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Review Article

# ISLAMIC STOCK MARKET BEHAVIOR TOWARD CHANGES IN MACROECONOMIC VARIABLES

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**Abstract**
This study was conducted to assess the behaviour of the Islamic stock market towards the changes in the economic indicators in Malaysia. The variables involved were the FTSE Bursa Malaysia Emas Shariah Index (FBMES) which was a proxy to the Islamic Stock Market. The independent variables used were the Consumer Price Index (CPI), Islamic Banking Interbank Rate (IIR), Money Supply (M3) Islamic Unit Trust (IUT) and the Industrial Production Index (IPI).This study utilized the standard Vector Autoregressive (VAR) estimation model with monthly data from January 2007 to December 2017. The findings showed that there was a long-term relationship between Islamic stock market with the Islamic unit trust and the industrial production index. Based on the test results of the *Vector Error Correction Model* (VECM), the Islamic stock market was not influenced by any of the selected macroeconomic variables. However, the study found that the FBMES variables were significant in shaping the Granger's short-term impact on changes in Islamic interbank rate (IIR) and money supply (M3) variables. As such, this study proved that the Islamic stock market index and the macroeconomic variables could influence one another.

**Keywords:** Islamic Stock Market, Islamic Unit Trust, Macroeconomic Variables, Malaysia.

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## INTRODUCTION

The Islamic Capital Market (ICM) is one of branches of the Islamic financial services apart from the Islamic banking system as well as the non-banking financial Institutions. With the existence of the ICM, it completes the entire capital market in Malaysia and plays an important part in the supporting the formation of the nation's economy. (Yusof and Bakar, 2005). There are a few studies which have documented the existence of a significant relationship between the selected macroeconomics variables in certain countries with the current international capital market such as *Financial Times Stock Exchange* (FTSE) *Global Islamic Index, Morgan Stanley Capital International* (MSCI) *Global Islamic Index* dan *Standard and Poor's* (S&P) *Syariah Index* (Mondher & Omar, 2011). In Malaysia, *FTSE Bursa Malaysia EMAS Syariah Index* (FBMES) is the benchmark index for Syariah-compliant investment (FTSE Russell, 2020).

The earliest Islamic shares index established in Malaysia were the RHB Islamic Index which were later replaced by the Dow Jones-RHB Islam Malaysia index on 23 June 2005 (Hussin, Muhammad, Abu & Awang, 2012). Apart from that, the Kuala Lumpur Syariah Index (KLSI) were introduced in 1999. In November 2007, were no longer in operations and this made the FBMES as the benchmark index for the Shariah-compliant index in Malaysia (Bursa Malaysia, 2020). The number of Shariah-compliant shares listed by the Kuala Lumpur Stock Market until November 2017 were 686 securities with half of them FBMES securities (Securities Commission, 2018).

Additionally, in attracting the attention of investors to invest in the Shariah compliant index in Malaysia, the involvement of big securities in the index also plays an important role as well as placing a good performance of the Shariah index as shown in Table 1 which shows the performance of FBMS returns and the real GDP growth rate from 2008 to 2017.

**Table 1: Performance of the FBMES returns and the real GDP growth rate from 2008 to 2017**

| Year | Changes of FBMES | Real GDP growth |
|---|---|---|
| 2008 | -41.6 | 4.7 |
| 2009 | 47.1 | -1.6 |
| 2010 | 21.6 | 7.2 |
| 2011 | 5.6 | 5.1 |
| 2012 | 15.5 | 5.6 |
| 2013 | 16.4 | 4.7 |
| 2014 | -1.4 | 6.0 |
| 2015 | 5.1 | 5.0 |
| 2016 | -3.7 | 4.2 |
| 2017 | 13.7 | 5.9 |

As shown in Table 1, the annual returns reported showed a negative value in 2008 with 41.6 percent as 2008 was the beginning year for the FBMES establishment. However, in 2017, the annual returns reported showed a positive value of 13.7

percent (FTSE Russell, 2020). Additionally, looking at the country's real GDP growth, a positive growth could be seen every year except for 2009 due to the global economic downturn which occurred in 2009. This growth was followed by FBMES returns performance in a few years.

In line with that, the Syariah index performance was also influenced by global and national economic changes. The Syariah index movement was in line with the global and domestic macroeconomics variables movement (Wahid, Bakar & Shahriza, 2009). Though there were a few years which showed a contrary comparative value between the FBMES annual returns with the GDP growth, the GDP growth in year 2011, 2012, 2015 and 2017 increased in line with the FBMES annual returns and showed a positive values. Therefore, the current economic factors could influence the returns of an investment. As such, this study was conducted to assess the relationship between the Islamic stock market (FBMES) with the selected macroeconomic variables.

**LITERATURE REVIEW**

A few studies have looked into the relationship between selected macroeconomic variables with the stock market. Based on the study conducted by Yusof and Majid (2007), it was found that the macroeconomics affected the Malaysian stock market during the post financial crisis by looking at the monthly data from May 1999 to February 2006. The study discovered that the money supply (M3) and the industrial production index (IPI) gave a significant effect on the Kuala Lumpur Composite Index (KLCI). This was supported by Ogbulu, Abaenewe and Nnamoca (2014) who conducted their study in Nigeria. Additionally, Mutuku and Ngény (2015) who conducted a study in Africa by using quarterly data from 1997 to 2009 found that the consumer price index (CPI) had a long-term and short term negative and significant relationship with the stock market.

Looking at the situation in Malaysia, Hussin, Muhammad, Awang and Ibrahim (2012) focused on the relationship of the Islamic stock market with macroeconomic variables in Malaysia with monthly data from January 2007 to December 2011 and found that the consumer price index (CPI) and the industrial production index (IPI) had a positive and significant relationship. On the other hand, the money supply (M3) and the Islamic inter-banking rate (IIR) had a significant negative relationship. This was reinforced by Roslan and Hussin (2019) who piloted their research in Malaysia. Additionally, Saad, Majid, Kassim, Hamid and Yusof (2010) looked into the efficiency of the unit trust and its effects on the capital market; their findings showed that the bigger the size of the unit trust in an institution, the higher the efficiency produced for the unit trust's potential. The higher the efficiency of a unit trust's performance, the stronger the capital market. This proved that there was a significant and positive relationship between unit trust with the capital market and this is the same situation with the stock market in Malaysia. Additionally, studies utilizing the Data Envelopment Approach (DEA) proved that efficiency in the Islamic unit trust was much better than the conventional unit trust.

**RESEARCH METHODOLOGY**

This study utilized the monthly data from January 2007 to December 2017. The model applied was based on the discounted cash flow (DCF) which could be written as such:

$$P_t = E_t\left[\sum_{i-1}^{\infty} \quad CF_{t+i}\frac{(CPI_{t+i}, IIR_{t+1}, M3_{t+i}, IUT_{t+i}, IPI_{t+i})}{(1+R)^i}\right]$$

whereby,

$P_t$ : FBM Emas Syariah Index

$CF_t$ : Forecasted cash flow from dividend and capital gain at t time

$E[\ .\ ]$ : Forecasted operators are based on all the latest information

$CPI$ : Consumer Price Index

$IIR$ : Islamic Inter-bank Investment Rates

$M3$ : Money supply

$IUT$ : Islamic Unit Trust Price

$IPI$ : Industrial production Index

$R$ : Market Discount Rate or Cost of Capital

This study utilized the vector autoregressive (VAR) estimation method. The model was applied to ascertain the relationship between FBMES with macroeconomics variables and Islamic unit trust price in this study as stated in the following equation:

$$FBMES_t: \alpha_0 + \alpha_1 CPI_t + \alpha_2 IIR_t + \alpha_3 M3_t + \alpha_4 IUT_t + \alpha_5 IPI_t + \mu_t$$

Based on the standard VAR estimation method, the equation in the study model containing 6 variables could be re-written as such:

$$\begin{aligned}&[FBMES_t\ CPI_t\ IIR_t\ M3_t\ IUT_t\ IPI_t\ ]\\&= [A_1\ A_2\ A_3\ A_4\ A_5\ A_6\ ]\\&+ R(L)[FBMES_{t-1}\ CPI_{t-1}\ IIR_{t-1}\ M3_{t-1}\ IUT_{t-1}\ IPI_{t-1}\ ]\\&+ [et_1\ et_2\ et_3\ et_4\ et_5\ et_6\ ]\end{aligned}$$

Where R is 6 x 6 the polynomial matrix of the parameter estimator, (L) is the lag duration operator, A is a shortcut and et is a vector of Gaussian errors with zero mean and Ω matrix variance.

The data analysis for this study would be started with the stationary test or specifically the Augmented Dickey Fuller test (ADF) as well as the Philips-Perron (PP) test to assess the stationarity of the time series data of a variable. A time series is stated as non-stationary if the mean and variance of the time series increase with time (time dependent). On the other hand, the time series is said to be stationary if the mean and its variance are constant over time.

The cointegration test was conducted with the Johansen and Juselius approach aimed at assessing the existence of a long-term relationship while the Granger causality test in vector error correction model (VECM) was conducted (VECM) to identify the existence and shape of direction of the short-term Granger causality relationship between the study variables.

Lastly, the diagnostic test was conducted to ensure the accuracy of the estimation result in making predictions for the purpose of establishing basic implications. As such, to ensure that the VECM model formed was free from issues such as wrong specifications, the VECM model would go through a few tests such as the VAR Stability Test, the Jarque-Bera (JB) test, the LM autocorrelation test and the heteroscedasticity test (white hetero).

**DATA DESCRIPTION**

This study consists of five macroeconomic variables and FBMES Index. Their definitions are described in Table 2.

**Table 2: Definitions of Variables**

| No | Variable | Description | Duration | Source |
|---|---|---|---|---|
| 1 | FBM EMAS Syariah Index (FBMES) | FBMES is used as the proxy for Islamic stock market in Malaysia. | Monthly data from January 2007 to December 2017. | Bursa Malaysia |
| 2 | Consumer price Index (CPI) | CPI is used as the proxy for inflation rate in Malaysia. | Monthly data from January 2007 to December 2017. | Bank Negara Malaysia |
| 3 | Money Supply (M3) | M3 is used as the proxy for money supply aggregate for Malaysia. | Monthly data from January 2007 to December 2017. | Bank Negara Malaysia |
| 6 | Islamic Interbank Rate (IIR) | IIR is used as the proxy for the interest rate in the Islamic financial system in Malaysia. | Monthly data from January 2007 to December 2017. | Bank Negara Malaysia |
| 7 | Islamic Unit Trust (IUT) | IUT is a price for Eastspring Investment Dana al-Ilham used as the proxy for the price of the Islamic unit trust Investment in Malaysia. | Monthly data from January 2007 to December 2017. | Bloomberg |
| 8 | Industrial Production Index (IPI) | IPO is used as the proxy for economic growth in Malaysia. | Monthly data from January 2007 to December 2017. | Bank Negara Malaysia |

## RESEARCH FINDINGS

### Descriptive analysis

Based on Table 3, it was found that the mean value for the variable IUT recorded the lowest value at -0.097 while the variable M3 recorded the highest mean value at 14.025. From the aspect of standard deviation, the highest value recorded by the M3 variable was 0.249 while the lowest value recorded by the CPI variable was 0.051. The divergence analysis found that the CPI, IUT and IPI variables had a positive divergent value with the data being divergent to the right while other variables such as FBMES, IIR and M3 had a negative divergent or the data was divergent to the left.

Based on the kurtosis analysis, it was found that each variable had a distribution peak lower than the normal distribution which was a distribution with a platykurtic peak. The kurtosis value for the normal distribution was equal to 3 while the kurtosis value less than 3 had a flatter curved arch compared to the normal distribution; meanwhile the kurtosis value higher than 3 had a higher curved arch compared to the normal distribution. The analysis also showed that for the IIR variable, the highest peak value was 4.594.

**Table 3: Descriptive analysis**

| | FBMES | CPI | IIR | M3 | IUT | IPI |
|---|---|---|---|---|---|---|
| Mean | 9.257073 | 4.692858 | 1.064249 | 14.02515 | -0.097149 | 4.659510 |
| Median | 9.303848 | 4.697293 | 1.083497 | 14.08651 | -0.075859 | 4.652815 |
| Maximum | 9.502065 | 4.794964 | 1.244155 | 14.35936 | 0.382879 | 4.819026 |
| Minimum | 8.674788 | 4.599152 | 0.631272 | 13.56204 | -0.428785 | 4.508659 |
| Standard deviation | 0.210231 | 0.050914 | 0.159572 | 0.248907 | 0.226208 | 0.059343 |
| Skewness | -0.948754 | 0.040282 | -1.489186 | -0.344054 | 0.279697 | 0.002064 |
| Kurtosis | 3.290530 | 2.189893 | 4.594853 | 1.713615 | 1.836202 | 2.918589 |
| Jarque-Bera | 20.26721 | 3.645203 | 62.77841 | 11.70554 | 9.170408 | 0.036546 |
| Probability (P) | 0.000040 | 0.161605 | 0.000000 | 0.002872 | 0.010202 | 0.981893 |
| Number of observations | 132 | 132 | 132 | 132 | 132 | 132 |

### The stationary test

Based on the following ADF and PP test results in table 4, it was found that all variables were not stationary (having a unit root problem) at the level of either involving an intercept or an intercept with time trends. However, all the variables were stationary (significant) at the first difference level in the ADF and PP tests or integrated in the first degree of integration I(1).

**Table 4: The results of the unit root test**

| Variable test | ADF | | | | PP | | | |
|---|---|---|---|---|---|---|---|---|
| | Level | | First differentiation | | Level | | First differentiation | |
| | Intercept | Trend with Intercept | Intercept | Trend with Intercept | Intercept | Trend with Intercept | Intercept | Trend with Intercept |
| LOGFBMES | -1.128 (1) | -2.339 (2) | -10.165* (0) | -10.124* (0) | -1.158 (2) | -2.153 (3) | -10.159* (1) | -10.117* (1) |
| LOGCPI | -0.619 (0) | -1.387 (0) | -10.452* (0) | -10.472* (0) | -0.706 (1) | -1.499 (2) | -10.452* (1) | -10.469* (2) |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| LOGIIR | -2.279 (2) | -2.413 (2) | -6.137* (1) | -6.140* (1) | -2.147 (6) | -2.242 (6) | -9.695* (6) | -9.621* (5) |
| LOGM3 | -1.323 (12) | -0.945 (12) | -1.785* (11) | -2.088* (11) | -2.309 (3) | -0.493 (1) | -10.783* (2) | -11.121* (3) |
| LOGI | -1.718 (0) | -2.072 (0) | -10.908* (0) | -10.904* (0) | -1.796 (2) | -2.119 (1) | -10.905* (2) | -10.901* (3) |
| LOGIPI | -2.255 (12) | -2.542 (12) | -3.804* (11) | -3.881** (11) | -2.120 (3) | -2.227 (3) | -27.388* (29) | -27.994* (30) |

**Note :** *significant at the level of 1 percent.

**Lag Length determination test**

**Table 5: Results of the Lag length determination test**

| Lat | FPE | AIC | SC | HQ |
|---|---|---|---|---|
| 0 | 2.83e-19 | -25.68130 | -25.54412* | -25.62558* |
| 1 | 2.75e-19* | -25.71234 | -24.75209 | -25.32229 |
| 2 | 3.27e-19 | -25.54265 | -23.75932 | -24.81826 |
| 3 | 3.65e-19 | -25.44108 | -22.83466 | -24.38236 |
| 4 | 4.28e-19 | -25.30233 | -21.87284 | -23.90928 |
| 5 | 6.08e-19 | -24.98412* | -20.73155 | -23.25673 |
| 6 | 8.36e-19 | -24.71314 | -19.63749 | -22.65142 |
| 7 | 1.05e-18 | -24.55172 | -18.65299 | -22.15567 |
| 8 | 1.51e-18 | -24.28951 | -17.56770 | -21.55912 |

**Note:*** showing the lag selected for the criteria based on the most minimum value

Based on table 5, the lag length selection criteria which was the Final Prediction Error (FPE) suggested that the lag duration 1, while the Akaike Information Criterion (AIC) suggested the lag length 5, and Schwarz Information Criterion (SIC) and Hannan-Quinn Information Criterion (HQ) both suggested the lag length 0. However, this study only utilized the Akaike Information Criterion (AIC) in choosing the lag length which was lag 5.

**Co-integration test**

Based on Table 6, the cointegration test found that there were at least 5 cointegrated vector in the formed model. This was proven by the trace statistical test which had a bigger value than the critical value thus this rejected all the null hypothesis ($r \leq 0$, $r \leq 1$, $r \leq 2$, $r \leq 3$ and $r \leq 4$) which was formed. The null hypothesis rejected meant that the hypothesis related to the non-cointegrated relationship between the variables was also rejected. As such, this showed that there was an existence of a long-term relationship between the variables studied.

Additionally, based on the *max-Eigen* test, it was found that there were 5 cointegrated vectors following the Maximum Eigen statistical value being smaller than the critical value at a meaningful level of 5 percent.

**Table 6: Johansen-Juselius Cointegration Test**

| Model | Null Hypothesis | Statistical Trace | Critical value (5%) | Statistical Eigen Maximum | Critical value (5%) | Variable | Result |
|---|---|---|---|---|---|---|---|
| Lag length : 5 | $r \leq 0$ | 171.133* | 95.754 | 54.243* | 40.078 | FBMES | Statistical trace and maximum eigen showed 5 cointegration relationship. |
| | $r \leq 1$ | 116.890* | 69.819 | 35.010* | 33.877 | CPI | |
| | $r \leq 2$ | 81.880* | 47.856 | 27.609* | 27.584 | IIR | |
| | $r \leq 3$ | 54.571* | 29.797 | 22.759* | 21.132 | M3 | |
| | $r \leq 4$ | 31.812* | 15.495 | 18.398* | 14.265 | IUT | |
| | $r \leq 5$ | 3.414 | 3.841 | 3.414 | 3.841 | IPI | |

**Note,** *Significant at the meaningful level of 5 percent

Based on the Johansen-Juselius cointegration test, the first normalized co-integrated vector to the FBMES variable utilized the lag duration suggested by AIC chosen to reflect the long-term relationship between macroeconomics variables and the Islamic stock market returns can be seen in Table 7.

**Table 7 : Results of the Cointegration Relationship using the Lag 5 Duration**

| Dependent Variables (FBMES) | Independent variables | | | | | |
|---|---|---|---|---|---|---|
| | CPI | IIR | M3 | IUT | IPI | C |
| Coefficient | -0.963 | -0.236 | -3.079*** | 0.585** | 6.193* | 0.021 |
| T value | 0.564 | 0.530 | 1.362 | -1.919 | -6.862 | |

**Note:** *Significant at level of 1 percent
** Significant at level of 5 percent
*** Significant at level of 10 percent

Based on Table 7, the long-term relationship between the variables could be written as below:

FBMES = 0.021 - 0.963(CPI) - 0.236(IIR) - 3.079(M3) + 0.585(IUT) + 6.193(IPI).

The equation above showed that the Shariah index (FBMES) had a negative and non-significant relationship with the consumer price index (CPI) at a value of -0.963. This negative relationship was supported by a study by Matuku and Lelei (2015). They proved that if the inflation rate went up, this would also increase the firm production costs, and in turn would decrease the future cash flow, as well as decrease the price, revenue and profit of the firm's stocks.

Furthermore, the variable for the inter-bank Islamic investment rate, the equation formed showed that there was a long-term negative relationship with a value of -0.236 towards the FBMES. This relationship was supported by a few studies, such as Hussin, Muhammad, Abu and Awang (2012). According to Abdullah and Hayworth (1993), the foundation for this type of relationship referred to the increase in investment rate as affecting the decrease of stock prices through the decline of corporate profit in the future following the increase in borrowing and production costs. Additionally, for the financial aggregate supply variable (M3), the long-term equation showed a negative relationship with a value of -3.079 and this was significant towards the FBMES at a meaningful level of 10%. This relationship was supported by studies by Hussin, Muhammad, Awang & Ibrahim (2012) in Malaysia. The relationship link referred to an economic situation in which there occurred an inflation which was caused by excess money supply. This would affect the discount rate and later cause a decrease in stock prices (Hussin, Muhammad, Awang & Ibrahim 2009).

As for the Islamic unit trust shares variables (IUT), these showed a positive and significant relationship towards the FBMES at a significant level of 5 percent. The study findings were in line with the findings from Saad, Majid, Kassim, Hamid and Yusof (2010) which showed high efficiency towards the IUT performance and in turn, this would strengthen the capital market. Lastly, for the industrial production index (IPI), the equation formed showed a positive and significant relationship towards FBMES. The positive relationship was supported by the stock valuation theory based on the discounted cash flow (DCF) model which stated that the industrial production index had a positive relationship with the expected future cash flow in a particular firm. This relationship was supported by previous researchers such as Ogbulu, Abaenewe and Nnamoca (2014) in Nigeria.

**Granger causality test (VECM)**

The Granger causality test should be estimated in the Vector Error Correction Model (VECM) to conduct an efficient estimation. This was because the failure to consider the Error Correction Term (ECT) would cause the test to generate a model misspecification (Engle & Granger, 1987). As such, the results for the VECM test can be seen in Table 8.

**Table 8: Analysis of the Vector Error Correction Model (VECM)**

| Dependent variable | Independent variable Chi-Square statistical value | | | | | | t-statistical value T |
|---|---|---|---|---|---|---|---|
| | ΔFBMES | ΔCPI | ΔIIR | ΔM3 | ΔIUT | ΔIPI | Ect-1 |
| | | | | | | | |
| ΔFBMES | | 1.371<br>( 0.927) | 8.648<br>(0.123) | 3.929<br>(0.559) | 2.964<br>( 0.705) | 3.187<br>(0.671) | -0.055<br>(0.028)** |
| ΔCPI | 2.832<br>(0.725) | | 1.866<br>(0.867) | 1.674<br>( 0.892) | 0.862<br>( 0.972) | 1.810<br>(0.874) | 0.016<br>(0.009)* |
| | | | | | | | |
| ΔIIR | 18.081*<br>(0.002) | 8.148<br>(0.148) | | 16.381*<br>(0.005) | 4.756<br>(0.446) | 7.495<br>(0.186) | -0.124<br>(0.031)** |
| | | | | | | | |
| ΔM3 | 15.364*<br>(0.008) | 4.127<br>(0.531) | 4.868<br>(0.432) | | 8.008<br>(0.155) | 17.492*<br>(0.003) | -0.050<br>(0.006)* |
| | | | | | | | |
| ΔIUT | 4.409<br>(0.492) | 1.324<br>(0.932) | 2.625<br>(0.757) | 5.143<br>( 0.398) | | 2.124<br>(0.831) | 0.089<br>(0.058)*** |
| ΔIPI | 7.918<br>(0.160) | 11.135**<br>(0.048) | 5.906<br>(0.315) | 11.732**<br>(0.038) | 5.187<br>(0.393) | | 0.316<br>(0.027)** |

**Note:** *Significant at a meaningful level of 1 percent
** Significant at a meaningful level of 5 percent
*** Significant at a meaningful level of 10 percent
( ) *Probability*
[ ] T-Statistics

The Granger causality relationship could be ascertained based on the ECT-1 value which was significant for every variable. The Ect-1 value described the speed of adjustment to achieve the balance in the long term (Hussin, 2009). However, based on the VECM test findings in Table 8, it was found that the ECT-1 values for the FBMES, CPI, IIR, M3, IUT and IPI variables were significant and caused long-term Granger causality for each other. This meant that all the variables studies had an adjustment in 5-month lag duration to achieve long-term balance. As such, it could be concluded that all selected variables were endogenous towards the model equation generated.

Additionally, the short-term Granger causality also could be seen from the Wald test (chi-square) towards a group of certain co-efficient. Based on Table 8, it was found that there were no variables which caused the long-term Granger causality for the FBMES. This meant that in the long term, the FBMES was not influenced by the CPI, IIR, M3, IUT and IPI. However, the study found that the FBMES variables were significant in generating the short-term Granger causality into the IIR and M3 variables. Meanwhile, the CPI variables were the short-term Granger causality for the IPI variables and IPI was the short-term Granger causality for the M3 variables. The IUT variables did not show any

significant relationships and did not cause the short-term Granger causality with any FBMES, CPI, IIR, M3 and IPI variables.

**Diagnostic test**

The diagnostic test was conducted on the error in the VECM model to ensure whether the model generated or the data utilized was adequate or otherwise. This was necessary to ensure the goodness of the VECM model so that there would not be error specifications problem. Based on the test performed, it was found that all the roots from the polynomial function were in the unit circle or having an absolute value smaller than one. This showed that the VAR model formed was more stable.

**Table 9: VECM model diagnostic test**

| Type of test | Statistical value | P value | Results |
|---|---|---|---|
| LM test | 46.33847 | 0.116 | No problem |
| Heteroskedasticity test | 1410.097 | 0.190 | No problem |

Based on table 9, the Autoregressive test which utilized the Serial Correlation LM Test showed that the null hypothesis failed to be rejected (not significant) at a significance level of 10 percent. This meant that the error was white noise with a mean value of zero and the variance was constant. As such, the VECM model generated did not have any autocorrelation problem which would cause error specification problems in the VECM model. Meanwhile, the heteroskedasticity test showed a probability value (p) which was not significant which meant that the null hypothesis was accepted at a significance level of 10 percent. As such, the VECM model formed was suitable to be used for foundation purposes.

**DISCUSSION AND CONCLUSION**

The main aim of this study was to assess and evaluate the long-term and short-term relationships between the Islamic capital market variables with the selected macroeconomic variables in Malaysia. This involved the monthly data from January 2007 to December 2017 which was taken from authority sources. This study utilized the standard Vector Autoregression (VAR) to evaluate and test the objectives and the study hypotheses mentioned in the first chapter.

Based on the Johansen and Juselius cointegration test, the trace statistical value proved that there were at least 5 cointegrated vector relationships. The findings showed that the macroeconomics variables were the best targets where the government could focus on these variables to influence the development of the Islamic capital market in Malaysia (Yusof, 2003) and in turn encourage more capital flow into the country.

The cointegration test also showed that the FBMES was related positively and significantly with the IUT and IPI variables but related negatively and significantly with the M3 variables. Additionally, the relationships between FBMES with CPI and IIR were negative but not significant. Furthermore, the FBMES were the short-term Granger cause of IIR and M3. The study findings showed that the IIR variables which were the Islamic inter-bank investment rate replacing the conventional interest rate did not seem to have a significant role in influencing the Islamic stock market in Malaysia for a short term.

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