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### THE IMPACT OF OIL PRICE SHOCKS ON ISLAMIC FINANCIAL MARKET IN MALAYSIA

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#### ABSTRACT

This research will focus on the impact of oil price shocks and macroeconomic variables on Islamic stock market in Malaysia. The objective of this research is to evaluate the relationship between oil price, macroeconomic indicators and Islamic stock market in Malaysia using an estimation of Vector Auto Regression (VAR) method. The variables involved in this research are Crude Oil Price (COP), Industrial Production Index (IPI), Consumer Production Index (CPI), Aggregate Money Supply (M3), Islamic Interbank Rate (IIR), Exchange Rate of Malaysian Ringgit-United States Dollar (MYR) and FTSE Bursa Malaysia Emas Shariah Index (FBMES). This research used monthly data from January 2007 to December 2011 taken from authorized sources. The findings showed that Islamic stock prices are co-integrated with oil price and selected macroeconomic variables. Based on cointegration relationship analysis, the Islamic stock price is related positively and significantly with IPI, CPI and COP variables but related inversely and significantly with M3, IIR and MYR variables. From the Granger causality view, only inflation variable Granger cause for Islamic stock return in Malaysia.

Keywords: Oil Price, Islamic Stock Market, Macroeconomic Variables, Cointegration

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#### Introduction

In general, one of the most important natural resources that could affect the world's economies is oil. Compared to other energy sources in the world, oil seems to have gained a strategic position mainly due to the extensive of this product in most of the production processes. Consequently, it is not surprising to hear that many countries become dependent on this natural resource for their economic growth and development.

Since oil is an essential input utilized in the production of goods and services, similar to capital and labour, the rise in its price would normally affect the cash flow in the economic system. Over the last thirty years, oil prices have fluctuated significantly with a series of huge rises and falls. For example, between December 2007 and November 2008, the oil price shrank by 61 percent. Nevertheless, in the following year (between December 2008 and November 2009) its price dramatically increased by 99 percent. For that reason, it is perhaps useful to examine the impact of oil prices on the stock market variables.

The rise in oil prices may affect the economy in a variety of ways particularly the rise in the cost of production of goods and services, which in turn may affect the rate of inflation, consumer confidence, as well as financial markets. In relation to this matter, an earlier study conducted by Hamilton (1983) shows that higher oil prices contributed to the U.S recessions particularly after World War II. Later on, Hamilton's basic findings were extended by several researchers (such as Burbridge and Harrison, 1984; Gisser and Goodwin, 1986) by utilizing different set of data and estimation procedures. The majority of previous studies in this area (*i.e.* mechanisms of oil price shocks) were more focusing either on products or on labor markets. Most of the empirical studies have examined the relationship between oil price changes and macroeconomic activity. Research on the effect of oil price shocks in capital markets, on the other hand, seems not to be sufficiently covered.

Concerning the latter, several studies provide empirical evidences on the impact of oil price fluctuations on the stock market for several industrialized countries such as the United States, United Kingdom, Japan, and Canada (Lee, 1992; Huang, Masulis and Stoll, 1996; Jones and Kaul, 1996; Sadorsky, 1999). Compared to the extensive literature on the impact of oil price shocks on the conventional stock market, the Islamic stock market impact particularly in Malaysia and its related issues have remained largely unexplored.

Islamic stock market is a suitable place for investors to prevent them from the threat of inflation and at the same time is an indicator towards the development of the nation in term of economics (Mohd Hussin and Borhan, 2009). Indeed, the FTSE Bursa Malaysia Emas Shariah (FBMES) (a weighted-average index with its components made up of Main Board companies designated as *Shariah* approved securities by the *Shariah* Advisory Council of the Securities Commission) is associated to the trend of oil price growth in Malaysia. Looking back to the history of FBMES in the year 2008, when the growth of *Shariah* Index decreased about 43 percent, the growth in crude oil price in Malaysia decreased -61 percent as well. In 2009, the crude oil price showed an increase of about 99 percent, and in that year, the FBEMS indicated a positive growth of 43 percent. While

in 2010, FBMES indicated a growth with 18.2 percent in line with the low growth of crude oil price (11%). Similarly, in 2011 when oil price recorded a high growth of about 30 percent, the Islamic stock index only grew by 1.8 percent. In general, this result proved that the growth of crude oil price is significantly related to the growth of Islamic stock market in Malaysia. As a result, the fund manager and investor will need to consider all the economic factors including the world crude oil price that will influence their Islamic stock return before choosing or making certain investment.

In Malaysia, numerous studies have been done to determine the impact of stock returns and macroeconomic variables, other variable such as oil price is omitted. Therefore, the impact of those variables with all the possible economic factors such as the world crude oil price has yet to be explored in order to facilitate the fund managers and investors in choosing and making certain investment in Islamic stock market. In this paper, we examined the relationships between the FBM Emas Shariah Index (FBMES) with a set of five macroeconomic variables and crude oil price from January 2007 to December 2011 using Vector Error Correction Model (VECM).

The remainder of this paper is structured as follows. Section 2 reviews previous research on the relationship between crude oil price, macroeconomic variables, and stock returns. Section 3 provides an overview of the Islamic stock market particularly in the case of Malaysia while discussion on the data and empirical method employed in this study are discussed in Section 4. The econometric methods/methodology and results are discussed in Sections 5 and 6, respectively. Finally, in Section 7, the conclusions of this paper are drawn.

#### **Literature Review**

There are intense debates on the dynamic relationship between macroeconomic variables and share returns. The basic principle used in many researches on this topic is share prices are determined by the expected discounted cash flow and required rate of return (Elton and Gruber, 1991). Therefore, economic variables such as oil price are expected to influence share price as it can affect the future cash flows and the required rate of return. Many believe that stock price and the related macroeconomic variables including oil price have a stable and dynamic relationship. Nevertheless, past empirical literature generates mixed results on the impact of oil-price shocks on stock prices. Many studies find that oilprice volatility has a negative impact on stock price, such as Sadorsky (1999) and Arouri and Julien (2009). Similarly, Papapetrou (2001) reports that oil-price shock affects stock price negatively, as well as slowing down the output and employment growth. Nandha and Hammoudeh (2007), O'Neil *et al.* (2008) and Park and Ratti (2008) also find that oil-price shocks are negatively and significantly cointegrated with stock prices in 13 developed market.

In contrast, Lin *et al.* (2010) prove that oil price has a positive relationship with stock return in China. Sadorsky (2001) who studies the multifactor market that includes several risk premiums, discovers that the main determinants of oil and gas stock returns are exchange rate, interest rate, and oil prices. He finds that there exists a positive relationship between oil prices and stock returns of oil and gas firms. The evidence of significant impact of oil price on stock price is further provided by Gogineni (2007) and Yurtsever and Zahor (2007).

A positive and statistically significant relationship between oil prices and stock prices reflects changes in aggregate demand brought by the oil price shock. On the other hand, a negative and statistically significant relationship between oil prices and stock prices indicates changes in aggregate supply generated by the oil price shock.

Another key variable that determines the stock prices is the real GDP. Many studies find that there is a positive relationship between these two time series such as by Maysami and Koh (2000), Ibrahim and Aziz (2003), Sohail and Hussain (2009), Aljafari (2011) and Hsing (2011). An increase in the real GDP will result in an increase in the expected future cash flow in companies, thus lead to higher price of stocks.

Inflation is another vital factor that can affect stock price positively or negatively. Fama and Schwert (1977), Chen *et al.* (1986), DeFina (1991), and Sohail and Hussain (2009) believe that inflation has a negative impact on stock price, as inflation will simultaneously increase the cost of production and decrease both expected future cash flows and profits earned by companies. Geske and Roll (1983) and Mukherjee and Naka (1995) provide another rationale for this negative relationship. An increase in inflation rate will result in stricter monetary policy such as the implementation of both higher free risk nominal rate and rate of discount. This, in turn, will cause an increase in the stock price. Nevertheless, Khil and Lee (2000), Ibrahim (2003), Rasiah (2010), and Rad (2011) find that inflation affect stock price positively. Using the concept of protection value, equities act as a hedge against inflation as they represent claims on real assets.

It is postulated that money supply is another key determinants of stock price. Similar to inflation and GDP, this variable also has duel effects. Money supply affects stock price positively, as an increase in money supply will lead to an increase in the corporate profit. This will further increase the expected future cash flow and result in higher stock price (Dhakal *et al.*, 1993; Mukherjee and Naka, 1995; Rasiah, 2010; and Rad, 2011). The negative relationship, on the other hand, can be detected by looking at direct relationship (positive) between money supply and inflation. A rise in the money supply will result in higher discount rate and a further decrease in the price of stock market (Fama, 1981; Abdul Rahman, 2009).

Nevertheless, interest rate has a negative relationship with stock price. Similar to the effect of money supply, increase in interest rate will increase both free risk nominal rate and the discount rate (Abdullah and Hayworth, 1993). Consequently, the price of stocks will fall (Mukherjee and Naka, 1995). Likewise, a decrease in interest rate will lessen the cost of borrowing; therefore provide incentives for companies to expand. Most companies finance their capital through loans, thus the expansion of the business will raise the future expected value of the companies (Coleman *et al.*, 2008; Abdul Rahman, 2009). On the other hand, most stocks are bought by investors using loans. To maximize profit, investors will purchase stocks that provide higher rate of return, with lesser cost of borrowing. Increase in interest rate will lead to an increase in the cost of buying stock; hence the demand for the stock will fall, which eventually lead to a decrease in the price of stock (Maysami *et al.*, 2004)

The relationship between stock prices and the foreign exchange rate could also be both positive or negative. Any changes in the value of exchange rate will lead to a larger

change in the price of stock. Mukherjee and Naka (1995), Maysami and Koh (2000), Ibrahim and Aziz (2003), and Rasiah (2010) believe that the foreign exchange rate affect stock prices positively. Their studies show that a decrease in value of local currency will result in surge in the volume of exports as the local products become cheaper. As a result, the companies' cash flows and profits will increase; eventually lead to higher local stock price.

However, Ibrahim and Wan (2001), Abdul Rahman (2009), and Rad (2011) share a different perspective. From their empirical studies, they conclude that there is a negative relationship between stock prices and the foreign exchange rate. Even though a decrease in local currency value will lead to higher exports, it will increase both local cost of production as well as domestic price. Hence, the profit margin of the companies will decline.

#### Islamic Stock Market

The Islamic stock market is one of the most important branches of the Islamic capital market. Its components and economic activities are governed by *Shariah* laws, which are derived from and approved by the *Fiqh Ulama* (Mohd Hussin and Muhammad, 2011). In the Islamic stock market, there are five major principles of operating; *first*, any kinds of usury practices are prohibited; *second*, the risks are shared between the entrepreneurs and investors; *third*, any speculation or *gharar* is forbidden; *fourth*, the stated contracts with *aqad* must be complied; and *fifth*, any economic activities must be legal within the *Shariah* aspects (Bacha, 2002).

Shariah Advisory Council (SAC) at the Security Commission (SC) has been established soon after SC's own establishment in 1993 to facilitate the development and innovation of Islamic financial products in Malaysia. In April 17, 1999, the Kuala Lumpur Shariah Index (KLSI) was launched by the Kuala Lumpur Stock Exchange, now is known as the Bursa Malaysia. This was the first step in assisting and facilitating investors that are interested in investing in capital equity that are compatible with the Islamic principles of Shariah. The KLSI provides guidelines and a benchmark for investors, thus betterinformed decisions could be made. Since then, Malaysia has established as one of the key players in the global Islamic capital market, whereby with over 1 billion Muslims as potential consumers, this market is recognized as a hallmark of international financial success. In Malaysia for example, about 89 percent of the Islamic equity companies are listed in Bursa Malaysia in 2011 (Securities Commission Malaysia, 2012). Bursa Malaysia, in co-operation with FTSE, has introduced a new series of tradable equity indices called FTSE-Bursa Malaysia Emas Shariah Index and FTSE-Bursa Malaysia Hijrah Shariah Index. This new development has created more opportunities for investors whom are seeking *Shariah*-compliant investment to expand their portfolios, and for assets managers to produce new products for investment community.

#### **Data Description**

A total of six macroeconomic variables and FBMES index are used in the analysis. The following model is being applied:

$$FBMES_t : \alpha_0 + \alpha_1 IPI_t + \alpha_2 CPI_t + \alpha_3 M3_t + \alpha_4 IIR_t + \alpha_5 MYR_t + \alpha_6 COP_t + \mu_t$$
(1)

where FBMES, IPI, CPI, M3, IIR, MYR, and COP are being used as a proxy for Islamic stock market, Gross Domestic Product, inflation rate, money supply, interest rate in the Islamic financial system, foreign exchange, and world crude oil price, respectively. All variables are in natural logarithm form. In terms of data frequency, the study employs monthly data series for the period from January 2007 to December 2011. All data are taken from various sources such as Monthly Statistical Bulletin, Bank Negara Malaysia (2007-2011), Bloomberg, International Financial Statistics, and Islamic banking and money market websites.

#### Methodology

Using a vector autoregressive (VAR) model, this study aims to examine the relationship between Islamic stock market variables, namely FBM Emas Shariah Index (FBMES) with six macroeconomic variables, namely the Industrial Production Index (IPI), Consumer Price Index (CPI), the Financial Aggregate Supply (M3), Islamic Interbank Rate (IIR), Foreign Exchange Rates of Ringgit Malaysia - United States Dollar (MYR) and Crude Oil Price (COP) based on discounted cash flow model (Kearney and Daly, 1998). Based on the VAR regression method, the above-mentioned model (1) has seven variables and can be written as follows:

$$\begin{bmatrix} FBMES_{t} \\ IPI_{t} \\ CPI_{t} \\ M3_{t} \\ IIR_{t} \\ MYR_{t} \\ COP_{t} \end{bmatrix} = \begin{bmatrix} A_{1} \\ A_{2} \\ A_{3} \\ A_{4} \\ A_{5} \\ A_{6} \\ A_{7} \end{bmatrix} + R(L) \begin{bmatrix} FBMES_{t-1} \\ IPI_{t-1} \\ CPI_{t-1} \\ M3_{t-1} \\ IIR_{t-1} \\ MYR_{t-1} \\ COP_{t-1} \end{bmatrix} + \begin{bmatrix} et_{1} \\ et_{2} \\ et_{3} \\ et_{4} \\ et_{5} \\ et_{6} \\ et_{7} \end{bmatrix}$$
(2)

where R is 7 x 7 matrix polynomial parameter estimators, (L) is lag length operators, A is an intercept and *et* is Gaussian error vector with mean zero and  $\Omega$  is a Varian matrix.

As such, the following steps are undertaken to specify the VAR model. *First*, we applied the commonly used augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) unit root tests to determine the variables' stationarity properties or integration order. Briefly stated, a variable is said to be integrated of order d, written 1(d), if it requires differencing d times to achieve stationarity. Thus, the variable is non-stationary if it is integrated of order 1 or higher. Classification of the variables into stationary and non-stationary variables is crucial since standard statistical procedures can handle only stationary series. Moreover, there also exists a possible long-run co-movement, termed cointegration, among non-stationary variables having the same integration order. *Second*, we implemented a VAR-based approach of cointegration test suggested by Johansen (1988) and Johansen and Juselius (1990). The test provides us information on whether the variables are tied together in the long run. *Third*, the study proceeded with a Granger causality test in the form of vector error correction model (VECM). Granger causality test is employed to test the existence and nature of the causality

## relationship between the variables. **Empirical Results**

Table 1 shows the ADF and PP unit root tests results for the order of integration of each variable. The ADF and PP unit root tests results indicate that only the IIR variable in level rejects the null hypothesis of nonstationary at the 10 percent significance level. However, the null is rejected for each series at first difference, implying that the variables are integrated of order 1.

Variables	Le	vel	First Difference		
	ADF	PP	ADF	PP	
LNFBMES	-1.591 (1)	-1.636 (4)	-5.500 (0)*	-5.551 (3)*	
LNIPI	-1.847 (3)	-2.730 (2)	-4.646 (3)*	-14.992 (3)*	
LNCPI	-2.785(1)	-2.117 (2)	-4.424 (0)*	-4.356 (4)*	
LNM3	-2.828 (1)	-2.759 (2)	-6.822 (0)*	-6.802 (3)*	
LNIIR	-1.580 (2)	-1.241 (4)	-5.759 (0)*	-5.811 (2)*	
LNMYR	-1.689(0)	-1.725 (3)	-7.454 (0)*	-7.452 (2)*	
LNCOP	-2.501 (1)	-2.096 (3)	-4.827(0)*	-4.819 (3)*	

Table 1: Unit Root Test Results

\* Denote significance at 1% respectively

Having established that the variables are stationary and have the same order of integration, we proceed to determine whether they are cointegrated. In order to achieve this, Johansen Multivariate Cointegration test is carried out. The results of the Johansen's Trace and Max Eigenvalue tests are presented in Table 2. The Trace test and the Max Eigenvalue test result suggest that the variables are cointegrated with  $r \le 4$  at the 5 percent significance level. Nevertheless, Cheung and Lai (1993) believe that the Trace test results are more powerful as it shows more robustness to both skewness and excess kurtosis in the residual, which implied that there are at least 5 cointegration vectors found in this model.

Model	Null	Statistical	Critical Value	Maximum Eigen	Critical	Variable	Long-term	Results
	Hypothesis	Trace	(5%)	Statistical Trace	Value		Coefficient	
					(5%)		Elasticity	
	r ≤ 0	427.724*	125.615	176.516*	46.2312	LNFBMES	1.00000	Statistical Trace
Lag	r ≤ 1	251.207*	95.753	131.939*	40.077	LNIPI	-32.051	showed a five
Length=	r ≤ 2	119.268*	69.818	41.991*	33.876	LNCPI	-36.331	cointegration vectors
5#	r ≤ 3	77.277*	47.856	36.081*	27.584	LNM3	47.554	
	r ≤ 4	41.195*	29.797	29.505*	21.131	LNIIR	18.958	
	r ≤ 5	11.690	15.494	10.976	14.264	LNMYR	83.265	
	r ≤ 6	0.713	3.841	0.713	3.841	LNCOP	-0.848	
						С	-457.113	

<sup>t</sup> Denote significance at 5% respectively Critical Value obtained from Osterwald-Lenum (1992)

# Lag length based on AIC

The values in Table 2 signify the long-term elasticity measures due to logarithmic transformation of FBMES, IPI, CPI, M3 and MYR. Thus, the cointegration relationship can be re-expressed as shown in Table 3.

Table 3: Cointegration Relationship

Dependent variable	Independent Variables							
(FBMES)	LNIPI	LNCPI	LNM3	IIR	LNMYR	LNCOP	С	
Coefficient	32.051*	36.331*	-47.554*	-18.958*	-83.265*	0.848*	45.711	
t Value	11.290	5.024	-10.463	-14.652	-10.994	2.461		

\* Significance at a degree of freedom 1 percent.

Based on Table 3, the FBMES values are positively correlated with the IPI variable. This is in line with the share analysis theory based on the discounted cash flow model (Humpe and Macmillan, 2009) that establish the IPI has a positive relation with a particular firm's expected future cash flow. This means that the higher the IPI is, the higher the expected share price will be. Furthemore, the positive relationship between the two variables is significant, further supporting the theory highligted above.

Similarly, the CPI variable has a positive and significant correlation with the Islamic share price. This finding is consistent with the empirical finding by Ibrahim (2001, 2003) and Khil and Lee (2000), establishing the fact that the share prices are positively related with the inflation rate through value protection (hedging operation).

In terms of money supply, an interesting finding is revealed where there exist a significant negative relationship between the FBMES and the M3 money supply. This finding is similar to the findings by previous studies such as Fama (1981) and Bulmash and Trivoli (1991) who studied the United States data, and Ibrahim and Wan (2001), and Ibrahim and Aziz (2003) who conducted the study using Malaysia's data. This finding is also consistent with the hypothesis that FBMES and the M3 is negatively related due to the excessive money supply in the market that would lead to a higher rate of inflation as well as an increase of discount rate which will lead to a fall in share prices (Gan *et al.*, 2006).

Interest rate is another important variable that influences share price significantly. As expected, the relationship between FBMES and IIR is found to be significantly negative. This signifies that the rise in interest rates would cause the share prices to decline through the decrease in future corporate profit due to the increased in borrowing and production costs (Abdullah & Hayworth, 1993; Wongbangpo and Sharma, 2002). In essence, the relationship between the IIR investment rate and Islamic share prices is significantly negative whereas the higher the IIR rate is, the lower the Islamic share price will be.

With regards to the foreign exchange rate (MYR) with the Islamic share price (FBMES), the findings showed that the two variables share a statistically significant long-term negative relationship. This finding is in line with the findings of previous studies conducted by Ajayi dan Mougoue (1996), Kwon and Shin (1999), Maysami and Koh (2000), Ibrahim and Wan (2001), and Ibrahim and Aziz (2003) for the Malaysian stock market. Ibrahim and Wan (2001) stated that this negative relationship could be caused by a few factors, for example, the status of the nation which depends on export value (international trade). The declining value of the currency would encourage more exports. However, the declining currency value would increase the production costs due to the increase in domestic prices as regards to capital goods and imported mediators. This would in turn decrease the profit margin for that particular firm and the firm's share

prices would decrease.

In term of relationship between Islamic stock market and oil price, this finding proves that there exists a positive and significant relationship between these two time series. This finding is in line with Lin *et al.* (2010) based on the positive expectation effect which indicates that the investors presumed the Malaysian economy will still perform well and capital will continue to flow in during the higher oil price period.

Dependent Variables	Independent Variables F-Statistic (Wald Test)							T-Statistic
	<b>∆</b> LNFBMES	$\Delta_{\text{LNIPI}}$	<b>A</b> LNCP	$\Delta_{LNM3}$	$\Delta_{LNIIR}$	<b>Δ</b> lnmyr	<b>Δ</b> LNCOP	Ect-1
			Ι					
<b>A</b> lnfbmes		2.608 (0.760)	17.603* (0.003)	3.915 (0.561)	8.475 (0.131)	2.858 (0.721)	8.804 (0.117)	-0.007 [-0.359]
Δ <sub>lnipi</sub>	9.101 (0.105)		9.359*** (0.095)	23.737* (0.000)	19.887* (0.001)	14.540** (0.012)	13.166** (0.021)	-0.018 [-1.514]
<b>A</b> lncpi	9.983*** (0.075)	1.241 (0.940)		3.868 (0.568)	3.198 (0.669)	1.525 (0.910)	4.146 (0.528)	-0.001 [-0.332]
$\Delta_{\text{LNM}_3}$	2.400 (0.7914)	5.516 (0.356)	11.332** (0.045)		3.017 (0.697)	2.960 (0.706)	3.905 (0.563)	-0.008 [-1.453]
Δ <sub>lniir</sub>	3.381 (0.641)	25.788* (0.000)	7.274 (0.201)	1.229 (0.942)		10.537*** (0.061)	7.465 (0.188)	-0.053* [-3.001]
<b>A</b> lnmyr	2.455 (0.783)	3.489 (0.624)	5.919 (0.314)	4.109 (0.533)	6.824 (0.234)		2.286 (0.808)	-0.017 [-1.254]
<b>A</b> lncop	3.304 (0.653)	4.164 (0.526)	7.071 (0.215)	6.252 (0.282)	2.189 (0.822)	2.186 (0.822)		-0.002 [-0. 048]

Table 4: Vector Error Correction Model (VECM)

\*, \*\* and \*\*\* Denote significance at 1%, 5% and 10%, respectively ( ) probability [ ] t value

Long term Granger causal relationship can be established based on the value of ECT-1 for every variable in Table 4. Based on the result of VECM test, it is found that the value of ECT-1 for FBMES variable is not significant. This proves that the variables of IPI, CPI, M3, IIR, MYR and COP are not Granger caused by the Islamic stock returns in Malaysia and does not demonstrate endogenuinity towards the formed model in long term.

Short term Granger causal relationship can be observed through the Wald test (chi square statistics) on a group of related coefficients. Based on Table 4, it is discovered that only CPI variable is Granger caused by the FBMES in the short run. This indicates that the Islamic share market return is only affected by the inflation rate and not the oil price and others macroeconomic variables in the short run. The pattern of this short term Granger causal relationship can be summarised as in Figure 1.



Figure 1: Analysis on Short Term Granger Causal Relationship

#### Conclusions

The study aims to analyse the impact of oil price and macroeconomic variables on the Islamic stock market in Malaysia. From the above empirical analysis, it can be concluded that the Islamic share prices (FBMES) have a significant and positive relationship with the economic growth rate (IPI), inflation (CPI) and crude oil price (COP) but has a significant and negative relationship with money supply (M<sub>3</sub>), Islamic interbank investment rate (IIR) and foreign exchange rate (MYR). These findings proves that all macroeconomic variables and oil price are substantial variables for the purpose of predicting changes in Islamic share prices in Malaysia. On the other hand, only inflation variable is Granger cause by the Islamic stock returns in the short run. Therefore, the oil price shock will have an impact on the Islamic stock return in the long run but not in the short run in Malaysia.

#### References

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- Abdullah, D. A. & Hayworth, S. C. (1993), "Macroeconometrics of Stock Price Fluctuations", *Quarterly Journal of Business and Economics*, Vol. 32 No. 1, pp. 49-63.
- Abdul Rahman, A., Mohd Sidek, N. Z., and Tafri, F. H. (2009), "Macroeconomic Determinant of Malaysian Stock Market", *African Journal of Business Management*, Vol. 3, No. 3, pp. 96-106.
- Ajayi, R. A. & Mougoue, M. (1996), "On The Dynamic Relation Between Stock Prices and Exchange Rates", *Journal of Financial Research*, Vol. 19 No. 2, pp. 193-207.
- Aljafari, M. K., Salameh, R. M., and Habbash, M. R. (2011), "Investigating the relationship between stock market and macroeconomic variables: Evidence from developed and emerging markets", *International Research journal of Finance and Economics*, Vol 17, pp. 6-30.
- Arouri, M. E and Julien, F (2009), "On the short-term influence of oil price changes on stock markets in GCC countries: linear and nonlinear analyses", Economics Bulletin, Vol. 29 No. 2, pp. 795-804.
- Bacha, O.I. (2002), "New Issues in Islamic Capital Market Development: Risk Management and Islamic Capital Markets", *Islamic Capital Markets Conference*, Securities Commission, March 2002, Kuala Lumpur, Malaysia.
- Bulmash, S and Trivoli, G. (1991), "Time-Lagged Interaction Between Stock Prices and Selected Economic Variables", *Journal of Portfolio Management*, Vol. 17 No. 4, pp. 61-67.
- Burbridge, J., and A. Harrison, (1984), "Testing for the Effects of Oil-Price Rises Using Vector Autoregressions." *International Economic Review* Vol. 25, pp. 459-484.
- Chen, N. R., Roll, R. and Ross, S. A. (1986), "Economic Forces and The Stock Market", *Journal of Business*, Vol. 59 No. 3, pp. 383-403.
- Cheung, Y.W and Lai, K. (1993), "A Fractional Cointegration Analysis of Purchasing Power Parity", *Journal of Business & Economic Statistics*, Vol. 11, pp. 103-112.
- Coleman AK, Kwame F,Tettey A (2008). Impact of macroeconomic indicators on stock market performance. The case of the Ghana Stock Exchange. J. Risk Financ., 9(4): 365-378.
- DeFina, R.PP., (1991), "Does Inflation Depress the Stock Market?", Business Review-Federal Reserve Bank of Philadelphia, Nov/Dec.
- Dhakal, D., Kandil, M. And Sharma, S. C. (1993), "Causality Between the Money Supply and Share Prices: a VAR Investigation", *Quarterly Journal of Business and Economics*, Vol. 32 Bil 3, pp. 52-74.
- Elton, E.J. and M. Gruber. (1991), *Modern Portfolio Theory and Investment Analysis*, Fourth Edition, New York: John Wiley & Sons.
- Fama, E. F. (1981), "Stock Returns, Real Activity, Inflation and Money", *American Economic Review*, Vol. 71, pp. 545-565.
- Fama, E.F. & Schwert, G.W., (1977), "Asset Returns and Inflation", *Journal of financial Economics*, Vol. 5, pp. 115-146.
- Gan, C., Lee, M., Hua Hwa Au Yong and Jun Zhang (2006), "Macroeconomic Variables and Stock Market Interactions: New Zealand Evidence", *Investment Management and Financial Innovations*, Vol. 3 No. 4, pp. 89-101.
- Geske, R. and Roll, R. (1983), " The Monetary and Fiscal Linkage Between Stock Returns and Inflation", *Journal of Finance*, Vol. 38, pp. 1-33.
- Gisser, M., and T. H. Goodwin (1986), "Crude Oil and the Macroeconomy: Tests of Some Popular Notions." *Journal of Money Credit and Banking* Vol. 18, pp. 95-103.
- Gogineni, S. (2007), "The Stock Market Reaction to Oil Price Changes," Working Paper, University of Oklahoma.

- Hamilton J. D. 1(983), "Oil and the Macroeconomy since World War II." *Journal of Political Economy* Vol.92, pp. 228-248.
- Haung, R. D, R. W. Masulis, and H. R. Stoll (1996), "Energy Shocks and Financial Markets." *Journal of Futures Markets* Vol. 16, pp. 1- 27.
- Hsing, Y. (2011). "The Stock Market and Macroeconomic Variables in a BRICS Country and Policy Implications". *International Journal of Economics and Financial Issues*, Vol. 1 No.1, pp. 12-18.
- Humpe, A. and P. Macmillan (2009), "Can macroeconomic variables explain long-term stock market movements? A comparison of the US and Japan". *Applied Financial Economics*, Vol. 19, No. 2, pp. 111-19.
- Ibrahim, M and Aziz, PP. (2003), "Macroeconomic Variables and the Malaysian Equity Market: a View Through Rolling Subsamples", *Journal of Economic Studies*, Vol. 30, No. 1, pp. 6-27.
- Ibrahim, M and Wan, S.W.Y (2001), "Macroeconomic Variables, Exchange Rate and Stock Price: A Malaysian Perspective", *IIUM Journal of Economics and Management*, Vol. 9 No. 2, pp. 141-163.
- Ibrahim, M. (2003), "Macroeconomic Forces and Capital Market Integration: A VAR Analysis for Malaysia", *Journal of the Asia Pacific Economy*, Vol. 8, pp. 19-40.
- Johansen, S (1988), "Statistical Analysis of Cointegration Vectors", *Journal of Economic Dynamic Control*, Vol. 12, pp. 231-254.
- Johansen, S and K. Juselius (1990), "Maximum Likelihood Estimation and Inferences on Cointegration With Application to The Demand For Money", *Oxford Bulletin of Economics and Statistics*, Vol. 52, pp. 169-210.
- Jones, C. M., and G. Kaul (1996), "Oil and Stock Markets." *Journal of Finance* Vol. 51, pp.463-491.
- Khil, J. & Lee, B.S. (2000), "Are comman stocks a good hedge against inflation? Evidence from the Pasific-rim countries" *Pasific-Basin Finance Journal*. Vol. 8 No. 3-4, pp. 457-482.
- Kwon, C.S. and Shin, T.S. (1999), "Cointegration and Causality Between Macroeconomic Variables and Stock Market Returns", *Global Finance Journal*, Vol. 10 No. 1, pp. 71- 81.
- Lee, B. (1992), "Causal Relationships Among Stock Returns, Interest Rates, Real Activity, and Inflation." *Journal of Finance* Vol.38, pp.1591 1603.
- Lin, C. C, Fang, C. R and Cheng, H. P (2010), "Relationships between oil price shocks a and stock market: an empirical analysis from Greater China", *ChinaEconomic Journal*, Vol. 3 No. 3, pp. 241-254.
- Maysami, R.C. & Koh, T.S. (2000), "A Vector Error Correction model of the Singapore stock market", *International Review of Economics and Finance*, Vol. 9 No. 1, pp.79-96.
- Maysami, R.C., Lee Chuin Howe and Mohamad Atkin Hamzah (2004), "Relationship Between Macroeconomic Variables and Stock Market Indices: Cointegration Evidence From Stock Exchange of Singapores: All-Sector Indices", Jurnal Pengurusan, Vol. 24, pp. 47-77.
- Mohd Hussin, M. Y and Borhan, J. T, (2009). "Analisis Perkembangan Pasaran Saham Islam di Malaysia". *Jurnal Syariah*, Vol. 17 No. 3, pp. 431-456.
- Mohd Hussin, M. Y and Muhammad, F (2011), "Analisis Perkembangan Bursa Malaysia dan Pasaran Saham Islam di Malaysia" *Jurnal Teknologi*, Vol. 56, pp. 65-80.
- Mukherjee, T.K. and Naka, A. (1995), "Dynamic Relationship Between Macroeconomic Variables and The Japanese Stock Market: An Aplication of a Vector Error

Correction Model", *The Journal of Financial Research*, Vol. 18 No. 2, pp. 223-237.

- Nandha, M. and Hammoudeh, S (2007) "Systematic risk and oil price exchange rate sensitivities in Asia Pacific stock markets", *Research in International Business and Finance*, Vol. 21, pp. 326-341.
- Osterwald-Lenum, M. (1992). 'A Note with Quantiles of the Asymptotic Distribution of the Maximum Likelihood Cointegration Rank Test Statistic', *Oxford Bulletin of Economics and Statistics*, Vol. 54, pp. 461-472.
- O' Neil, T. J., J. Penm, and R. D. Terrell (2008), "The Role Higher Oil Prices: A Case of Major Developed Countries," *Research in Finance,* Vol. 24, pp. 287-299.
- Papapetrou, E. (2001), "Oil Price Shocks, Stock Market, Economic Activity and Employment in Greece," *Energy Economics*, Vol. 23, pp. 511-532.
- Park, J. and Ratti, R. A. (2008), "Oil Price Shock Markets in the U.S. and 13 European Countries," *Energy Economics*, Vol. 30, pp. 2587-2608.
- Rad, A. A. (2011), "Macroeconomic Variables and Stock Market: Evidence From Iran", International Journal of Economics and Finance Studies, Vol. 3 No. 1, pp. 1-10
- Rasiah, R. R. V. (2010), "Macro Economic Activity and The Malaysian Stock Market; Empirical Evidence of Dynamic Relationship", *International Journal of Economics And Finance Studies*, Vol. 4 No.2, pp.59-62
- Sadorsky, P. (1999), "Oil Price Shocks and Stock Market Activity," *Energy Economics*, Vol. 21, pp. 449-469.
- Sadorsky, P. (2001), "Risk Factors in Stock Returns of Canadian Oil and Gas Companies," *Energy Economics* Vol. 23, pp. 17-28.
- Securities Commission Malaysia (2012), *List of Shariah-compliant Securities by the Shariah Advisory Council of the Securities Commission Malaysia*, Kuala Lumpur: Securities Commission Malaysia
- Sohail, N. and Hussain, Z. (2009). "Long-Run and Short-Run Relationship between Macroeconomic Variables and Stock Prices in Pakistan: The Case of Lahore Stock Exchange". *Pakistan Economic and Social Review*, Vol.47 No. 2, pp. 183-198.
- Wongbangpo, P and Sharma, S. C. (2002), "Stock Market and Macroeconomic Fundamental Dynamic Interaction: ASEAN-5 Countries". Journal of Asian Economics, Vol. 13, No. 1, pp. 27-51.
- Yurtsever, C., and T. Zahor (2007), "Oil Price Shocks and Stock Market in the Netherlands," Working Paper, University of Groningen.