

**Global Financial Crisis 2008-09, Macro-Economic Variables and the Performance of FTSE Bursa Malaysia Hijrah Shariah Index: A Case of Malaysian Stock Market**

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**ABSTRACT**

*Very little literature is found on the topic of Islamic finance. In some research, only in theoretical form. This generated a need for an empirical examination of the prices of Sharia-compliant stocks. The present study analyzed the performance determinants of the FTSE Bursa Malaysia Hijrah Shariah (FBMHS) index. For this purpose, data from the year 2001 to 2016 was selected and the Ordinary Least Squares (OLS) technique was applied. The results of the study indicate that FBMHS performance remained resilient against the inflation rate. The positive impact of inflation on FBMHS index indicates that shariah compliant stocks provide protection to the investor against the inflation rate. Moreover, an increase in exchange rate proved to be detrimental to FBMHS index performance. However, interest rate and Global Financial Crisis (GFC) 2007-09 showed no effect on FBMHS index performance. The present results give valuable insight for the managers, policymakers and investors with respect to FBMHS Index behaviour specifically in the Malaysian economic environment.*

**Keywords:** FTSE Bursa Malaysia Hijrah Shariah Index, Performance, Malaysia, Shariah, Islamic

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## **Background and Motivation of Study**

The vital role played by the stock market in the economic scenario of a country cannot be ignored. It brings together the borrower and saver of capital (Evans, 2012, p. 1) which leads to entrepreneurial progress (Khan, Zainuddin, & Md-Jadi, 2018a). The performance of a stock market is normally represented by different indexes. For example, in the case of Bursa Malaysia (previously known as Kuala Lumpur Stock Exchange), there is a total of 16 types of indices that fall under the broader category of Tradable and Benchmark Indices (Bursa Malaysia, 2020).

It was stated by Salman (2017) that during the last decade, investors' investment decisions are more inclined toward Shariah-compliant companies as compared to traditional companies. Thus, this study is aimed to target the behaviour of the Bursa Malaysia Hijrah Shariah Index (FBMHS) with respect to the Global Financial Crisis (GFC) 2008-09 and 3 key macro-economic variables which are interest rate, exchange rate and inflation.

Bursa Malaysia Hijrah Shariah Index (FBMHS) was launched in 22 January 2007. The incorporation of the FBMHS index was a joint venture by Yasaar Ltd (global Shariah consultancy) and Bursa Malaysia. The introduction of this index was motivated by the rapid increase in investment-related Sharia-compliant companies (Vejjagic & Zarafat, 2013). The FBMHS Index consists of the 30 largest companies which fulfil the 3 key criteria. First, they meet the FTSE's global standards related to free float and liquidity. Second, they adhere to the methodology of Yasaar's international Shariah screening. Thirdly, they abide by the screening methodology of the Shariah Advisory Council (SAC) of the Malaysian Securities Commission (Bursa Malaysia, 2020).

## **LITERATURE REVIEW**

The determinants of performance of stock prices have already got adequate attention from researchers. However, in the case of performance determinants of Shariah-compliant stocks, studies are still few (Vejjagic & Zarafat, 2013). In the context of the inflation rate, the increasing trend of inflation is normally considered harmful to stock prices because it reduces the purchasing power of people (Mousa et al., 2012; Sing et al., 2011). As a result, the demand for stock prices reduces (Ray, 2012) which causes a decline in stock prices. However, an increase in the inflation rate is not bad in all cases. In fact, companies may also be able to tackle inflation in the long term. It is done by transferring the impact of inflation toward consumers (Joshi, 2015). As it was highlighted by Fama and Schwert (1977) stock prices provide a hedge against the inflation rate. Thus, this study also hypothesizes a positive relation between inflation and FBMHS index performance.

Fisher (1930) concluded that "the per cent of the premium paid on money at one date in terms of money to be in hand one year later". The stock market is not the only place for an investor to make an investment. Besides, he can invest in other interest-bearing securities also (Khan, Zainuddin, & Md-Jadi, 2018b). Therefore, a rise in the interest rate serves as substitute to invest in risk-bearing securities (Defina, 1991). Indicating that an upward shift in the rate of interest results in a downward move in the stock market. Therefore, the study proposes a negative relationship between interest rate and FBMHS index performance.

The exchange rate is a financial price of a currency against a foreign currency (Coleman & Tettey, 2008). According to Patra and Poshakwaleb (2006), as fluctuation in exchange rate occurs, the firms are exposed to financial risk. In addition, the depreciation in the value of the home currency against foreign currency leads to dollarization. In this scenario, people start to invest in the dollar (Kyereboah-Coleman & Agyire-Tettey, 2008). This thing decreases the stock's demand which ultimately translates into decreased prices. Therefore, this study predicts a negative relationship between exchange rate and FBMHS index performance.

The Global Financial Crisis (GFC), which occurred during the period 2007-09 (Khan, Zainuddin, & Md-Jadi, 2018c) is considered the current century's worst economic meltdown (Harrington, 2009). The Malaysian economy was also one of the victims of the GFC. The financial calamity negatively influenced industrial output, investment, exports and consumer spirits (Khoo & Mah-Hui, 2010). Adzis and Ramli (2019) studied the Malaysian market during the GFC period from 2007 till 2009. Therefore, this study also considers the 2007-09 period as the GFC period and asserts the negative relationship between GFC and FBMHS index performance.

### **Gaps in Existing Literature and Contribution of This Study**

This study contributed in existing literature in multiple ways. First, it has empirically analyzed the impact of GFC on the performance of FBMHS index. Second, the current study is helpful for policymakers of Malaysia in understanding that what is the response of FBMHS index towards changing macro-economic environment in Malaysia. Third, it was stated by Davies (2012), although the Islamic financial industry is well developed in Malaysia, it still has potential for future growth. Thus, through this study, the management of Shariah compliant companies can know that either macro-economic environment is suitable for their stock performance or not. By having knowledge of this, they can incorporate the impact of macro-economic variables in their decision making to achieve maximum future growth.

### **Data Collection and Research Methodology**

For the present study, monthly data of selected variables was collected from the year 2001 to 2011. In this case, each variable consists of 228 observations. In Table 1, a summary of selected variables with respect to their notation, measurement and data source is provided.

Table1:

#### *Measurement of Selected Variable*

<b>Variable</b>	<b>Notation</b>	<b>Measurement</b>	<b>Data Source</b>
FTSE Bursa Malaysia Hijrah Shariah Index Performance	FBMHS	Natural log of Index Value	Data Stream
Inflation	INF	Consumer Price Index	Data Stream
Interest Rate	IR	Lending Rates	Data Stream
Exchange Rate	EXC	Malaysian Ringgits To 1 US \$	Data Stream
Global Financial Crisis	GFC	Dummy Variable "1" for years 2007-09, "0" otherwise	-

Source: Author's Own Compilation Based on Previous Literature

According to the above table, FBMHS stands for the independent variable, whereas, INF, IR, EXC and GFC denote the independent variables. To empirically analyze the relationship between the independent and dependent variable, the multiple Ordinary Least Squares (OLS) method is applied. The equation of the OLS technique with respect to selected variables is as below:

$$FBMHS_t = \beta_1 + \beta_2 INF_t + \beta_3 IR_t + \beta_4 EXC_t + \beta_5 GFC_t + \mu_t \quad (1)$$

Whereas:

FBMHS<sub>t</sub> = FTSE Bursa Malaysia Hijrah Shariah Index Performance at time t;  $\beta_1$ = Intercept; INF<sub>t</sub> = Inflation at time t; INT<sub>t</sub> = Interest rate at time t; EXC = Exchange Rate at time t; GFC = Global Financial Crisis at time t and  $\mu_t$ = error term

### Findings and Result Interpretations

Ahead of running the final OLS techniques, different types of diagnostic tests like normality, multicollinearity, heteroscedasticity and autocorrelation were used to verify the assumptions of the Best Linear Unbiased Estimator (BLUE). The findings of the above-mentioned diagnostics tests are provided in the appendix.

Table 2:

Variable	Beta Coefficient	T-stat	P-value
c	-3.772	-2.616	0.009
INF	3.105***	10.800	0
IR	-0.064	-1.301	0.194
EXC	-0.858***	-5.638	0
GFC	0.094	1.221	0.223
<b>R-squared (R<sup>2</sup>)</b>	0.939		
<b>Adjusted R<sup>2</sup></b>	0.938		
<b>F-Statistics</b>	868.321		
<b>Prob(F-statistic)</b>	0		

Note: Variable definitions are as follows:

INF = Inflation Measured by Consumer Price Index

IR = Interest Rate Measured by Lending Rates

EXC = Exchange Rate Measured by Malaysian Ringgits To 1 US \$

GFC = Dummy Variable "1" for years 2007-09, "0" otherwise

### *Results of the Impact of Independent Variables on the Stock Performance*

\* Significant at the 0.1 level

\*\* Significant at the 0.05 level

\*\*\* Significant at the 0.01 level

Table 2 shows the empirical results of the OLS technique relating to the impact of INF, IR, EXC and GFC on FBMHS. The results show that INF has a significant positive relationship with FBMHS with a beta coefficient value of 3.105. Whereas, EXC has a significant negative impact on FBMHS by having the beta coefficient value of -0.858. On

contrary, no impact of GFC and INT was found on FBMHS. The positive influence of inflation on FBMHS index performance also supports the Fisher (1930) hypothesis which states that stock prices provide protection against inflation. This point of view was also supported by Firth (1979), Kessel (1956) and Liu and Shrestha (2008) studies. This relationship also indicates that in case of an increase in inflation rate in Malaysia than the Shariah compliance stocks are the most appropriate investment venue.

The relationship between exchange rate and FBMHS index performance indicates that in case of an increase in the exchange rate, companies related to FBMHS index performance become more exposed to exchange rate risk. As a result, their stock prices decline. It was argued by Bodnar and Gentry (1993) that exchange rate influence on stock prices depends on the industry type. Thus, in the case of companies related to the FBMHS index, the exchange rate does impact them in a negative way. Moreover, it is also proven in this study that an increase in exchange rate discourages investors to invest in Shariah compliance stock.

## CONCLUSION

The purpose of conducting this study is to indicate a connection between macro-economic variables and stock prices. However, a gap still exists regarding the relationship between macro-economic determinants of stock prices related to Shariah indices (Vejjagic & Zarafat, 2013). Thus, the motivation behind doing this study was to analyze the influence of macro-economic variables, along with GFC 2007-09 on the performance of FBMHS index. For that purpose, monthly data was collected from the year 2001 to 2019 and the OLS technique was applied for analysis purposes. This study found that the performance of the FBMHS index remained unaffected from GFC 2007-09. In the context of macro-economic variables, interestingly, the study results indicate that the Shariah-compliant stocks proved to be a hedge against the inflation rate as the inflation rate has a significant positive relationship with FBMHS index performance. However, the exchange rate plays a negative role with respect to explaining the FBMHS index performance. In a nutshell, it can be concluded that the Hijrah Shariah Index of Bursa Malaysia is overall affected by the change in the macro-economic environment.

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## Appendix

Table I

	VIF	1/VIF	INF	IR	EXC	GFC
INF	5.554	0.180	1			
IR	5.639	0.177	-0.874	1		
EXC	1.382	0.723	0.159	0.058	1	
GFC	1.167	0.856	-0.126	0.192	-0.232	1

*Multicollinearity Results for Selected Macro-economic Variables*

Table II

*Jarque-Bera Normality Test Results for Selected Variables*

<b>Jarque-Bera</b>	4.726
<b>Probability</b>	0.094

Table III

*Autocorrelation Test Results for Selected Variables*

<b>F-statistic</b>	804.890	Prob. F (2,221)	0
<b>Obs.*R-squared</b>	200.477	Prob. Chi-Square (2)	0

Table IV

*Heteroscedasticity Test Results for Selected Variables*

<b>F-statistic</b>	45.067	Prob. F (4,223)	0
<b>Obs.*R-squared</b>	101.921	Prob. Chi Square (4)	0