

ORIGINAL ARTICLES

The Analysis Of Economic Integration Among Asean-5 With Japan And Usa

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ABSTRACT

This study examines the existence of economic integration among the five founding member countries of the Association of Southeast Asian Nations (ASEAN); Indonesia, Malaysia, the Philippines, Thailand and Singapore. It also explores the economic integration among ASEAN-5 with Japan and US. This study uses yearly time series data from 1970-2005. Three types of test are applied, i.e., the Unit Root Test, Johansen and Juselius co-integration Test and Granger Causality Test. The unit root test indicates that all data are stationary at their first differences and this allows us to proceed with co-integrating test. By using lag 2 and 4, it is found that there is a long-run relationship among ASEAN-5 countries and also between ASEAN-5 with Japan and US. On the other hand, the granger causality test shows that there is a short-run relationship between ASEAN-5 with Japan and US. The analysis of this study reveals that the ASEAN-5 has economic integration within the region itself. In addition, the study also found that Japan significantly affects the changes of output of ASEAN-5 compared to US.

Key words: *Economic integration, ASEAN, International Economics*

Introduction

The volume of trade within the ASEAN countries continues to be undertaken by five ASEAN member countries which comprises of Singapore, Malaysia, Thailand, Indonesia, and the Philippines. Together, they contributed 91.6 per cent of the total trade of ASEAN in 2005. ASEAN's intra-regional trade grew from US\$145.2 billion in 1996 to US\$221.9 billion in 2004. This constituted 20.6 per cent of the total ASEAN trade in 1996 and 21.2 per cent in 2004. Japan and US were ASEAN countries' major trading partners and maintained their ranking as the top two export markets and import sources for the region. However, their respective shares in ASEAN's imports registered changes during 1996-2005 periods. Japan's share in total ASEAN imports declined from 16.8 per cent in 1996 to 12.8 per cent in 2005. The share for US also declined from 11.8 per cent in 1996 to 9.8 per cent in 2005 (ASEAN Secretariat, World Trade Atlas). Ahmed and Tongzon (1998) noted that ASEAN economies are more vulnerable to the changes in the US rather than the Japanese output especially after the 911 incident that brought few constraints in economic cooperation between US with other countries. In their study, Ahmed and Tongzon (1998) also revealed that Indonesia was the driving forces of other ASEAN regions. Whilst, Ong and Habibullah (2007) lamented that Malaysia, the Philippines and Thailand could be the driving force of ASEAN's regional cooperation. With these inconclusive findings, the objective of this study is therefore, to find out which country/countries of the ASEAN-5 is/are the driving forces in ASEAN region. The study will also find out whether the changes of output of Japan and US, affect the ASEAN-5 economic performance.

Literature Review:

Economic Integration among ASEAN:

Ahmed and Tongzon (1998) stated that Indonesia is the dominant economy that influences the other ASEAN economies. They also found the direction of the causation and transmission between Indonesia with Philippines, Thailand, Malaysia and Singapore. A two-way causation is found between Singapore and Malaysia. On the other hand, Ong and Habibullah (2007) in evaluating the ongoing real macroeconomic convergence of ASEAN-5 economies also found that there are at least two co-integration relationships among ASEAN-5 economies. Their empirical findings suggest that all ASEAN-5 are compatible but Malaysia, the Philippines,

and Thailand are relatively more coordinated economically. Hence, Malaysia, the Philippines, and Thailand are the vital driving forces of ASEAN's regional cooperation.

Park (1998) studied on regional economic integration among ASEAN member nations through ASEAN Free Trade Area (AFTA). He found that AFTA boosted intra-ASEAN trade and accelerate the economic growth of each ASEAN member nation. However, at the individual country level, there was no uniform impact on real GDP among ASEAN-5 members. He also argued that the economy with higher pre-FTA tariff barriers and bigger intra-regional trade volume, for example, the Philippines and Thailand gained bigger share from freer trade. In a different study, Guangsheng (2006) stated that the performance of ASEAN economic integration was modestly superior though there were some limits in its performance. He lamented that the performance of ASEAN regional economic cooperation was based on two conditions, i.e., the government and market. He added that regional economic cooperation will somehow difficult to achieve because of limited market scale of internal regional market, competition among member countries and dependence on external market. In order to overcome these problems, the two conditions should be altered. Kawai (2005) said that ASEAN economic integration is real and deep, and largely market-driven. Asia has great potential for further economic integration through various type of institutional cooperation such as Asia-wide FTA, establishment of stronger mechanism for regional financial stability, relative stability of intra-regional exchange rates and provision of various types of regional public goods

Economic Integration among ASEAN with Japan:

According to ASEAN-Japan Research Institute Meeting (2003), Japan and ASEAN member countries have close economic partners for more than three decades. ASEAN members accelerated their development in 1970s and achieved a remarkable growth from 1987 to 1996. With Japanese developing strategies and business networks aimed at the whole ASEAN market and cross-border advancement of ASEAN firms, have helped in strengthening both Japan and ASEAN markets. According to Institute for International Monetary Affairs, the relationship between Japan-ASEAN FTA was politically less difficult to achieve since most ASEAN countries (except Philippines) are historically pro-Japanese especially in the case of Indonesia, Thailand and Malaysia. However, Piromya (2003) argued otherwise. He lamented that it is relatively hard to achieve full integration between Japan and ASEAN. ASEAN must therefore promote itself in Japan for Japanese society to further understand and support the measures for better integration between the two parties. Likewise, Japan must define its own future role in Asia and with the international communities.

Among ASEAN member countries, Singapore is an extremely important strategic location for Japanese firms doing business in ASEAN (Watanabe, 2006). Singapore continues to lead the region's economic and industrial growth, and serves as the hub of the ASEAN's logistics, finance, human resources development and also technology.

Economic Integration among ASEAN with USA:

Ahmed and Tongzon (1998) found that ASEAN economies are vulnerable to the changes in the US rather than Japanese output. This is an interesting finding because it supports the importance of the US market to ASEAN economies. Sukma (2000) also bolstered that US will continue to be the most important partner of ASEAN as US is one of the main export destination for ASEAN's commodities and products. US is also one of the major investor in many ASEAN countries. Further, Naya and Plumber (2005) revealed that the economic effect of bilateral FTA's between United States and ASEAN is positive. Beside economic intergration with ASEAN to promote domestic economies, United States would be the best possible FTA for ASEAN partner (Naya and Plumber, 2005).

The Methodology:

In determining the relationship among ASEAN-5 with Japan and US, this study relies heavily on the method used in Ahmed and Tongzon (1998). The economic growth is measured by real GDP (Y), while exports and imports variables measure countries' "openness". The study uses yearly time series data from 1995 -2005. The data are made available from IMF International Financial Statistic and World Bank database website. Co-integration test is employed to examine the co-integration relationship among ASEAN-5 towards trade integration. The Granger causality test is applied to determine the direction of causal among ASEAN-5 trade integration, i.e., to find out if there is a one-way relationship or bi-directional relationship among ASEAN-5. Specifically, the models in Section 3.1 and Section 3.2 are used to examine the economic integration among ASEAN-5 and economic integration ASEAN-5 with Japan and US, respectively.

Model for Economic Integration among ASEAN-5:

$$\begin{aligned} \Delta \ln \text{GDP (IND)} &= \alpha + \sum_{i=1}^n \beta_1 \Delta \ln \text{GDP (IND)}_{t-i} + \sum_{i=1}^n \beta_2 \Delta \ln \text{GDP (MYR)}_{t-i} + \\ &\sum_{i=1}^n \beta_3 \Delta \ln \text{GDP (PHP)}_{t-i} + \sum_{i=1}^n \beta_4 \Delta \ln \text{GDP (SIN)}_{t-i} + \sum_{i=1}^n \beta_5 \Delta \ln \text{GDP (THAI)}_{t-i} + \varepsilon_t \end{aligned} \quad (1)$$

$$\begin{aligned} \Delta \ln \text{GDP (MYR)} &= \alpha + \sum_{i=1}^n \beta_1 \Delta \ln \text{GDP (IND)}_{t-i} + \sum_{i=1}^n \beta_2 \Delta \ln \text{GDP (MYR)}_{t-i} + \\ &\sum_{i=1}^n \beta_3 \Delta \ln \text{GDP (PHP)}_{t-i} + \sum_{i=1}^n \beta_4 \Delta \ln \text{GDP (SIN)}_{t-i} + \sum_{i=1}^n \beta_5 \Delta \ln \text{GDP (THAI)}_{t-i} + \varepsilon_t \end{aligned} \quad (2)$$

$$\begin{aligned} \Delta \ln \text{GDP (PHP)} &= \alpha + \sum_{i=1}^n \beta_1 \Delta \ln \text{GDP (IND)}_{t-i} + \sum_{i=1}^n \beta_2 \Delta \ln \text{GDP (MYR)}_{t-i} + \\ &\sum_{i=1}^n \beta_3 \Delta \ln \text{GDP (PHP)}_{t-i} + \sum_{i=1}^n \beta_4 \Delta \ln \text{GDP (SIN)}_{t-i} + \sum_{i=1}^n \beta_5 \Delta \ln \text{GDP (THAI)}_{t-i} + \varepsilon_t \end{aligned} \quad (3)$$

$$\begin{aligned} \Delta \ln \text{GDP (SIN)} &= \alpha + \sum_{i=1}^n \beta_1 \Delta \ln \text{GDP (IND)}_{t-i} + \sum_{i=1}^n \beta_2 \Delta \ln \text{GDP (MYR)}_{t-i} + \\ &\sum_{i=1}^n \beta_3 \Delta \ln \text{GDP (PHP)}_{t-i} + \sum_{i=1}^n \beta_4 \Delta \ln \text{GDP (SIN)}_{t-i} + \sum_{i=1}^n \beta_5 \Delta \ln \text{GDP (THAI)}_{t-i} + \varepsilon_t \end{aligned} \quad (4)$$

$$\begin{aligned} \Delta \ln \text{GDP (THAI)} &= \alpha + \sum_{i=1}^n \beta_1 \Delta \ln \text{GDP (IND)}_{t-i} + \sum_{i=1}^n \beta_2 \Delta \ln \text{GDP (MYR)}_{t-i} + \\ &\sum_{i=1}^n \beta_3 \Delta \ln \text{GDP (PHP)}_{t-i} + \sum_{i=1}^n \beta_4 \Delta \ln \text{GDP (SIN)}_{t-i} + \sum_{i=1}^n \beta_5 \Delta \ln \text{GDP (THAI)}_{t-i} + \varepsilon_t \end{aligned} \quad (5)$$

Where

$\Delta \ln \text{GDP (IND)}$ = log of real GDP of Indonesia at time t ;
 $\Delta \ln \text{GDP (MYR)}$ = log of real GDP of Malaysia at time t ;
 $\Delta \ln \text{GDP (PHP)}$ = log of real GDP of Philippines at time t ;
 $\Delta \ln \text{GDP (SIN)}$ = log of real GDP of Singapore at time t ;
 $\Delta \ln \text{GDP (THAI)}$ = log of real GDP of Thailand at time t ;
 ε_t = error term

3.2 Model for Economic Integration of ASEAN-5 with Japan and US:

$$\ln \text{ASEAN}_t = a_0 + \sum a_{1i} \ln \text{ASEAN}_{t-i} + \sum a_{2i} \ln \text{USA}_{t-i} + \sum a_{3i} \ln \text{Japan}_{t-i} + \varepsilon_{1t} \quad (6)$$

$$\ln \text{USA}_t = b_0 + \sum b_{1i} \ln \text{ASEAN}_{t-i} + \sum b_{2i} \ln \text{USA}_{t-i} + \sum b_{3i} \ln \text{Japan}_{t-i} + \varepsilon_{2t} \quad (7)$$

$$\ln \text{Japan}_t = c_0 + \sum c_{1i} \ln \text{ASEAN}_{t-i} + \sum c_{2i} \ln \text{USA}_{t-i} + \sum c_{3i} \ln \text{Japan}_{t-i} + \varepsilon_{3t} \quad (8)$$

Where:

$\ln \text{ASEAN}_t, \ln \text{Japan}_t$ and $\ln \text{USA}_t$ = log of real GDP for current year for ASEAN-5, Japan and USA respectively
 $\ln \text{ASEAN}_{t-i}, \ln \text{Japan}_{t-i}$ and $\ln \text{USA}_{t-i}$ = log of real GDP for previous year for ASEAN-5, Japan and USA respectively
 a_0, b_0, c_0 = parameters
 $\sum a_{1i}, \sum a_{2i}, \sum a_{3i}, \dots, \sum c_{3i}$ = off diagonal coefficients
 ε_{it} = error term, $i = 1, 2, 3$

*Empirical Results And Findings:**Results on Stationary Test:*

Unit root test is applied to examine the stationary of the time series. Indeed the main purpose to run this test is to find the significant relationship among the variables where it only exists when the all variables are in the same level of integration. Therefore, to examine the existence of a unit root test in the time series, the Augmented Dickey-Fuller (ADF) is conducted. The hypotheses of the unit root test are $H_0 =$ non-stationary and $H_1 =$ stationary. When the result shows that t-statistic is more than critical value, the null hypothesis should be rejected and accept H_1 . This shows that the data are stationary (no unit root exists). If the result shows that t-statistic is less than critical value, the null hypothesis cannot be rejected. This shows that data are non-stationary (unit roots exist).

Table 1: Unit Root Test Results

Variables	Augmented Dickey-Fuller	
	Levels	First Differences
Indonesia	-2.760020	-6.225584*
Malaysia	-2.781439	-4.110836*
Philippines	-2.692469	-3.987538*
Singapore	-2.395082*	-2.880509**
Thailand	-2.176185	-3.300091*
ASEAN-5	-2.358390	-4.497013*
Japan	-1.008038	-3.679181*
USA	-1.343554*	-2.746929**

Notes: Asterisks (*) and (**) denotes significant at 5% and 10% respectively.

Table 1 shows the result of the unit root test in both levels and first differences using Augmented Dickey-Fuller (ADF). From the results revealed in Table 1, the null hypothesis could not be rejected because the series in levels has a unit root or also known as non-stationary. As seen in the above table, the t-statistic is less than the critical value at 5% level of significant. However, when in the detail of the first differences indicated in the result, it shows that the null hypothesis could be rejected. This is because the t-statistic is more than the critical value at 5% level of significant for all the variables except for the Singapore and USA at 10% level of significant. Thus, as a result, the variables is said to be integrated of order one, because the variables become stationary after the first differences. As all the variables are in the same integration, we can proceed to co-integration test.

Long-run relationship between the GDP of ASEAN, GDP of Japan and GDP of USA:

Since all the variables are integrated of order one, we can proceed to co-integration test in order to test on the long run relationship which exists between the variables. The results of co-integration test divided into two groups where in table 2 is result of Group 1 (Indonesia, Malaysia, Philippines, Singapore and Thailand) and in table 3 is results of Group 2 (ASEAN-5, USA and Japan). The lags that used for find the co-integration for Group 1 and Group 2 are lag 2 and lag 4, respectively. This is because, the Schwarz Bayesian Criterion (SBC) test that has been run before showed it is suitable and accurate to use lag 2 and lag 4 to determine whether the long run relationship exists between the variables for Group 1 and Group 2 respectively. The hypothesis of co-integration test are $H_0 =$ no co-integration and $H_1 =$ co-integration exist. As a result the trace statistic or max-Eigen value is more than critical value, the null hypothesis should be rejected and accept H_1 . This shows that there is co-integration relationship exists in the long-run. If the result shows that trace statistic or max-eigen is less than critical value, the null hypothesis cannot be rejected. This shows that there is no co-integration relationship exists in the long-run.

Long-run relationship among GDP of ASEAN-5:

Table 2 indicates that both trace statistic and max-eigen statistic for variables in Group 1 are significant at 5% significant of level. According to the result, the null hypothesis $r = 0$ should be rejected because the both value of trace and λ - max are larger than the critical value where the trace value and λ - max are 108.8895 and 45.48748 respectively. Same result goes to the null hypothesis of $r \leq 1$ where the both value of trace and λ - max are larger than the critical value where the trace value and λ - max are 63.40197 and 31.86528, respectively.

Table 2: Johansen and Juselius Cointegration Test Results (Group 1: Indonesia, Malaysia, Philippines, Singapore and Thailand)

Null hypothesis (H_0)	Trace		Critical Value	
	Statistic	λ - max	trace	λ max
$r = 0$	108.8895**	45.48748**	68.52	33.46
$r \leq 1$	63.40197**	31.86528**	47.21	27.07
$r \leq 2$	31.53670**	19.38712	29.68	20.97
$r \leq 3$	12.14958	8.401508	15.41	14.07
$r \leq 4$	3.748072	3.748072	3.76	3.76

Notes: Asterisks (**) denotes significant at 5% level.

However the null hypothesis of $r \leq 2$ is different than the null hypothesis of before, because here only trace value is larger than critical value where it stated 31.53670 but the λ - max is less than the critical value where it stated 19.38712. This shows that, only trace statistic could be rejected at 5% of significant level but λ - max cannot be rejected at 5% of significant of level. However, the null hypothesis of $r \leq 3$ and $r \leq 4$ cannot be rejected in both value of trace and λ - max at 5% significant of level due to their less value than critical value. Based on the trace value and λ - max test result above, it indicates that there are three co-integration vector exist for trace test and indicates two co-integration vector exist for max-eigenvalue test. Therefore, there is significant long-run relationship among the variables in Group 1.

Long-run relationship among GDP of ASEAN-5 with GDP of Japan and GDP of USA:

Table 3 indicates that both trace and λ - max test statistic for variables in Group 2 are significant at 5% significant of level. According to the result, the null hypothesis of $r = 0$ should be rejected because the both value of trace and λ - max are larger than the critical value where the trace value and λ - max are 43.09432 and 28.96305 respectively. While the null hypothesis of $r \leq 1$ and $r \leq 2$ cannot be rejected in both value of trace and λ - max at 5% significant of level due to their less value than critical value. In null hypothesis of $r \leq 1$, the trace and λ - max value are 14.13127 and 13.96069 respectively. On the other hand, the trace and λ - max value for null hypothesis of $r \leq 2$ are same where 0.170587.

Table 3: Johansen and Juselius Cointegration Test Results (Group 2: ASEAN-5, USA and Japan)

Tests	Trace		Critical Value	
	Statistic	λ - max	trace	λ - max
$r = 0$	43.09432**	28.96305**	29.68	20.97
$r \leq 1$	14.13127	13.96069	15.41	14.07
$r \leq 2$	0.170587	0.170587	3.76	3.76

Notes: Asterisks (**) denotes significant at 5% level.

Based on the trace value and λ - max test result above, it indicates that there is single cointegration vector exist for trace and max-eigenvalue test. Therefore, there is significant long-run relationship exist among the variables in group 2.

Short-run relationship between GDP of ASEAN, GDP of Japan and GDP of USA:

Granger causality test is applied to determine the type of causality among the variables in Group 1 and Group 2 in the short-run. The lags that used for identified the granger cause for group 1 and groups 2 are lag 2 and lag 4 respectively. This is because, the Schwarz Bayesian Criterion (SBC) test that has been run before showed it is suitable and accurate to use lag 2 and lag 4 to find the direction of short-run relationship among the variables for group 1 and group 2 respectively. The hypothesis of granger causality test are H_0 = non-causality and H_1 = causality. When the result shows p-value are more than critical value, the null hypothesis should not be rejected and this shows that there is no causality occur between the variables. If the result shows p-value are less than critical value, the null hypothesis should be rejected and accept H_1 and this shows that there is causality occur among the variables.

Short-run relationship among GDP of ASEAN-5:

Table 4 shows the results of granger cause for Group 1 (Indonesia, Malaysia, Philippines, Thailand, and Singapore). For Indonesia, the null hypothesis Indonesia does not granger cause Malaysia, Philippines and Singapore should not be rejected at 5% significant level because the p-values are more than critical value where 0.95873, 0.38133 and 0.58685 respectively. However, the null hypothesis Indonesia does not granger cause Thailand should be rejected at 5% significant level because the p-values are less than critical value where 0.04294. This indicates that the growth of Indonesia will lead to growth of Thailand. For Malaysia, the null hypothesis Malaysia does not granger cause Philippines and Singapore should not be rejected.

Table 4: The choice of true length (k) based on the SBC

Nlag*	SBC
0	-88.2589
1	157.3525
2	151.3597**

*Nlag is the number of lag is used

**the largest numbers taken to choose the lag

Table 5: Granger Causality Test Result (Group 1: Indonesia, Malaysia, Philippines, Singapore and Thailand)

Null Hypothesis (H ₀)	F-statistic (p-values)	Results
Lag 2		
Indonesia does not Granger Cause		
Indonesia	-	-
Malaysia	0.95873	Accept H ₀
Philippines	0.38133	Accept H ₀
Singapore	0.58685	Accept H ₀
Thailand	0.04294	Reject H ₀
Malaysia does not Granger Cause		
Indonesia	0.02633	Reject H ₀
Malaysia	-	-
Philippines	0.22103	Accept H ₀
Singapore	0.59711	Accept H ₀
Thailand	0.04751	Reject H ₀
Philippines does not Granger Cause		
Indonesia	0.10942	Accept H ₀
Malaysia	0.91332	Accept H ₀
Philippines	-	-
Singapore	0.61450	Accept H ₀
Thailand	0.13543	Accept H ₀
Singapore does not Granger Cause		
Indonesia	0.02196	Reject H ₀
Malaysia	0.16163	Accept H ₀
Philippines	0.15745	Accept H ₀
Singapore	-	-
Thailand	0.48365	Accept H ₀
Thailand does not Granger Cause		
Indonesia	0.00317	Reject H ₀
Malaysia	0.02235	Reject H ₀
Philippines	0.04775	Reject H ₀
Singapore	0.12333	Accept H ₀
Thailand	-	-

Notes: Significant at 5% level.

However, Malaysia has granger causal effects on Indonesia and Thailand. On the other hand, Philippines does not granger cause Indonesia, Malaysia, Singapore and Thailand should not be rejected and this showed Philippines has no granger causal effects for those countries. For Singapore, the null hypothesis Singapore does not granger causes Indonesia should be rejected. This donates that Singapore has granger causal effects on Indonesia. Lastly for Thailand, the null hypothesis Thailand does not granger cause Indonesia, Malaysia and Philippines should be rejected at 5% significant level. Repercussion to these findings indicates that the Thailand growth will lead to growth of Indonesia, Malaysia and Philippines.

Two type of direction of short-run relationship were found through this test which are known as unidirectional and bidirectional. The unidirectional short-run relationship occurs from Malaysia to Indonesia, Singapore to Indonesia and Thailand to Philippines, while the bidirectional short-run relationship occurs between Indonesia and Thailand, and Malaysia and Thailand. As a conclusion, it could be said that Thailand has leading role and significant economic linkages among other ASEAN-5 countries. This conveys that when there is an increase in Thailand growth, indeed it will influence the growth of Indonesia, Malaysia and Philippines. However, this founding is against the argument of Ahmed and Tongzon (1998), where they argued in their founding that Indonesia has the leading role among the other ASEAN-5 countries. The changes of driving forces countries from Indonesia to Thailand is due to the free-enterprise economy and welcomes foreign investment which practices by Thailand. Further, the "dual-track" economy policy that combined domestic traditional promotion of open markets and foreign investment which introduced by the premier Thailand Prime Minister Thaksin was also one of the reason Thailand become the driving forces of other ASEAN-5 countries. In addition, the Thailand Board of Investment stated that Thailand's investment achieved a high value of USD 19.45 billion in 2007. The foreign direct investment is mainly from Japan, USA and European Union countries where this indicates sustained confidence towards Thai economy and foreign investors.

Short-run relationship between GDP of ASEAN-5 with GDP of Japan and GDP of USA.:

Table 5 shows the result of granger cause for Group 2 (ASEAN-5, Japan and US). The null hypothesis of Japan does not Granger Cause ASEAN-5 should be rejected because the p-value are less than critical value where 0.05199. However, the null hypothesis of ASEAN-5 does not Granger Cause Japan should not be rejected because the p-value are more than critical value. This shows there is unidirectional short-run relationship occurs between ASEAN-5 and Japan where Japan does granger cause ASEAN-5 but the changes of output in ASEAN-5 does not granger cause the Japan. However, the both null hypothesis United States does not granger cause ASEAN-5 and ASEAN-5 does not granger cause United States should not be rejected at 5% significant level because the both p-values are more than critical value where 0.11351 and 0.71471 respectively.

Table 6: The choice of true length (k) based on the SBC

Nlag*	SBC
0	-122.5814
1	102.5192
2	95.7976
3	83.9299
4	76.6772**

*Nlag is the number of lag is used

**the largest numbers taken to choose the lag

Table 7: Granger Causality Test Result (Group 2: ASEAN-5, USA and Japan)

Null Hypothesis (H_0)	F-statistic (p-values)	Results
Lag 4		
Japan does not granger cause		
ASEAN -5	0.05199	Reject H_0
US	0.80147	Accept H_0
United States does not granger cause		
Japan	0.45554	Accept H_0
ASEAN-5	0.11351	Accept H_0
ASEAN-5 does not granger cause		
Japan	0.14556	Accept H_0
United States	0.71471	Accept H_0
Notes: Significant at 5% level.		

As in determining the facts from above result of granger causality, Japan significantly affects the changes of output of ASEAN-5. This is because, Japan were the major trading partner and contributor of foreign investments in ASEAN community since late 1980's. For example, Japan direct investments in ASEAN-5 in 1996 amount for more than USD 6 billion as compared to USD 3.6 billion in 1991. In spite of being the main export market, Japan is also being the significant source of capital-intensive manufactures for most ASEAN countries (Ong & Muzafar Shah, 2007). However, USA does not significantly affects the changes of output of ASEAN-5 even though by the fact, the USA are among the most important trading partners of ASEAN members, but till today, there are no negotiations that are ongoing among ASEAN and USA (Sen, 2006).

Conclusion:

In order to achieve the objective of the study, several tests was done. These include Augmented Dickey-Fuller (ADF), Johansen and Juselius cointegration test, and lastly Granger Causality test. Through ADF test were found that all the variables are stationary at first differences. Then, Johansen and Juselius cointegration test proceed to find out the long run relationship among the variables. This test revealed there are three variables are co-integrating among ASEAN-5 countries and one variable is co-integrating among ASEAN-5 with Japan and USA. Granger causality test were used to find the short-run relationship among the variables. Based on this test, it showed that Thailand is the dominant economy that influences the other ASEAN economies especially Indonesia, Malaysia and Philippines. In addition, the economies performance of Malaysia – Thailand and Indonesia – Thailand is vital for each other because the countries economies changes influence each other. For instance, when Malaysia growth increases 1%, Thailand growth will increase 1% and vice versa. On the other hand, the granger causality for ASEAN-5 with Japan and US showed the changes of output of ASEAN-5 only affected by changes of output of Japan. This is an interesting finding because the previous study done by Ahmad and Tongzon (1998) shows that US market does undeniably affect the changes of output of ASEAN-5. Thus, it shows that currently as Japan is being ruled out the leading role prominently in ASEAN-5 countries. This is due to the recent increasing of financial development influence in East Asia rather than the region of US (Ong and Muzafar Shah, 2007). Accumulating to the feature, the establishment of Japanese firms throughout the ASEAN region and amass of stock of their direct investment in manufacturing in ASEAN-5 (ASEAN-Japan Research Institute Meeting, 2003) moreover one of the reason at present conveys the fact of Japan plays a fundamental role of ASEAN-5 development rather than US.

Few recommendations are highlighted from the findings. These recommendations essentially useful for future development of the ASEAN countries cooperation. The regional economic cooperation among ASEAN countries has a limited direct impact on promoting economic growth of member countries (Guangsheng, 2006). Thus, it is important to improve the regional economic cooperation of ASEAN countries in order to achieve economies of scale and become more competitiveness (Sen, 2006). For instance, strengthen the regional economic cooperation such as in promoting trade, investment and technology and accelerating industrial development. Through these, the member countries could increase awareness of the importance of capital markets for privatization and promotion of foreign investment inflows. Further, the member countries also could strengthen cooperation in trade, investment and industry and technology. This may increase the GDP rate of ASEAN regions and prompts the ASEAN regions in a more competitiveness mode of function not only among the ASEAN regions but also outside the ASEAN regions such as China, EU and USA.

The differences in political and economic systems among the ASEAN countries may slow down the cooperation among them (Masahiro Kawai, 2005). The matter of fact shows that all the ASEAN countries use different types of political and economic system in expanding their economic performance. This could affect the mutual cooperation and development of country among ASEAN regions. Thus, a multi-speed approach such as have a flexible and common rules, law and regulation among the ASEAN regions, so that there will be no barriers in doing business agreement among them and this could increase the economic performance of ASEAN countries.

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