ISLAMIC STOCK MARKETS INTEGRATION AND CONTAGION EFFECT OF CHINA'S ECONOMIC SLOWDOWN

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Article Information	Abstract
	This study investigated the existence of the Islamic stock markets integration among Asian countries and the contagion effect caused by the economics slowdown in China. The data of this study are the daily closing price of islamic stock index in Indonesia (MIID), Malaysia (MIMY), and China (MICN). The period of analysis is divided into tranquil period (August 30, 2007 - June 11, 2015) and turmoil period (June 12, 2015 - September 1, 2016). Meanwhile, there are 2351 observational datas used in this study. The Johansen Cointegration test, Vector Error Correction Model (VECM), and Granger Causality test are used as the research methods. The results showed that in both periods, the islamic stock market of three countries are integrated with each other. However, there is no evidence of contagion effect during the economics slowdown in China. In addition, there is a bidirectional causality relationship between the Malaysia and China Islamic stock markets.

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INTRODUCTION

As the second largest economy country in the world, China is one of the countries that has the most rapid economic growth. However, today China is experiencing an economic slowdown, which began in 2011 as a result of the economic *rebalancing* process. China's GDP in 2015 which is 6.9% is lower than the average of its GDP since economic reformation in 1978 which amounted to 9.73%, and even the China's GDP in 2015 is the lowest since the last 25 years that China's GDP in 1990 was amounted to 3.9%. According to Arslanalp et al., (2016), China is undergoing a transition of its economic growth model from export and investment based towards services and consumption based. The process of transition triggers slowdown in economic growth, because China has relied on these two sectors during this time, so that the Chinese government needs to make adjustments to boost their domestic demand

and services. As an impact, according to Weidong et al. (2015),China's companies were no longer able to support the volume of export. These companies also experienced a decline in profitability as a result of declining exports values and the increasing of production cost. Meanwhile, debt to GDP ratio continue to rise. These things eventually triggered the Chinese government to devaluate the currency of Renmibi in August 2015. It aims to increase China's export value as well as to internationalize the currency of Renmibi. However, when the government issued the devaluation of Renmibi policy, it rose the risk of instability in the financial markets which trigger *panic selling* and also directly implicate on the prices of most commodities in the world that continues to decline, including crude oil. With the fall of commodity prices as well as the crude oil was certainly have an impact on the market valuation of investment in commodity exporting countries and countries that have trade relationship with China. Some effects of China's economic turmoil were capital inflow in these countries has sharply declined as well as the capital outflow has significantly increased. Symptoms of pressure on the stock market has actually started since June 12, 2015 when the Stock Markets Bubble has occurred in the Chinas's two main stock exchanges. In the period of June 12th to August 26th, 2015, there was a very deep decline in the Shanghai index by 43.4%. Since market conditions tends to be corrected, Asian stock markets became panic, so it triggered buying-selling action on the trading floor. The result is generally suspected to have domino effect where the Asian stock exchange were corrected, one of them is the Indonesia Stock Exchange through its Indeks Harga Saham Gabungan (IHSG) which weakened by 11.9%.

Economic slowdown in China has indeed made an uproar among the conventional stock market investors, so that the movement in the Islamic stock markets became a little neglected. Though Islamic stock market itself have *compliance,* which are debt ratio limitations and do not allow businesses based on interest, this two factors are some key factors causes shock of economic slowdown in China. Actually, the islamic stock index also suffered a

contraction when the economics slowdown occured. However, the contraction that occurs caused by the China's Economic Slowdown is not deeper compare to the contraction caused by the subprime mortgage crisis in 2008. But, it can be seen that China's Islamic Stocks Index was experiencing deep weakness at that time. The weakening of China's Islamic stock index eventually followed by the weakening of Indonesia and Malaysia's Islamic stock index. The weakening that happened to these three indices led to allegations of contagion effect on Islamic stock market. This is because when the turmoil occured in China's islamic stock market, the islamic stock indices of other countries, mainly in Asia region especially Indonesia and Malaysia, are also exposed by the negative influence of China, so that the buying and selling action on the trading floor was getting massive.

In a study conducted by Pritsker (2000), contagion occurs when the shock of one or a group of market, country or institution, spread to other markets, or country, or institution. Then, according to Dornbusch, Park and Claessens (2000), Contagion refers to the spread of disorder from one country to another, in which the process is observed through the co-movements in the exchange rate, stock prices, spread of sovereign and capital flows.

According to Pratama (2016), it is explained that the integration of the stock market may imply that the integrated stock exchange has no barriers and gives unlimited access to investors to have or conduct sale and purchase transactions in securities in the stock market. Meanwhile, according to Armanious (2007), the capital market is said to be integrated with other capital markets if they have a balanced relationship on an ongoing basis.

Upon descriptions of the problems that have been described previously as well as the lack of research about the integration of Islamic stock markets and *contagion effect* with the shock of the economic slowdown, so the researcher chose to conduct this research with the aim to analyze the existence of integration of Islamic stocks market and *Contagion Effect* from the turmoil of *Economic Slowdown* in China.

Siskawati (2011), Kabir, Dewandaru, and Masih (2013), and Ikrima and Muharam (2014), explained that between the Islamic stock market which became their research variable has an integration relationship or long-term equilibrium relationship. Meanwhile, different results were obtained by Hussin, et al. (2013), Karim, Kassim and Arip (2010), Majdoub and Mansour (2014), Dewandaru, et al. (2014), and Kenourgios, Naifar, and Dimitriou (2016) which, according to results of their study, that there is no integration relationship between islamic stock market among their research variables.

In addition, Ikrima and Muharam (2014), Dewandaru (2014), and Lee (2012), also stated that there was a contagion effect in the Islamic stock market during the shock of the Greek debt crisis and the Subprime Mortgage crisis. Meanwhile, different results were again obtained by Aimprasittichai, Suppakittiwong, and Karlsson (2015), Karim, Kassim, and Arip (2010) and Kenourgious, Naifar, and Dimitriou (2016), where the researchers found no evidence of contagion effect in the Islamic stock market during the shock of the subprime mortgage crisis as well as the Greek debt crisis.

METHOD
Data

In this research itself, the data used in the form of daily closing price of Islamic stock index for China, Indonesia, and Malaysia represented by Morgan Stanley Capital International Indices at time intervals of August 30th, 2007 until September 1st, 2016. At that time interval, researcher conducted periodization, which are : the tranquil period (August 30th, 2007 - June 11th, 2015) and turmoil period (June 12th, 2015 - September 1st, 2016). Total data was 2351 observational datas for each variable.

The reason for choosing the MSCI islamic indices expressed in US dollars is in order to maintain the homogeneity of the data unity and also to calculate the exchange rate risk. Meanwhile, the reason for utilize the frequency of daily data because the daily data contains information that is richer than the other frequency (weekly, monthly, or yearly).

The selection of August 30, 2007 as an initial limit of time interval due to the data availability of Islamic indexes MSCI in countries of Indonesia, Malaysia, and China was only available on that date. Tranquil Period marked by 2031 days of trading session, while the Turmoil Period was 320 days of the trading session on the exchange. The turmoil Period began with the shock in the form of Stock Markets Bubble in Shanghai and Shenzen Stock Exchanges on June 12, 2015 until the end of its contraction period in the third quarter of the year 2016, ie at the beginning of September 2016.

Methodology

The analysis methods used in this research are Johansen Cointegration test, Granger Causality test, and Vector Error Correction Model (VECM). Here are the testing stages:

1. *Unit Root* test by Augmented Dickey - Fuller (ADF) procedures: Data is said to be stationary if the value of ADF T-Statistic is greater than the critical value of MacKinnon on the significance level of 10%, 5%, and 1%. In addition, the stationary can also be seen through the value of Probability which is smaller than the tree significance level

2. *Lag Length* Test: Determination of the optimal lag length is conducted through three stages: determine the maximum lag length for stable VAR system; after that, determine the optimal lag candidates based on AIC, SC and HQ criterion; then, comparing the highest value of Adjusted R^2 from all the lag candidates

3. *Johansen Cointegration* Test: This test interpretation is done by comparing the value of the trace statistic and maximum-eigen against the critical value (at a significance level of 5%). If the value of trace statistic and maximum-eigen < critical value (α = 5%), then H_0 is accepted, vice versa.

4. If the data was cointegrated in Johansen Cointegration test, then the

next conducted estimation is *Vector Error Correction Model* (VECM). However, if the data was not cointegrated, then *Vector Autoregression* (VAR) estimation should be conducted: The determination of significance result of VECM estimation iss done by comparing t-statistic value with its t-table value. If the value of t-statistics greater than t-table value, it can be said that there is a significant influence. In addition, specifically for short-term VECM estimation, the interpretation of VECM will be performed by Wald test in order to ease the interpretation

5. *Granger Causality Test:* The hypothesis of this test is; H_0 means the variable x did not affect the variable y, whereas H_1 means the variable x affected the variable y. If the F-statistic probability value < F-table (α), then H_0 was rejected, vice versa

6. *Impulse Response Function* (IRF) Simulation and analysis of *Variance Decomposition* (VD) is used to detect the existence of contagion effect. Interpretation of IRF is conducted by comparing IRF in turmoil period to IRF in tranquil period. Meanwhile, the interpretation of VD is conducted by looking the changes in the variance of each variable during the turmoil period from the first period to the last period of VD.

RESULT AND DISCUSSION

Before conducted further analysis, firstly, the data research of tranquil period and turmoil period needs to be tested its stationarity through Unit Root test with ADF procedures. At the unit root test in level degree, note that the data for the two periods were not stationary because the value of ADF T-Statistic was smaller than the critical value of MacKinnon,

even the probability values are nothing that indicate at the number of 0,000. However, the Unit Root test at the level of first difference showed different results. The results of unit root test for both periods at the level of first difference is depicted in Table 1.

Based on Table 1, it can be seen the value of ADF t-statistic and its probability. Through Table 1, it can be noted that at first difference level, the value of ADF t-statistic is greater than the critical value of MacKinnon on the level of 1%, 5% and 10%, namely -3.9, -3.4, and -3.1 . In addition, the probability value of the three variables also stands at 0.0000. Therefore, it can be concluded that data in both periods were stationery on the first difference level or there is no unit root in both periods.

After getting the data that was stationary, then determine the optimal lag length (Table 2). Based on Table 2, note that on the tranquil period data, SC recommends lag 0 as the optimal lag. Then, the optimal lag recommended by criteria of HQ is lag 1. Then, the FPE and AIC criterion recommends the optimal lag on lag 3. Meanwhile, the optimal lag recommended by LR criterion is lag 95. On the other hand, based on Table 2 is also known that for data turmoil period, the lag will be optimal at lag 0 according to the SC and HQ criterion. Then, the FPE and AIC criterion recommends the optimal lag at lag 1. Meanwhile, the optimal lag recommended by LR criterion is lag 54.

Therefore, in this lag selection, researcher considered the principle of parsimony, the speed of information transmission among exchanges, as well as more focused on the lag that recommended by the AIC, SC and HQ criterion. So that, lag 95 in tranquil period data and lag 54 in turmoil period data should be eliminated because it is too long and not efficient, so that the lag candidates remaining candidates lag 0, 1, and 3 for tranquil period and candidates lag 0 and 1 for the turmoil period.

Table 1. Results of Unit Root Test on 1st Difference Level

Variable	Tranquil Period				Turmoil Period			
	ADF Statistic	T-	Prob.	Note	ADF Statistic	T-	Prob.	Note
MICN	-44.51331		0.000	Stationary	-17.13198		0.000	Stationary
MIID	-42.30268		0.000	Stationary	-17.69943		0.000	Stationary
MIMY	-40.59618		0.000	Stationary	-15.85418		0.000	Stationary

Table 2. Results of *Optimal Lag Length*

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-132.6833	NA	0.000231	0.140459	0.149102*	0.143638
1	-108.7378	47.79196	0.000227	0.124987	0.159561	0.137704*
2	-98.06079	21.27664	0.000227	0.123251	0.183755	0.145506
3	-83.61506	28.74191	0.000226*	0.117614*	0.204047	0.149406
4	-79.62352	7.929357	0.000227	0.122799	0.235162	0.164128
5	-75.47657	8.225218	0.000228	0.127823	0.266116	0.178690
6	-66.03784	18.69181	0.000228	0.127368	0.291592	0.187773
95	562.8897	20.96255*	0.000274	0.305497	2.777492	1.214751

Lag	LogL	LR	FPE	AIC	SC	HQ
0	106.1475	NA	8.99e-05	-0.802704	-0.761275*	-0.786044*
1	121.2815	29.79694	8.58e-05*	-0.850440*	-0.684724	-0.783797
2	126.7848	10.70685	8.81e-05	-0.823228	-0.533226	-0.706604
3	129.8127	5.820003	9.23e-05	-0.776752	-0.362463	-0.610146
54	528.0171	20.89075*	0.000294	-0.303635	6.449277	2.412052

Note : ⬜ : Tranquil Period ⬜ : Turmoil Period

Due to remaining few candidates of lag, it was necessary to conduct comparison adjusted R^2 value between them. The selected lag candidate is the lag with the highest adjusted R^2 value. Based on measurement of adjusted R^2 value, note that for tranquil period data, the highest Adjusted R^2 value found in the lag 3 that is 0.005820. Whereas, for the turmoil period data, highest Adjusted R^2 value obtained in the lag 1 which amounted to 0.055427. Therefore, lag 3 (tranquil period) and lag 1 (turmoil period) are chosen as optimal lag lengths. Furthermore, Johansen Cointegration test needs to be conducted, here is the test : (Table 3)

Table 3. Results of Johansen Cointegration Test

Tranquil Period				
Hypothesized No. of CE(s)	Trace Statistic	0.05 Critical Value	Max-Eigen Statistic	0.05 Critical Value
None *	1415.915	24.27596	516.9466	17.79730
At most 1 *	898.9683	12.32090	465.1434	11.22480
At most 2 *	433.8249	4.129906	433.8249	4.129906
Turmoil Period				
Hypothesized No. of CE(s)	Trace Statistic	0.05 Critical Value	Max-Eigen Statistic	0.05 Critical Value
None *	417.1741	24.27596	160.2200	17.79730
At most 1 *	256.9541	12.32090	155.9191	11.22480
At most 2 *	101.0350	4.129906	101.0350	4.129906

Trace and Maximum-Eigen test indicates 3 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Based on Table 3, the results showed by trace test and maximum eigen-value was the same. Trace test value was greater than the critical value in three vectors and in both periods, in addition, the maximum-eigen value was also larger than the critical value in the three vectors and also in both periods. It was indicate that the data in Tranquil Period and Turmoil Period, there were 3 cointegrating vectors indiciation between variables. Due to the data cointegrated, then in the next estimation will use Vector Error Correction Model (VECM).

According to Ekananda (2015), VECM contained information about changes in the short term and long term. In this research, the determination of the significance results of the VECM estimation was by comparing the value of t-statistic estimation result in absolute way to its t-table. In addition, specically for short-term VECM estimation will be conducted wald test in order to facilitate easier interpretation. But before that, the Long-Term VECM estimation for tranquil period should be conducted in advance, here is the results:

Table 4. Results of Long-Term VECM Estimation (Tranquil Period)

Cointegrating Eq:	CointEq1	CointEq2
DMIID(-1)	1.000000	0.000000
DMIMY(-1)	0.000000	1.000000
DMICN(-1)	-0.000492	-1.179040
	(3.9E-05)	(0.05250)
	[-12.6715]	[-22.4566]

Based on Table 4, after having compared between the value of t-statistic DMICN for two cointegrating equations which amounted to -12.6715 and -22.4566 with its t-table value which amounted to 1.96, it can be seen that t-statistic value of DMICN greater than the t –table value. This is reflected that MICN has influencing significantly on MIID and MIMY in the long term at the time of Tranquil Period.

After long term VECM estimation was conducted, then the next performed is the interpretation of the short term VECM estimatimation for Tranquil Period. Due to the short-term VECM estimation for tranquil period has lag 3 or in other words more than 1, then in order to facilitate easier interpretation,

the interpretation of short term VECM estimation needs to be done by using Wald Test through its Short-Term VECM equation. Table 5 are the results of wald tests that have been conducted:

Table 5. Results of Wald Test of Short-Term VECM Estimation (Tranquil Period)

Dependent Variabel	Chi-Square dari Wald Test		
	DMIID	DMIMY	DMICN
DMIID	0,0005*	0,0311*	0,0000*
DMIMY	0,1019	0,0018*	0,0000*
DMICN	0,0001*	0,0000*	0,0000*

Note: * = Significance at the level of 5%

Based on the results of wald test as it has been presented in Table 5, it can be seen the existence of the influence of DMIIID, DMIMY, and DMICN against DMIID in the short term. Then, there are influence of DMIMY and DMICN against DMIMY in the short term. Furthermore, there are influence of DMIIID, DMIMY, and DMICN againts DMICN in the short term. It is known by looking at the chi-square value that less than 5% of significance level.

After previously did the VECM estimation for long-term and short-term in tranquil period, so the next step are estimate the VECM for long-term and short-term in turmoil period. Table 6 will be presented the results of VECM estimation for long-term in turmoil period:

Table 6. Results of Long-Term VECM Estimation (Turmoil Period)

Cointegrating Eq:	CointEq1	CointEq2
DMIID2(-1)	1.000000	0.000000
DMIMY2(-1)	0.000000	1.000000
DMICN2(-1)	-0.001206	-4.233327
	(9.4E-05)	(0.26680)
	[-12.8928]	[-15.8670]

In Table 6, based on a comparison between t-statistic values of DMICN for both *cointegrating equations* which were [-12.8928] and [-15.8670] with the values of t-table amounted to 1.967476 (at the 5% significance level), it can be seen that the value of t-statistic of DMICN greater compared to the value of its t-table amounted to 1.96. This reflected the existence of significant influence of MICN on MIID and MIMY in the long term. Then, to see the effect in the short term, then the Short-Term

VECM estimation needs to be done. Due to the Short-Term VECM estimation for Turmoil period only have lag 1, so it can be directly conducted the interpretation of the output VECM estimation in short term without doing Wald Test in advance. The results of the short term VECM estimation depicted in Table 7:

Table 7. Results of Short Term VECM Estimation (Turmoil Period)

Error Correction:	D(DMIID2)	D(DMIMY2)	D(DMICN2)
CointEq1	-1.217698	-114.3979	-37.40655
	(0.10029)	(187.974)	(70.6588)
	[-12.1419]	[-0.60858]	[-0.52940]
CointEq2	0.000336	0.057434	0.273936
	(3.5E-05)	(0.06606)	(0.02483)
	[9.53861]	[0.86946]	[11.0321]
D(DMIID2(-1))	0.157452	184.4037	70.76205
	(0.06821)	(127.855)	(48.0604)
	[2.30820]	[1.44228]	[1.47236]
D(DMIMY2(-1))	-0.000152	-0.502474	-0.119320
	(3.6E-05)	(0.06746)	(0.02536)
	[-4.22681]	[-7.44844]	[-4.70539]
D(DMICN2(-1))	-6.84E-05	-0.225901	0.034099
	(8.8E-05)	(0.16559)	(0.06224)
	[-0.77400]	[-1.36425]	[0.54784]

Based on Table 7, it can be seen that DMIID influenced by DMIID itself and DMIMY in the short term, this was proven by the the t-statistic value of DMIID [2,308] and DMIMY [-4.226] greater than t-table 1.967476 (α = 5%). Then, DMIMY in the short term only influenced by DMIMY itself, this is proven by its t-statistic value [-7.448] which greater than t-table value which amounted to 1.967476 (α = 5%). Then, DMICN only influenced by DMIMY in the short term, this is proven by its t-statistic value [-4.7053) greater than t-table value which amounted to 1.967476 (α = 5%).

If compared to the interpretation of the Short Term VECM estimation results for Tranquil Period with the Short Term VECM estimation results for Turmoil Period, it can be noted that short-term relationship between the variables during the turmoil period was less than in the tranquil period. The following was the compiled framework of short-term

relationships between variables based on VECM estimation in both periods:

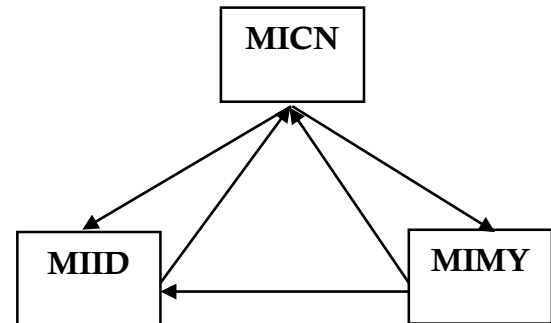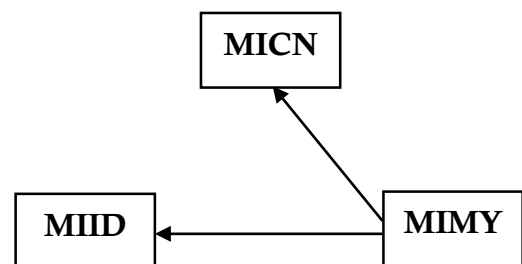**Figure 1. Short Term Relationships among Variables (Tranquil Period)**

Figure 2. Short Term Relationships among Variables (Turmoil Period)

Note for Fig. 1 and Fig. 2: Arrows indicate the direction of influence

After conducted the VECM estimation, then the next step is to conduct Granger Causality test. Granger causality test is using lag 3 for tranquil period and lag 1 for turmoil period. The results of Granger Causality test for Tranquil Period is depicted in Table 8.

Through granger causality test by using lag 3 on Tranquil Period data, we obtained the result that there are some causality relationship between these three variables. Based on Table 8, it can be seen that there are three probability which have value below the level of significance (α) 10%. This reflected the existence of three causality relationship that occurred. To clearly understand the results of the test that has been done, here is the summary explanation:

- MIMY did not affect MICN, but MICN affect MIMY

- MIID affect MICN, but MICN did not affect MIID
- MIID affect MIMY, but MIMY did not affect MIID

Table 8. *Granger Causality Test Results (Tranquil Period)*

Null Hypothesis:	Obs	F-Statistic	Prob.
DMIMY does not Granger Cause DMICN	2027	1.44936	0.2266
DMICN does not Granger Cause DMIMY		4.44873	0.0040
DMIID does not Granger Cause DMICN	2027	3.19935	0.0225
DMICN does not Granger Cause DMIID		1.61951	0.1828
DMIID does not Granger Cause DMIMY	2027	10.9492	4.E-07
DMIMY does not Granger Cause DMIID		0.45704	0.7123

After having Granger Causality test for tranquil period data, then the is the results of Granger Causality test that have been conducted for turmoil period data:

Table 9. *Granger Causality* **Test Results (Turmoil Period)**

Null Hypothesis:	Obs	F-Statistic	Prob.
DMIMY2 does not Granger Cause DMICN2	318	16.4467	6.E-05
DMICN2 does not Granger Cause DMIMY2		2.96536	0.0860
DMIID2 does not Granger Cause DMICN2	318	6.09701	0.0141
DMICN2 does not Granger Cause DMIID2		0.09629	0.7565
DMIID2 does not Granger Cause DMIMY2	318	0.37728	0.5395
DMIMY2 does not Granger Cause DMIID2		3.41330	0.0656

Through granger causality test by using lag 1 in turmoil period data, it showed that there are some causality relationship between these three variables. Based on Table 9, it can be seen that there are four probability which has value below the level of significance ($\alpha = 10\%$). This reflected the existence of four causality relationships that occurred. To clearly understand the results of the test that has been done, the following is summary explanation:

- MIMY affect MICN, as did MICN affect MIMY
- MIID affect MICN, but MICN did not affect MIID
- MIID did not affect MIMY, while MIMY affect MIID

After conducted Granger Caulity test, then the next step is conducted Impulse Response Function simulation to see the impact of changes in one variable to another variable in the system dynamically. The trick was to give shock to one endogenous variable. Shock that is given usually by one standard deviation of that variables. The simulation of the Impulse Response Function are depicted in Figure 3 and Figure 4 :

Figure 3 : IRF Simulation for Tranquil Period Data
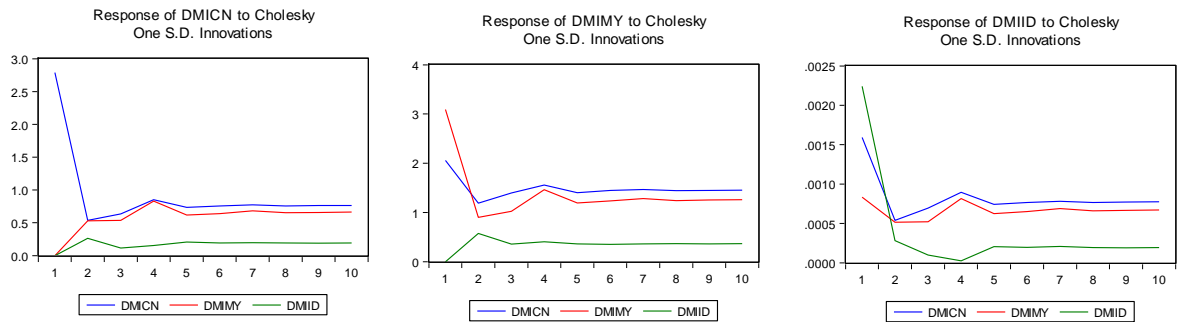
Figure 4 : IRF Simulation for Turmoil Period Data
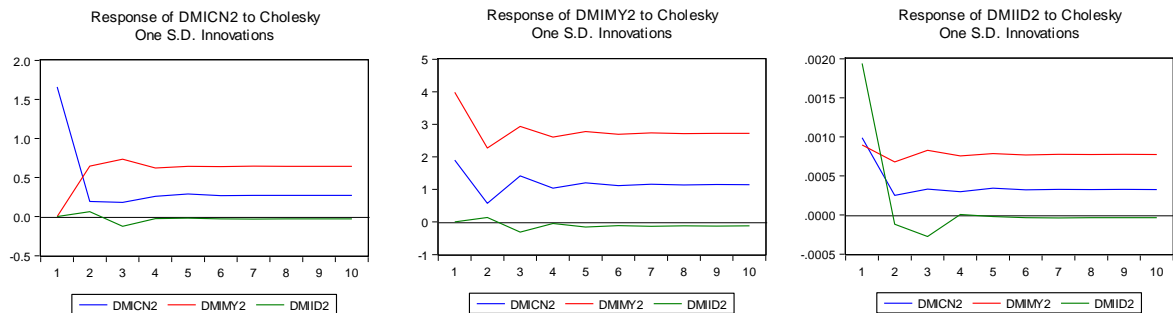
Based on the impulse response function (IRF) simulation, as presented in Figure 3 and Figure 4, it can be seen that the responses provided by MIID and MIMY during the turmoil period was smaller than in the tranquil period in the last period, so it's indicate that both MIID and MIMY less responded to the shock of MICN at a time prior to the economic slowdown, or in the other words there was no contagion effect. After conducted the IRF simulation, the next step is Variance Decomposition analysis. Here's the analysis:

Table 10. Analysis of VD for MIID (Turmoil)

DMIID2 Period	S.E.	DMICN2	DMIMY2	DMIID2
1	0.002354	17.60292	14.50491	67.89218
2	0.002466	17.08551	20.80758	62.10691
3	0.002636	16.53351	28.05419	55.41231
4	0.002759	16.26163	33.13092	50.60745
5	0.002889	16.23379	37.60828	46.15793
6	0.003007	16.13058	41.25378	42.61563
7	0.003123	16.05742	44.43382	39.50875
8	0.003234	15.98494	47.16150	36.85355
9	0.003342	15.92788	49.55015	34.52196
10	0.003447	15.87507	51.65044	32.47450

Table 11. Analysis of VD for MIMY(Turmoil)

DMIMY2 Period	S.E.	DMICN2	DMIMY2	DMIID2
1	4.412037	18.48208	81.51792	0.000000
2	4.998105	15.71477	84.21143	0.073802
3	5.973413	16.63097	83.04471	0.324324
4	6.598464	16.08813	83.64112	0.270745
5	7.261219	16.02042	83.71249	0.267086
6	7.825989	15.83462	83.91590	0.249478
7	8.371557	15.75880	83.99890	0.242305
8	8.875025	15.67190	84.09447	0.233625
9	9.355410	15.61411	84.15786	0.228033
10	9.810457	15.56157	84.21556	0.222874

In Variance Decomposition analysis for turmoil period data as presented in Table 10 and Table 11, it showed that the MICN variables did not affect the variance of MIID and variance of MIMY in majority, where the influence of MICN against variance of MIMY in the beginning of the period amounted to 18% decreased to 15% in the last period, while the influence of MICN against the variance of MIID in the beginning of the period amounted to 17% but at the end it's also decreased to 15%. This indicated that there was no *contagion effect* in the Islamic stock market when the *economic slowdown* happened.

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CONCLUSION

Based on the Johansen Cointegration test and the Long Term VECM estimation for Tranquil Period and Turmoil Period, it is found that there is an integration relationship between the Islamic stock market of Indonesia, Malaysia and China in both periods. This is proven by comparing the value of the trace statistics and maximum-eigen which is greater than the critical value in *Johansen Cointegration test*. It can also be demonstrated by comparing the t-statistic value of MICN for both cointegrating equations which is larger than the t-table value which amounted to 1.96747 (significance level = 5%) in the Long Term VECM estimation. Then, based on Impulse Response Function simulation, analysis of Variance Decomposition, and Short-Term VECM estimation, it is found that there was no contagion effect caused by the turbulence of economics slowdown of China in Indonesia and Malaysia's Islamic stock market. Meanwhile, through the granger causality test, the result showed that there was bidirectional causality relationship between the Malaysia's Islamic stock market (MIMY) and China (MICN) in the period of the economic slowdown. This is proven by its probability value which is smaller than the significance level of 10%.

The findings of this research can be used as information for investors, fund managers, and other market participants who are trying to diversify their investment. If the investors diversify their investment in Islamic stock market from those three countries at once in one portofolio, then it will be not optimal because Islamic stock market of the three countries are correlated. In addition, this study also suggest to the government or the authorities to be more vigorous in disseminating Islamic stock market to the public since it is proven to have immunity from global economic turbulence like economic slowdown. The long-term relationship between the Indonesian islamic stock market and the international financial market also brings the consequence that Indonesia is also the actor and part integrated with global finance, thus having a strategic role to contribute to the creation of global economic stability. The government in this case could take an active role in the international arena, such as regulating capital flows.

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