Hedging Effectiveness of Islamic Single StockFutures in Bursa Malaysia

فاعلية التحوط لمستقبليات السهم الواحد الإسلامية في بورصة ماليزيا

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Abstract:

The ainaim of this study is to investigate the hedging effectiveness of Islamic Single Stock Futures as Shariah compliant instruments in Bursa Malaysia. We use two hedge ratio estimation methods : vector autoregressive model and Vector Error Correction Model by employing the daily end prices of Islamic SSFs and their spot prices for the period 31 May 2017 to 30 August 2018.

The results showed that the Islamic Single Stock Futureshave a low hedging ratio of 06% to19% and SSFs aren't effective tools for hedging.

keyword:hedgeratio; hedgingeffectiveness; Islamichedging; Islamic Derivatives; Single Stock Futures

JEL classification code : G13, G32, C13, C32

ملخص:

هدفت هذه الدراسة إلى قياس فعالية التحوط لمستقبليات السهم الواحد كأداة متوافقة مع الشريعة الإسلامية في بورصة ماليزيا، حيث تم استخدام نموذج الانحدار المتعدد ونموذج تصحيح الخطأ لتقدير نسبة التحوط، وذلك من خلال توظيف أسعار الإغلاق اليومية لهذه المستقبليات والأسعار الفورية للأسهم المرتبطة بها للفترة من 31 ماي 2017 إلى 30 أوت 2018.

لقد أظهرت النتائج أن مستقبليات السهم الواحدالإسلامية ذات نسبة تحوط ضعيفة تتراوح بين 06%و19%وبذلك هي غير فعالة في التحوط من المخاطر.

الكلمات المفتاحية: نسبة التحوط؛ فعالية التحوط، التحوط في التمويل الإسلامي، المشتقات المالية الإسلامية، مستقبليات السهم الواحد

تصنيف JEL: G13, G32, C13, C32

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1. Introduction :

The development of the modern economic and monetary policy has naturally led to major changes in the financial environment that require a means to manage such adjustments, mainly if they bring about new risks that have developed inside the development of financial institutions. This has led financial regulators to seek innovative strategies to hedge these risks; theoretically, hedging is a crucial threat control tool in financial markets.Hedge is defined as the use of one or more financial instruments to reduce fluctuations in fair value or in cash flows in the balance sheet, so that the effects of the hedged instrument are equivalent to the original instrument.

The Hedging allowed in Islamic finance is subject to speculative risks. Moreover, we mean the risks that accepted by the Islamic Shariah, which did not deprive them as the risk of gambling and some types of speculations.

Today, Islamic finance in Malaysia is a dynamic industry that is widely regarded as a competitive alternative to conventional financing solutions. There are now diverse local and foreign players in the market, showcasing their dynamism with a wide array of innovative financial products and services on offer (Zaid, et al., 2011, p. 479).

Bursa Malaysia Derivatives (BMD) presents three different types of derivatives: Financial Derivatives, Equity Derivatives andCommodity Derivatives. Equity derivative products are based on underlying equity market; whilst the Single Stock Futures contracts are based on selected stocks. Single Stock Futures (SSFs) contract, as explained by (Bursa Malaysia Derivatives, n.d.), is an agreement to buy or sell a selected underlying single stock listed on the exchange on a future date at a price that is determined today. As in all futures contracts, each SSF has an expiry date. The SSFs are also standardized contracts of exchange-traded derivatives, which are easier to deal because no discussions or negotiations are involved outline the contract's specifications, terms and conditions.

On 28 April 2006, Bursa Malaysia Securities Berhad launched the first SSFs contracts with 10 blue-chip stocks, as a tool for dealing with share price risk and as a greater cost-effective way to benefit exposure to the equity market. They provide an innovative product to

facilitate price discovery, in addition to speculate on share price volatility.

(The Securities Commission, 2006) and Shariah Advisory Council (SAC) have approved single stock futures (SSF) as a Shariah-compliant instrument, if the underlying stocks of the SSF are Shariah-compliant. This development provides investors with another Islamic investment alternative, as well as a Shariah-compliant tool to manage risks in relation to Shariah-compliant stocks. Based on the Shariah Advisory Council's list of Shariah compliant securities as at April 2006, **five of the ten SSFs** trading on Bursa Malaysia Derivatives Berhad are Shariah-compliant namely Maxis Communications, AirAsia, Scomi Group, IOI Corporation and Telekom Malaysia. **Currently,** after two companies; Maxis Communications and Scomi Group had been delisted from Bursa Malaysia Derivatives; **only three Islamic Single Stock futures remain.**

According to Shariah Advisory Council;the approval of Single Stock Futures as Shariah-compliant is in step with the recommendations of the Securities Commission to introduce more competitive and innovative Islamic financial products and services. SSFs were approved by the SAC on the basis that the instruments are free of elements pertaining to gambling, bai buying and selling something which does not exist, ignorance and uncertainty. The instrument is traded in clear quantities and pricing is based on market demand and supply.

The hedging ratio is an important parameter that influences the estimation of hedging portfolio returns, variances and, finally, the hedging strategy performance (Zainudi & Shaharudin, 2011, p. 111). According to (Hatemi & Roca, 2010) optimal hedge ratio is based on the coefficient of the regression between the change in the spot prices and the change in price of the hedging tool. As a result, the estimation of the optimal hedge ratio and hedging Effectiveness is an important obligation in risk management.

Up to now, previous studies of Hedging Effectiveness have not dealt with Islamic Derivatives in general and Islamic Single Stock futures in specific. This study examines constant hedge ratio and hedging effectiveness of Islamic Single Stock futures contracts from Bursa Malaysia by using VECM and VAR. Three Single Stock Futures contracts have been empirically investigated. The main objective of this

study is to examine the power of Islamic Single Stock Futures trading on Malaysian stock market as hedging tools.

The remainder of this paper is organized as follows. First, we focus on the hedging performance investigation by precedent studies. The next section describes the data used for this research. Then, we explain the dynamic model. Empirical results are provided in Section 4. The last section concludes the paper.

1.1. Study Problematic

Hedging with Islamic Single Stock Futures is utilized to limiting risk. In this regard, it obviously belongs to Islamic Finance. The issue with SSFs, however, **is the Islamic SSFs contracts can be considered as effective tools of hedging risk**?

1.2.StudyHypotheses

To answer the study question the following hypotheses are developed:

$\mathbf{H_1}$: There is a strong link may exist between Islamic Single Stock Futures and their spot.

$\mathbf{H_2}$: Islamic Single Stock Futures provide a heigh hedge ratio.

$\mathbf{H_3}$: Islamic Single Stock Futures are effective tool for hedging risk.

1.3. Importance of the study

Because the derivatives markets are taken into consideration extra volatile than the spot market, they can also be a source of risk for the spot market. Thus, the estimation of hedge ratio and hedging effectiveness is a necessary step for investors in these markets.

Academic studies of hedging with Islamic derivatives are limited. As far as we could possibly know, this can be the first study to investigate the hedge ratio and hedging effectiveness of Islamic Single Stock Futures.

1.4. Study Objectives

The current study seeks to highlight the following objectives:

- To estimate the constant hedge ratio of Islamic Single Stock Futures in Bursa Malaysia.
- To investigatehedging effectiveness of Islamic Single Stock Futures in Bursa Malaysia.

2. Theoretical framework of the study

2.1 . LiteratureReview :

The first study about hedging done by (Johnson, 1960) who presented the idea of hedging the cash position with futures in portfolio theory concept. Then the idea developed by (Ederington, 1979) who formulate the hedge ratios that minimize the variance of the hedged portfolio.Theconventional hedge ratio, determined as the covariance between the spot and futures returns divided by the variance of the futures returns. This ratio can be calculatedby the ordinary least squares (OLS) method. ((Stein, 1961), (Benet, 1992.) and (Malliaris, 1991) also used the ordinary least squares (OLS) method to estimate what's known as the constanthedge ratio by regressing the spot returns towards the futures returns. However, (Park & Bera, 1987) debated about the significance of the OLS method as it doesn't take into consideration the variability in time-bound variance.

(Ghosh, 1993), and (Lien & Luo, 1994), addressed the importance of the cointegration between spot and futures prices in determining optimal hedge ratios. (Kumar, Singh, & Panday, 2008)argued that when two prices are cointegrated in long run. VECM is superior because it accounts for cointegration between spot and futures prices. VECM permits us to measure the speed of error correction in case the return back to stability. According to (Lien, Tse, & Tsui, 2002, p. 792);when a non-constant hedging ratio is considered, the exclusion of the long run effect (Error Correction Model) in this dynamic modelling process tends to generate a downward bias hedging ratio.

Lately, researchers adopted Bivariate GARCH modelto produce the time-varying hedge ratio So they excluded the effect of the volatility found in financial time series. See (Myers, 1991), (Lien & Luo, 1993)and (Brooks, Henry, & Persand, 2002). The time-varying hedge ratio is different from constant hedge ratio since it depends on the data set available at the past time period.

(Hatemi & Roca, 2010) proposed a new approach in the estimation of the optimal hedge ratio that allows the hedge ratio to vary over time but without the necessity of frequently rebalancing the portfolio. Their method was to test for cointegration in the presence of two potentially unknown structural breaks by determining the timing of each via the underlying data.

There is an enormous number of researches that tried to study hedging effectiveness and hedge ratios in developed and emergent futures markets through the use of different techniques. Nevertheless, a very few empirical researches in Malaysia Equity futures context and especially in context of Islamic Single Stock Futures.(Awang, Azinan, Ibrahim, & Said, 2014, p. 24) investigated the hedging effectiveness of stock index futures markets in Malaysia and Singapore by employing the conventional OLS model, VECM, EGARCH and bivariate GARCH. The results indicated that the KLFI provides more effective hedge for all hedge ratio estimation models compared to STI. The results also indicated that the OLS model performs most effectively in both index futures markets, followed by EGARCH.

Single Stock Futures in Bursa Malaysia Derivatives had been analyzed by (Marzuki, Mohd, Nawawi, & Reszwen, 2017, p. 735) who use the SSFs and spot returns of eight companies listed in Bursa Malaysia. The study has achieved that even though all eight companies' spot and futures returns are moving together in the long-run because the price of futures is determined by the price of stock market. In addition, the volatility of majority of spot returns increases after the introduction of SSFs.

The previous research has proven that there is a need for additional research in this area. Among the varied models used by most empirical research in estimating hedge ratios, this study employs VAR and Vector Error Correction Model to estimate hedge ratio and investigates the hedging effectiveness.

2.2. Hedging in Islamic finance:

An effort in managing risks or hedging is permissible by the Shariah and conforms to the Shariah objective (maqasid al-shariah) which specifically specifies one of its objectives to protect the wealth from any harm (Nordin, Asmak, & Hydzulkif, 2014, p. 25). The issue if the hedge is leading to a change in the conditions of Islamic law imposed by the Islamic jurisprudence. Those contractors cannot agree to violate the Shariah, which means breaking into the arena of uncertainty and ignorance and breach of balance in the contract in favor of one of the parties. This indicates a need to be express precisely what is meant by Islamic hedging; According to (Azlin & Afifi, 2014, p. 47). The theory of Islamic hedging must be based on the hadith of al-kharaj

bi al-daman and the principle of al-ghunm bi al-ghurm. Besides that, the sole objective of Islamic hedging in reducing risks must relate only with real economic activities. The challenge for Islamic financial engineering is to design tools and products that succeed in achieving risk management and hedging without being driven to prohibition.

2.3. Islamic Derivatives concept:

One of the rules established in Islamic jurisprudence, and in the gates of what people create among them transactions, contracts, and conditions that the origin of all that is permissible, it is not prevented anything except by explicit indication of true validity, and remains otherwise on the origin of permissibility.

In principle, financial derivatives may be compatible with shari'ah law if they: (Sole & Jobst, p. 13)

1 address genuine hedging demand associated with effective and intended ownership (qabd) in an identifiable asset or venture,
2 guarantee certainty of payment obligations arising from contingent claims on assets with clearly defined object characteristics,
3 disavow deferment of contractual obligations (nasi'a) from the actual and direct transfer of a physical asset as the object of an unconditional transaction, except for cases when the doctrine of extreme necessity applies,
4 contain collateralized payment for the use of risk protection but rule out provisions aimed at generating unilateral gains from interim price changes of the underlying asset beyond the original scope of risk sharing (sharik) among counterparties parties, which favors win-win situations from changes in the value of the reference asset, 2 and
5 Eschew all prohibited sinful activities (haram), in particular those deemed similar to gambling (maisir) and speculation due to uncertainty (gharar) by means of clearly stated object characteristics and/or delivery results, which mitigate the risk of exploitation from ignorance (jahl).

3.Study Methodology

3.1. DATA

As mentioned earlier, there are three Single Stock futures considered as shariah-compliant in Bursa Malaysia Derivatives namely AirAsia, IOI Corporation and Telekom Malaysia. The data used for this study are the daily settlement price of Islamic Single Stock Futures and

their spot. Futures prices data are obtained from Bursa Malaysia Derivatives while spot prices data are obtained from yahoo finance. For this research, we use 327 observations started from 31 May 2017 because futures contract is for a short-term period (one up to six months period) from the three companies.

3.2. Empirical Model

In this study, VAR and VECM will be used to present the constant hedge ratios and hedging effectiveness of Islamic Single Stock futures. Thus, this study includes unit root tests to test the stationary properties of the series, cointegration test and Granger causality test. This section presents a short explanation of these tests and their suitability for this research.

3.2.1. The Unit Root Test

The purpose of unit root tests is to establish the stationarity properties of the time series. Existence of unit roots in a variable denotes that a series is not stationary. In this paper, we use the Augmented Dickey-Fuller (ADF) tests. TheDF test is estimated by using 03 equations, as follows:

$$(Yt)= c(1)Yt\_1 +c(2)+ut(02)$$

$$(Yt)= c(1)Yt\_1 +c(2)+ c(3) @TREND+ut(03)$$

$$(Yt)= c(1)Yt\_1 +ut(04)$$

In each case, the null hypothesis is $c(1)=\delta =0$, which indicates that there is a unit root or the time series is non-stationary. The alternative hypothesis is $c(1)=\delta<0$, which indicates that the time series is stationary. Therefore, if the null hypothesis is rejected, it means that Y_t is a stationary time series.

3.2.2. Johansen Cointegration Test

There are two tests for cointegration normally utilized in empirical research; the single equation based (Engle & Granger, 1987) test, and the systems based (Johenssen, 1988) test. The Johenssen trace tests for cointegration are testing the following hypotheses:

H0: there are less than or equal to h cointegrating relations.

H1: there are more than h cointegrating relations.

3.2.3. The Bivariate Vector Autoregressive Method

To overcome the autocorrelation of residuals; the bivariate vector autoregressive (VAR) model has been used. The optimal lag length for spot and futures returns m, n is decided According to AIC.

$R_{st} = \alpha_s + \sum_{i=1}^{k} B_{si} Rs_{t-I} + \sum_{j=1}^{i} Y_{fj} R_{f-t-j} + \varepsilon_{st}$ (05)

$R_{ft} = \alpha_{f+} \sum_{i=1}^{k} B_{fi} R_{ft-I} + \sum_{j=1}^{i} Y_{sj} R_{s-t-j} + \varepsilon_{st}$ (06)

3.2.4.Vector Error Correction Model

If the level series of spot and future priceshave unit roots and integrated of order one then we can usevector error correction model to evaluate the hedge ratio.

$\Delta Logs_t = c + \beta \Delta \log F_t + \sum_k Y_k \Delta \log F_{t-k} + \sum_i \delta_i \Delta \log S_{t-i} + \lambda \varepsilon_{t-1} + \mu_{S,t}$(07)

$\Delta Logf_t = c + \beta \Delta \log S_t + \sum_k Y_k \Delta \log S_{t-k} + \sum_i \delta_i \Delta \log F_{t-i} + \lambda \varepsilon_{t-1} + \mu_{F,t}$(08)

λ is the speed of adjustment or speed error correction mechanism to the long-term equilibrium.$\mu_{S,t}$and$\mu_{F,t}$ are vector of time series residuals which is generated from the estimated VECM system of equations (equations 07 and 08)

Hedge ratio estimated by Vector ErrorCorrectionModelis calculated through this following equation (09)

$$h = \frac{\text{Cov}\,(\mu S,t,\mu F,t)}{\text{Var}\,(\mu F,t)} \quad (09)$$

Cov ($\mu_{S,t}$,$\mu_{F,t}$) is covariance between$\mu_{S,t}$, which is equation (07) residuals and$\mu_{F,t}$, which is equation (08) residuals. Var($_{F,t}$) is variance of $\mu_{S,t}$ residuals.

3.2.5. Measuring Hedging effectiveness

There is a linear regression of change in spot prices on the change in futures prices. Rs = a0 + a1 Rf + εt (1) Where, Rs and Rf is the return value of spot prices and the futures prices, respectively. a1 is the slope coefficient of OLS regression, which is the estimate of the optimal hedge ratio h, also known as MV hedge ratio (Myers & Thompson, 1989).

When risk minimization is regarded as the major objective of hedging, hedging effectiveness is the reduction in variance.

$$\textbf{HedgingEffectiveness} = \frac{\boldsymbol{VarianceUnhedged - VarianceHedged}}{\boldsymbol{VarianceUnhedged}} (10)$$

$\boldsymbol{VarianceUnhedged = \delta^2_{Spot}}$. return volatility of unhedged portfolio will be the spot price volatility, whileVariance of Hedged Portfolio Return is calculated as a Markowitz's minimum variance portfolio:$\boldsymbol{VarianceHedged = \delta^2_{Spot} + h^2 \delta^2_{Futures} - 2h\delta_{SF}}$(11)

$\boldsymbol{\delta^2_{Spot}}and\boldsymbol{\delta^2_{Futures}}$ are variance of spot price and variance of futures price. $\boldsymbol{h}$ is hedge ratio. $\boldsymbol{\delta_{SF}}$is covariance between variance of spot price and variance of futures priceresiduals in equation (08).

4. StudyResults:

The purpose of our empirical investigation is to calculate the constant hedge ratio of Islamic Single Stock Futures and to investigate the Hedging Effectiveness through VAR and VEC Models.

4.1. The Unit Root Test Results

Table N° 1 presents the results for the unit-root tests using Augmented Dickey-Fuller (ADF) tests for the order of integration of each variable. It is apparent from Table N°1 that the null hypothesis of unit roots cannot be rejected at level because the variables are not statistically significant at the 5 per cent level of significance. However, the series becomes stationary at the first difference.

Table N°1: Unit Root Test Statistics for spot sand Futures Series

	At level		At 1st Difference	
	t-statistic	Prob	t-statistic	Prob
AirAsia	-1.731726 43	0.41	-19.87399	0.0000
FAIR	-1.950374 90	0.30	-17.98259	0.0000
Telekom Malaysia	0.344168 02	0.98	-17.86328	0.0000
FTEL	-0.531356 18	0.88	-18.05328	0.0000
IOI Corporation	-1.831396 49	0.36	-9.903860	0.0000
FIOI	-2.821698 63	0.05	-17.97220	0.0000

Source: Made by researchers based on E-Views Output

Notes: - The critical values for unit root tests at 5% level of significance is -2.870219

- Lag-length are selected automatic - based on AIC, maxlag = (16).

The spot price of AirAsia, Telekom Malaysia andIOI Corporationfor the 1st difference is stationary. The ADF values for spot prices are -19.87399, -17.86328 and -9.903860respectively.The futures prices for the 1st difference are stationary. The ADF value for futures prices are-17.98259, -18.05328 and -17.97220.

4-2. Cointegration Tests Results:

The cointegration tests in this study have been appliedbetween spot and single futures contract, separately. The results from the tests are presented in Table N°2. The trace statistics in Table N°2 for the cointegration tests between Airasia spot and AirAsia futures, indicate that at least there is one cointegration equation exist between the two variables at 5 percent levels. Similarly, the trace test also found that there is at least one cointegration equation between Telekom Malaysia spot and its futures. These results confirm the existence of a long-run relationship between stocks and SSFs contrats.

Table N° 02: Johansen Cointegration Tests (spot vs. Futures)

Cointegration test for AirAsia Spot and futures				
Hypothesized No. of CE(s)	Eigenvalue	Trace Test Statistic	0.05Critical Value	Prob. **
None*	0.116039	42.72291	15.49471	0.0000
At most 1	0.009294	3.006792	3.841466	0.0829
Cointegration test for Telekom Malaysia Spot and futures				
Hypothesized No. of CE(s)	Eigenvalue	Trace Test Statistic	0.05 Critical Value	Prob. **
None*	0. 171860	60.74877	15.49471	0.0000
At most 1	8.74E-05	0.028153	3.841466	0.8667
Cointegration test for IOI Corporation Spot and futures				
Hypothesized No. of CE(s)	Eigenvalue	Trace Test Statistic	0.05 Critical Value	Prob. **
None*	0.028115	13.49527	15.49471	0.0979
At most 1	0.013304	4.312552	3.841466	0.0378

Source: Made by researchers based on E-Views Output

Notes: * denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

- For AirAsia, the result is: trace statistic value 42.72291 which is greater than 0.05 critical value (15.49471). Similarly, for Telekom Malaysia the trace test also is 60.74877 which is

greater than 0.05 critical value (15.49471). It means that there is a relationship in the long run or there is a cointegration between the two variables.

- For IOI Corporation, the trace statistic value 13.49527 which is less than 0.05 critical value (15.49471). It means there is no cointegration between its spot and futures contract. The VEC model cannot be carried out; instead, we run the VAR Model.

4.3. Bivariate Vector Autoregressive

To calculate the optimal hedge ratio from a Bivariate VAR model, we estimated theequations (05) and (06) with 4 lags and the results are presented in Table 3.

Table 3: Estimates of Bivariate VAR Model

	FIOI	***IOI Corporation***
βF1	0.071942	-0.284493
βF2	-0.131086	-0.572340
βF3	0.019580	-0.103626
βF4	-0.148177	-0.112816
γS1	0.021328	0.002768
γS2	-0.009683	-0.006387
γS3	-0.017813	0.013330
γS4	-0.009765	-0.004115
C	-1.91E-05	6.23E-05
R^2	0.136074	0.010813

Source: Made by researchers based on E-Views Output

Figure 1 plots the residuals from equation (05) and (06) for IOI Corporation (see appendix n°1)

4.4. Vector Error Correction Model Estimate

VECM model is meant to be best precise model for the estimations of constant hedge ratio and hedging effectiveness when there is a long-term cointegration between spot and futures prices. In relation to this, errors are estimated. Results are presented in Table N°4.

Table N° 4: Vector Error Correction Estimates

FUTURES			*SPOT*		
	FAIR	**FTEL**		**AIRASIA**	**TELKOM MALAYSIA**
contEqu	-0.718999	-0.136016	contEqu	-0.767326	-0.035719
βF1	-0.444280	-0.005422	βS1	-0.241194	-0.023667
βF2	-0.219288	-	βS2	-0.086259	-
γS1	-0.565988	-0.060969	γF1	-0.227527	-0.004769
γS2	-0.169753	-	γF2	-0.152444	-
C	-4.81E-05	-0.001635	C	-0.000135	-0.002107
R^2	0.423197	0.134698	R^2	0.503773	0.019327

Source: Made by researchers based on E-Views Output

To examine the efficiency of the VEC Model, the features of the residuals are examined. Figure 2 plots the residuals from equation (07) and (08) for AirAsia and Figure 3 plots the residuals for Telekom Malaysia. It clearly shows the presence of ARCH effects. In that the squared residuals from the estimated mean equation is checked for a significant Q-statistic at a given lag. (see appendix n°1)

4.5. Hedge Ratio and Hedging Effectiveness.

The results of hedge ratios estimation with VECM and VAR estimation methods by using all data are shown in Table N° 6. VECM Hedge ratios are static at 11.79% for AirAsia and 6.93% for Telekom Malaysia. Whilst VAR hedge ratio is static at 23.8% for IOI Corporation.

Table N° 6: Hedge Ratio and Hedging Effectiveness Estimations

	AirAsia	***Telekom Malaysia***	***IOI Corporation***
Variance (εF)	0.000556	0.000758	6.99e-05
Covariance (εF, εS)	6.55e-05	-5.26e-05	1.35e-05
Hedge Ratio	0,1179	0,0693	0.1931
Variance (Unhedged)	0.1339	1.1703	0,0621
Variance (Hedged)	0,1084	1,0199	0,0446
Hedging Effectiveness	0,1904	0,1285	0.2818

Source: Made by researchers based on E-Views Output

The IOICorporation futures provides higher hedging effectiveness compared to the Telekom Malaysia and AirAsia futures

contracts; But price dynamics of Islamic futures contract transactions at Bursa Malaysia is still low. Also, cointegration will affect hedging effectiveness in Bursa MalaysiaDerivatives more seriously when price dynamics will be more volatile.

5. Conclusion.

This study examines empirically the constant hedge ratio and the hedging effectiveness of Islamic Single Stock Futures in Bursa Malaysia. The effectiveness of hedging strategy ofIslamic Stock trading in the spot marketby taking a position in the futures market inMalaysia is quite weak. Islamic Single Stock Futuresprovides low opportunities to take hedgepositions in futures contracts which can reducethe risk of portfolio returns up to only 12%-28% of naked position in the spot market.A possible explanation for this might be that the effectiveness of a hedge becomes relevant only in the event when there is asignificant change in the value of the hedged item while Futures prices change every month, unlike stock prices fluctuate on a daily basis in the Malisian market. We also found that cointegration relations between spot and future price are main obstacles to estimate an effective hedge ratio. Quantitative research is generally associated with the positivist paradigm. Finally;this study shows that Islamic Single Stock Futures does not provide the opportunity to meet the objective of increasing Hedging Effectiveness in order to reduce risk.

The Securities Commission (SC) and Shariah Advisory Council (SAC) should give portfolio managers and investors a better financial instrument by which they can avoid risk without liquidating their spot position or changing their portfolios composition. There would therefore seem to be a definite need for Islamic Financial Engineering tools to enhance SSFs structure.

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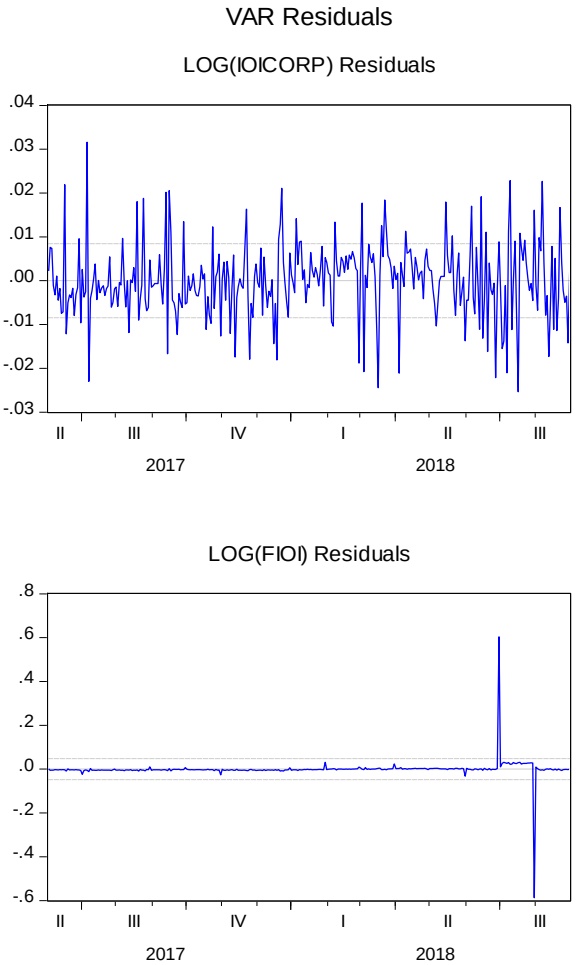
7. Appendices :

APPENDIX N°1 : Residual series



VECM residuals