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Reengineering Knowledge and Creativity for Global Excellence

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Foreword

The papers compiled in these e-proceedings are papers presented online at Technology, Science, Social Sciences and Humanities International Conference 2022 (TeSSHI 2022) held on 30 June 2022 at Universiti Teknologi MARA (UiTM) Cawangan Kedah, Kedah, Malaysia. With the theme, ***Reengineering Knowledge and Creativity for Global Excellence**,* the conference has brought together presenters of diverse background who shared their conceptual and empirical papers in broad areas that are subsumed under the fields of Technology, Science, Social Sciences and Humanities. These e-proceedings comprise current researches that were undertaken with the rigorous endeavour of knowledge enhancement to ensure that the world of academia will continue to flourish. It is thus hoped that readers will significantly benefit from knowledge contained in these proceedings.

TeSSHI 2022 and these e-proceedings would not have been possible without the great efforts from the presenters, and the generous support from the TeSSHI 2022 committee members and the Rector of UiTM Cawangan Kedah, Prof. Dr. Mohamad Abdullah Hemdi. A heartfelt gratitude is extended to all involved. It is hoped that these e-proceedings will be an impetus to stimulate futher studies and research that benefit the society at large.

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Co-Integration Between Malaysia Stock Market, ASEAN and ASEAN Plus Three Countries During Pre and Post 14th Malaysia's General Election: A Short Run Analysis

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ABSTRACT

This study aimed to know whether there exists a link between Malaysia stock market with other ASEAN stock markets (Indonesia, Singapore, Thailand, Vietnam, and Philippines) and ASEAN plus three stock markets (China, Japan and Korea) before and after the 14th Malaysian General Election held on 9 May 2018. This paper ran the correlation test to determine the relationship between the stock markets and as a result, the correlation between the stock markets increased after the General Election.

Key Words: Co-integration; Correlation stock markets; Malaysia General Election

INTRODUCTION

Stock market have countless factors that can affect their value. According to a study by Allahwiah and Amro (2012), the internal and external factors have effect on the stock prices of the listed companies in Amman Stock. The study also figured out that inflation rate was the biggest factor that impacted the price while nature of the firm offered the least impact. Another factor that can affect stock market is co-integration. Co-integration is the degree to which two variables are sensitive to the same average price over a specific period. It is important for investors to study the co-integration between the companies. In addition, testing the co-integration between the companies can help investors to decide which companies they should invest their money in. Thus, they have a higher chance to minimize their loss and maximize their profits. According to The Balance (Kuepper, 2020), during the 1997 Asian financial crisis, many Asian countries such as South Korea, Malaysia, Thailand, Indonesia, Singapore, and the Philippines faced 70% loss in their value of stock market and currencies even though they posted impressive growth rates before the crisis. For investors who only invested in these countries, they had to bear higher losses because the countries showed co-integration between them. This can be prevented by studying the co-integration first before they proceed to invest their money.

In addition, every stock has its own pattern and there are market trends such as bull and bear market. Bull market refers to the market that is on the rise or in other words the market is in an uptrend. During a bull market, the country's economy is strong. On the other hand, a bear market refers to a weakening market when the economy of the country is slow, and most stocks are declining in value. Investors cannot run from the downward movement of stock prices. In that case, what they can do to maximize their profit is they have to invest in many stock companies as a mean of diversification. Investing a bigger sum in one area does not necessarily guarantee more profits. They should know whether each company that they have invested in have the integration factor between the companies. If they invest in two companies which have co-integration between the companies, then the investor will have to face bigger losses. Although a company is in a different country, there is still a possibility they have co-integration between them. According to research by Mei, Chien, Te and Hui (2010), they found that from 1994 to 2002 there had at most one co-integrating vector between six stock markets in their study. Overall, China and ASEAN-5 had gradually increased their regional financial integration. Besides that, China and Indonesia have statistically significant and negative result on the estimated coefficients of error correction terms. Meanwhile, the coefficients of other countries are insignificant which means there is co-integration only between China and Indonesia's stock markets.

According to Wuthisatian (2014), a study was conducted on 2 January 1997 up to 19 December 2013 to look at the stock market co-integration. The result stated that Hong Kong showed the highest average of stock price while Thailand had the lowest average of stock prices. It also stated that developed countries tend to exhibit a lower volatility degree than the Asian stock market. Indonesia is a country that have the most volatility market while Thailand has moderate volatility stock market. Volatility is important to investors because they can apply volatility data on expected long-term risks to support their portfolios with the associated expected returns. Hence, investor can reduce their risk by knowing the volatility and apply diversification in investment.

Investors generally do not like uncertainty whereby there is inability to forecast the future value or stock prices. When uncertainty exists or is increasing, investors are more willing to sell off their shares. When the stock market is declining, many investors tend to sell their shares before the value exceeds their stop loss. According to New Straits Times (2019), Malaysian Industrial Development Finance (MIDF) Research said that foreign investor took out RM187.2 million net of local equities in the third week of November 2019. The amount was lower than the preceding week of November 2019 which was RM408.5 million. MIDF Research also stated that RM9.17 billion of local equities was taken out by basis foreign funds from Malaysia, making up 78.4 per cent of the previous year's total foreign outflow of RM11.69 billion. Furthermore, Malaysia created history during the 14th General Election in 2018 when the country's federal opposition, 'Pakatan Harapan' won with a simple majority. One of the hopes after the election was the abolishment of Goods and Services Tax (GST). However, after their victory, Malaysia had to go through various challenges and face economic instability due to transition of government. According to FMT News (2019), since the 14th General Election, Bursa Malaysia's market capitalization had decreased by RM157 billion and the FBM KLCI saw their market barometer dropped to 1,629 points compared to 1,846 points just before the 2018 General Election. Therefore, main objective of this study is to do a short run analysis by studying the co-integration between Malaysia stock market, ASEAN, and ASEAN plus three stock markets before and after Malaysia's 14th General Election.

PREVIOUS STUDIES

Numerous studies have been done by other researchers such as (Narayan et al., 2011; Chien et al., 2015) on the stock markets co-integration and they found long-run and short-run relationship between stock indices of different countries which leads to a possible convergence of stock markets.

In a study conduct by Wuthisatian (2014), using the full samples from 1997-2013 data, explained that there is a weak long-run relationship between Thailand and others 11 major trading markets. In the sample of 1997-2000, Thailand shows strong co-movement with all other markets except Philippines whereas in 2006-2009, Thailand showed that co-integration with other stock markets is absent. For the remaining sample of 2000-2003, the Thailand market displayed a single co-integration vector with the Korean stock market. The 2003-2009 sub-sample also showed that Thailand market had co-integration with three other markets namely the New York, NASDAQ, and Austria markets. In addition, for the sub-samples 2009-2013, Thailand shared the long-run relationship with the NASDAQ, Malaysia, and Philippines stock markets (Wuthisatian, 2014).

According to Gupta and Guidi (2012), by using the Johansen Co-integration test, Dr. Syriopoulus had confirmed that Central Europe emerging markets and several developed stock markets in 1999-2003 have short and long-run relationship. In another study, Jang and Sul (2002) stated that after the 1997 financial crisis, the co-integration among Asian stock markets had dramatically increased. Chi et al. (2006) added the integration between Asian emerging equity markets with Japanese and US equity market increased immediately after the crisis.
Another study by Ariffin et al. (2013) indicated that Nikkinen et al. (2012) shows that during the 2008 global financial crisis, Baltic region offered evidence that their regional stock markets integration was present in their area. Using co-integration test, the study investigated the period beginning 3 January 2004 until 30 June 2009 and found a linkage between developed European stock and emerging stock markets. The result showed the emerging stocks market were segmented before the crisis and highly integrated during the 2008 financial crisis. According to these papers, it can well explain that the existence of the integration between countries stock markets.

METHODOLOGY

This study will retrieve daily index data along with the data on Malaysia's, ASEAN, and ASEAN plus three countries stock markets indices collected from website Yahoo Finance. The data will be collected from 19 September 2016 until 31 December 2019. According to a survey by Jang and Sul (2002), the stock returns data will be calculated using the formula:

$$R = 100 \times [\ln S_t - \ln S_{t-1}]$$

where: R = Stock Return
S_t = Stock price current year
S_{t-1} = Stock price previous year

ANALYSIS AND RESULTS

In this section, the results of descriptive statistics and correlation analysis used in this study will be discussed and elaborated. Statistical software namely EViews was used to conduct the analysis.

Descriptive Statistics

Table 1 presents the descriptive of the daily stock returns for the six Asian markets and the China, Japan, and Korea markets during the two periods under investigation. During the pre-General Election all of the stock markets, there is a positive average daily return excepts for the Philippines stock market. As for the post-General Election, this study deduced that Malaysia, Indonesia, Singapore and Japan have negative stock returns while the others five stock markets show positive average daily returns during post-General Election. Among the nine markets, Vietnam recorded the highest average daily stock returns for both the pre-General Election (0.2245) and post-General Election (0.0749). Meanwhile, Philippines recorded the lowest average daily stock returns for pre-General Election (-0.0511) and Indonesia post-General Election (-0.1237).

Based on the standard deviation listed in Table 1, the volatility for the post-General Election increased compared to pre-General Election except for Vietnam and Korea. Both these countries showed decrease in volatility. As can be observed in Table 1, the average stock market returns are not normally distributed for the two sub-periods since all the value of the Jarque-Bera are highly significant and these values lead to the rejection of the null hypothesis of normal distribution which is (H_0: normally distributed).

Table 1 Descriptive Statistics of the Stock Returns

Period	Mean	Standard Deviation	Jarque-Bera	Probability
Malaysia				
Post-General Election	0.0172	0.5320	170.3138	0.0000
Post-General Election	-0.0537	0.6971	248.2778	0.0000
Indonesia				
Post-General Election	0.0754	1.1585	1699.7250	0.0000
Post-General Election	-0.1237	1.6277	2458.7980	0.0000
Singapore				
Post-General Election	0.0432	0.7521	74.0045	0.0000
Post-General Election	-0.0594	0.8911	72.3343	0.0000
Thailand				
Post-General Election	0.0714	0.7562	1369.3290	0.0000
Post-General Election	0.0025	0.8519	32.7452	0.0000
Vietnam				
Post-General Election	0.2245	1.1935	773.6141	0.0000
Post-General Election	-0.0594	-0.0594	243.9603	0.0000
Philippines				
Post-General Election	-0.0511	1.0886	67.3860	0.0000
Post-General Election	0.0699	1.12472	69.4910	0.0000
China				
Post-General Election	0.0946	1.3814	121.4758	0.0000
Post-General Election	0.0562	2.4123	985.3606	0.0000
Japan				
Post-General Election	0.0857	1.1583	966.8113	0.0000
Post-General Election	-0.0307	1.41125	1281.6130	0.0000
Korea				
Post-General Election	0.0857	1.1583	966.8113	0.0000
Post-General Election	0.0181	0.9824	57.6839	0.0000

Correlation Analysis

Table 2 shows the correlation of the stock returns for the two sub-periods and highlights the short-run relations between the movements of the nine stock markets. Correlation coefficient is used to measure the extent of the association between stock markets. Before Malaysia's General Election, Korea recorded the highest correlation relations with Singapore (0.5113) which means the stock markets have strong positive linear relationship whereas the lowest correlation relation for the pre-election are China and Thailand (0.0437) which mean weak relationship between the stocks. After the 14th General Election, Korea and Singapore recorded the highest correlation (0.5349) again while Malaysia recorded the lowest correlation with China (0.1082). However, all the correlation of the stock returns showed positive value. This indicates that all the stock return pairs showed positive relationship. Table 2 also showed that the correlation for each stock markets from before the General Election was higher after the votes were counted. This situation also means that the short-run interactions among pairs of the stock markets returns appear to be increasing. This finding is consistent with Abd Majid et al. (2009) who suggested that the change in the correlation coefficient among ASEAN markets proves that limited short-term diversification benefits within the region.

Table 2 Correlation of the Stock Returns for the Two Sub-periods

Pre-General Election periods									
	IDX	KLSE	KOSPI	MSCI	NIKKEI	PSEI	SET	SZSE	VN
IDX	1.0000								
KLSE	0.3191	1.0000							
KOSPI	0.2666	0.4021	1.0000						
MSCI	0.2136	0.3771	0.5174	1.0000					
NIKKEI	0.1589	0.2946	0.4928	0.5013	1.0000				
PSEI	0.3262	0.4063	0.3165	0.3004	0.2743	1.0000			
SET	0.2963	0.2103	0.2889	0.3772	0.2774	0.1670	1.0000		
SZSE	0.1343	0.1417	0.3310	0.2470	0.2438	0.1333	0.0437	1.0000	
VN	0.1850	0.0944	0.1470	0.1002	0.1625	0.1340	0.1919	0.2551	1.0000
Post-General Election Period									
	VN	SZSE	SET	PSEI	NIKKEI	MSCI	KOSPI	KLSE	IDX
VN	1.0000								
SZSE	0.3615	1.0000							
SET	0.1673	0.2415	1.0000						
PSEI	0.2384	0.1622	0.2453	1.0000					
NIKKEI	0.2843	0.2561	0.1825	0.2767	1.0000				
MSCI	0.2949	0.4037	0.4256	0.3438	0.4115	1.0000			
KOSPI	0.3387	0.3918	0.3888	0.3379	0.4910	0.5349	1.0000		
KLSE	0.1977	0.1082	0.3423	0.3944	0.2709	0.3917	0.3968	1.0000	
IDX	0.1692	0.1553	0.1762	0.3540	0.1689	0.3378	0.2949	0.2978	1.0000

Notes: -

KLSE = Malaysia
IDX = Indonesia
SET = Thailand

MSCI = Singapore
PSEI = Philippines
VN = Vietnam

KOSPI = Korea
NIKKEI = Japan
SZSE = China

CONCLUSIONS

Information ranging from 19 September 2016 to 31 December 2019 for Malaysia, ASEAN and ASEAN plus three markets had been used to examine the co-integration relationship between the stock markets. To determine whether the data have meaningful relationships between the stock markets in the short run, various econometric tests had been used. First, descriptive statistics had been used to know whether the data are normally distributed or not. The result from this test confirms that the data are normally distributed. The correlation analysis was then run to find the short-term relationship between the stock market. Before the 14 Malaysia General Election, this study found that the highest correlation with Malaysia Stock Market is Philippine (0.4063) and the highest correlation with Malaysia Stock Market was recorded for the after General Election is Korea Stock Market, which is (0.3968). Even though the result show weak relationship but the relationship is positive.

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