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The Integration of Islamic Stock Markets of OIC Countries in China Stock Market Crisis and US-China Trade War

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Abstract. *The purpose of this study is to analyze the integration and response of the Islamic stock market of the OIC countries before the crisis and during the China stock market crisis, also during the United States-China trade war with the ARDL method. The results showed that there was no cointegration in the period before the China stock market crisis. However, during the period of the China stock market crisis and the United States-China trade war, the cointegration was more common. The Indonesia Islamic stock market in the two crisis periods had a long-term relationship with the US and China stock markets. In terms of the benefits of portfolio diversification for investors, there is relevance of dominant economic, geographical, and trade relations in influencing the integration of the Islamic stock market.*

Keywords: *Market Integration, Islamic Stock, China Stock Market Crisis, US-China Trade War, ARDL*

Abstrak. *Tujuan penelitian ini menganalisis integrasi dan respon pasar saham syariah negara-negara OKI sebelum dan saat terjadi krisis pasar saham Tiongkok, serta saat terjadi perang dagang Amerika Serikat-Tiongkok dengan metode ARDL. Hasil penelitian menunjukan bahwa tidak terdapat kointegrasi atau hubungan jangka panjang pada semua pasar saham syariah negara-negara anggota OKI pada periode sebelum krisis pasar saham Tiongkok. Akan tetapi, pada perode krisis pasar saham Tiongkok dan perang dagang Amerika Serikat-Tiongkok, integrasi antar pasar saham syariah di negara OKI lebih banyak ditemukan. Pasar saham syariah Indonesia dalam dua periode krisis memiliki hubungan jangka panjang dengan pasar saham Amerika Serikat dan Tiongkok. Dalam hal manfaat diversifikasi portofolio bagi investor, terdapat relevansi kekuatan ekonomi yang dominan, faktor geografis, dan hubungan perdagangan dalam mempengaruhi integrasi pasar saham syariah.*

Kata kunci: *Integrasi Pasar, Saham Syariah, Krisis Pasar Saham Tiongkok, Perang Dagang AS-Tiongkok, ARDL*

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Introduction

The liberalization of trade and finance at the end of the 20th century has accelerated globalization. This has led to increased trade relations and economic synchronization, causing the stock market to become increasingly integrated (*Saiti et al.*, 2014). This increased integration and providing many conveniences also increase the interdependence of the stock markets among countries. When economic shocks hit a country, the risk of other countries experiencing similar shocks is even greater. In minimizing risk due to shocks, investors diversify their portfolios. Islamic stocks can be an alternative choice for portfolio diversification when the global stock market experiences a crisis or shock. Rizvi & Arshad (2014) research shows that investors who have sharia stock portfolios will be better protected during the economic crisis originating from the financial sector.

The Islamic Cooperation Organization (OIC) has a large Islamic stock market capitalization in the world. The movement of Islamic stocks in OIC countries in the past decade has fluctuated. The majority of the stock price index experienced an upward trend from 2010 to 2014 but suddenly experienced a joint decline in 2015. The decline was indicated by the China stock market crisis in mid-2015. These events showed contradictory evidence that Islamic stocks hold against shocks.

Meanwhile, the United States-China trade war events in 2018 until early 2020 also affected shocks on world stock markets. Therefore, it is necessary to further analyze the relationship between each OIC country's stock markets and global economic conditions. This research analyses the integration and response of the Islamic stock markets of the OIC countries before the crisis and during the China stock market crisis, and during the United States-China trade war.

Understanding the integration among the OIC countries would shed some insightful light for policymakers and investors. For investors, designing a well-diversified portfolio crucially depends on a correct understanding of how the countries are interrelated. Changes in the interaction patterns call for an adjustment of portfolios. Policymakers are interested in interactions among the countries because of their implications for the stability of the national financial system. The findings of this paper are expected to have significant consequences for policymakers, international fund managers and other institutional investors who seek to enter the OIC stock market for diversification purposes. The rest of the paper is organized in the following sequence: the literature survey of relevant studies is provided in the next section. The research method and data are presented

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in Section 3. Section 4 discusses the results and implications of the paper. Lastly, section 5 concludes the paper.

Literature Review

Kassim (2013) conducted a study entitled The Global Financial Crisis and The Integration of Islamic Stock Markets in Developed and Developing Countries with the ARDL and VECM methods. The data used are seven sharia stock price indexes, namely the Jakarta Islamic Index (JII), the Dow Jones Islamic Index of Kuwait (DJIMKW), the Dow Jones Islamic Index of Malaysia (DJIMY), the Dow Jones Islamic Index of Turkey (DJIMTR), the Dow Jones Islamic Index of Japan (DJIJ), Dow Jones Islamic Index of UK (DJIUK), and Dow Jones Islamic Index of America (DJIUS). The results of the ARDL test show there is no evidence of a long-term relationship between the Islamic stock market in the pre-crisis period. Still, the opposite occurred in the crisis period. Thus, there are potential benefits of diversification among the Islamic stock markets in the non-crisis period. Then, based on VECM analysis on the integration of the sharia stock market during the crisis, it shows that all sharia stock markets are interrelated in the long run.

Nurrachmi (2019) conducted a study entitled Movements of Islamic Stock Indices in Selected OIC Countries. This study examines the integration of the Islamic stock index market during the crisis and after the crisis in 2007 and analyzes whether international investors can benefit when allocating their funds in these stock markets. Testing the relationship between Islamic stock indexes using Engel-Granger (1987) and Lagged Autoregressive Distribution (ARDL), the analysis was carried out with sub-periods during a crisis, namely from 3 September 2007 to 11 January 2010 and after the 2007 crisis from 18 January 2010 to 30 April 2013. The results illustrate that co-integration was present in the Islamic stock market after the crisis but not during the crisis. Long-term relationships show that investors can obtain portfolio profits in these six countries.

Suteja *et al*. (2019) conducted a study to see empirical evidence whether there was a co-integration of the Islamic stock market in Indonesia, Malaysia and Singapore, both before and during the Greek crisis. This study also wants to find out which countries have the most influence on the volatility of sharia stock prices in the Jakarta Islamic Index (JII). Secondary data used during the observation period uses weekly stock closing price data from 2007 to 2013. Furthermore, the data is divided into two categories of observations, pre-crisis data and crisis

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period data. The pre-crisis period began in May 2007 to April 2010, and the crisis period began in May 2010 to January 2013. The analytical method used was the Vector Error Correction Model (VECM). The results show that there is no co-integration in the capital market in the study sample. However, the study results prove that there is a contagion effect on the movement of sharia stock prices in these three countries. This study also shows that Singapore's sharia stock market dominates its influence on JII compared to Malaysia.

Majdoub *et al*. (2016) conducted a study entitled Market integration between conventional and Islamic stock prices. The aim is to assess market integration between conventional and sharia stock prices from long and short-term perspectives for France, Indonesia, Britain and the US from 8 September 2008 to 6 September 2013 using the Cointegration Procedures of Johanse (1988), Gregory and Hansen Cointegration (1996) and GARCH. The results show a long-term relationship for all countries, except for the UK, where there is no co-integration between conventional and sharia stock prices. These findings indicate that the Islamic financial industry in countries other than the United Kingdom seems incompatible with Islamic legal rules, preventing portfolio managers and market participants from benefiting from opportunities for international diversification and hedge effectiveness. From a correlation perspective, there is evidence of weak links between the Indonesian market and developed markets for conventional and sharia stock prices, thus showing that investors can diversify their portfolios at the international level to minimize risk. However, there is a high relationship between developed markets for conventional and Islamic indices.

Adam *et al*. (2017) conducted a study entitled Foreign Interest Rates and the Islamic Stock Market Integration between Indonesia and Malaysia. This study uses monthly data from the Jakarta Islamic Index, Hijrah Sharia Index, and foreign interest rates from August 2000 to January 2016. Cointegration test results show a co-integration relationship between the Jakarta Islamic Index and the Hijrah Shariah Index. Still, no co-integration relationship occurred between Jakarta Islamic Index, Hijrah Shariah Index, and The FED interest rates. The VAR model's estimation results show a long-term relationship between the Jakarta Islamic Index, the Hijrah Shariah Index, and the integration between the two markets.

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Methods

The type of data used in this study is time-series data. The data used is the closing data of the OIC member countries' daily Islamic stock price index included in the Top 10 Finance report of the State of the Global Islamic Economic Report 2019-2020 prepared by Dinar Standard. These countries are Malaysia, the United Arab Emirates, Saudi Arabia, Qatar, Bangladesh, Indonesia, China, and the United States as countries that experience a crisis. Then, this study also includes the world oil price variable as an exogenous variable that has a relationship with the China stock market crisis. This study uses daily stock price index data because the daily stock price index data is more informative than the weekly data (Khanna, 2016).

This study will be divided into three periods: the period before the crisis, when the China stock market crisis occurred, and the work period during the United States-China trade war. The pre-crisis period is from 8 October 2014 to 11 June 2015, while the period when the China stock market crisis occurred from 12 June 2015 to 12 February 2016 and when the United States-China trade war began on 13 August 2018 until 21 December 2018. The study period began from 8 October 2014 to 21 December 2018. Sources of data used came from S&P Dow Jones Indices and Invesiting.com.

The analytical method used in this research is quantitative analysis. The quantitative method used in this study is the Autoregressive Distributed Lag (ARDL) method. The ARDL method is an econometric method that can estimate linear regression models in analyzing long-term relationships that involve co-integration tests among time series variables. ARDL can also see the impact of the present and past data of the dependent variable and the independent variable. The software used in this analysis is Eviews 9 and Microsoft Excel 2016.

This study uses six models: Malaysia, United Arab Emirates, Saudi Arabia, Qatar, Bangladesh, and Indonesia. The six models are estimated using the Autoregressive Distributed Lag (ARDL) and Error Correction Model (ECM) methods. The dependent variable used in the model is the natural logarithm of the Islamic stock index in each country. After conducting co-integration tests on the six models in the three research periods, all models were not co-integrated before the China stock market crisis. In the period of the China stock market crisis, two models were co-integrated or had long-term relationships, namely Malaysia and Indonesia. Then the period of the US-China trade war was only two co-integrated models, namely Bangladesh and Indonesia. Due to co-integration in the model,

the estimation made is the estimation of the ARDL model, then proceed with the ECM estimation. While the non-cointegrated model, the estimation made is the estimation of the first difference ARDL model. The following are the models in this study:

If co-integration is found in the model, then the next step is to estimate the ARDL model then proceed with the estimated Error Correction Model (ECM). The ARDL estimation model is as follows:

$$y_t = c_0 + \sum_{i=1}^{p} \delta_i y_{t-i} + \sum_{j=1}^{q} \delta_j y_{t-j} + u_t \quad (1)$$

Where $\sum_{i=1}^{p} \delta_i y_{t-i}$ is the dependent variable with the lag operator and $\sum_{j=1}^{q} \delta_j y_{t-j}$ is the independent variable with the lag operator. After that, it will proceed with ECM estimation with the following models:

$$\Delta y_t = c_0 + \sum_{i=1}^{p} \delta_i \Delta y_{t-i} + \sum_{j=1}^{q} \delta_j \Delta y_{t-j} + ECT_{t-i} + \partial u_t \quad (2)$$

Suppose there is no long-term relationship (co-integration) found in the mode. In that case,n the next step is not to estimate the ECM but rather to estimate the first difference ARDL model with the estimation model as follows:

$$\Delta y_t = c_0 + \sum_{i=1}^{p} \delta_i \Delta y_{t-i} + \sum_{j=1}^{q} \delta_j \Delta y_{t-j} + u_t \quad (3)$$

Results and Discussions

Period Before the China Stock Market Crisis

The estimated sharia stock price index models of member countries that were the object of research in the period before the China stock market crisis used the ARDL method of first difference or short term. This estimation can only determine the short-term effect of the independent variables on the dependent variable. This is because none of the research models is co-integrated. Based on the F-statistic value, in the period before the China stock market crisis, the F-statistic value was below the lowest critical value (lower bound), so it can be concluded that there was no co-integration on all models. Therefore, the sharia stock price index of the OIC member countries has a short-term relationship in the period before the China stock market crisis. The complete estimation results of the short-term model of the period before the China stock market crisis are presented in Table 1.

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Table 1: Results of estimated short-term models of the period before the China stock market crisis

Independent Variable	Dependent Variable (Coefficient)					
	Malaysia	**Qatar**	**Indonesia**	**Saudi Arabia**	**UAE**	Bangladesh
D(LNDJIMMTI)		0.219029**		-0.178327*	0.136033	
D(LNDJIMMTI(-1))	0.097890*					
D(LNSPQADSI)	0.065739			0.133317	0.395200***	
D(LNSPQADSI(-1))		-0.075157				
D(LNSPQADSI(-2))		-0.233542				
D(LNJKII)	0.016661	0.069823		-0.015711	0.075877	
D(LNJKII(-1))						
D(LNSNPUS)	0.098290	-0.013070		-0.215458**	0.126649	
D(LNSNPUS(-1))	0.250357**					
D(LNSNPUS(-2))	0.257938**					
D(LNSPSADSI)	-0.090961*	0.155822*			0.523037***	
D(LNSPSADSI(-1))				0.051436		
D(LNSPSADSI(-2))				-0.176590*		
D(LNSPUAEDSI)	0.104058*	0.431216***		0.617226***		
D(LNSPUAEDSI(-1))		0.070550			0.025199	
D(LNSPUAEDSI(-2))		0.429213**				
D(LNSSECI)	-0.004887	0.050347		0.012552	-0.032656	
D(LNSPBLBMISI)	-0.034583	-0.048427		-0.267748***	0.175080*	
D(LNSPBLBMISI(-1))						
D(LNCOWTIF)	0.036411	-0.029755		0.043609*	-0.015798	

***), **), and *) significant at 1%, 5% and 10%

In the period before the China stock market crisis, there was a short-term relationship between the Malaysian sharia market and the Islamic stock market of the OIC member countries, especially Saudi Arabia and the UAE, as well as a positive relationship with the stock price index of developed countries, namely the United States. One reason why this can occur is a reasonably strong trade relationship between Malaysia and the United States. It is known that the value of Malaysian export trade to the United States in 2015 the was the highest among

other OIC member countries (UN Comtrade 2020). In contrast, Qatar's sharia stock market is vulnerable in the short term to shocks that occur in OIC member countries, such as Malaysia, Saudi Arabia and the UAE.

However, the Islamic index is quite resistant to shocks in developed countries like the United States and China. Indonesia and Qatar are members of the Organization of Petroleum Exporting Countries (OPEC). Other findings, namely the Saudi Arabian stock market, are vulnerable to global shocks because it has a significant relationship with OIC member countries and developed countries with economic dominance. The UAE sharia stock market is closely related to OIC member countries but not to developed country stock markets.

In the short term, the movement of sharia stock market prices is influenced by the stock market between countries that have strong economic relations. Stock exchange prices are determined by investors' demand and supply of shares in the capital market (Jogiyanto 2016). The demand and supply of a company's shares can be affected by the company's performance. Of course, the company's performance is highly dependent on macroeconomic conditions, especially multinational companies engaged in the international market. In this period, investors in developed countries benefit from increasing portfolio diversification if they invest in the Islamic stock market of OIC member countries.

China Stock Market Crisis Period

In the period of the China stock market crisis, some of the sharia stock markets of OIC member countries were co-integrated, had short-term and long-term relationships, were also not co-integrated or had only short-term relationships. The estimation of the sharia stock price index models of member countries, in this research, in the period of the China stock market crisis, used the first difference ARDL method for the unintegrated model and the long-term ARDL followed by the short-term ECM model for the co-integrated model. Based on the F-statistic value, in the period of the China stock market crisis, the Malaysian and Indonesian sharia stock market models had the F-statistic value above the highest critical value (upper bound), so it can be concluded that there was a co-integration of the model.

Table 2: Results of estimated short-term models of China Stock Market Crisis Period

Independent Variable	Dependent Variable (Coefficient)					
	Malaysia	**Qatar**	**Malaysia**	**Arab Saudi**	**Malaysia**	**Bangladesh**
D(LNDJIMMTI)		-0.028274	0.322224***	-0.035574	0.023954	
D(LNDJIMMTI(-1))				0.211339**		
D(LNSPQADSI)	-0.069579		0.102600	0.609493***	0.125605***	
D(LNSPQADSI(-1))		-0.146501*			0.098968***	
D(LNJKII)	0.258350***	0.098260		0.095439	0.335691**	
D(LNSNPUS)	-0.074310	0.010598	0.264208***	-0.033531	0.397284	
D(LNSNPUS(-1))	-0.272244***		0.322920***			
D(LNSPSADSI)	-0.039449	0.384809***	0.050753		0.229021***	
D(LNSPSADSI(-1))				-0.121586*		
D(LNSPUAEDSI)	0.059159	0.292706***	0.244445***	0.230811*		
D(LNSPUAEDSI(-1))					-0.254940***	
D(LNSSECI)	0.009443	-0.000970	0.046561	0.063154	-0.034501	
D(LNSSECI(-1))			-0.076059**			
D(LNSSECI(-2))			-0.006634			
D(LNSSECI(-3))			-0.150097***			
D(LNSPBLBMISI)	-0.121545	0.185889	-0.097866	-0.141602	0.263235	
D(LNSPBLBMISI(-1))						
D(LNCOWTIF)	0.043811	-0.055363	-0.002772	0.098263***	-0.007075	
D(LNCOWTIF(-1))		0.081442***				
CointEq(-1)	-0.309706***		-0.229681***			

***), **), and *) significant at 1%, 5% and 10%

The F-statistic value below the lowest critical value (lower bound), so it can be concluded that there is no co-integration on all models. The complete estimation results of the China stock market crisis period are shown in Tables 2 and 3.

Malaysian and Indonesian sharia stock market models have an F-statistic value above the highest critical value (upper bound), so it can be concluded that there is a co-integration of the model. Meanwhile, Qatar, Saudi Arabia, UAE and Bangladesh sharia stock market models have an F-statistic value below the lowest

critical value (lower bound), so it can be concluded that there is no co-integration on all models. These findings are consistent with research by Royfaizal et al. (2009), Kassim (2013), Nurrachmi (2019), Majid et al. (2008) and Jiang et al. 2017 which proves that the stock price index is co-integrated in the crisis period.

Based on the China stock market crisis period's short-term estimation results, the Malaysian Shia stock price index is significantly affected by the Indonesian Shia stock price index and the United States stock price index at lag 1. Qatar's sharia stock price index as the dependent variable shows a relationship short term between Qatar and several OIC member countries, namely Saudi Arabia, UAE and Qatar itself, and crude oil price. Then, the Indonesian sharia stock price index is significantly influenced by the sharia stock price index of Malaysia, UAE, China and the United States, even at lag 1. Furthermore, the Saudi Arabian sharia stock price index is significantly affected by the Malaysian sharia stock price index at lag 1, Qatar, UAE, Saudi Arabia itself in lag 1, and crude oil. Meanwhile, the UAE sharia stock price index in the short term is significantly affected by Qatar, Indonesia, Saudi Arabia, and the UAE itself.

Table 3: Results of estimated long-term models of China Stock Market Crisis Period

Independent Variable	**Dependent Variable (Coefficient)**	
	Malaysia	**Indonesia**
LNJKII	0.864687***	
LNDJIMMTI		0.323612**
LNSNPUS	0.536225***	-0.868499***
LNSPBLBMISI	0.209986	-0.522204**
LNSPQADSI	-0.467484***	-0.127162
LNSPSADSI	0.012085	0.062424
LNSPUAEDSI	0.351733*	0.710224***
LNSSECI	-0.044682	0.163677
LNCOWTIF	0.167387***	-0.049622

***), **), and *) significant at 1%, 5% and 10%

The long term estimation results of the China stock market crisis period for the Indonesian and Malaysian sharia stock markets indicate that the Malaysian

sharia stock price index is significantly affected by the sharia stock prices index of Indonesia, Qatar and the UAE. In addition, Malaysia's sharia stock price index is also significantly influenced by the US stock price index and the price of crude oil. Then, Indonesia's sharia stock price index is significantly affected by the sharia stock price index of Malaysia, Bangladesh and the UAE. In addition, the Indonesian Islamic stock price index is also significantly influenced by the United States stock price index. Indonesian and Malaysian Islamic stock markets have a significant long-term relationship with the US stock market than China during the China stock market crisis.

The majority of the OIC member countries' Islamic stock markets experienced shocks during the China stock market crisis. However, the shock is not directly from the China stock market. The shock is the result of transmission effects through the movement of crude oil prices. Crude oil prices are faced with a sharp decline in turmoil due to the crisis that occurred in China. China is the second-largest crude oil-consuming country after the United States. It is known that the majority of OIC countries that are the objects of research are incorporated in OPEC.

During the China stock market crisis, the sharia stock markets of Indonesia and Malaysia were co-integrated or had a long-term relationship between the two, with other OIC member countries and the US stock market. However, there is no long-term effect due to the China stock market. During this period, the benefits of portfolio diversification for global investors were reduced if investing in the Islamic stock market of the OIC member countries. This is because of the shocks due to the crisis on the China stock market, especially Indonesia and Malaysia with strong economic relations with China and the United States.

US-China Trade War Period

During the United States (US) and China trade war periods, there were sharia stock markets in OIC member countries that were co-integrated, had short-term and long-term relationships. However, there were also sharia stock markets that were not co-integrated or had only short-term relationships. Estimated sharia stock price index models of member countries in this research in the US-China trade war period used the first difference ARDL method for the co-integration model and the long-term ARDL followed by the short-term ECM model for the co-integrated model. Based on the F-statistic value, during the US-China trade war period, the sharia stock market model of Indonesia and Bangladesh had the

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F-statistic value above the highest critical value (upper bound). It can be concluded that there was a co-integration of the model. Meanwhile, Qatar, Saudi Arabia, UAE and Malaysia sharia stock market models have the F-statistic value below the lowest critical value (lower bound), so it can be concluded that there is no co-integration on all models. The results of the total estimation of the US-China period are in Tables 4 and 5.

Table 4: Results of estimated short-term models of US-China Trade War Period

Independent Variable	Dependent Variable (Coefficient)					
	Malaysia	Qatar	Malaysia	Arab Saudi	UAE	Bangladesh
D(LNDJIMMTI)		0.081949	0.043604	0.103383		-0.116359*
D(LNDJIMMTI(-1))						
D(LNSPQADSI)			0.422160***	0.037070		0.099655
D(LNSPQADSI(-1))		0.278011***				
D(LNJKII)		0.108018*		0.107653		0.009906
D(LNJKII(-1))			0.301746***			
D(LNSNPUS)		-0.088356	0.014870	0.236719***		-0.019401
D(LNSPSADSI)		0.042637	0.320790**			0.185763***
D(LNSPSADSI(-1))				0.094215		
D(LNSPUAEDSI)		-0.034653	0.099340	0.030856		-0.058675
D(LNSPUAEDSI(-1))						
D(LNSSECI)		0.154120**	0.191613**	0.190313**		-0.110899**
D(LNSSECI(-1))						-0.164200***
D(LNSPBLBMISI)		0.112248	0.103632	0.374328**		
D(LNCOWTIF)		0.075938**	0.008964	0.057941		-0.073150
CointEq(-1)			-0.567392***			-0.213137***

***), **), and *) significant at 1%, 5% and 10%

During the United States (US) and China trade war periods, there were sharia stock markets in OIC member countries that were co-integrated, had short-term and long-term relationships. However, there were also sharia stock markets that were not co-integrated or had only short-term relationships. Based on the F-statistic value, during the US-China trade war period, the sharia stock market

model of Indonesia and Bangladesh had the F-statistic value above the highest critical value (upper bound), so it can be concluded that there was a co-integration of the model. Meanwhile, Qatar, Saudi Arabia, UAE and Malaysia sharia stock market models have the F-statistic value below the lowest critical value (lower bound), so it can be concluded that there is no co-integration on all models. These findings are consistent with research by Royfaizal et al. (2009), Kassim (2013), Nurrachmi (2019), Majid et al. (2008) and Jiang et al. 2017 which proves that the stock price index is co-integrated in the crisis period.

Based on the short-term estimation results of the US-China trade war period, Qatar sharia stock price index is significantly affected by the Indonesian sharia stock price index, the China stock price index, crude oil price, and Qatar's price index itself in lag 1. Furthermore, the Indonesian sharia stock price index is significantly influenced by the Qatar sharia stock price index, Saudi Arabia and Indonesia itself in lag 1 and the China stock market. The Saudi Arabian stock price index is significantly affected by the United States, China and Bangladesh. Meanwhile, there is no significant influence of the independent variable on the UAE sharia stock market even in the short term. Finally, Bangladesh's sharia stock price index significantly affects the sharia stock price index of Malaysia, Saudi Arabia, and the China stock price index at lags 0 and 1.

Table 5: Results of estimated long-term models of US-China Trade War Period

Independent Variable	**Dependent Variable (Coefficient)**	
	Indonesia	**Bangladesh**
LNJKII		-0.069966
LNSPBLBMISI	-0.103864	
LNSPQADSI	0.350482***	-0.533055**
LNSPSADSI	0.139061	0.304972
LNSPUAEDSI	-0.214873*	0.093244
LNSSECI	0.268959**	-0.077651
LNCOWTIF	-0.103333***	-0.034281
LNDJIMMTI	0.251994*	-0.225828
LNSNPUS	-0.145468	0.251638*

***), **), and *) significant at 1%, 5% and 10%

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In the long-term estimation results of the US-China trade war period, Indonesia's sharia stock price index is significantly affected by Qatar's sharia stock price index, Malaysia, UAE, China stock price index, and crude oil price. Then, Bangladesh's sharia stock price index was significantly influenced by the Qatar sharia stock price index and the United States stock price index. The Islamic stock markets of Indonesia and Bangladesh have a significant long-term relationship to the stock markets of countries that are at war. Indonesia has closer relations with China, while Bangladesh has a closer relationship with the United States.

Conclusions

There is no co-integration or a long-term relationship in all Islamic stock market member countries of the OIC. Before the Chinese stock market crisis occurred, the integration of the Islamic stock market that occurred between the countries studied was very weak. In contrast, during the Chinese stock market crisis and the United States-China trade war, integration between the Islamic stock markets was more prevalent. In the period of the Chinese stock market crisis, the sharia stock market model of Indonesia and Malaysia contained co-integration or long-term relationships. Whereas in the period of the United States-China trade war, co-integration or long-term relationships were found in Indonesia and Bangladesh's sharia stock market model. The Islamic stock market of OIC member countries responds to shocks that occur both directly and indirectly. The Islamic stock markets of Qatar, Saudi Arabia and the UAE are experiencing a domino effect from fluctuations in oil prices because China and the United States are the biggest consumers of petroleum. Then, the Indonesian Islamic stock market in the two crisis periods had a long-term relationship with the US and China stock markets. In comparison, the Malaysian and Bangladesh Islamic stock markets have only a long-term relationship with the US stock market. Regarding the benefits of portfolio diversification for investors, there is the relevance of dominant economic strength, geographical factors, and trade relations in influencing the integration of the Islamic stock market.

Policymakers need to take preventative measures to avoid a large-scale decline in the Islamic stock market during the global crisis. OIC countries must improve the quality of the structure and infrastructure of the Islamic stock market and policy reforms such as reducing or removing trade and investment barriers. At the same time, investors should consider the dominant economic strength, geographical factors, and trade relations in determining portfolio

diversification in each global economic condition. For further research, it can conduct further research by adding a sample of the number of countries that are the object of research to find out the integration and response of other OIC countries.

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