Patell (1976) stated that earning per share (EPS) has a relationship with the stock price volatility. EPS can be used as a good starting point to figure out the company's prospect when stock market volatile and difficult to predict. If the EPS increase and meets the forecast values, it will affect the firm's shares stand to rise.

Other research conducted by Khaled, Oscar, and Chijoke (2011); Allen and Rachim (1996); Baskin (1989) stated that there is a relationship between the dividend and the volatility of their stock prices. Farroq, Saoud, & Agnaou (2012) investigate the effect of dividend policy on stock price volatility in a period of emerging and developed market. The finding shows that the effect of dividend policy may vary depend on the market size and market's cycle.

According to Erimalida et al. (2015), when the new stock added to the list of Shari'ah-compliance, it gives the positive effect, while taking the stock from this list will give a negative effect. In the other hand, Hakim & Rashidian (2002) stated that Shari'ah-compliance status will not affect the stock price volatility. Therefore, it is safe to invest in an Islamic index.

METHODOLOGY

The objective of this study is to investigate to what extent does net income, earning per share, Shari'ah-compliance and dividend affect the volatility of the stock market in Malaysia. The relationship between independent variable and the dependent variable has been analyzed using multiple least regression square.

The data were collected from secondary resources or existing data, such as Kuala Lumpur Stock Exchange, klse.i3investor.com, klstock.com, and annual report of companies. In the process of determining sample, probability sampling method was taken. Authors set the sample requirements: 1) Authors choose a public company on the list of Malaysia FBM100 index. 2) Authors select companies which have registered as Shari'ah and non-Shari'ah compliance. 3) Authors select 60 companies from any business sectors, then eliminate 7 unqualified companies because they have the loss in 2014. These requirements gave the authors a sample size of 53. In attempting to investigate factors that affect stock price volatility in Malaysia, the model is constructed as:

Stock Price=a+b1Net Income+b2Earning per Share+b3Dividend (1)

The Shari'ah-compliant stock has been discussed earlier by Hussin et al., (2012); Abdullah et al., (2011), etc. However, the literature about the relationship between Shari'ah-compliant stock and the volatility of the stock market is very limited. Therefore, we added Shari'ah-compliant stock as a dummy variable. For a Shari'ah-compliant stock, the regression equation is as follows:

Stock Price=a+b1Net Income+b2Earning per Share+b3Dividend+b4Shari'ahcompliant (2)

Findings and Discussions
Based on Table 2, mean and standard deviation of the stock price is 7.221132 and 10.2423297

respectively. It shows that the stock market has high volatility during this session. The net income has the highest mean and standard deviation for all independent variables (M= 792.155887 & SD= 1156.2178649), while the mean and standard deviation of earning per share is 14.306453 and 38.1469165 respectively. The dividend has 0.1672 mean and 0.37728 standard deviations.

Table 2. Descriptive Statistics

	Mean	Std. Deviantion	N
Stock price	7.221132	10.2423297	53
Net income	792.155887	1156.2178649	53
Dividend	.1672	.37728	53
EPS	14.306453	38.1469165	53

Table 3 shows the correlation among stock price, net income, dividend, and EPS. It can be seen that the correlation between stock price volatility and net income is a positive but low correlation (0.150). This is in line with the previous study conducted by Allen and Rachim (1996) which show the result positive (0.006). The table also shows the correlation between stock price volatility and EPS (0.554). The highest correlation is between stock price volatility and dividend with value 0.846 (approximately 85%).

Based on table 4, 5, and 6, two variables namely dividend (T=5.091, p<0.025) and EPS (T=7.039, p<0.025) were found to have a significant effect on

the stock market volatility in Malaysia during the decline of oil price. This outcome is similar to the earlier study conducted by Ofer and Siegel's (1987), Abdullah (2014), Benartzi et al. (1997), and Bae (1996). Their finding stated that share price and the dividend has the positive correlation. Campbell and Shiller (1988) also added that dividend and earning per share are the good point to predict the stock price over several years. Since we use 0.05 significance level, the p-value should be less than $\alpha = 0.025$ (two tails, $\alpha = 0.05/2$). Net income needs to be eliminated from the regression because the p-value is .528 which is greater than α. It is in line with the earlier research conducted which stated that it is difficult to analyze the pattern between net income and stock price volatility in one year period. In all, 82.8% (R square =0.828) of the variance in volatility of stock price were explained by the independent variable. However, it is fairly sufficient to suggest the feasibility of the model.

The Shari'ah-compliance stock has added and the net income has removed from the analysis to investigate further the relationship between significant independent variables (earning per share and dividend) and dummy variables.

Based on the above table, the p-value of Shari'ah-compliance (p-value = 0.297) > α and t-value is 1.055. Therefore, we can conclude that there is no

Table 3. Correlations

		Stock Price	Net income	Dividend	ESP
Pearson Correlation	Stock pric	1.000	.150	.846	.554
	Net income	.150	1.000	.239	.015
	Dividend	.846	.239	1.000	.258
	EPS	.554	.015	.258	1.000
Sig. (1-tailed)	Stock pric	.	.141	.000	.000
	Net income	.141	.	.042	.456
	Dividend	.000	.042	.	.031
	EPS	.000	.456	.031	.
N	Stock pric	53	53	53	53
	Net income	53	53	53	53
	Dividend	53	53	53	53
	EPS	53	53	53	53

Table 4. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.916 [a]	.838	.828	4.2417024

a. Dependent Variable: Stock Price
b. Predictors: (Constant), ESP, Net income, Dividend

Table 5. ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	4573.467	3	1524.48	84.731	.000[b]
Residual	881.610	49	17.992		
Total	5455.077	52			

a. Dependent Variable: Stock Price
b. Predictors: (Constant), ESP, Net income, Dividend

Table 6. Coefficients

Model		Standardized Coefficients	t	Sig.
1	(constant)		3.532	.001
	Net Income	-.038	-6.35	.528
	Dividend	.763	12.449	.000
	ESP	.358	6.020	.000

a. Dependent Variable: Stock Price
b. Predictors: (Constant), ESP, Net income, Dividend

Table 7. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.917[a]	.841	.831	4.2115902

a. Dependent Variable: Stock Price
b. Predictors: (Constant), Shari'ah-compliance,ESP, Dividend

Table 8. ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	4585.939	3	1528.646	86.182	.000[b]
Residual	869.137	49	17.737		
Total	5455.077	52			

a. Dependent Variable: Stock Price
b. Predictors: (Constant), ESP, Net income, Dividend

Table 9. Coefficients

Model		Standardized Coefficients	t	Sig.
		Beta		
1	(constant)	.730	1.997	.051
			11.563	.000
	Net Income	.377	6.168	.000
	ESP	.065	1.055	.297

a. Dependent Variable: Stock Price
b. Dependent Variable: Shari'ah-compliance,ESP, Dividend

significance relationship between Shari'ah-compliance status with stock price volatility. Thus, this variable is excluded from the analysis.

CONCLUSION

The objective of this study was to examine the relationship between stock price volatility with earning per share, net income, dividend, and Shari'ah-compliance. The result identified two statistically significant independent variables that have a positive effect on stock price volatility which are earnings per share and dividends. During the crisis period, those variables still remain the strong and powerful tools for estimating company's prospect and predicting the future price stock. This study is an evidence which supports the earlier research about earning per share and dividend have the positive correlation with stock price volatility

over many years (Abdullah (2014), Erimalida (2015), Campbell (1988), and etc).

This research gives clear pictures to manager and investors on the matter that may affect the movement of the stock price. It is also beneficial for the student and instructors to get more knowledge about the factors that influence stock price in various events. Our recommendation would be for investor and managers to be more wide-awake with the socio-economic environment of the country before making investments in the stock markets.

Finally, the limitation of this study is that the result based on one-year data in one country and it focus only on few variables. Therefore, we recommend the future work to extend the model into several years from the different country. Extending the present methodological approach to vary condition will increase the generalizability of the results. In addition, future research may include the macroeconomic variables, such as economic growth, contagion effect, the movement of stock market index (Khositkulporn, 2013).

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