

## **The Impact of Macroeconomic Changes on the Malaysian Shariah Stock Index**

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### **Abstract**

This paper seeks to explore the impact of four macroeconomic variables (i.e. interest rate, inflation rate, exchange rate and oil price) on the shariah stock prices in the Malaysian Stock Market. 50 sharia-compliant securities from the consumer product and property sectors listed at Bursa Malaysia are chosen. Six years panel data from 2010 to 2015 are analysed using STATA. A correlation analysis was carried out followed by Breusch Pagan Test and Random Effect (RE) model. Result reveals only three macroeconomic variables significantly impact the Shariah Stock prices. Interest rate and oil price positively impact while exchange rate negatively impacts the prices. Inflation rate does not have any significant impact on the sharia stock market performance. The result also shows that Sharia stock performance from the two sectors move in the opposite direction from that of the conventional stocks when facing with macroeconomic circumstances. It also provides evidence that Sharia stocks are perceived by investors as viable and safe investment alternatives during uncertain economic conditions.

**Keywords:** *sharia stock, interest rate, oil price, exchange rate, inflation*

## **1. INTRODUCTION**

The development of Islamic equity indices has received growing attentions with many efforts carried out to track the performance of Sharia-compliant companies. Rigorous screenings are made on the Islamic stocks especially in terms of the business activities and financial ratios. Undeniably that Islamic capital market is one of the fastest-growing markets within the financial system. Hundreds of Islamic Indices are keeping track of the performance of Shariah-compliant companies from various sectors in different countries. Within two years, the Islamic financial sectors around the world saw an increase in total assets by 38% to USD 1.8 trillion in 2013 to USD 1.3 trillion in 2011 (IMF, 2015). Prior to 2011, the Islamic stock market saw a total increase by 50% within five years as it aggressively penetrates into different markets outside Middle East and Malaysia (Davies, 2012). The market is estimated to expand further at the rate of 18% per annum.

The progressive development of the Islamic stock market is attributed to various factors. One of the main factors are the growing trend of movement from conventional into Shariah finance by Muslim communities worldwide and investors from oil rich nations who are interested in the Shariah financial products (Pok, 2012). The competitiveness and the ethical aspects of the Shariah-compliant products have also attracted non-Muslim investors. With the growing uncertainties in the conventional financial market globally, Islamic investment products are seen as viable and safer investment alternatives (Al-Khazali, Lean and Samet (2014).

Malaysian Islamic financial market is considered one of the pioneering market in the world. It starts with the establishment of Bank Islam and the issuance of Islamic bond in 1983. The establishment of BIMB Securities in 1994 as the first Islamic broker is the first step towards promoting Islamic equity market. Apart from providing Islamic Broking houses and Islamic Manage Funds, a separate Islamic index was established comprising of 179 permissible stocks on Kuala Lumpur Stock Exchange (New Horizon, 1996). As of July 1996, 364 stocks out of total 633 total stocks listed in KLSE are considered halal. Officially launched on April 17, 1999, KLSE Shariah Index offers one of the most progressive shariah stock indices in the world. In 2013, the Malaysian bourse witnessed a gain of 9.5% of the Islamic stock index

compared to a gain of 7.2% of the conventional stock index, indicating that Islamic stock is growing faster than its conventional counterpart (Dewandaru et al., 2014). At the global front, compared to the bank-based instruments, capital market-based instruments have received more focus from the Islamic finance international investors (Al-Khazali, Lean and Samet (2014).

### **1.1 Problem statement of the study**

Stock market plays a fundamental function in providing capital to support the growth of an industry and the economy of a country. A more developed equity market could provide liquidity essential for development (Neusser and Kugler, 1998). In most instances, the performance of stock markets is an indication of growth of certain industry as well as the stability of an economy. Rising index or consistent increase in the stock prices reflect a positive economic growth while falling and fluctuating stock prices indicate economic instability (Aurangzeb, 2012). Nation with greater development of equity market tends to generate more domestic savings for economic growth by eliminating the cost derived from the foreign capital. Stock market also enables firms to acquire much needed liquidity quickly to facilitate capital allocation, investment and growth (Paudel, 2005). Therefore, domestic stock market is expected to have significant relationship with economic performance.

Past studies have shown that economic factors do influence stock market. Many investors tend to believe that large decrease in stock prices is a response to the expected future recession, while large increase in stock prices is a response to the expected future economic growth (Har, Ee and Tan, 2008). Nevertheless, findings on diverse markets have shown different relationship outcomes between macroeconomic variables and stock market performance. It is not yet certain if the impacts of macroeconomic factors are similar on both conventional and Islamic markets.

Therefore, with the growing interest in halal indices, it is important to see how the Sharia stocks have performed relative to changes in economic conditions. This is especially pertinent due to the rapid changes occurring in the equity market on daily basis. This study attempts to analyse the effect of macroeconomic variables namely the interest rate, exchange rate, inflation rate and oil prices on sharia stock prices in Malaysia. The results of this research is expected to benefit investors and shareholders in anticipating and preparing for the movement of Sharia stock prices when there are changes in the macroeconomic fundamentals.

### **1.2 Literature review**

Macroeconomic variables have significant influence on financial investment decisions which in turn determines the stock price movement. Bernanke (2003) suggests that stock prices are extremely volatile towards economic circumstances. A study carried out by Trahan and Krantz (2011) has proven that more than 70% of stock returns are explained by macroeconomic trends. Studies carried out in USA, UK and Japan found that slight variations in macroeconomic variables have had significant impact on stock prices (Aurangzeb, 2012). In India and China, stock market indices are found to have both long and short run linkages with macroeconomic variables namely crude oil price, money supply, industrial production and inflation rate (Hosseini, Ahmad and Yew, 2011). Findings by Liu and Shrestha (2008) also indicate a co-integrating relationship between stock prices and the macroeconomic variables like money supply, industrial production, inflation, exchange rate and interest rates.

Theoretically, interest rate has negative impact on stock market. The higher the interest rate, the lower will be the stock price. A study carried out on two Indian capital markets show that inflation rate has significant impact on both capital markets while interest rate and foreign exchange rate only impact one of the markets (Pal and Mittal, 2011). In the long term, stock market is found to be more susceptible to domestic fundamentals like industrial production, wholesale price index and interest rate than global factors (Srivastava, 2010).

A study carried out to examine monthly data series from July 1997 to June 2005 on Bangladesh stock market shows that there exists no long run relationship between stock market index and macroeconomic variables except interest rate change or T-bills (Ahmed and Imam, 2007). A study on U.S. capital markets from 1971 to 1990 found that there is a positive relationship between stock prices and industrial production and negative relationship between stock prices with CPI and interest rate (Humpe and Macmillan, 2007). A study carried out on Turkish stock market shows that macroeconomic variables such as interest rate, industrial production index, oil price, foreign exchange rate negatively impact stock prices. Only money supply positively influences the stock prices. Inflation rate and gold price, on the other hand, do not appear to have any significant effect (Buyuksalvarci, 2010).

A study on Chinese stock market from January 1992 to December 2001 reveals that stock prices are positively related with industrial production and money supply and negatively related while inflation rate, interest rate and exchange rate (Liu and Shrestha, 2008). Hussin, Muhammad, Abu and Awang (2012) further confirms the findings that increase in interest rates leads to demand for stocks to decrease causing stock prices to drop.

The relationships of macroeconomic variables with Shariah stock performance show different pattern from that of conventional stocks. This is because unlike conventional stock markets that are more value oriented, Islamic stock markets are more growth oriented (Tan, Chin and Tan, 2015). A study on Shariah stock markets shows that the Islamic stock price reacts negatively to the interest rate (Mustafa, Ramlee and Hj Kassim, 2015). Hassan, Rashid and Ng (2014) suggests that interest rates and currency positively affect the Malaysian Index. Yusof and Majid (2007), however, highlights that interest rate may not have impact on the Islamic stock market volatility since Islamic principles prevent shariah compliant firms from dealing with interest or *riba*. Hussin, Muhammad, Hussin and Abdul Razak (2012) shows that the Islamic stock price is positively and significantly related to the oil price but inversely and insignificantly related to the changes in exchange rate. Compared to industrial production index, consumer price index and money supply variables, the interest rates, currency index and change in FTSE Bursa Malaysia Composite Index pose greater influence on Islamic price index (Hassan, Rashid and Ng, 2014).

Inflation rate is the rate at which general price of goods and services in the country increases. During inflation, companies' performances are expected to drop. According to Patel (2012), money supply and inflation have a dual effect on stock returns. Increase in money supply will increase inflation and expected rate of return. High expected rate of return will decrease the value of the firm resulting to lower share prices. Conversely, increase in money supply and inflation leads to increase in stock prices due to increases in future cash flow of the firm. During inflation, Shariah stocks are perceived by investors as more desirable and safer investment than conventional stocks (Mohd Hussin and Borhan, 2009). Islamic stock prices are found to be positively related to money supply, unemployment rate and real effective exchange rate disturbances and negatively related to the foreign interest rate (Mustafa, Ramlee and Hj Kassim, 2015).

Ghosh et al., (2010) found that dollar price, oil price, gold price and CRR have a significant impact on stock market returns but food price inflation and call money rate do not affect stock market return. Study on Pakistan, India and Sri Lanka stock markets for data collected from 1997 to 2010 shows negative but insignificant impact of inflation on stock market performance (Aurangzeb, 2012). Study carried out by Ibrahim and Aziz (2003) on KLCI from 1977 to August 1998 data suggests that there is short term relationship as well as long term relationship between the macroeconomic variables and the KLCI. Exchange rate and money supply negatively impact stock prices while real output and inflation rate positively impact the index.

Exchange rate is another macroeconomic fundamental that have significant influence on the performance of stock market. Currency fluctuation can greatly affect exports and imports. A depreciation of the domestic currency against foreign currencies increases export which in turn, increases stock returns. Depreciation of domestic currency increases the cost of imports which reduces the stock returns. Therefore, exchange rate negatively impacts the stock return (Patel, 2012). This is consistent with the research made on Turkish Index that shows negative relationship between exchange rate and stock price (Buyuksalvarci, 2010). From the past previous research, exchange rate is one of the macroeconomic factors that can affect stock prices (Ghosh et al., (2010) and Adebisi, Adenuga, Abeng and Omanukwue (2009)). Frimpong (2009) found that all macroeconomic variables except exchange rate impact stock prices negatively. This finding is also supported by Aurangzeb (2012) that exchange rate has significant positive impact on performance of stock market in South Asian countries.

A study done on Malaysia Islamic stock markets from January 2010 to December 2014 shows that Islamic stock prices react positively to the domestic factors, namely industrial activities, money supply, unemployment rate and real effective exchange rate disturbances (Mustafa, Ramlee and Hj Kassim, 2015). Similarly, a study carried out by Isa, Hassan and Abdullah (2012) indicates that inflation, money growth, interest rates, industrial production, reserves, exchange rates and international monetary policy have positive relationships with Malaysian Shariah Indices.

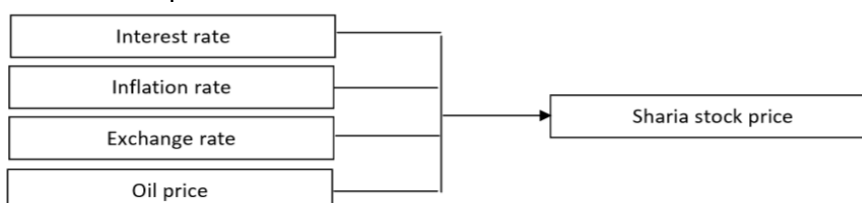
Oil price factor has attracted a lot of investors' and market analysts' attention as oil commodities play an important role in the global economy. A rise in oil prices may affect the economy in many ways such as increase the production cost of goods and services which subsequently affect the inflation rate and financial markets. Adebisi et al., (2009) established a causal relationship from oil price shocks to stock returns, and from stock returns to real exchange rate. Patel (2012) also highlighted that firms dependent on international oil market will be negatively affected by increase in the oil price. This is true for Indian firms where increase in oil prices have increased cost of production which decreases the profit of firms and hence decreases stock prices. Oil price, are considered by some researchers such as Papapetrou (2001) and Driesprong et al., (2008) to be an important component in explaining stock price movements. Indeed, oil price change can predict stock prices in many economics. Increases in oil price shocks induce serious depressions in real stock returns. Tan, Chin and Tan (2015) has also considered the Brent and WTI crude oil as vital characteristics of global economy. It has become the key driver for modernization and industrialization.

The impact of oil price on Shariah stock market is however unpredictable unlike the conventional stocks. Mohd Hussin et al., (2012) claims that Islamic stock markets tend to be relatively safer market, particularly during the financial turmoil and therefore, oil price shocks have insignificant impact on the shariah stock market. Mohd Yahya, et. al., (2012) reveals that the Islamic stock price is positively and significantly related to the oil price variable but inversely and not significantly related to the exchange rate variable.

## **2. METHOD AND MATERIAL**

### **2.1 Research Framework**

The discussion of this paper focuses on the impact of interest rate, exchange rate, oil price and inflation rate towards price of shariah stock.



Dependent Variables

Independent Variable

Figure 1: Conceptual model showing the factor of interest rate, inflation rate, exchange rate and oil price toward price of sharia stock

The following hypotheses have been developed to fulfil the objective of this research:

H1: Interest rate has significant impact on sharia stock price.

H2: Inflation rate has significant impact on sharia stock price.

H3: Exchange rate has significant impact on sharia stock price.

H4: Oil price has significant impact on sharia stock price.

## 2.2 Data collection method

In this study, an attempt is made to see the effect of macroeconomic variables which are interest rate, inflation, exchange rate and oil price as the independent variable on prices of sharia stocks listed in Bursa Malaysia as the dependent variable. For this purpose, two non-financial sectors namely consumer product and properties have been selected. Six year monthly prices of 50 sharia compliant securities from 2010 to 2015 are analysed. The population of this research is sharia compliant securities that listed in Bursa Malaysia from two non-financial sectors (Consumer Product and Properties) totalling to 164. 50 companies is taken as a sampling frame, meeting the minimum 30% sample size requirement (Sekaran, 2009). The samples are sharia compliant firms who have been operating for than 20 years. Data for all dependent and independent variables except inflation rate is collected from DataStream. Inflation rate data is collected from Trading Economic. The exchange rate value is based on RM/Dollar. Hence, an increase in the value of the exchange rate indicates a depreciation of local currency. All data collected are analyzed using STATA. Correlation analysis and Breusch Pagan Test are then carried out. Since the p-value is significant, the researcher proceeds to analyse using Random Effect (RE) panel data.

## 3. ANALYSIS AND RESULTS

Table 1: Correlation analysis among variables.

Variables	Stock price	Interest rate	Inflation	Exchange rate	Oil price
Stock price	1.0000				
Interest rate	0.1272	1.0000			
Inflation	0.0273	0.1746	1.0000		
Exchange rate	0.1000	0.3023	-0.0491	1.000	
Oil price	-0.0619	-0.1013	0.2872	-0.8714	1.0000

Table 1 shows the relationship between the interest rate, inflation, exchange rate and oil price with the Shariah stock prices. In terms of the strength of the relationship, all independent variables seem to show low relationship with sharia stock price. As all the variables are less than 0.8, multi-collinearity problem does not exist. Thus, the hypothesis 1,2,3 and 4 are supported for the study.

Breusch Pagan Test is then carried out. The p-value is 0.0000. Since it is significant, the research proceeds to carry out the Random Effect (RE) panel data analysis.

Table 2: Random Effect Model

Stock price	Coef.	Std. Err	z	P> z	95% Coef.	Interval
Interest rate	1.358726	.0665114	20.43	0.000	1.228366	1.489086
Inflation	.0143674	.0135633	1.06	0.289	-1.0122162	.040951
Exchange rate	1.440902	.1567575	9.19	0.000	1.133663	1.748142
Oil price	.1585928	.0523704	3.03	0.002	.0559487	.2612369
Cons	-3.974459	.4336617	-9.16	0.000	-4.824421	-3.124498

Table 2 shows that three out of the four variables significantly impact the Shariah stock prices. Interest rate and oil price positively and significantly impact the Shariah stock prices. Only exchange rate negatively and significantly impacts the stock prices. This is after reversing the exchange rate value of RM/USD. Inflation rate shows positive but insignificant relationship with stock price.

#### 4. DISCUSSION AND CONCLUSION

Past literatures have shown that macroeconomic variables have different impact on the performance of different stock market. In this research, it is found that interest rate has the most significant positive impact on sharia stock prices. The result is consistent with findings that show interest rates do affect the Malaysian Index (Hassan, Rashid and Ng (2014) and that interest rate being the most important macroeconomic factor to influence stock market (Pal and Mittal (2011); Srivastava (2010)). The result does not support the findings by Humpe and Macmillan (2007) and Buyuksalvarci (2010) that interest rate has a negative impact on stock market return. This is probably due to the different nature of the stock market itself. The positive relationship of interest rate with shariah stock market is best explained by the inclination of the investors to move to safer investment from conventional stocks that are more volatile to interest rates movement. Increase in interest rates normally causes conventional stock prices to drop and therefore, conventional stocks become less attractive to investors. It seems more viable to invest in Shariah stocks that are free from riba or interest rates risk in the period when interest rate increases.

Besides interest rate, oil price also shows positive significant impact on stock prices. This finding is consistent with the findings by Mohd Yahya et al., (2012) and Mohd Hussin et al. (2012) that shows positive relationship between oil prices and stock prices. This outcome contradicts with most research findings on conventional stock markets which show negative relationship between oil price and stock prices (Patel (2012); Adebisi et al., (2009)). This is because when oil price increases, the profit margin of most companies decreases due to the increase in cost of transportations and others. Therefore, stock prices are expected to drop but this is not applicable to Islamic stock markets since investors perceive Islamic stock markets as safer and more stable investment alternatives.

The finding of this research also shows that as the RM/USD figures increase, the stock prices also increases. As Ringgit depreciates against USD, the stock prices improves. Therefore, there is negative relationship between exchange rate and stock prices. An appreciation in Ringgit value means domestic stocks become more expensive and less attractive relative to foreign stocks. This causes demand for domestic stocks to drop and so are the stock prices. This study supports the findings by Buyuksalvarci (2010) that exchange rate have a negative effect on market return. It contradicts, however, with the findings by Aurangzeb (2012); Mustafa, Ramlee and Hj Kassim (2015) and Isa, Hassan and Azrul (2012). Consistent with the findings by Ghosh et al., (2010) and Buyuksalvarci (2010), result of this research shows that

there is insignificant relationship between inflation rate and shariah stock prices. That is, sharia stock market is less vulnerable to inflation or any fluctuations in the general price level.

The present study shows that during unfavourable economic conditions, Shariah stock market especially that of non-financial sectors are experiencing different and opposite outcomes compared to the conventional stock market. In normal cases, increase in interest rates, increase in oil prices and depreciation of local currency values against USD as well as uncertainty due to inflationary pressure always work against the favour of firms, which most of the time resulted to decrease in the conventional stock prices. However, this research finding proves otherwise in the case of Shariah stock market. Interest rate and oil price positively impact while exchange rate negatively impacts the prices. Inflation rate does not have any significant impact on the sharia stock market performance. Both consumer product and property sectors under study are inversely affected by the setbacks caused by movement in the macroeconomic variables. This give supports to previous finding and popular sentiments that shariah stock market is a better prospect and safer investment alternatives for investors in the event of economic crisis. There is an increasing favour in Shariah stock market by investors especially during economic uncertainty. Further research in this area should be carried out to study the impact of other macroeconomic variables on other sectors of the Shariah stock market. A similar study should also be carried to compare conventional and Islamic stock markets of other countries.

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