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THE STOCK MARKET DEVELOPMENT DIFFERENCES AMONG ASEAN – 5 COUNTRIES: A MEAN COMPARISON ANALYSIS

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ABSTRACT

In this study, the difference of stock market development among ASEAN – 5 countries are examined. By using mean comparison analysis, results suggested that there are significance difference of stock market development were displayed in Malaysia, Thailand and Singapore. In Malaysia, mean of stock market development was relatively low after the post –crisis period. Meanwhile, the stock market development in Thailand and Singapore were significantly improve after the crisis.

Keywords: Stock Market Development; ASEAN – 5; Mean Comparison; Asian Financial Crisis

1.0 Introduction

The radical changes in the stock market development (SMD)1 among emerging economies have been widely emphasized in the past two decades. As stock market is one of the main financial sources for developing countries, a developed stock market would increase the standard of through stimulating the efficiencies of financing and investment in a country. This is due to the fact that local stock market could promote the efficiency of saving mobilization, enhancing capital market allocations and creating the employment opportunities for the nations. Also, stock market could allow the multinational corporation to access the liquid investments and portfolio diversification which also help the country to develop through projects financing (Greenwood & Smith, 1997; Ibrahim, 2011; Niblock, Heng, & Sloan, 2014). Meanwhile, less developed stock market would inject an overflows of foreign funds which then jeopardizes the domestic credit channel and reduce the human capital (Bloom & Williamson, 1998). Also, large foreign capital flows would create negative effects such as rapid monetary expansion, inflationary pressure, current account deficits and high currency appreciation which weaken the economic development (Hoti, 2004).

[1] *SMD* is defined as the process of improving the ability of the stock market to satisfy the need of the traders and enhancing the long term investment, have a higher stock market liquidity position and highly contribute to the economic growth of a country. The definition was also applied by El-Wassal (2013), Nowbutsing and Odit (2009), Sezgin and Atakan (2015) and Balogun *et al.* (2016)

Vol. 1, No. 03; 2017

ISSN: 2456-7760

Given the importance of SMD to the economic growth, the investigation on the current position of the SMD is necessary. Although there have been some efforts contributed by economists or financial analysts to explain the issues of SMD. The explanations of the issue among the emerging markets such as Association of South East Asian Nations – 5 (ASEAN – 5)2 are very limited as the traditional researches are mostly focused on dynamic changes for developed countries.

As claimed by Sukcharoensin and Sukcharoensin (2013), in the post Asian Financial Crisis (AFC) in 1997 – 1998, the well – developed markets are Malaysia, Singapore and Thailand. The highest number of listed companies belongs to Malaysia but it less trading volume. Indonesia has advantage in size but less efficiency while Philippines was ranked as the lowest in most of the SMD aspects which needed to improve. In addition, study by Hashmi (1997) found that the development of small markets have greater effect by the large markets in the post

– crisis period. Meanwhile, study by Chen, Leng and Lian (2005) found that, before the crisis, Singapore and Malaysia are leading the market but not during the crisis which turns into Indonesia. The role of Singapore weakens in the post – crisis period. As the ASEAN – 5 countries are sharing the same geographical and economic hinges, the development of the stock market should be synchronize particularly after the AFC as towards an integrated stock market is concerned. Specifically, this paper would address the difference of SMD across ASEAN

– 5 during pre – and post – AFC.

In accomplishing this objective, next sections provide the methodology, results interpretation and closed by policy implication and summary.

2.0 Methodology

In answering the objective of this paper, non – parametric analysis is applied. One of the non – parametric analyses is the comparative study. Basically, the purpose of comparative study is to detect and measure differences among ASEAN – 5. One of the comparative studies methods is mean comparison analysis. In the mean comparison analysis, the performance of SMD and liquidity of ASEAN – 5 for pre and post – AFC is evaluated and compared.

Empirically, Let say XB and XA are measurement SMD in ASEAN – 5 for pre and post – crisis periods, respectively.

2 ASEAN – 5 comprises of Malaysia, Indonesia, Thailand, Philippines and Singapore. These countries are the first five countries which collaborated to form the ASEAN in 1967.

Vol. 1, No. 03; 2017

ISSN: 2456-7760

The means of SMD performance of each country for pre and post-crisis periods are represented by X B and X A , respectively. A higher mean in the succeeding era suggests improvement in the performance of the country.

Throughout the mean comparison analysis, it is assumed that mean differences, D= X_B- X_A is continuous.

In examining the differences mean SMD performance of each country for pre and post – crisis periods, hypothesis H0: U_B- U_A= 0 against hypothesis alternative, H_1 : U_B- U_A = 0 are used.The t – test is used to test the hypotheses. The values of t – statistics or t* is computed according to the given two data set inputs of first data set mean and standard deviation and second data set mean and standard deviation, and then those are compared with the t – critical values. The t* equation is given by Equation (1) – Equation (3)

$$t^* = \frac{X_A - X_B}{S_m} \quad \text{; where (1)}$$

$$S = \frac{S_B^2 \quad S_A^2}{n_B \; n_A} \quad \text{; and (2)}$$

$$S^2_B = \sum (X_B - X_B)^2 \text{ ; while } S^2_A = \sum (X_A - X_A)^2 \quad (3)$$

Where:

X B = the mean of performance SMD before crisis

X A = the mean of performance SMD after crisis

S_m = the standard deviation

S_B^2 = the variance for X_B

S_A^2 = the variance of X_A

n_B = the sample size of X_B

n_A = the sample size of X_A

Vol. 1, No. 03; 2017

ISSN: 2456-7760

3.0 Result Interpretation

The mean comparison analysis results are reported in Table 1. Based on the results, the calculated t – values for Malaysia, Thailand and Singapore are greater than the critical t – value. Therefore, the null hypothesis of no differences between the SMD in pre – and post AFC for these countries are rejected at five percent confidence level. Also, these results indicate that the mean of SMD in the pre – crisis period for Malaysia, Thailand and Singapore are significantly different comparatively with post – crisis period.

Table 1: *Mean Comparison Analysis Results*

Country	Mean		Std. dev	*t* – value
	pre – crisis	post – crisis		
Malaysia	235.34	110.65	68.56	-1.82*
Indonesia	43.37	32.14	22.74	-0.49
Thailand	33.27	88.27	30.7	1.79*
Philippines	56.04	52.2	101.61	-0.04
Singapore	135.4	228.72	52.11	1.7**8***

**Note: t – values are compared with the t – critical value of 1.725*

As the results suggested that there is a downturn in the SMD of Malaysia during the post – crisis period. Athukorala (2010) claimed that the speculative attack on the Thai baht during the AFC caused to a heavy ceiling pressure on Malaysia ringgit. During this time, ringgit was depreciated against USD by almost 50 percent. Due to this circumstances, for the first time after 1991, total portfolio inflows was turned into negative and the Composite Index of Kuala Lumpur Stock Exchange (KLSE) had fallen more than 50 percent from the pre – crisis position. These massive reversal of portfolio capital flows wiped off almost USD225 billion of share values

(Athukorala, 2010). Given the downturn in the foreign exposure on the domestic stock market and financial institutions. By end of 1998, the economy was turned into recession which caused to increase in unemployment rate from 2.6 percent in 1996 to 3.9 percent in 1998 and the inflation rate peaked at 6.2 percent. Due to this position, there is a strong possibility of the contraction in of Malaysia. Furthermore, the constraint on the short – term capital inflows, foreign share holdings by the local brokerage firms and financial facilities to the non – residents were affect the attractiveness of the institutional investors and fund managers to trade into the Malaysia's stock market particularly after the crisis period (Filardo et al., 2010).

Vol. 1, No. 03; 2017

ISSN: 2456-7760

Furthermore, as the analysis in this section provides the evidences of significant improvement in the SMD for Thailand and Singapore in the post – crisis period. Several initiatives adapted by Thailand to sought for foreign investors such as stabilizing the float in baht and restructuring the financial institutions have provides a good impact for SMD in Thailand. As the value of baht approach the pre – crisis level, Thailand authorities reduced the lending rate to encourage more investment activities mainly into the stock market. Also, stronger financial institutions Thailand improve the ability to provide the financial supports especially for the corporate investors and encourage them to invest into stock market.

Meanwhile, the AFC was not seriously affect the Singapore's economy compared to the other regional counterparts. Although the AFC impaired the economic growth but it was not led to the collapse of the Singapore's currency and financial sectors. Also, reliability on the foreign direct investment rather than external loan, good stock market governance and high supervision of the financial sectors are among the factors which retain the confidence of investors to invest into Singapore's stock market. Besides, various measures such as tax cutting, and other transaction costs after the AFC. These initiatives were attract more investors to invest into Singapore's stock market particularly corporate investors. Given this, it helps to stimulate the SMD in Singapore.

On the other hand, there is failure to reject the null hypothesis for Indonesia and Philippines. Therefore, at five percent confidence level, results indicate that there is no significant difference of SMD between pre and post – crisis periods for these countries. According to Wyman (2016), insignificant difference for the SMD of Indonesia is due to the intricate in the issuance processes and disclosure requirement, many corporate investors are not attracted to change into stock market for capital gain as they are comfortable with term deposit and insurance program.

Meanwhile, in Philippines, the transaction costs is one of the factors which hold the SMD. According to Antonio and Abola (2005), the stock market in Philippines has the second highest transaction costs among Asian Equities markets after South Korea after the AFC. The main cost comprises of taxes and commissions. This high costs affect the trading volume or liquidity in this stock market which then makes this stock market less attractive for the investors.

Moreover, Crisostomo, Padilla, and Visda (2013) suggest that there is lack of exposure and understanding on the benefits of trading in the stock market in Philippines. Together with the lengthy processes and disclosure requirement to access into the stock market, this circumstances affect the attractiveness of the investors to invest into Philippine's stock market.

Vol. 1, No. 03; 2017

ISSN: 2456-7760

4.0 Policy Implication and Conclusion

As this study pay a particular concern on the difference of SMD due to the financial crisis. The precautionary initiatives which could protect against SMD's downturn are proposed. Such initiatives include financial institutions reformation, financial support mechanism and corporate governance frameworks.

The reformations of financial institution are required to build a stronger financial system. Firms and financial institutions in ASEAN – 5 are suggested to formulate a superior accounting system, legal standard and financial operating system. Given this impasse, a revision on the current financial architecture could explicitly recognize and stabilizing the role played by the financial institutions in stimulating the SMD. Specifically, a task force could be formed to identify the inconsistence areas and the appropriate approaches to remove those inconsistencies could be formulated. Based on this initiative, a stronger financial institutions could support the stock market towards better resiliency.

Moreover, a mechanism should be constructed in helping the affected ASEAN members due to any external shocks. For instance, a significant financial aids from richer or unaffected countries could enhance the economies of the affected countries and boosting them up to the richer members' standard. This initiative was also implemented by the European Union (EU) in the form of structural fund for the new members from the former Eastern Union. Consequently, the cooperation between the countries in the region could be enhance as they are towards an integrated economies and this supportive mechanism could ensure an intimacy development among the ASEAN members.

Additionally, corporate governance framework also represents an important aspects in developing the stock market. Stronger corporate governance could enhance the resiliency of the emerging economies against any shocks besides strengthening the corporate balance sheets. Also, corporate governance encompass the rules and practices of the firms and financial market in a particular country which also include the procedures in facing the financial downturns and foster for a deeper and more liquid stock market. As a result, a well – organized corporate governance could offer a shock absorbance tools for a country or firms against any shocks. Besides, it could enhances the efficiency of the stock market which makes the equity prices less sensitive to the external shock and less prone to crashes.

This paper provides an empirical evidences of the differences of SMD among ASEAN – 5 in the pre – and AFC period in 1997 – 1998. Results suggested that a significant downturn of SMD was displayed by Malaysia after the AFC. Meanwhile, significant improvement in SMD was illustrated in Thailand and Singapore. Given these empirical evidences, this paper proposed a

Vol. 1, No. 03; 2017

ISSN: 2456-7760

further investigation on SMD over all ASEAN countries. As such, the study could cover on the overall performances of ASEAN countries. Besides, a superlative policies could be determined by the policy makers to ensure a competitive position for the ASEAN market with respect to the other emerging markets.

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Vol. 1, No. 03; 2017

ISSN: 2456-7760

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