



THE FUTURE OPPORTUNITIES AND CHALLENGES OF BUSINESS IN DIGITAL ERA 4.0

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INTERNATIONAL INVESTMENT DIVERSIFICATION IN ASEAN-5 COUNTRIES AFTER ASEAN ECONOMIC COMMUNITY (AEC)

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ABSTRACT: This study analyzes opportunities of international investment diversification in ASEAN-5 countries, including Indonesia, Malaysia, Singapore, the Philippines, and Thailand. The analysis calculates value of combined stock index correlation in five capital markets. According to Markowitz (1952), countries with a negative correlation value are the basis for determining investment. This research was conducted to examine the implementation of AEC policy in 2016 by using a quantitative explanatory survey approach. Data were in the form of time series and weekly transaction from January 2016 to 2018. The results of the first-year analysis after the enactment of AEC in 2016 showed that countries that provide opportunities for international investment diversification in capital markets are only Malaysia and Thailand. Between 2017 and 2018, no capital market had a negative correlation, indicating that the implementation of AEC has not depicted the available investment opportunities in several ASEAN countries.

1 INTRODUCTION

The concept of diversification was introduced by Markowitz in 1952. This concept then experienced improvement and simplifications affecting the implementation of financial theory. Markowitz reduced the main benefits of quantitative diversification by employing a portfolio of two risky assets. The diversification aims to reduce the amount of risk, but still provides sufficient potential profit. This notion is commonly known as asset allocation (Lessard, 1973).

The international investment diversification in several types of assets in various countries is a good strategy for investors. Berger et al. (2011) stated that diversification strategy is good to be implemented since it can provide significant benefits to investors. One of benefits according to Srithapramote et al. (2013), is it provides opportunities for investors to obtain greater profits. Bouslama, et al. (2014) and Dimitriu (2014) also supported this statement by explaining that diversification will provide benefits to reduce the risk borne by the investment made. The capital market currently offers opportunities for investors, particularly in ASEAN regions, such as being able to form a free trade cooperation system i.e. AEC.

Solnik (1995) posited that investors are more interested in international diversification because the total risk generated by international diversification is smaller than domestic. Mansourfar et al. (2010) explained that portfolio diversification carried out thoroughly by investors can increase profits and reduce risks. According to Goel and Chaudhary (2013); Zafaranloo and Sopian (2013), optimization of the diversification benefits can be obtained by reducing the correlation of capital markets since the lower the correlation of capital markets among countries, the greater the benefits of portfolio diversification.

Amewu et al. (2016) examining the global capital market reaction to the UK's decision to leave the European Union mentioned that all capital markets, except China, generally gave a negative response to the Brexit decision, one day before and after the Brexit decision was made. Understanding the relationship among capital markets becomes an important part in risk management and portfolio allocation (Slimane et al., 2013). The correlation among capital markets in various countries is mentioned by Phylaktis, Ravazzolo (2005). Some of these studies have

not partially analyzed the direction of the correlation obtained in each country associated with investment diversification opportunities. This disconnection of the studied capital markets can occur because the capital market tends to be segmented. This is also in line with research by Sun and Tong (2000), which was conducted in the Chinese capital market. Also, Grauer and Hakansson (1987) argued that the risk of international portfolio investment can be reduced by incorporating foreign assets into a country's portfolio investment. The portfolio theory describes that diversification can reduce portfolio risk by avoiding investment in perfectly correlated assets (Markowitz, 1959).

Berger et al. (2011), Srthapramote, et al. (2013), Bouzlama, et al. (2014), Dimitriu (2014) stated that portfolio risk can be minimized by including foreign assets in portfolio investment. Mansourfar et al. (2010) also mentioned the benefits of an international portfolio included in foreign stocks investments will be beneficial from increased expected returns. The principle of a lower-risk of international diversification significantly depends on the low correlation between cross-border markets (Grubel and Fadner, 1971). According to Xiao and Dhesi (2010), increased comovement among asset returns from international stock market will reduce value of profits from internationally diversified investment portfolios.

The aforementioned research is to discuss the correlation among capital markets and their relationship with investment diversification. Based on the main theme, this research will describe how to diversify international portfolios based on capital market correlations after the implementation of AEC policy with the focus in ASEAN- 5 countries. The emergence of AEC has opened relations and cooperation among 5 countries and provided opportunities for investors to invest in other countries. Hence, this study attempts to answer one question, "What are opportunities provided for international portfolios diversification of in the AEC for the ASEAN capital markets based on correlation value among the markets in Indonesia, Malaysia, the Philippines, Singapore, and Thailand?"

2 RESEARCH METHODS

This study used a quantitative explanatory survey approach and past secondary data in the form of weekly closing prices taken from stock price indexes in several stock exchanges in the 5 (five) capital markets of ASEAN member countries, including the Indonesia Stock Exchange (IHSG), Singapore Stock Exchange (STI), Malaysia Stock Exchange (KLCI), Philippine Stock Exchange (PSEI), and Thailand Stock Exchange (SETI).

Furthermore, this study analyzed the correlation between stocks and IHSG data in each capital market. From IHSG data, the correlation was analyzed to examine negative value. This study used population data after the enactment of AEC policy in 2016-2018. In addition, this study used non-probability sampling through a purposive sampling method with several sample criteria that must be met. Data analysis method was applied to determine the correlation of the combined stock price indexes of each country in the ASEAN-5 with the correlation test by using the formula below:

$$R_{.x_1x_2 \dots x_n} = \sqrt{\frac{r^2_{x_1.x_2} + r^2_{x_1.x_2 \dots} + r^2_{x_n \dots x_n} - 2r_{x_1.x_2} r_{x_1.x_3} \dots r_{x_n \dots x_n}}{1 - r^2_{x_1.x_2 \dots x_n}}}$$

Where $x_0 x_1 x_2 x_3 x_4$ = correlation coefficient among state stock index $x_0 x_1 x_2 x_3 x_4$;
 n = number of observations; $x_0 x_1 x_2 x_3 x_4$ = level of stock index value $x_0 x_1 x_2 x_3 x_4$

3 DISCUSSION

Markowitz (1952) stated that the main benefit of quantitative diversification using a portfolio consists of two risky assets. Through simple mathematics, Markowitz could prove that portfolio risk can be minimized if both assets have a negative correlation coefficient. Part of the analysis for investors' investment is to understand the direction of investment market correlation which is an essential analysis to make. Generally, the lower the correlation among securities, the lower

the risk of portfolio. Furthermore, investors who avoid risk tend to choose securities with negative correlations (Markowitz, 1959).

The enactment of AEC has opened relations and cooperation among its member countries and provided opportunities for investors to invest in those countries with investment opportunities. Understanding the relationship among capital markets becomes an important part of risk management and portfolio allocation (Slimane et al., 2013). Based on the data analysis in this study, in the first year of AEC implementation in 2016, countries with an opportunity as an international investment diversification in the capital market were Malaysia and Thailand with a correlation value of -0.066. In contrast, in 2017 and 2018, no capital market had a negative correlation, indicating that the implementation of AEC has not provided a big picture of investment opportunities in various countries simultaneously, particularly in Indonesia, Singapore, Malaysia, the Philippines, and Thailand. Can these results indicate that the Markowitz Diversification theory regarding investment is no longer suitable for cases like after the AEC enactment? This question can be utilized by researchers to have in depth investigation regarding investment diversification in ASEAN-5 capital markets. However, it might be possible that the correlation results in this study can be utilized by irrational investors since they are usually fond of challenges and risks. Thus, as long as a high-profit involved in investment, those investors will still invest their shares through capital markets in different countries simultaneously.

4 CONCLUSION

By examining the results of this study and based on Markowitz's Diversification theory related to investment, the AEC enactment so far has not statistically given a big picture of investment opportunity in capital markets of various countries simultaneously. This finding is based on the correlation analysis results conducted at the end of 2017 and 2018 revealing that none had a negative correlation. According to Markowitz (1959) rational investors tend to avoid risk by choosing securities with negative correlations in their portfolio. The result depicting that a negative correlation result can still be employed by irrational investors who particularly like challenges and risks. Thus, as long as high-profits involved in investment, those investors will still invest their shares through capital markets of different countries simultaneously.

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