

Integration and Portfolio Diversification of Islamic Banking in ASEAN Emerging Countries

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ABSTRACT

The growth of Islamic banking industries in ASEAN shows that Islamic banking in Indonesia is not only an international hub for banking industries in ASEAN but also as a place for investors to diversify investment portfolios. Globalization makes Banking in ASEAN connected to one another. However, opportunities for portfolio diversification of banks in this case; Indonesia, Malaysia, Thailand, Philippines, and Vietnam are in questioned on whether there is integration between Islamic banking industries in those regions and whether there is a possibility of Diversification of banking Portfolios in the region. In this manner the study analyzed 25 banks' data across selected countries. In the present study, ROA (Return on Assets) and ROE (Return on Equity) are used as measure of performance of diversification of banks. The number of credits and the amount of credits that banks let borrowers' use are employed as control variables. According to the result of the analysis showed ASEAN Islamic Banking Industries Integrates with varied level to each other based on the geographical proximity and bilateral trading relation with selected countries.

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Keywords: Banking Industries, Integration, Portfolio Diversification, Risk and Return, Opportunities

1. INTRODUCTION

The nature of integration among banks conveys significant information for effective market diversification. First integration of banks essentially indicates the efficiency of the financial markets. In efficient banks, generally, bank integration will increase, since the movement of information between countries is higher due to the elimination of barrier such as prohibition of investing for foreign investor or improvement of trading facility. In the context of portfolio diversification, assets with similar expected returns due to the same risk exposure will offer no diversification benefit as the banks performance tend to be similar, in a risk return concept, each investor can increase return or reduce risk, or mixing strategy, but the impact or benefit will be less if the entire banks are fully integrated to each other.

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In the implementation, fully integrated banks are not prohibiting investor for having their fund place in another banks in another region, since investor always seeks for portfolio that offering higher return and lower risk where the chance for having the exposure are quite minimal in their own countries, thus placing fund in another countries are best preferences (Aribi & Gao, 2011; Malini, 2020a; Masoodsup et al., 2009) In addition, gains from international portfolio diversification appear to be largest for countries with high country risk, since Indonesia is a country with high profile risk, thus making other differences across countries, such as size of the banking sector, and trade openness does not support to explain the differences in the benefit of international portfolio. For Indonesia banks, several factor influences integration with other banks, such as; number of banks, fixed regulation, separation of rules and system between the conventional and banks and the elimination of transaction cost. For Indonesia that considered as a country with a high risk profile creates the growth of banks becomes dependable to the volatility of risk. Risk in banking relates with risk term in banking sector that covered with uncertainty, volatility or loss that accepted by investor lead to banking industries becoming less integrated with conventional banks, thus eventually influence the integration of banks among countries (Karim & Karim, 2012; Majid et al., 2007)

In international concept, investment diversification through banking sector faced several constraints particularly the one that implemented by local government, the constraint would also apply to banks since this institution are in the same environment, however since banking has the advantages to offered investor stability and enduring toward crisis, portfolio diversification to banking industries in another region becoming other preferences towards other product in financial industry.

The strength of Islamic financial industry toward crisis leads banking industries becoming preferable choice for investor to diversify investment portfolio. Indonesia, Malaysia, Thailand, Philippines and Vietnam are ASEAN countries for the portfolio diversification. Those countries provide platform and contribute to the diversification of banking product in ASEAN region. Although, there are fundamental differences on operationalization between banks in those region particularly in term of capital and principle to follow, in the implementation banking industries able to replicate useful and non-contradictory functions between institutions to institutions (Masoodsup et al., 2009)

However, with recent rapid development of financial industry particularly Islamic banking industries does not necessarily attract the attention of researcher to research about banking industries integration and portfolio diversification, while integration in banking industries is essential to indicate level efficiency and transparency behavior of banks. Therefore, the integration and portfolio diversification in banking industries acted as reflection of all available information and as such, are consistent with the economic fundamentals (Beechey et al., 2000). In the context of banks integration, integrated banks have similar expected return due to the same risk exposure. Integrated banking industries suggesting that banks offer diversification benefits as banks performances tend to perform similar. In a risk-return framework, investor able to increase return or reduce risk or both, by having investment mix in banks among region which return are uncorrelated. Thus, the degree of banks integration suggests the potential portfolio diversification benefits potentially gained by investor.

The measurements of banking integration are important in asymmetric information. In terms of asymmetric information, banks that operate in efficient market must reflect the real condition of banks incorporated in the region. Meanwhile, efficiency information believed to be the main factor that can be used in answering the problem of integration in banking industries. Banking efficiency refers to the conditions under which banking operates fully reflects all available information. The process of creating banking integration begins with transparent process and a fair trading system to all investors who invest their funds in banking industries.

Despite numerous studies that examining banks integration among developed and emerging markets however only few studies explore the issue of Banks integration and portfolio diversification in banking industries (Asma'Rashidah Idris et al., 2011; Hung & Cheung, 1995; Majdoub & Mansour, 2014) Rapid growth of bank in ASEAN proves that banking industries in this region potentially able to become international hub for investor. The certainties of stability from of economics condition in ASEAN makes financial industry integrated. However, the chances of diversifying portfolio to other banks in the world is less due to question of whether banks among countries are integrated to each other, in this case (Indonesia, Malaysia, Thailand, Philippines and Vietnam).

This research is very important to conduct because it will provide special treatment for banks integration on one hand and realize the core concepts of information efficiency and deciding best concepts for future bank integration to achieve efficiency of banks in ASEAN in terms of fairness, transparency, protection to investors and reduce systematic risk. The geographical proximity in ASEAN makes the concepts interconnected to be tested.

2. LITERATURE REVIEW

The integration of banks also described in the solidarity and brotherhood in Islam (Trihadmini & Pudjiastuti, 2011) asserted that the apparent disparities in terms of nationality, race, creed and color are artificial and have no place in Islam. The holy Quran dearly points that human beings were created as one nation (*ummah*) but become divided because of their differences (Although the integration of economy is the foundation of economic system, but in the implementation the integration among banks is in question (Asutay, 2012)

The removal of restriction on capital flow, floating exchange rate, improve communications system and new instruments are all factors that have contributed to the process of integration (Cooray & Wickremasinghe, 2007). Other factor that contributed to the process of integration is globalization (Goeltom, 2008), globalization has been major factor in influencing the movement and correlation between banks in one country to the others. Globalization of banks has further support the integration and correlation between two or more countries in term of flexibility of capital flow, strengthening rules towards the forming of bilateral organization and empowering more reliable supervisory framework, where all factors will lead to regional bank efficiency.

Information efficiency is an absolute factor to form transparent Islamic banks through accurate availability of information. One way to make sure regional market efficiency is providing information dissemination in each country to ensured that capital flow allocated into projects that resulting into highest expected return with necessary adjustment for risk, this process will create efficient pricing mechanism, economy's savings and investment allocated efficiently. Hence not

only that regional efficient bank provides opportunities to engage in profitable trading activities on a continuous basis but also creating a better platform for country integration and correlation with banks in another part of world (Al-Zoubi & Maghyreh, 2007).

Furthermore, one country that implementing open foreign investment policy will benefit from the integration of banks, since the level of bank integration will influence the level of benefits or profit of international investment, moreover bank integration between countries has important consequences in terms of return predictability, portfolio diversification, asset allocation, economics of scale and scope and long-term gain (Siraj & Pillai, 2012). The benefit of the increase bank integration between countries is the capabilities to decrease the cost of capital, increase investment opportunity set for local and foreign investor but also lead to significant welfare gains from higher saving and international risk sharing or diversification through the possibility of integration.

Diversification is the balancing act in which the tradeoffs between risk and return are adjusted in the light of the investor risk tolerance (Bank Investment Consultant 2006; 37). This statement also refers to the modern portfolio theory that sayings “do not put all of your eggs in the same basket”. This theory developed by Harry Markowitz, his statement insists that through investing in diversified asset it will be possible for investor to diversify a portfolio and thereby reducing the volatility of the entire portfolio (Markowitz, 1959).

In order to minimize risk and increasing profit opportunities, more investors seek to diversify their portfolio to international territory. International portfolio makes it possible to expand efficient frontier and reduce systematic risk level below domestic securities. (Malini, 2020b; Samad & Hassan, 2006) have studied the benefits of international diversification and one of the benefits is to expand the efficient frontier and reduce systematic risk level below that of domestic securities alone. The reason is that structural and cyclical differences across economies makes the risk-reduction benefit possible. If one financial market is doing worse than expected it is likely that another financial market will do better than the expectations, hence risk is reduced and losses are offsets.

Several studies have been conducted to analyze the nature of integration and correlation among financial institutions within a particular territorial or countries. For Asia region, (Karim & Karim, 2012) focusing on eight banks in: Turkey, Egypt, Oman and Kuwait (representing the MENA region), while Indonesia, Malaysia, Bangladesh and Pakistan (representing the Asian region). This study assesses the degree of integration not only between developing banks but also with the world three largest banks, namely US, UK and Japan. The findings showed that based on the geographical proximity as the main factor for influencing integration between develop and developed banks, in particular, banks in the Asia region are found to be more responsive to shock in the Japanese market, while those in MENA region are more responsive to shock in the UK market.

Asma'Rashidah Idris et al. (2011) examine the integration using Risk Metrics, student-t APARCH and Skewed student-t APARCH, the result showed that Dow Jones Islamic Market is less risky than its respective benchmark. Very few studies have focused on the emerging financial markets of the organizations of Islamic countries (OIC)*, which cover a wider geographical area. Geographical area also will influence the level of bank integration between countries. Country with

*The organization of the Islamic conference (OIC) is an inter-governmental organization which includes membership of 57 states spread over four continents. The organizations was established upon a decision of the historical summit which took place in Rabat, Kingdom of Morocco on 12th Rajab 1389 Hijra (25 September 1969) as a result of criminal arson of al-Aqsa Mosque in occupied Jerusalem (<http://www.sesric.org/sesric-about.php>).

the same economic grouping and geographically closed to each other tend to have strong integration to each other.

Masoodsup et al. (2009) & Yousef (2004) study the conditional correlations across US banks and a sample of five Islamic emerging markets, namely Turkey, Indonesia, Pakistan, Qatar, and Malaysia. The estimation results of the three models corroborate the stylized fact that the US and Islamic emerging equity markets are weakly correlated over time. Geographically far from each other contributes to the weak correlation, other than that is the fact that the number of foreign investor from and to the US and emerging equity is quite small although investor not too familiar with both market. However, the choosing of emerging markets as a research background needs adjustment to countries that represents wider geographical area, from Middle East, Asian and European countries.

Samad & Hassan (2006) studies the impact of 2007 global financial crisis on the integration of the Islamic financial market. Seven Islamic financial market are chosen based on country development and geographical closeness; Malaysia, Indonesia, Turkey, Kuwait, US, UK and Japan. The result of the study showed Islamic financial market is not spared from the global financial crisis as all the Islamic financial market included in this study was adversely affected by the financial crisis.

3. RESEARCH METHODOLOGY

ARDL Bound Testing Approach

To examine the long-term relationship of Islamic banking integration in the selected region, this study uses the ARDL-bound testing approach for co-integration which involves estimating the conditional error correction version of the ARDL model (Asutay, 2012). The choice of the ARDL approach in this study is based on consideration of an unbiased and efficient joint integration analysis given the fact that, first, it can be applied to small sample size studies and therefore conducting bound tests would be appropriate for this study. Second, estimating the short and long-term components of the model simultaneously, eliminating problems associated with omitted variables and autocorrelation. Finally, it can distinguish between dependent and independent variables.

In this study, the following estimates are the basic model:

$$INAt = \alpha_0 + \alpha_1MYt + \alpha_2tTHAI + \alpha_3PHt + \alpha_4VIETt + \epsilon_t \dots \dots \dots (1)$$

$$MYt = \alpha_0 + \alpha_1INAt + \alpha_2tTHAI + \alpha_3PHt + \alpha_4VIETt + \epsilon_t \dots \dots \dots (2)$$

Where INA, MY, THAI, PH, JAP, VIET refer to banking in Indonesia, Malaysia, Thailand, Philippines and Vietnam, respectively, and ϵ is the error term for the model.

The error correction version of the ARDL framework relating to the following equation :

$$\Delta INAt = \delta_0 + \lambda_1 \Delta INAt-1 + \phi_1 \Delta MYt-i + \phi_2 \Delta Thait-i + \gamma_1 \Delta PHt-i + \mu_1 \Delta Viet-i + \lambda_1 INAt-1 + \lambda_2 MYt-1 + \lambda_3 Thait-1 + \lambda_4 PHt-1 + \lambda_5 Viett-1 + u_1t \dots \dots \dots (3)$$

$$\Delta MYt = \delta_0 + \lambda_1 \Delta MYt-1 + \phi_1 \Delta INAt-i + \phi_2 \Delta Thait-i + \gamma_1 \Delta PHt-i + \mu_1 \Delta Viett-i + \lambda_1 MYt-1 + \lambda_2 INAt-1 + \lambda_3 Malt-1 + \lambda_4 Thait-1 + \lambda_5 PHt-1 + \lambda_5 Viet-1 + u_1t \dots \dots \dots (4)$$

In the above equation, the term with the sum mark represents the dynamics of error correction while the second part (the term with λs) corresponds to a long-term relationship. Zero without co integration in a long-term relationship is determined by $H_0: \lambda_1 = \lambda_2 = \lambda_3 = \lambda_4 = \lambda_5 = 0$ tested against alternative $H_1: \lambda_1 \neq \lambda_2 \neq \lambda_3 \neq \lambda_4 \neq \lambda_5 \neq 0$ by F-test, however, the asymptotic distribution of F these statistics are non-standard regardless of whether the variable is $I(0)$ or $I(1)$ (Akaike, 1974) tabulated two sets of corresponding critical values. One set assumes all variables are $I(1)$ and the other assumes that they are all $I(0)$. This provides a limitation that includes all possible classifications of variables into $I(1)$ and $I(0)$ or even fractionally integrated. If the F-statistic is located above the upper boundary level, then zero is rejected, which indicates co integration. While if F-Statistics falls below the bound level, null cannot be rejected, this supports no joint integration. However, if it is included in the band, the results cannot be concluded.

Finally, to determine the optimal lag length included in the model and to select the ARDL model to be estimated, this study uses (Akaike, 1974) Information Criterion (AIC) with a maximum lag length considered 8. In this study, the akaike information criterion (1974) was used to determine the incorporation of lag length in all tests of this study. It is important to note that the GMM estimator must be identified; there must be at least Z instrumental variables because there is a parameter Θ . Following (Bartram & Dufey, 2001), this study uses lag explanatory variables as instrumental variables. These variables were chosen for use because of difficulties in finding other instrument variables, because this study uses daily data and for extended periods. These variables, however, are clear instruments and in many cases, must be included in the instrumental list. Another important aspect in determining GMM is the choice of a weight matrix to produce consistent and strong estimates.

$$\begin{bmatrix} \Delta IN \\ \Delta MY \\ \Delta THAI \\ \Delta PH \\ \Delta VIET \end{bmatrix} = \begin{bmatrix} \delta_0 \\ \delta_1 \\ \delta_2 \\ \delta_3 \\ \delta_4 \end{bmatrix} + \sum_{i=1}^k r_i \begin{bmatrix} \Delta IN \\ \Delta MY \\ \Delta THAI \\ \Delta PH \\ \Delta VIET \end{bmatrix}_{t-k} + \Pi \begin{bmatrix} IN \\ MY \\ THAI \\ PH \\ VIET \end{bmatrix}_{t-1} + \begin{bmatrix} v_0 \\ v_1 \\ v_2 \\ v_3 \\ v_4 \end{bmatrix}$$

Data

ROA (Return on Assets) and ROE (Return on Equity) are used as measure of performance of diversification of banks. The number of credits and the amount of credits that banks let borrower's use are employed as control variables.

4. RESULT AND DISCUSSION

Descriptive analysis provides initial description of the nature and volatility of banking integrity in selected countries. At the same time, this allows the comparison of basic performance indicators of banking enabling the observation of how they are respectful of one another. Table 1 provides a summary of bank returns statistics for selected Islamic banks in a country included in this study. In terms of the highest average daily returns, Malaysia shows the highest average daily returns of 0.38 percent, followed by Indonesia at 0.14 percent, Philippines 0.07 percent, Thailand and

Vietnam at 0.04 and 0.03 percent. In terms of return volatility reflected in standard deviations, Malaysia is the highest risk at 0.92, followed by Indonesia at 0.04, Philippines and Thailand offering the lowest risk of 0.01 percent. Regarding slope measurements, banks in Thailand, Philippines, and Bahrain shows a negative slope. Negative biases imply that the left tail in market distribution is longer (also known as left-leaning) and also as a sign of nonlinearity in the dynamics of integration in these countries.

Table 1. Descriptive Statistics of Selected Banks

Statistics	ID	MY	THAI	PH	VIET
Mean	0.1411	0.3872	0.0004	0.0003	0.0007
Median	0.4500	0.3700	0.0089	0.0033	0.0002
Maximum	0.4900	0.4800	0.0617	0.0833	0.0485
Minimum	0.0956	0.3300	0.6176	-0.0061	-0.0158
Std Deviation	0.0426	0.9224	0.0403	0.0226	0.0111
Skewness	0.0206	0.8608	-0.6438	-0.6711	-0.4949
Kurtosis	2.3836	3.0325	0.2373	3.1044	2.07115

In this case relating to investment returns and the ability of investors to gain momentum to diversify portfolios, a negative trend also means that investors tend to have only a few extreme losses and often make small profits. If the value is related to an investment perspective, investors rarely take the opportunity to move their capital although there are chances of higher profit. Maximum returns between countries vary where Indonesia and Malaysia have something in common in offering maximum returns, while minimum returns fluctuate between countries where Thailand, Philippines and Vietnam showed a tendency to offer negative minimum returns.

In conclusion, Banks that have the highest volatility are banks that able to adjust with global environment. The volatility of Malaysia banking can be explained as a result of socialized background of dual Banking in Malaysia which results in opportunities to benefit from diversification of the portfolio towards the adoption of different strategies of the banks (Haron et al., 1997). Meanwhile banking volatility in Indonesia can be explained as an investor response due to the lack of information about banks products in Indonesia. The lack of information can be in the term of information about the screening process, banks background and product types from banks.

Table 2. Relationship Between Banks in Selected Countries

	ID	MY	THAI	PH	VIET
ID	1.000				
MY	0.430	1.000			
IND	0.312	0.341	1.000		
QR	0.241	0.453	0.031	1.000	
BH	-0.222	-0.456	0.674	-0.765	1.000
JAP	0.431	0.789	0.563	0.876	0.765

Table 2 showed that during the observation period, the chosen banks show strong correlations with each other as reflected by strong correlation coefficients. The strongest correlation or the highest correlation value is recorded between the Philippines and Vietnam (0.876), followed by Malaysia and Vietnam (0.789) and Thailand and Vietnam (0.765). This strong correlation between banks proves that the major factors contributing to strong correlations, namely economic grouping

and geographical proximity, do not apply in this study, since countries that correlate with each other come from different regions, between Asia and central, east or between developed and developing countries. Furthermore, this section of the study did not find any correlation or weak correlation between Asian integration into Asia, which is also similar to previous research on Asian banking integration (Gupta and Guidi, 2012).

Vietnam banks shows a strong correlation with other selected bank in this study, although several Vietnam banks is considered relatively new in term of establishment, however Vietnam have bilateral trade between selected countries and resulting into a strong interdependencies between banks. Other banks also show strong correlations, except for the Philippine's and Indonesia with values smaller than 0.1. While Indonesia, Malaysia and Thailand showed the weakest correlation with a negative correlation value. The weak correlation between banks shows that there is no short-term co-movement between banks and indicates the possibility of short-term diversification benefits.

The benefits of diversification in several countries imply that these countries implement open market system where investors easily move their funds to that country and resulting into the possibilities for high speculative actions, specifically for countries with the weakest correlations; Thailand- Philippines (0.031), Indonesia-Philippine's (-0.222), Malaysia and Thailand (-0.456), Thailand and Philippine's banks. Weak economic interdependence can be the reason for the low correlation between Indonesia and Malaysia with other banks. While, Banks in Indonesia and Malaysia, where both countries have high correlation with each other with a value (0.430). The correlation between Indonesia and Malaysia due to its proximity, makes investors in both countries have flexibility in terms of liquidity, they tend to move and divert their investment.

Table 3. ARDL- F Statistic For Testing Existence of Co-Integration

Order of Lag	Model 1 (INA, MAL)	Model 2 (THAI, PH VIE)	Model 3 (INA, THAI, PH, VIET)	Model 4 (MAL, THAI, PH, VIET)	Model 5 (INA, MAL, THAI, PH, VIET)
1	1.217	2.117	1.9832	2.7652	0.2728
2	1.224	2.445	1.6322	2.7699	0.9823
3	1.321	2.321	1.6543	1.9202	0.7288
4	2.1150	3.431	2.6548	3.92829	0.6754
5	4.321	3.011	2.8903	1.90231	0.5632
6	1.321	3.221	2.9783	1.08299	0.7654

Notes: The relevant critical value bounds are taken from pesaran (2001): (i). Case iii: unrestricted intercept and no trend (number of regressors = 7), they are 2.96 – 4.26 at the 99%; 2.32-3.50 at the 95%; and 2.03 – 3.13 at the 90% significance levels respectively; and (ii) Case v: unrestricted intercept and unrestricted trend (number of regressors = 7), they are 3.34 – 4.63 at the 99%; 2.69-3.83 at the 95%; and 2.38 – 3.45 at the 90% significance levels respectively. * denotes that F-statistics falls above the 90% upper bound.

The point where banks integration correlation brings benefits to each other is when investment returns are higher thus exposure risk tends to increase and as a turning point the benefits of portfolio diversification are low, but that moment will give investors the opportunity to diversify their portfolios in all banks and get opportunities to reduce risk. In the context of integration, information should available to all investors. The correlation between countries showed that return of investment in several countries contain information about general stochastic trends, where the ability to predict return of one country can be used by another country. In its implementation, the movement of capital

depends on how much the interdependence of one country with other countries in terms of economic relations, bilateral trade and cultural equality (Suryana et al., 2013).

ARDL analysis determines the existence of a long-term equilibrium relationship between Islamic banks. Statistically, two or more banks are integrated with each other if the market offers long-term equilibrium relationship between two variables (Yousef, 2004). For banks integration, the concept of banks moving together in the long run is the result of arbitrage activities. Arbitrage in investments is prohibited, because this action is a form of taking advantage of certain moments by taking advantage of the weaknesses of others. The existence of common long-term trends in bank integration proves empirically by a combination of F-Statistics generated by the estimation equation. Table 4.3 shows ARDL test results for the existence of long-term co-integration. Indonesia and Malaysia show weak co-integration (90 percent significance level) in the long lag 1, indicating that there is a long-term balance relationship. In model 2 (Thailand, Philippine's, Vietnam) also shows a long-term balance. When the integration of Indonesia and Malaysia is concluded in the model (Models 3 and 4). However, when Indonesia and Malaysia were included and connected to all selected (Model 5) these banks were found to be insignificant and not integrated with each other. The results also imply that co-integration is not related to geographical factors or economic grouping. In the context of portfolio diversification, investors can benefit by diversifying their chosen portfolio in this research.

Long-term equilibrium among selected countries eliminates institutional constraints consisting of taxation, foreign exchange control, bank regulations, transaction costs and foreign markets exposure to investors (Bartram & Dufey, 2001). Institutional constraints for Indonesia are in the form of lowering taxes for foreign investors, transparent regulations, reducing transaction costs such as brokerage fees and increasing liquidity. Meanwhile, institutional constraints for Malaysia are reducing taxes for foreign investors and open market policies to attract more foreign investors. Thailand institutional constraints are not in the form of taxation, because countries abolish taxes for foreign investors especially taxes for returns, flexible rules must be implemented especially in terms of transaction costs and brokerage fees. Institutional constraints to Philippine are related with eliminating high taxes and banking regulations to be more transparent for foreign investors to minimize risk. Vietnam institutional constraints are to introduce their banks to the world, because as an industrial country, conventional bank in Japan is more familiar to the world and its public.

5. CONCLUSION

Another aim of this part of the research is to examine whether or not integrated banks will have implications for portfolio diversification. However, if the market is fully integrated, the benefits of diversification will be very limited, because there is no opportunity to diversified portfolio to other countries. The nature of integration between banking in ASEAN conveys important information for effective banks diversification. The first integration of banking basically shows the efficiency of the financial markets. Therefore, the price of assets in an efficient banking industry fully reflects all available information and is therefore consistent with economic fundamentals (Beechey et al., 2000). In efficient information, generally, Islamic bank integration will increase, because information movement between countries is higher due to the removal of obstacles such as a prohibition on investing for foreign investors or improving trading facilities.

The implication of this research for investor to invest in selected Islamic banks is that there are huge potential benefits of international portfolio diversification across these countries. In term of their correlation coefficient, Indonesia and Malaysia is emerge and become a considerable portfolio diversification however Thailand, Phillipines, and Vietnam also attract foreign investor to diversified their portfolio, although with huge risk but also provide huge return.

Furthermore, to gain more benefit from portfolio diversification in ASEAN region, each countries should set up integrated financial policies that consist of regulation to strengthen the coordination between countries, the policy could be in form of removal trading barriers, implementing macro economy policy to stabilize domestic banking market and considering a policy for mutual coordination between countries to develop banks by coordinating on how to diversified Islamic bank product, strengthen rules in term screening process and investing mechanism.

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