[The Indonesian Capital Market Review](https://scholarhub.ui.ac.id/icmr)

Volume 1
Number 2 *July*

Article 4

7-30-2009

Integration versus Segmentation in Asian Financial Market: The Prospect of Regionalism in Asia

Herlina Yoka Roida
Widya Mandala Catholic University, Surabaya, herlina@mail.wima.ac.id

Recommended Citation

Roida, Herlina Yoka (2009) "Integration versus Segmentation in Asian Financial Market: The Prospect of Regionalism in Asia," *The Indonesian Capital Market Review*: Vol. 1 : No. 2 , Article 4.
DOI: 10.21002/icmr.v1i2.3652
Available at: https://scholarhub.ui.ac.id/icmr/vol1/iss2/4

INDONESIAN
CAPITAL MARKET REVIEW

Integration versus Segmentation in Asian Financial Market: The Prospect of Regionalism in Asia

Herlina Yoka Roida*

This paper draws the prospect of regionalism among financial market in Asia (Indonesia, Malaysia, Philippine, Singapore, China, Hong Kong, Japan and South Korea). The first part examines the correlation among them that lead to regional integration. The second part shows the possibility of integration or segmentation between Asia countries and world. The next part, tries to draw whether last financial crises 1997 gave different result to the integration process. The correlation between Asia regional return and world return is tested by F-test (degree of significant 5%). The final part of this paper gives a picture as to how the prospect of integration or segmentation return of Asia and world can initiate a process of economic integration towards a trade block development.

Keywords: *market segmentation, integration, regionalism, emerging financial market and trade block*

Introduction

The acceleration of globalization trends and economics integration has an increasing the regional studies such as Latin America and Asia. This phenomenon is caused by financial liberalization since the middle of 1980s and the rising of trade block in several areas. It may be argued that it can get more beneficial to invest based on regionalism rather than internationalism due to risk diversification, not only for developing countries but developed counties as well.

Developing countries in their histories have attempted two activities: building financial institutions and capital market, and attract investors through foreign direct investment. Capital market has to take more roles in aims to increase capital inflows to developing countries. Moreover, similar geographic, legal, economics and cultural factors make regionalism more conductive to trade (Heaney, Hooper & Jaugietis, 2002). So, regionalism has thus reinforced the multilateral mechanism by which international trade is conducted. One of the ultimate factors to indicate the economic integration is expected equity returns. Based on that argument, this paper will examine the possibility of 'regionalism' upon stock market return in Asia.

The International Finance Corporation

* This research funded by Semi-Que V Project 2004-Research Grant
Correspondence to: Herlina Yoka Roida, Faculty of Economics – Widya Mandala Catholic, University Surabaya, Indonesia, Jl. Dinoyo 42 – 44 Surabaya Indonesia 60265. E-mail:Email: herlina@mail.wima.ac.id./ yokaroida@yahoo.com.au.

(IFC) uses the terminology of emerging financial markets to describe countries which standardizes their equity index to their capital markets since 1981. For example *Jakarta Stock Exchange* with *Jakarta Stock Index* , *Malaysia Stock Exchange* with KLSE, *Singapore Stock Exchange* with *Straith Times and Hong Kong Stock Exchange* with *Hang Seng Index.* The optimism of emerging capital market developing is supported by increasing capital flows from developed countries in 1992 from $ 10 billion new debt and $ 11 billion new equity capital to $ 36 billion new debt and $ 45 billion new equity capital in 1993. Also, the concept of liberalization in world trading to reduce transaction costs efficiently and beneficially if it done in one region than portfolio multilaterally (Cochinard, 1995).

According to Heaney, Hooper and Jaugientis (2002), capital market in Latin America during research period 1986 to 2001 shows the trend of more correlated return among them and more integrated regionally between countries in Latin America than the world market. Moreover, this phenomenon shows in spread effects during financial crises, 1997 which was *contagious episode* through Asian countries such as Thailand, Malaysia, Indonesia and South Korea.

Next, the fast spread of *SARS* virus through Hong Kong from South China in February 2003 to 16 Asian countries gave impact to market return in this region. The fluctuation of return during that period until China governance announced that China free from that virus was significantly (Roida, 2003). The effect of contagion is showed by harmonization stock return movement during that period. As a result, the possibility of market integration is still open to be new discourse in this region for the next time.

Literature Review

Since Sir John Williamson created the idea about financial liberalization with format *"Washington Consensus"* through the world organizations in 1989, the trade policy directed to the openness cross countries, especially for developing countries. In other words, the requirement of openness also should be done in Emerging *Financial Markets,* as well. The capital flows to developing countries show increasing significantly as showed in table 1.

Although rate of return in this region is very high, 20%, since 1976 to 1992 (Harvey, 1995) the prospect of this region is very attractive to international investors. The higher volatility in this region, they also had significantly larger return for long period. *Emerging capital market* showed good performance since 1980s when the financial liberalization conducted in developing countries. Financial liberalization effects cost decreasing because transaction it does not matter if the degree of openness is high.

Regionalization is seen as a respond to globalization. It defines as an effort to

Table 1. Capital Flows to Developing Countries (in billion US$)

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Foreign Direct Investment	18.4	31.3	35.5	56.8	82.6	96.7	115.0	140.0	131.0
Portfolio Investment	17.4	36.9	51.1	113.6	105.6	41.2	80.8	66.8	36.7
Bank loans	11.9	55.6	32.7	11.5	-35.5	55.4	16.3	-57.6	-103.5
Total net private flows	47.7	123.8	119.3	181.9	152.8	193.3	212.1	149.2	64.3

Source: IMF, 1999

introduce free trade concept and economic growth based on geographic position. Based on Pompili (1994), *"Economic development is inherently endowed with a spatial dimension, which derives from the important cumulative effects of synergy and feedback which are activated by spatial proximity…"*

In addition, regionalization not only implies the connotation of economic and politic integration, but also involving elimination any differences between countries (Balassa, 1982). Agreement about tariffs, quota to founding one integrated market is potential happened in regionalism such as European Union. Kim (1992) argue that regionalization tends to be a potential to create a new trade block which is in America, Europe and Asia. Asia. Economic integration in a region give several benefit such as natural resources allocation efficiently because of competitive advantages, increasing competition, reducing transaction cost and stimulating economic interdependency in a region. Geographic factor becomes integration instrument such as ASEAN because the similarity in cultures and position.

Latin America region has different motivation with ASEAN countries. Debt solving problems post debt crises become the great motivator. They prefer to solve their problem collectively rather than individually. Regionalization also indicated by Heaney, Hooper dan Jaugietis (2002) who find that capital markets among Latin America is increasing dramatically since they liberalized at the beggining of 1990-an and more correlated in capital return with developed countries.

Several studies picture that market integration worth for investors. Bailey dan Stulz (1990), study about reduction of American investors risk degree if they diversify their portfolio by put in Asian stocks in their investments. This study finds that investors can decrese their risk by 30% to 50% when they modify their portofolio with Asian stocks. Harvey (1995), study about integration among the world capital markets after the arrangement of barrier reduction for international investors. He finds that from 12 countries in this research , just 4 countries (Kolombia, Yordania, Korea dan Malaysia) become more integrated. While, others (Chili, Yunani, India, Meksiko, Zimbabwe, Nigeria, Taiwan dan Thailand) is not integrated.

Moreover, studies about *Jakarta Stock Exchange* (JSX) integration by Husnan dan Pudjiastuti (1994), Prasetyo (1995), Harahap (1997), dan Husnan (1997) which use data before 1997 (before abolishing of government regulation on the maximum limit of stock purchased by foreign investors in JSX) conclude that JSX is segmented to the world market. One of the reason is predicted because of stock purchased limitation by foreign investors. More open the JSX for foregn investors, more integrated JSX with other capital markets. It is also concistent with Bae (1995), Bonser-Neil (1990) who summarize that the greater barrier of foreign investors in a capital market make this capital market more segmented. But trade barrier reduction make a capital market is more integrated. The level of integration and segmentation can be main dimention to capital market which become fully segmented or fully integrated (Choi & Rajan, 1997).

The special case in East Asia countries based on study by Park (2005) found that financial integration in East Asia has also increased in the last few years to level that allows for the creation of a formally integrated market, even though there has been no formation of major trade blocs in the region other than the ASEAN and few bilateral free trade agreements because there is no significant effects the contribution of ASEAN trade volume to the world economy.

Methodology

The focus of th study is mainly on correlation in Regional Financial Markets and world market, with emphasis on Asian Capital Markets. A conceptual framework is developed to show the logical flow of analysis and the significant variables in the study. The conceptual framework generally shows that segmentation and integration depend on returns and correlation of stock return index for each country.

The conceptual framework involves two major area. First, it deals with correlation of eight (8) stock markets. These are Indonesia, Philippines, Malaysia, Singapore, China, Hong Kong, Japan and South Korea. The stock price indices of each countries are considered to be able to determine the potential correlation both regional and world perspectives. Second, the framework presents an analysis of segmentation or integration by determining the correlation of each countries with regional index and each countries with world index.

This study are derived from Morgan Stanley Capital International (MSCI) for the world index and regional index. All of these indeces are maintained on the datastream. Returns are countinuously calculating for the period January 1997 to December 2004.

The MSCI international indices provide representation of stocks in different countries. Non-nationals can readily purchase almost all of these stocks. The MSCI World index covers 80% of the world capitalization in both developed and emerging markets, and thus provides a reasonably accurate proxy for changes in the value of the world market portfolio.

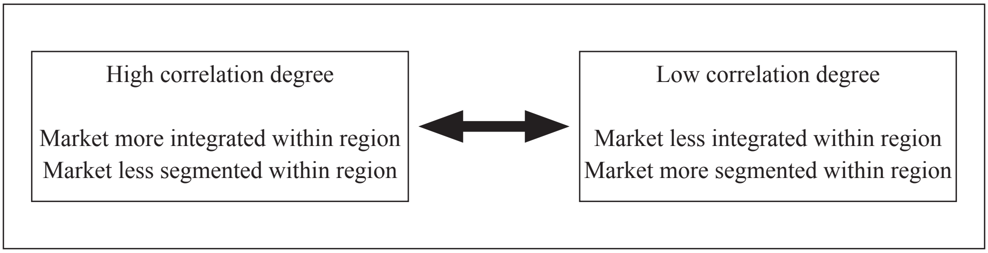
In this study the construction of Asia regional indices, specific to each country. The use of currently available regional indices could be criticized when testing the correlation between the regional index return and equity market returns of a country within region. To measure the association between return in one country and its regions correlations, constructing an equally weighted regional index for each country, being based on the remaining countries in the sample. For example, the regional return for Indonesia at time t is calculated by averaging the time t returns for the remaining seven countries in the sample. This approach should provide a more accurate assessment of the correlation between country returns and regional returns.

Result and Discussion

Tables 2 and 3 provide descriptive statistics both the world market return proxies and for the eighth Asia equity return market return time series used in this study. The average monthly returns range from -0.47% per month for South Korea to -1.35% per month for Philippines while the correlations over the total period range from -0.27 for China and Philippines to 0.804 for Indonesia and Philippines.

In the following analysis, rolling

Figure 1. Conceptual Model 1



DOI: 10.21002/icmr.v1i2.3652

Figure 2. Conceptual Model 2

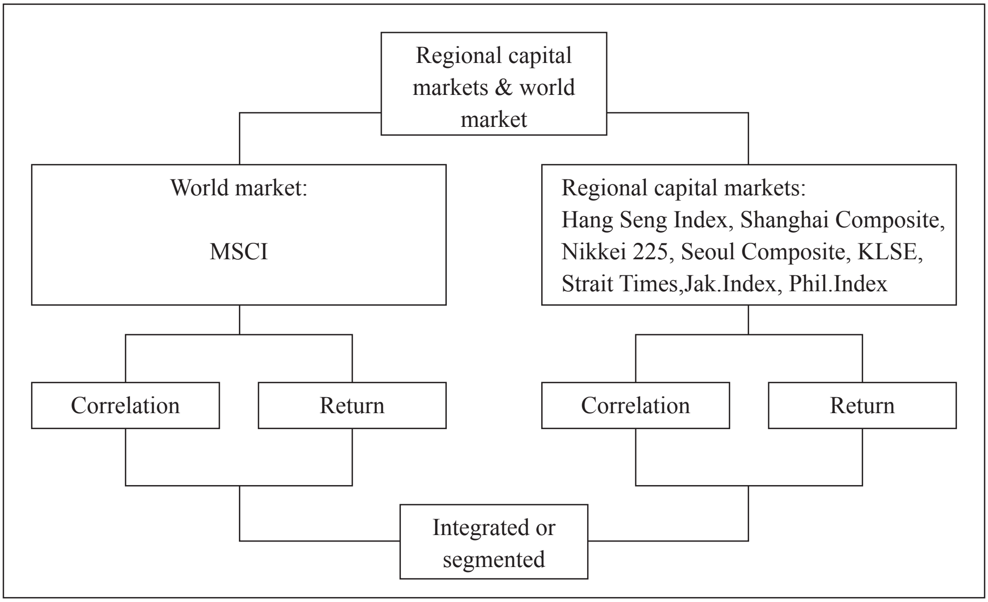


Table 2. Descriptive Statistics for Equity Market Returns

	N	Minimum	Maximum	Mean	Variance
CHINA	85	-1.000000	.320558	-.007668	.016
INDONESIA	85	-1.000000	.284270	-.005518	.023
MALAYSIA	85	-1.000000	.342349	-.009055	.022
SKOREA	85	-1.000000	.488285	-.004729	.027
PHILIPPI	85	-1.000000	.393287	-.013510	.020
HANGSENG	85	-1.000000	.288132	-.011271	.020
NIKKEI22	85	-1.000000	.148070	-.015978	.016
STSINGPR	85	-1.000000	.282165	-.008138	.020
WORLD	85	-1.000000	.0898215	********	.014
VALID N (listwise)	85	-1.00000			

correlation is used to measure the correlation between the chosen Asian country equity market returns. Figure 3 represents an attempt to capture the broad impact of time changing correlations between regional returns and world portfolio returns. The world returns are calculated using consecutive six monthly ending at the current month. The regional correlations reflect the correlation between country returns and the return on the constructed regional index. The world correlations reflect the correlation between the country returns and the proxy for the world returns. To identify the general trend in correlation over the study, the correlations are averaged correlations, one for the Asian region and the difference between the average of the regional correlations and the average world correlations appears in Figure 4.

In fact that correlation between Asian

Table 3. Correlation Matrix for Equity Market Returns

correlations

		CHINA	INDONESIA	SKOREA	PHILIPPI	MALAYSIA	HANGSEN	NIKKEI22	STSINGP	REGION	WORLD
CHINA	Pearson Correlation	1	-.015	.044	-.027	.030	.000	-.065	-.031	.238*	-.019
	Sig. (2 Tailed)	.	.890	.689	.803	.786	.999	.552	.775	.028	.866
	N	85	85	85	85	85	85	85	85	85	85
INDONESIA	Pearson Correlation	-.015	1	.719*	.804	.754*	.698*	.711*	.749*	.880*	.755*
	Sig. (2 Tailed)	.890	.	.000	.000	.000	.000	.000	.000	.000	.000
	N	85	85	85	85	85	85	85	85	85	85
SKOREA	Pearson Correlation	.044	.719*	1	.738*	.675	.735*	.575*	.726*	.861*	.646*
	Sig. (2 Tailed)	.689	.000	.	.000	.000	.000	.000	.000	.000	.000
	N	85	85	85	85	85	85	85	85	85	85
PHILIPPI	Pearson Correlation	-.027	.804*	.738*	1	.794*	.825*	.688*	.875*	.890*	.736*
	Sig. (2 Tailed)	.083	.000	.000	.	.000	.000	.000	.000	.000	.000
	N	85	85	85	85	85	85	85	85	85	85
MALAYSIA	Pearson Correlation	.030	.754*	.675*	.794*	1	.806*	.713*	.836*	.873*	.698*
	Sig. (2 Tailed)	.786	.000	.000	.000	.	.000	.000	.000	.000	.000
	N	85	85	85	85	85	85	85	85	85	85
HANGSEN	Pearson Correlation	.000	.698*	.735*	.825*	.806*	1	.725*	.915*	.825*	.699*
	Sig. (2 Tailed)	.999	.000	.000	.000	.000	.	.000	.000	.000	.000
	N	85	85	85	85	85	85	85	85	85	85
NIKKEI22	Pearson Correlation	-.065	.711*	.575*	.688*	.713*	.725*	1	.744*	.708*	.899*
	Sig. (2 Tailed)	.552	.000	.000	.000	.000	.000	.	.000	.000	.000
	N	85	85	85	85	85	85	85	85	85	85
STSINGP	Pearson Correlation	-.031	.749*	.726*	.875*	.836*	.915*	.744*	1	.850*	.718*
	Sig. (2 Tailed)	.775	.000	.000	.000	.000	.000	.000	.	.000	.000
	N	85	85	85	85	85	85	85	85	85	85
REGION	Pearson Correlation	.238*	.880*	.861*	.890*	.873*	.825*	.708*	.850*	1	.760*
	Sig. (2 Tailed)	.028	.000	.000	.000	.000	.000	.000	.000	.	.000
	N	85	85	85	85	85	85	85	85	85	85
WORLD	Pearson Correlation	-.019	.755*	.646*	.736*	.698*	.699*	.899*	.718*	.760*	1
	Sig. (2 Tailed)	.866	.000	.000	.000	.000	.000	.000	.000	.000	.
	N	85	85	85	85	85	85	85	85	85	85

markets may appear to be integrated, when in fact they are segmented from one another. In other words, Asian market seems to be integrated mildly because China, for example, shows negative correlation with world markets and Asian financial centers: Japan, Singapore. Moreover, it does not have correlation with Hong Kong that in fact is part of China integration. Whether regional links have become stronger than world links is not so obvious (Figure 4). It is evident that, along with a general increase in equity market correlation with both region and the world, regional correlation has become stronger than the world correlation during study period.

Overall, the correlation results provide some confirmation of argument that a lowering of tariff barriers, financial liberalization and the flow of foreign funds leads to increasing correlation between proximate stock markets. Moreover, Asia has similar geographic, economics and cultural factors that make regionalism more conductive to trade but still need to find the fit formation of trade blocs in region, especially in Asia.

Conclusion

The purpose of this study was to examine the way in which stock markets in Asia vary over time. Prior to the liberalization of markets in the early 1990s in Asia, equity market tended in between integrated and segmented with regional and world market. The financial crises were a period during which Asian markets seemed to be exposed to same contagion effects

Figure 3. Comparison of Regional and World Correlation Average

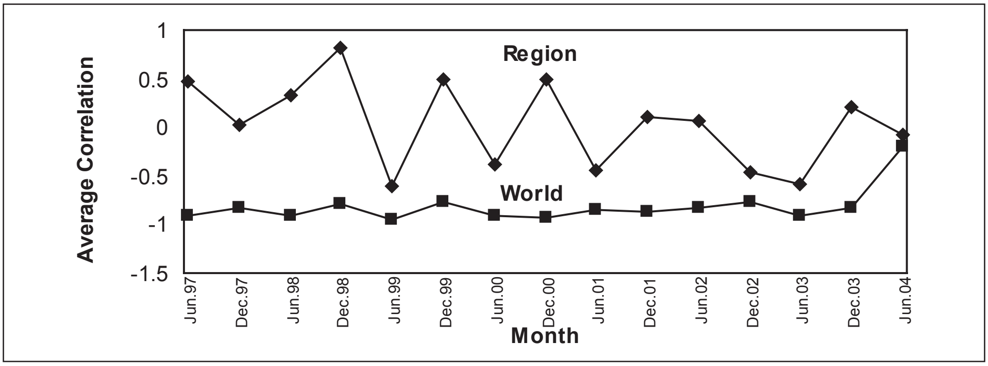
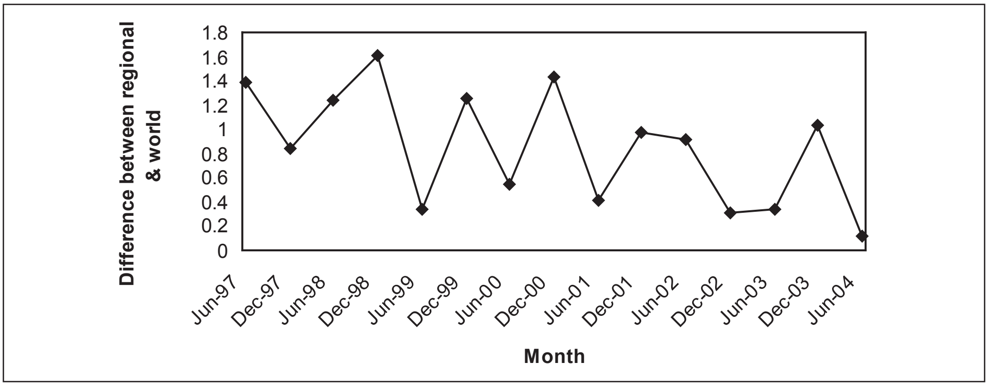


Figure 4. Difference Between Regional and World Correlation



among these countries. A future extension of this research may to be examining in more detail the theory underlying regional integration in Asia. In turn, the closer economic union may lead greater dependence within a regional context that may result in greater contagion effects in the event of financial crises. It may explain why the incidence of regional crises seems to be increasing over time. Also, it is interesting to note that diversification becomes more integrated regionally rather than worldly. In other words, market becomes more segmented worldly. Than, it may suggest that investors might consider diversification across regions rather than across individual countries within regions.

References

Balassa, B. (1982), *The Theory of Economi Integration*, Greenwood: Wesport.

Beim, D.O., and Calomiris, C.W. (2001), *Emerging Financial Market*, Mc Graw Hill, 5 (8), 24 – 26.

Bekaert, G., and Harvey, C.R. (1995), Time-Varying World Market Segmentation and Exchange Risk Factor in International Capital Market, *Journal of International Business Studies*, 28 (1), 29 – 49.

Cochinard, S. (1995), L'Evolution du Concept de Coalition en Theorie des Jeux (The Coalition Concept in Game Theory), *Revue d'Economie Politique*, 105 (4), 633 – 655.

Cooper, D.R., and Emory C.W. (1998), *Metode Penelitian Bisnis* (terjemahan), Jilid 2, Edisi kelima, Jakarta:Erlangga.

Drysdale, P. (1998), *International Economic Pluralism:Economic Policy In East Asia and The Pasific*, New Zealand:Sabagraphics.

Hadi, S. (2004), *Analisis Regresi*, Edisi Kedua, Yogyakarta:ANDI

Harvey, C.R. (1995), The Risk Exposure of Emerging Equity Market, *The World Bank Economic Review*, 9 (1), 19 – 50.

Heaney, R., and Hooper, V. (1999), World Regional and Political Risk Influences Upon Asia Pacific equity Market Returns, *Australian Journal of Management*, 24 (2), 131 – 142.

Jogiyanto, H.M. (1998), *Teori Portofolio dan Analisis Investasi*, Edisi Pertama, Yogyakarta:BPFE.

Lee, S.Y., and Jao, Y.C. (1986), *Struktur Keuangan dan Kebijaksanaan Moneter Di Asia Tenggara*, Jakarta: Bina Aksara.

Murtini, U., and Ekawati, E. (2003), Integrasi Bursa Efek Jakarta dengan Bursa Efek di ASEAN (Setelah Penghapusan Batas Pembelian Bagi Investor Asing), *Jurnal Riset Akuntansi Indonesia*, 6 (3), 304 – 319.

Park, H.K. (2005), A Test of Financial Integration in East Asia, *The Multinational Business Review*, 13 (1), Spring 2005, 75 – 95.

Pompili, T. (1994), Structure and Performance of Less Developed Regions in The EC, *Regional Studies*, 28 (7), 679 – 693.

Purwanto, S.K., and Suharyadi (2003), *Statistika Untuk Ekonomi dan Keuangan Modern*, Buku 1, Jakarta: Salemba Empat.

Purwanto, S.K., and Suharyadi (2004), *Statistika Untuk Ekonomi dan Keuangan Modern, Buku 2, Jakarta: Salemba Empat.*

Roida, H.Y., SARS and Asian Stock Market Analysis, *Emerging Financial Market Analysis UNSW Working Paper*, 1 – 6.

Sing, L.H. (2001), *Peranan Jepang Di Asia*, Edisi Ketiga, Jakarta: Gramedia

Sugiyono, D.R. (2002), *Statistika Untuk Penelitian*, Cetakan Keempat, Bandung: Alfabeta.

Sumaryadi, N.S., and Handoko, B.S. (2001), Global Trade Liberalization: Its Impact On The Export Competitiveness of China and ASEAN-5 In The United States Market, *Gajahmada International Journal of Business*, 3 (2), 121-139.

Sumodiningrat, G. (1994), *Ekonometrika Pengantar*, Edisi Pertama, Yogyakarta: BPFE.

Tandelilin, E. (1999), Gains From International Diversification and Domestic Portfolio In Emerging Stocks Market: Philippine an Indonesian Perspectives, *Gajahmada International Journal of Business*, 1 (2), 63-84.

https://scholarhub.ui.ac.id/icmr/vol1/iss2/4
DOI: 10.21002/icmr.v1i2.3652