# The Key Factors of Economic Integration in Southeast Asia: Case of Indonesia, Malaysia, and Thailand

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**Abstract**

*The major aim of economic integration in Southeast Asia is to shift economic integration from intra-regional trade to intra-regional investment before it achieves the common market. This article attempts to analyze the two essential factors in Southeast Asia's economic integration: intra-regional trade and an economic community. In the first analysis, this article observes three selected countries: Indonesia, Malaysia, and Thailand; while in the second analysis it focuses on Indonesia as a case study. Findings from this article showed that free trade agreement is effective to increase intra-regional trade but not effective to attract investment; therefore suggesting that Southeast Asia needs to amplify its open-regionalism principle. This article also found that the private sector is ready for the economic community; therefore the ASEAN Economic Community (AEC) is fit for Southeast Asia's economic integration exemplary.*

Key words: economic integration, international investment (long-term capital-FDI inflows), ASEAN Free Trade Area (AFTA), Bilateral Free Trade Agreements (BFTA), Asian noodle bowl phenomenon

## Introduction

The Association of Southeast Asian Nations (ASEAN) is committed to transform Southeast Asia's economic integration in trade, which allows free flows of goods to free flows of investment and services. The latter is known as an economic community and has started since the end of 2015. This agreement was implemented through the ASEAN Economic Community (AEC).[1]

The key factor for this transformation process is in its intra-regional trade because it connects intra-regional trade and intra-regional investment. Intra-regional trade is affected by its regional trade agreement known as the ASEAN Free Trade Area (AFTA), while its impact is expected to attract long-run investment inflows of Foreign Direct Investment (FDI). As intra-regional trade analysis is essential for Southeast Asia's economic integration, this article attempts to observe both the impact of free trade agreement to intra-regional trade and the impact of intra-regional trade to FDI inflows. It is followed by a second observation on the economic community as this is the next stage to intra-regional trade.

Previous studies show that intra-regional trade is directly affected by the implementation of AFTA through the

[1] For further detail, refer to http://www.aseansec.org/18757.htm.

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reduction of tariff barriers among its members (Braga and Bannister, 1994; Ravenhill, 1995; Menon, 1996; Bowles and MacLean, 1996). A high intra-regional trade indicates that the welfare-enhancing, trade-creating effects outweigh its welfare-reducing, trade-diverting effects (Viner, 1950). An increasing intra-regional trade within members is expected to attract long-run investment creation of FDI inflows.

Theoretically, intra-regional trade affects FDI inflows in two ways: (1) an increase in horizontal FDI inflows from non-members which avoid trade impediments as a result of discrimination from regional trade policies (Markusen, 1984), and (2) an increase in vertical FDI inflows from members due to the increasing benefits from intra-regional trade following the implementation of regional discriminative trade policies (Helpman, 1984).

Previous studies find that intra-regional trade increases FDI inflows. Applying Generalized Method of Moments analysis to European Union (EU) member states in 1989-2001, Baltagi, Egger, and Pfaffermayr (2005) find that the increase of intra-regional trade significantly increased FDI inflows. Dunning (1990) finds that the acceleration of the United States' FDI inflows in Europe, which occurred in the late 1950s, was affected by the EU's discriminative trade policy towards non-member states. Using fixed effects panel data of gravity model on 55 Organisation for Economic Co-operation and Development (OECD) countries in 1982-1997, Mac Dermott (2006) finds that intra-trade integration encourages total FDI inflows in North America (North American Free Trade Area).

In addition, to analyze the impact of AFTA on FDI inflows, this article adopts another type of agreements titled the direct Bilateral Free Trade Agreement (BFTA) as a factor to FDI inflows. BFTA directly connects ASEAN member states to non-member states. Some previous studies show that BFTA has been considered as a shortcut for member states to attract FDI inflows from non-member states alongside regional trade agreements (Menon, 2006). BFTA is not prohibited in ASEAN; therefore there is a potential risk that BFTA can infringe the objectives of AFTA. In Asia, this glitch is known as the 'Asian noodle bowl phenomenon.'

In order to complete a model analysis of the factors and impacts of the Southeast Asia's intra-regional trade, this article observes the economic community in Southeast Asia by finding the perceptions of firms, from both the manufacturing and service sectors, on the AEC. The analysis uses primary data based on a field survey of the upper-middle level firms in Indonesia. The primary data is adopted from a survey titled 'Monitoring of Investment Climate,' of which one of its coverage in 2014 was the firms' perceptions on the AEC 2015. This method is necessary to evaluate the perceptions of firms on the economic community, the next stage factor for economic integration in Southeast Asia after the intra-regional trade.

**Objective**

Based on the background, this article attempts to conduct three analyses. First, the factors that affect intra-regional trade. This is a proxy for trade creation effect. This objective is achieved by adopting and testing two time dummy variables: (1) the AFTA that is expected to create positive impact on Southeast Asia's intra-regional trade and (2) the direct

BFTA that is expected to do the opposite: create negative impact on ASEAN's intra-regional trade. This article uses BFTA as a proxy to prove the existence of the 'Asian noodle bowl' in Southeast Asia. This phenomenon is a major problem for enhancing intra-regional trade in Southeast Asia.

Second, the impact of intra-regional trade on FDI inflows as a proxy of investment creation in Southeast Asia. This article adopts two dummy variables of AFTA and BFTA as they are the factors for intra-regional trade of trade creation and intra-regional trade is a factor of FDI inflows of investment creation. For these two objectives, given several considerations, the observed countries in this article are limited to the ASEAN's founding members, in particular Indonesia, Malaysia, and Thailand.

Third, the perceptions of firms on the AEC 2015 from both the manufacturing and service sector. These perceptions are obtained from the field survey conducted in the biggest ASEAN member state in terms of Gross Domestic Product (GDP) and population size, Indonesia. The field survey had been conducted in six big cities around Indonesia in 2014. In order to achieve this objective, this article designs questions that are related to the theory of economic community for respondents from upper-middle level classification.

## Model, Variable, Hypothesis, and Method

### Secondary Data Analysis: Case of Indonesia, Malaysia, and Thailand

This article chooses the time dummy of AFTA of year 1999[2] and, with the purpose of sterilizing from global economic crises in 2008, this article limits the time series up to year 2008. In order to have a balanced time series span, this article selects the first time dummy of year 1988. Therefore, finally this article has 21 years (1988-2008) of time series analysis.

In order to make a connection between the factors and impact of intra-regional trade, this article has formulated two equations as a system. The first equation uses intra-regional trade as a dependent variable while the second one uses FDI inflows. This article has adopted trade arrangements (AFTA and BFTA) as the factors affecting intra-regional trade of Southeast Asia that is complemented by other macroeconomic variables as control variables given that trade arrangements are not the sole factor affecting intra-regional trade. These trade agreements are treated as time dummy variables. The time dummy for BFTA is its first time of agreement among the observed countries, which was 2004. (Indonesia signed its first BFTA in 2006, Malaysia in 2005, and Thailand in 2004.)

This article assumes that AFTA directly affects intra-regional trade and intra-regional trade directly affects FDI inflows.[3] This assumption is also based on

[2] According to Nesadurai (2003), the AFTA processes have three stages of negotiations: identification (1992-1995), expansion (1996-1998), and implementation that began in 1999.

[3] Indirect impact of AFTA to FDI inflows follows the preposition by Ravenhill (1995) and Bowles and MacLean (1996).

the empirical facts that AFTA was designed to boost Southeast Asia's intra-regional trade while, for attracting FDI inflows, ASEAN offered ASEAN Investment Area (AIA) policy.

As for the impact of intra-regional trade to FDI inflows, this article adopts selected variables that hypothetically affect FDI inflows from previous studies of nominal value of GDP, economic growth and number of population,[4] value of consumption,[5] employment,[6] electricity capacity,[7] degree of openness,[8] productivity of labors and their level of education,[9] as well as exchange rate.[10]

Exchange Rate (ER) effects on FDI inflows in Southeast Asia are essential to be observed. During Southeast Asia's economic crises, exchange rates incurred unanticipated depreciation leading to devaluation.[11] Exchange rate also represents the cost of service link. This means that countries with high exchange rate volatility will be difficult to cooperate with other countries under a production network as their exchange rate volatility endangers the entire network.

According to the relative value of wealth approach, the more depreciated the local currency of a developing country host, the more incentive for the investors in home of developed countries to invest.[12] Regarding that, this article uses nominal exchange rate as local home currency per local host currency; therefore, the increasing ER generates disincentive for the investors to invest FDI inflows in host countries.

This article proposes a new exogenous variable: FDI profit. This variable is adopted from the Global Financial Development data of the World Bank.[13] The data is part of Resource Flows, at which the data set form is on yearly basis. This article adopts this data as a proxy for the profit for the home county of FDI.

Variables such as corruption index, political stability, distance, and English proficiency however are not observed due to either limited data availability or irrelevance to the article's hypothesis.

The selected variables, their expected signs of hypothesis, and sources of data are described in **Table 1**. The methodology is built to find the most significant variables that explain the effect of trade agreements at the regional and bilateral levels in Southeast Asia (AFTA and BFTA) on investment creation (FDI). The trade agreements in question are accompanied by other macroeconomic variables, because FDI flows are affected not only by trade policies but also by macroeconomic variables.

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[4] For more details, see Sethi, Guisinger, Phelan, and Berg (2003).

[5] For more details, see Walz (1997).

[6] For more details, see Hejazi and Pauly (2003).

[7] For more details, see Foster (2000).

[8] For more details, see Park and Park (2008).

[9] For more details, see Hejazi and Safarian (1999).

[10] For more details, see Barrell and Pain (1996).

[11] Hayakawa and Kimura (2008)'s study finds that exchange rate is the most important variable to describe economic uncertainty and competitiveness within production blocks in the regional production networks.

[12] Previous study shows that exchange rate volatility has significant negative impact to FDI inflows in East Asian countries (Kiyota and Urata, 2004).

[13] The World Bank defines it as the form of value of Profit Remittance of FDI in US$ which explained in details as "payments of direct investment income (debit side) which consist of income on equity (dividends, branch profits, and reinvested earnings) and income on the intercompany debt (interest)."

**Table 1. Selected Variables and Hypothesis**

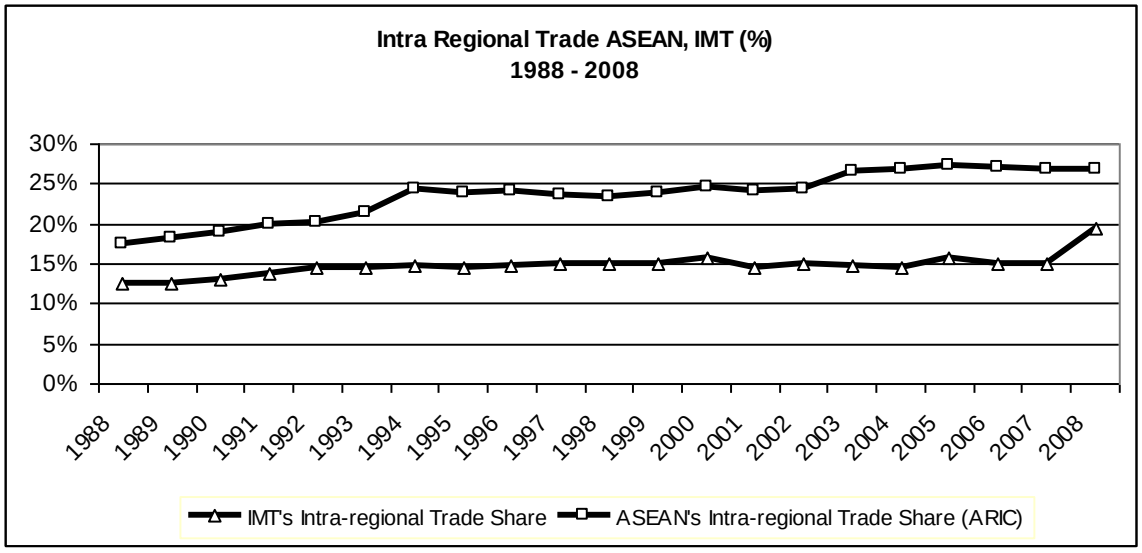
| Dependent Variables | Independent Variables | Expected Sign | Sources of Data |
|---|---|---|---|
| Aggregate FDI Inflows for testing the impact of AFTA on Investment Creation<br><br>(ADB Statistics and The World Bank Global Financial Development data)<br><br>Intra-regional trade (IRT) for testing the impact of AFTA on Trade Creation<br><br>(ARIC - ADB and Journal of EFI, 2007) | 1. Value of GDP (GDP) | + | 1. ADB Statistics |
| | 2. Value of Consumption (CONS) | + | 2. ADB Statistics |
| | 3. Percentage of Economic Growth (GR) | + | 3. ADB Statistics |
| | 4. Number of Population (POP) | + | 4. ADB Statistics |
| | 5. Number of Employed Worker (EMPL) | + | 5. ADB Statistics |
| | 6. Government Expenditure on Education (EDU) | + | 6. The World Bank World Development Indicators (WDI) |
| | 7. Electricity Consumption (ELECONS) | + | 7. The World Bank World Development Indicators (WDI) |
| | 8. Degree of Openness (DOO) | + | 8. WTO Statistics |
| | 9. Real Wage (RW) | + | 9. ADB Statistics |
| | 10. Exchange Rate (ER) | - | 10. ADB Statistics and IMF Country Economic Outlook |
| | 11. FDI Profit (FDIPROFIT) | + | 11. The World Bank Global Financial Development: Profit Remittance on FDI in US$ |
| | 12. Intra-regional trade | + | 12. WTO Statistics |
| | 13. Dummy AFTA | + | 13. Year of Effectiveness of AFTA (1999) |
| | 14. Dummy BFTA | + | 14. Year of first signature of BFTA (Malaysia: 2004; Thailand: 2005, Indonesia: 2006). The first year was 2004 |

*Source*: Various articles in academic journals and author's own proposed proxy and time dummy variables

FDI inflow is affected by intra-regional trade (Motta and Norman, 1996). This article constructs this logical framework as follows: Intra-regional trade is directly affected by regional Free Trade Areas (FTA), such as AFTA, and bilateral FTA (BFTA), and simultaneously affects FDI inflows. This simultaneous relation needs system equation of econometrics to find the connections.

In order to provide a comparative picture, this article presents both the intra-regional trade (%) of ASEAN from the Asia Regional Integration Center - Asian Development Bank (ARIC - ADB) data of 2010 and the observed country's share of that intra-regional trade of Indonesia, Malaysia, and Thailand, which is calculated based on ADB statistical data. These patterns are illustrated in **Figure 1**.

**Figure 1. Intra-regional Trade in ASEAN and Observed Countries (Indonesia, Malaysia, and Thailand), 1988-2008**




*Source*: ASEAN Intra-regional trade adopted from ARIC, ADB; Observed Countries Intra regional trade is own calculation based on WTO Statistic

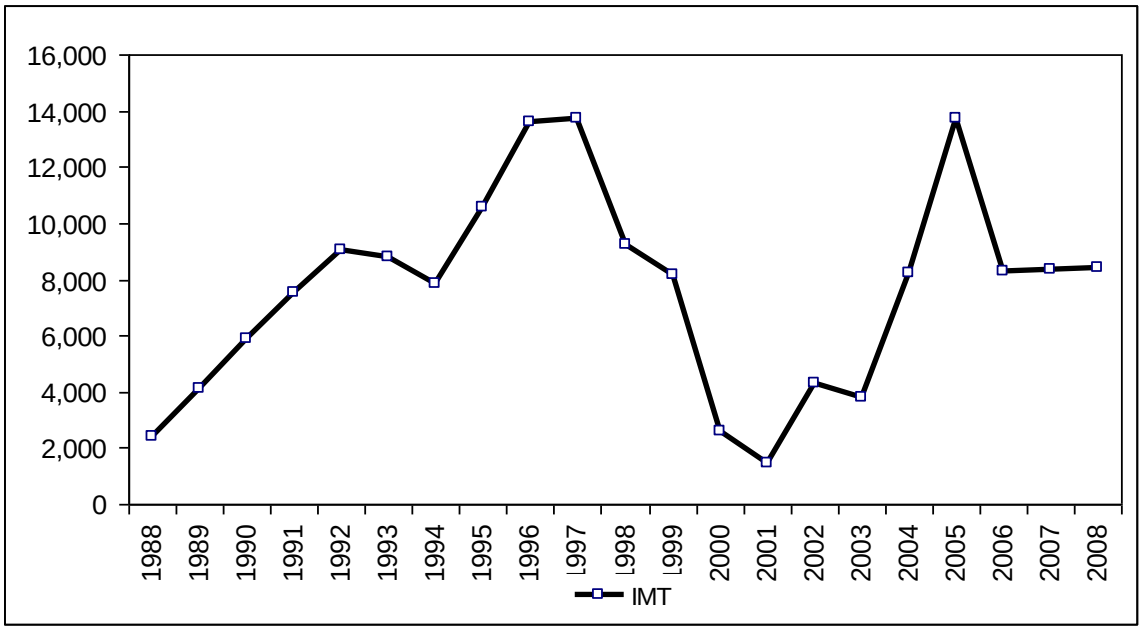
This figure describes that the patterns of aggregate intra-regional trade of Indonesia, Malaysia, and Thailand are similar to that of ASEAN as a whole. On average, in 1988 to 2008 the share of intra-regional trade of Indonesia, Malaysia, and Thailand to that of ASEAN was around 49.8 per cent. This shows that these three countries play an important role in forming Southeast Asia's intra-regional trade. As mentioned in the background, the impact of intra-regional trade is limited to FDI inflows and, based on the models and previous studies, the impact of intra-regional trade on FDI inflows is proposed as follows:

$$FDI_{rt} = C + \beta 1.GDP_{rt} + \beta 2.CONS_{rt} + \beta 3.GR_{rt} + \beta 4.ER_{rt} + \beta 5.POP_{rt} + \beta 6.EMPL_{rt} + \beta 7.EDU_{rt}$$
$$= + \beta 8.ELECONS_{rt} + \beta 9.FDIPROFIT_{rt} + \beta 10.DOO_{rt}$$
$$= + \beta 11.RW_{rt} + \beta 12.INTRA_{rt} + e_{rt}$$

……(1)

This article adopts total value of FDI inflows due to data limitation on both country and sector levels. The data is collected from ADB statistical data for Direct Investment Value, which originates from the World Bank's Global Financial Development data. The pattern of aggregate FDI inflows of these three observed countries is described in **Figure 2**.

**Figure 2. Aggregate FDI Inflows for Indonesia, Malaysia, and Thailand, 1988-2008**




*Source*: Data based on Global Development Finance, World Bank

This figure shows that the trend of FDI inflows at aggregate level of Indonesia, Malaysia, and Thailand decreased during the Asian financial crisis from 1997 to 2001, but then increased after 2002. This figure shows that the FDI flows required a 5 year adjustment period due to the Asian financial crisis.

Based on the basic assumption of this article that AFTA directly affects intra- regional trade and intra-regional trade directly affects FDI inflows, therefore this article implements a two-step procedure. The first step estimates the factors of intra-regional trade, and then the second step estimates the impact of intra-regional trade to FDI inflows. As explained in the basic equation above, this article implements system equation models of Two-Stage Least Squares with Instrumental Variable (TSLS-IV), Seemingly Unrelated Regressions (SUR) estimator, and Simultaneous Equations Model (SEM) estimator. These system equations are explained below.

*A. TSLS-IV Analysis*

This estimator applies a Generalized Least Squares (GLS) system with instrumental variable (IV) estimators. This method runs the equation without needing the first-step estimation for intra-trade. The equation has been estimated using the GLS estimator with the TSLS option and the selected instrumental variables. Instrumental variables are correlated with explanatory variables, but independently distributed with disturbance terms. This means that the instrumental variables are exogenous. Instrumental variables can be adopted from existing exogenous variables with a lagged form (Vogelvang, 2005). This estimator uses all of the exogenous variables as instrumental variables; therefore the variables that are not utilized

as instrumental variables are intra-regional trade and FDI inflows.

*B. Seemingly Unrelated Regressions (SUR) Estimator*

This estimator is chosen due to the possibility that the two equation errors are correlated. Error correlation occurs because of their covariance ($e_{FDI}$,$e_{intra}$) ≠ 0 then $\sigma^2_{FDI} \neq \sigma^2_{intra}$. The two equations need to be written in one system with a SUR estimator. Correlation between disturbance terms of these two equations can be affected by the identical unsystematic factors like regional market sentiment, regional production network, etc. This estimator assumes that non-zero correlation exists among the two disturbance errors. The system uses a GLS instead of the regular Ordinary Least Squares (OLS) because the GLS efficiently estimates parameters and generates smaller standard errors. It runs equation one and two under one system that has unrelated errors (SUR).

*C. Simultaneous Equations Model (SEM) Estimator*

This estimator is chosen because one of the exogenous variables in equation 1 can be affected by the endogenous dependent variable. It opens up the probability that FDI influences intra-regional trade variable. It needs to put the FDI variable as an exogenous in equation one. If the t-statistic of this parameter is smaller than the t-table, then hypothesis (H0), which states that FDI affects intra-trade, is rejected. Similar to SUR, this estimator requires two equations to be estimated in one system and follows reduced form methods. It runs equation one and two under one system that FDI inflow is expected to affect intra-trade. The relation between intra-trade and FDI is reciprocal; therefore equation two has an additional variable (FDI).

$$INTRA_{rt} = C + \partial 1..AFTA + \partial 2.BFTA + \partial 3.FDI_{rt} + u_t \quad \ldots\ldots\ldots\ldots (2)$$

**Primary Data Analysis: Field Survey in Indonesia**

This article adopts a survey findings conducted by the Institute for Economic and Social Research at the University of Indonesia (LPEM FEB UI) in 2014. This survey covers the perceptions and experiences of firms in relation to investment climate factors and was conducted on manufacturing and services sector firms in six big cities in Indonesia: Medan, Greater Jakarta, Bandung, Semarang, Surabaya, and Makassar. The survey covers 500 manufacturing firms, each of which has 100 or more workers, adopted from the Indonesia Manufacturing Statistics 2010 data provided by Indonesian Central Bureau of Statistics (BPS) and 200 service sector firms, each of which has 25 or more employees, adopted from Indonesia 2006 Economic Census data provided by the BPS as well. The field survey was conducted from August to December 2014. Beside its original panel questionnaires, this 2014 survey covers a special subject of the AEC 2015 with specific questions. These questions are designed to figure out the perceptions of these firms on the AEC 2015.

## Analysis Based on Regression Results and Field Survey Findings

### The Factors and Impact of the Intra-regional Trade

*The Factors of Intra-regional Trade (Trade Creation)*

Based on the method used, this article concludes the reduced form model for both the factors and the impact of intra-regional trade. Calculation of intra-regional trade is customized from intra-regional trade model of Frankel (1997). This article constructs intra-regional trade as follows:

$$in_{rt} = \frac{Xr_{rt}, r_{rt} + Mr_{rt}, r_{rt}}{Xr_{wt}, w_{wt} + Mr_{wt}, w_{wt}}$$

; $X_{rt}$,$r_{rt}$ is the value of export (country-based) from region to region

; $M_{rt}$,$r_{rt}$ is the value of import (country-based) from region to region

; $X_{wt}$,$w_{wt}$ is the value of export from region to world

; $M_{wt}$,$w_{wt}$ is the value of import of region from the world

The regression result for the factors that affect intra-regional trade in Southeast Asia is presented in **Model 1**.

| **Dependent Variable: Intra-regional Trade (IMT)** | **TSLS** | **SUR (SYSTEM)** | **SIMULTAN (SYSTEM)** |
|---|---|---|---|
| R-squared<br>Durbin-Watson<br>F-stat | 0.74<br>1.99<br>11.36 | 0.69<br>1.88 | 0.74<br>1.99 |
| Coefficient<br>t-stat | **Constant**<br>0.12***<br>21.11 | **Constant**<br>0.11***<br>23.46 | **Constant**<br>0.12***<br>21.12 |
| Coefficient<br>t-stat | **GDP**<br>5.85E-14***<br>3.78 | **GDP**<br>6.02E-14***<br>4.13 | **GDP**<br>5.85E-14***<br>4.34 |
| Coefficient<br>t-stat | **AFTA**<br>0.01**<br>2.01 | **AFTA**<br>0.008*<br>1.74 | **AFTA**<br>0.01**<br>2.3 |
| Coefficient<br>t-stat | **BFTA**<br>-0.009<br>-1.43 | **BFTA**<br>-0.01*<br>-1.81 | **BFTA**<br>-0.009*<br>-1.64 |
| Coefficient<br>t-stat | **FDI**<br>-8.00E-07*<br>-1.69 | **NONE** | **FDI**<br>-8.00E-07*<br>-1.93 |

*Source*: Author's own calculation, *p<0.1**p<0.05***p<0.01

All of the system estimators (TSLS, SUR, and SEM) show that GDP generates positive impact on intra-regional trade. GDP is significant at 1 per cent for all regression methods. All the estimators show that increasing the economic size of member countries stimulates trade relations within ASEAN member states. This confirms the 'horizontal integration' thesis that argues that the higher GDP size of member states, the higher incentive to increase intra-regional trade (Helpman and Krugman, 1985). Yet, increasing intra-regional trade could also occur between high-income non-member states and low-income member states, known as 'vertical integration.' This includes the regional production network led by Japan; the flying geese model (Akamatsu, 1944). Both horizontal and vertical integration have the same essential factor, which is the GDP.

All of the system estimators (TSLS, SUR, and SEM) indicate that AFTA generates positive impact on intra-regional trade of aggregate of Indonesia, Malaysia, and Thailand. SEM and TSLS give 5 per cent significance level while SUR gives 10 per cent significance level. This confirms that AFTA positively affects intra-regional trade in Southeast Asia, proving that AFTA is effective for trade creation. *Survey of Japanese-Affiliated Firms in Asia and Oceania (FY 2009)* released in March 2010 by the Overseas Research Department of Japan External Trade Organization (JETRO) also confirms that AFTA is effective for trade (export and import). JETRO's survey respondents involve the manufacturing industry, which conducts export and import in Indonesia, Malaysia, and Thailand. Empirical data below shows that ASEAN's intra-trade share significantly increased over twofold from 12 per cent in 1990 to 24.5 per cent in 2009 as described in **Table 2**.

**Table 2. Intra-Regional Trade in Some Regional Integration Organization, 1990 and Latest Data**

| Per cent | ASEAN | EU | NAFTA | MERCOSUR |
|---|---|---|---|---|
| **1990** | 12 per cent | 66 per cent | 43 per cent | 9 per cent |
| **Latest** | 24.5 per cent (2008-9) | 67 per cent (2003) | 55 per cent (2000) | 17 per cent (2000) |

*Source*: EU, NAFTA, and MERCOSUR data sources are various, ASEAN: www.aseansec.org

This table shows that Southeast Asia's intra-regional trade increased after the implementation of AFTA. SEM model indicates that FDI inflows affect intra-regional trade at a 10 per cent significance level. This finding confirms that the SEM estimator is the most representative models in describing the economic relations between ASEAN intra-regional trade and FDI inflows.

Both estimator systems (SUR and SEM) show that BFTA with non-members give a negative effect on intra-regional trade. Even as the obtained t-statistic is not relatively high at significance at 10 per cent, the results have indicated that BFTAs weaken intra-regional trade. The negative sign of BFTAs confirms that BFTAs generate a leakage for Southeast Asia's economic integration as it gives a

negative impact on intra-regional trade of Southeast Asia. This finding proves the existence of the 'Asian noodle bowl phenomenon' (Panagariya, 2000; Tumbarello, 2007; Kawai and Wignaraja, 2009) in Southeast Asia.

In addition, BFTA creates a prisoner's dilemma for ASEAN member states because BFTA forces other ASEAN members who are actually inadequate for BFTA to enter such agreements, so that they can minimize the cost of being excluded from others' BFTA benefits. This effect is called 'snowballing effect of BFTA' (Baldwin, 2006). In sum, BFTA makes trade agreements in Southeast Asia become complicated and this increases the economic gap among members as only advanced economic members can gain benefit from such direct BFTAs.

*The Impact of Intra-regional trade on FDI Inflows (Investment Creation)*

After running the reduced form model from general to specific principle, this article finds that aside from intra-regional trade being the independent variable affecting FDI, there are four other significant variables: consumption, population, labor productivity (real wage as a proxy), and exchange rates. The final result of the impact of intra-regional trade on FDI inflows can be described in **Model 2**.

**Model 2. The Impacts of Intra-regional trade and Selected Macroeconomic Variables on FDI Inflows (Investment Creation) in Southeast Asia (Observed Countries)**

| **Dependent Variable:** ***FDI Inflows Aggregate Level*** | **TSLS-IV** CONS(-1) ; POP ; RW(-1); ER(-1) | **SUR (SYSTEM)** | **SIMULTANEOUS (SYSTEM)** |
|---|---|---|---|
| R-squared | 0.67 | 0.66 | 0.67 |
| Durbin-Watson | 1.56 | 1.69 | 1.57 |
| F-statistic | 5.66 | | |
| | **Constant** | **Constant** | **Constant** |
| Coefficient | -55,403** | -55,219* | -55,403* |
| t-stat | -2.17 | -1.84 | -1.84 |
| | **Consumption** | **Consumption** | **Consumption** |
| Coefficient | -2.43E-08** | -2.37E-08** | -2.43E-08** |
| t-stat | -2.74 | -1.99 | -2.02 |
| | **Population** | **Population** | **Population** |
| Coefficient | 302*** | 318** | 302** |
| t-stat | 3.05 | 2.66 | 2.5 |
| | **RW(-1)** | **RW(-1)** | **RW(-1)** |
| Coefficient | 4.24*** | 4.4*** | 4.25*** |
| t-stat | 4.81 | 4.7 | 4.26 |
| | **Intra-regional trade** | **Intra-regional trade** | **Intra-regional trade** |
| Coefficient | -178,100*** | -214,257*** | -178,100*** |
| t-stat | -3.16 | -3.55 | -2.91 |
| | **ER** | **ER** | **ER** |
| Coefficient | -3.39** | -3.58** | -3.39** |
| t-stat | -2.6 | -2.46 | -2.31 |

*Source*: Author's own calculation, *p<0.1 **p<0.05***p<0.01

All of the estimators (TSLS-IV, SUR, and SEM) show that consumption value has a negative relation to FDI. All system models show that the consumption affects FDI inflows at the 5 per cent level of significance with no time lag. The negative sign indicates that increasing consumption will decrease regional FDI Inflows. This can be explained as follows: Increasing consumption means an increase in demand for products, including imports. The absence of a Customs Union due to unregulated external tariff barriers between member states and non-member states create a 'trade deflection' in Southeast Asia, at which, in order to fulfill total increasing demand, non-members prefer to export through the lowest tariff (Most Favored Nation) of member state than to invest their FDI. Therefore, regional economic cooperation such as AFTA faces the issue of Country of Origin due to possibilities of re-exportation from those low-tariff members in the region. In sum, the increasing consumption in Southeast Asia encourages non-member state investors (outside ASEAN) to do trade rather than invest FDI.

The estimators of TSLS, SUR, and SEM show a 5 per cent significance level, while TSLS-IV shows a 1 per cent significance level for the effect of population size to FDI inflows. This means that all estimators show that population size significantly encourages investors to invest as it reflects the size of demand for goods and supply of labor.

All of the estimators show that labor productivity of *MPL=RW* has a positive impact on FDI inflows. This confirms that investors take production efficiency as an essential factor. This variable is significant at a 1 per cent level of significance for all estimators. In affecting investment creation, all the equation systems show that the independent labor productivity of real wages as a proxy requires a one-year lag. This shows that foreign investors make investment decisions in Southeast Asia based on last year Indonesia, Malaysia, and Thailand's labor productivity of real wage (RW).

In this model, intra-regional trade generates negative impact on investment creation. All the system models show that intra-regional trade affects FDI inflows at 1 per cent significance level, while the TSLS is proven at 10 per cent significance level. The negative relation between intra-regional trade and FDI inflows can be interpreted as follows: (1) the increasing intra-regional trade does not increase investment creation in Southeast Asia; (2) trade diversion effect is not significant in Southeast Asia, unlike found in EU and Mercosur. Similarly, Asian regional economic integration has more 'trade creation effect' than 'trade diversion effect.'

In terms of attracting long-run investment at the regional level in Southeast Asia, ASEAN formulated several policies aside from AFTA, such as the ASEAN Industrial Projects (AIPs) that supports each member state to build projects with all member states as stakeholders; ASEAN Industrial Complementation Scheme (AICS) that provides preferential tariffs for trade of complementary goods in the same industrial sector within members; and ASEAN Industrial Joint Venture Scheme (AIJVS) that provides preferential tariffs for trade of goods between joint venture firms with at least 51 per cent equity owned by the ASEAN member firm. Yet,

all of these policies have not effectively succeeded in achieving ASEAN's objective to attract investment and enhance regional production networks among its member states (Bowles and MacLean, 1996).

Furthermore, ASEAN also established ASEAN Industrial Cooperation Scheme (AICO) and ASEAN Investment Area (AIA). These establishments confirm that not only ASEAN covers trade or demand-side issues, but it also covers supply-side issues. AICO was established after the Japanese automotive company revealed their plan in 1996 to enlarge production networks and production volume in Southeast Asia; while AIA was established in 1999 to focus on investment liberalization, human resources development, information and communication technology (ICT), and infrastructure developments. However, AICO received complaints from private companies because of its unprepared administrative procedures (Yoshimatsu, 2002), while the AIA's impact on ASEAN's long-run investment creation remains unclear. In addition, most studies on investment perception in Asia show that investors take into regard the internal factors of doing business than the existence of the regional free trade agreements. These internal factors include required procedures to start a business, profit tax, number of documents to export and import, ease of doing business index, and others.

During the 1998 Southeast and East Asia economic crisis, the local currencies of the observed countries were significantly depreciated. In this article, exchange rate is described as the value of local currency to international currency of US$. All of the estimators indicate that exchange rate (ER) has negative relation with net value of FDI flows.

All of the system equations (SUR, SEM, and TSLS-IV) indicate that ER shows a 5 per cent significance level while the TSLS estimator shows ER at 1 per cent significance level. The negative relation between ER and FDI shows that depreciation or devaluation of a national currency tends to lessen the incentive for FDI inflows. This confirms the 'J-curve phenomenon.' Currency depreciation does not necessarily boost exports or reduce imports. At the beginning, it generates the opposite effect: increasing imports and decreasing exports due to the producer-consumer lag. It creates a negative trade balance and serves as a 'disincentive to invest.' In contrast, the relative value of wealth finds that the more depreciated the local currency of host developing country, the more incentive for the investor in home developed country to invest; while other studies find that the 'volatility' of exchange rate affects FDI inflows rather than 'level' of the exchange rate. For example, 'exchange rate volatility' has a significant negative relation to Japanese FDI in East Asian countries (Kiyota and Urata, 2004). This article proves that AFTA has a positive effect only on trade creation of **Model 1**, but intra-regional trade has a negative effect on investment creation of **Model 2**.

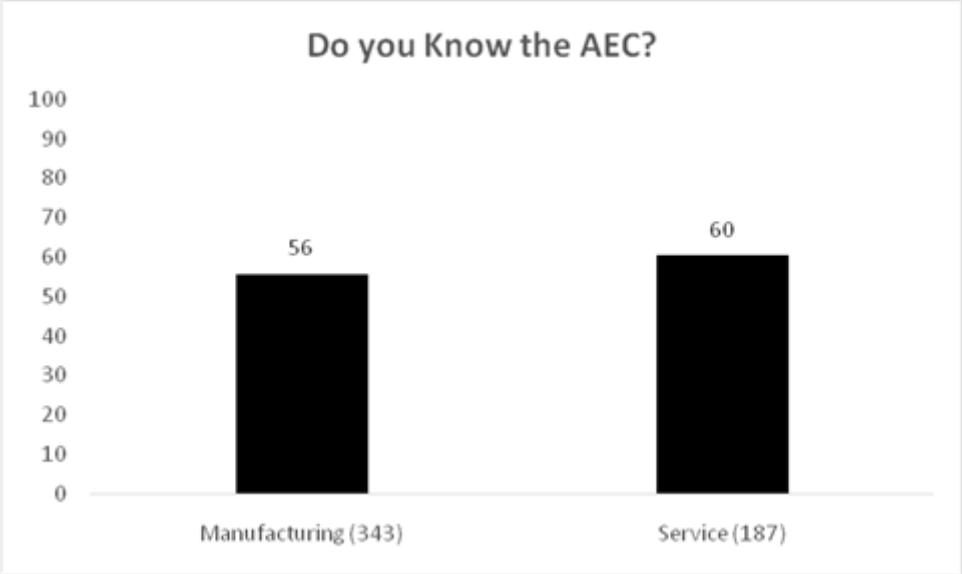
This shows the relation between a value of FDI inflows of investment creation and intra-regional trade of trade creation is negative. This means that ASEAN regional trade agreement of AFTA is only effective to increase intra-regional trade from trade creation, but ineffective to attract FDI inflows of investment creation. This finding confirms that Preferential Trading Area (PTA) such

as AFTA practically generates trade creation; even basically its main objective is to attract FDI inflows from its trade diversion (Grossman and Helpman, 1995).

**Field Survey on AEC 2015: Case of Indonesia**

This survey has succeeded to interview 522 out of the targeted 700 firms, or around 75 per cent of realization rate. The firms consist of 343 manufacturing firms and 179 service firms. This survey finds that the dominant firms in the manufacturing and service sectors know about AEC 2015: about 56 per cent of manufacturing firms know about AEC 2015 and 60 per cent of service firms know it. (Details in **Figure 3**.)

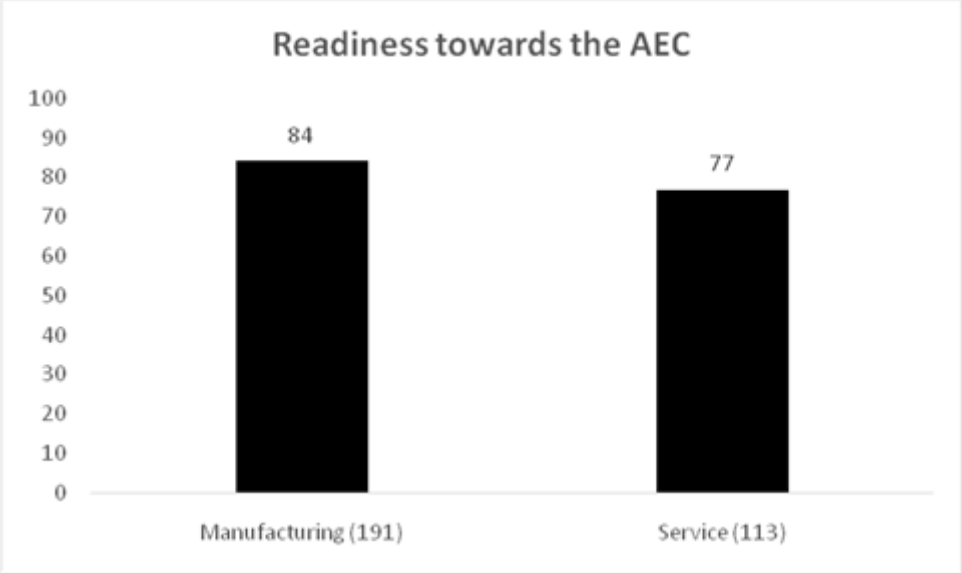
**Figure 3. Percentage of Firms that 'Know' AEC 2015**




*Source*: LPEM FEB UI's Field Survey on Manufacturing and Service Firms

Based on the 'yes' answer on whether the firms know about AEC 2015, next question is whether they are ready for AEC 2015 and the answer options are 'yes' or 'no'. Based on those who replied 'yes,' this survey further finds that the manufacturing firms are more 'ready' for AEC compared to those in the service sector; 84 per cent and 77 per cent respectively. (Details in **Figure 4**.)

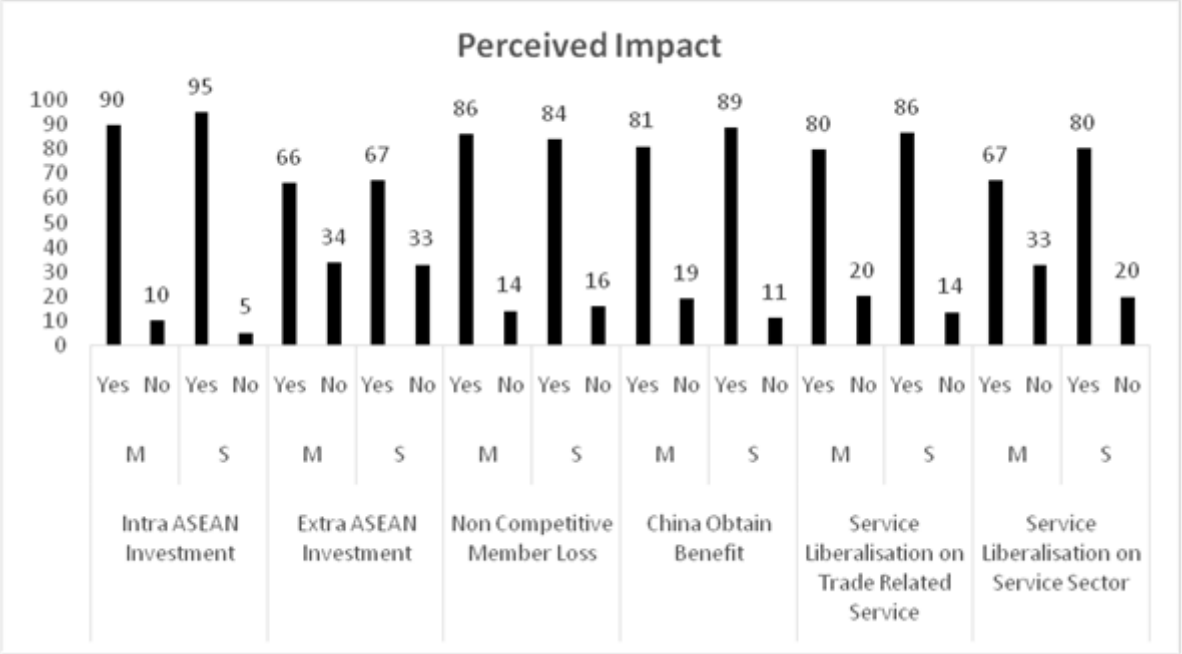
**Figure 4. Percentage of Firms that Reply 'Ready' towards AEC 2015**




*Source*: LPEM FEB UI's Field Survey on Manufacturing and Service Firms

The 2014 survey also asks the perceptions of the firms on the potential impacts of AEC 2015 and identifies their perceived impact of the AEC of 2015. There are six factors that this survey asks the firms: (1) whether intra-ASEAN investment from ASEAN members will increase (yes or no), (2) whether extra-ASEAN investment from non-ASEAN members will increase (yes or no), (3) whether non-competitive members will face the cost of AEC (yes or no), (4) whether competitive non-member states will enjoy the benefit of AEC (yes or no), (5) whether service-related trade will be liberalized (yes or no), and (6) whether the service sector in general will be liberalized (yes or no). The results provide detailed information about the patterns of potential impacts of AEC 2015 from the perceptions of the firms on it. (Details in **Figure 5**.) The result in this pattern is interesting, even the firms have no initial academic information based on the theory of economic community yet their perceptions show that given their empirical experiences on the trade and investment relations between countries in Southeast Asia under ASEAN economic cooperation, most firm's patterns of knowledge on the AEC are close to theory of which top three patterns are: one, intra-investment is expected to increase; two, extra investment is predicted to increase; three, competitive non-member state (i.e. China) will enjoy more benefit while four, non-competitive member states will face the cost; and five, service sector will be liberalized from trade related service sector to service sector in general due to the harmonization of service sector in ASEAN.

**Figure 5. Perceptions of the Expected Impacts of AEC 2015 as Percentage of Respondents Who Replied the Particular Question**




*Source*: LPEM FEB UI's Field Survey on Manufacturing and Service Firms

## Conclusion

System equations are appropriate in making connection between the factors and impact of intra-regional trade. As for the factors of intra-regional trade, a reduced form model finds that intra-regional trade in Southeast Asia is affected by the value of nominal GDP as a proxy for economic size and time dummy variable of trade agreements of AFTA and BFTA. Nominal GDP gives a positive impact on intra-regional trade. This proves that the higher the economic level of a member country (GDP), the higher its trade relation within Southeast Asian. This confirms the 'horizontal integration': the higher the GDP, the higher the intra-regional trade among countries. AFTA generates positive impact on intra-regional trade (aggregate of Indonesia, Malaysia, and Thailand). This confirms that AFTA positively affects intra-regional trade in Southeast Asia, thus proving its effectiveness in trade creation. BFTA plays as a 'stumbling block' instead of a 'building block' towards intra-regional trade. All of the model estimators prove that BFTA generates a negative impact on intra-regional trade. This confirms that BFTA has the potential to weaken regional trade policy of ASEAN due to its non-discriminative tendency towards non-ASEAN members. This result also confirms that 'Asian noodle bowl phenomenon' exists in Southeast Asia since BFTA generated a 'leakage' to the intra-regional trade of ASEAN.

As for the impact, intra-regional trade generates a negative impact on long-run investment creation (FDI inflows). Furthermore, SEM estimator proves that FDI inflows also generate a negative impact on intra-regional trade. This indicates that, in Southeast Asia, intra-regional trade and long-run investment weaken each other. This article finds that

SEM is the most appropriate system equation model to describe the relation between intra-regional trade and FDI inflows because it proves interdependent relation between intra-regional trade and FDI inflows. In addition to intra-regional trade, FDI inflows are affected by the value of consumption, the size of population, the marginal productivity of labor (Real Wage), and the exchange rate. For consumption, this article indicates the existence of 'trade deflection' as the higher of consumption value, the lower the FDI inflows. For the population, this article finds that population size gives a positive impact on FDI inflows. As for marginal productivity of labor, this article finds that the higher productivity (one-year lag), the higher the FDI inflows. While for the exchange rate, this article finds that local currency depreciation gives a negative impact on FDI inflows.

The field survey finds that the perceptions of firms on AEC 2015 are positive and optimistic. They are positive as more than 50 per cent of the firms know that Southeast Asia enters an economic community named AEC since early 2016; the proportions are 56 per cent manufacturing firms and 60 per cent service firms. From those who replied 'yes' on whether the firms know about AEC 2015, more than 70 per cent say that they are 'ready' to compete in AEC; the proportions are 84 per cent manufacturing firms and 77 per cent service firms. Furthermore, this survey finds that both manufacturing and service firms have close knowledge patterns to the theory of economic community; in particular, its major expected impacts. From the highest to the lowest impacts, they include increase of intra-investment from member states, extra-investment from non-member states, benefit for competitive non-member states, cost for non-competitive member states, and liberalization of service-related trade and service sector in general due to the harmonization process at the regional level.

**Policy Implication**

Currently, Southeast Asia is still focusing on the first step of regional economic integration, which is trade liberalization among its members. This article finds that through ASEAN, the three countries have not been effective in enhancing its regional economic cooperation achievement from intra-regional trade to regional investment integration. Southeast Asia needs more comprehensive and open regional economic cooperation scheme to enlarge its regional economic integration from trade to investment. This needs enlargement of Southeast Asia economic cooperation with non-member states. Each country in Southeast Asia is free to have direct bilateral agreements with non-member states (BFTA). Yet, if a country in Southeast Asia opens bilateral trade with non-member states, sooner or later the other members will do the same regardless its readiness for the agreements. It is named the bandwagon effect of BFTA.

Member states that are suitable for direct bilateral agreements will get benefit from them, while those that are incapable will only get cost from them. This will increase the economic gap among members and, at the end, harm Southeast Asia's economic integration purpose.

The best way for the Southeast Asian region in enlarging the regional economic integration from trade to investment creation is under the 'ASEAN umbrella.' Given the divergence of economic level among members, the most advanced economic member should

tolerate other weaker members. ASEAN's soft decision-making process will make this enlargement take longer time than that of bilateral agreements; yet it is more secure and fairer for all the members.

Therefore, AEC 2015 is the best choice for ASEAN. In addition, given that Southeast Asia does not have a Custom Union alongside AEC, Southeast Asia can utilize its 'open and soft regionalism principle' through the implementation of the ASEAN Plus frameworks, AFTA Plus One, and Regional Comprehensive Economic Partnership (RCEP). AEC can be a substitute for the absence of a Custom Union in Southeast Asia as it is similar to the European Economic Community (EEC). Hypothetically, the necessary and sufficient condition for the Custom Union of a solid trade and investment integration will be achieved through the implementation of the AEC and the ASEAN Plus frameworks.

Field survey in Indonesia finds that both firms of manufacturing and service sectors are expressing positive and optimistic response towards implementation of AEC 2015. It is needed to keep the vision and mission of enhancing the economic community in Southeast Asia. There will always be cost occurring from the economic community's implementation, but the potential benefit is expectedly higher than the cost; therefore the potential net benefit will be positive. In terms of policy, the implementation of AEC 2015 will be beneficial for Southeast Asia.

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**Reference**

Akamatsu, K. (1944). *Keisei Shinchitujo no Keisei Genli (The Theory of Formation of the New Economic Order)*. Tokyo: Lisosha.

ASEAN Secretariat. (1999). *ASEAN Investment Area: Temporary Exclusion List and Sensitive List*. Jakarta: ASEAN Secretariat.

Baldwin, R. E. (2006). Managing the Noodle Bowl: The Fragility of East Asian Regionalism. *CEPR Discussion Paper No.5561*, London.

Baltagi, B. H., Egger, P., & Pfaffermayr, M. (2005). Estimating Regional Trade Agreement Effects on FDI in an Independent World. *Journal of Econometrics*, *145*(1), 194-208.

Barrell, R., & Pain, N. (1996). An Econometric Analysis of U.S. Foreign Direct Investment. *The Review of Economics and Statistics*, *78*(2) (May), 200-207.

Bowles, P., & MacLean, B. (1996). Understanding Trade Bloc Formation: The Case of the ASEAN Free Trade Area. *Review of International Political Economy*, *3*(2) (Summer), 319-348.

Braga, P., & Bannister, G. (1994). East Asian Investment and Trade: Prospects for Growing Regionalisation in 1990's. *Transnational Corporations*, *3*(1), 97-136.

Dunning, J. H. (1988). *Explaining International Production*. London: Unwin Hyman Ltd.

___. (1990). Economic Integration and Transatlantic Foreign Direct Investment: The Record Assessed. *Discussion Papers in International Investment and Business Studies*, Series B(144), Department of Economics, University of Reading.

Foster, M. J. (2000). Evaluating Foreign Direct Investments: New Challenges for Strategic Planners. *The Journal of the Operational Research Society*, *51*(1) (January), Part Special Issue: OR and Strategy, 45-52.

Frankel, J. (1997). *Regional Trading Blocs in the World Economic System*. Washington D.C.: Institute for International Economics.

Hayakawa, K., & Kimura, F. (2008). The Effect of Exchange Rate Volatility on International Trade in East Asia. *ERIA Discussion Paper Series* (December).

Hayakawa, K., Shiino Hiratsuka, K., & Sukegawa, S. (2009). Who Uses Free Trade Agreements? *ERIA Discussion Paper Series* (November).

Hejazi, W., & Safarian, A. E. (1999). Trade, Foreign Direct Investment, and R&D Spillovers. *Journal of International Business Studies*, *30*(3) (3rd Qtr), 491-511.

Hejazi, W., & Pauly, P. (2003). Motivations for FDI and Domestic Capital Formation. *Journal of International Business Studies*, *34*(3) (May), 282-289.

Helpman, E. (1984). A Simple Theory of International Trade with Multinational Corporations. *Journal of Political Economy*, *92*, 451-472.

Helpman, E., & Krugman, P. (1985). *Market Structure and Foreign Trade: Increasing Returns, Imperfect Competition and the International Economy*. Cambridge, MA: MIT Press.

Kawai, M., & Wignaraja, G. (2008). EAFTA or CEPEA: What Makes Sense? *ASEAN Economic Bulletin*, *25*(2), 113-139.

Kiyota, K., & Urata, S. (2004). Exchange Rate, Exchange Rate Volatility and Foreign Direct Investment. *The World Economy, 27*(10), 1501-1536.

MacDermott, R. (2006). Regional Trade Agreement and Foreign Direct Investment. *The North American Journal of Economics and Finance, 18*, 107-116.

Markusen, J. R. (1984). Multinationals, Multi-Plant Economies, and the Gains from Trade. *Journal of International Economics*, *16*, 205-226.

Menon, J. (1996). The Dynamics of Intra-Industry Trade in ASEAN. *Asian Economic Journal*, *10*(1), 105-115.

___. (2006). Bilateral Trade Agreements and World Trading System. *ADB Institute Discussion Paper* (November).

Motta, M., & Norman, G. (1996). Does Economic Integration Cause Foreign Direct Investment? *International Economic Review*, *37*(4) (November), 757-783.

Nesadurai, H. (2003). *Globalization, Domestic Politics and Regionalism: the ASEAN Free Trade Area*. London: Routledge.

Panagariya, A. (2000). Preferential Trade Liberalization: The Traditional Theory and New Developments. *Journal of Economic Literature, 38*(2), 287-331.

Ravenhill, J. (1995). Economic Cooperation in Southeast Asia. *The Regents*. University of California.

Sethi, D., Guisinger, S. E., Phelan, S. E., & Berg, D. M. (2003). Trends in Foreign Direct Investment Flows: A Theoretical and Empirical Analysis. *Journal of International Business Studies*, *34*(4) (July), 315-326.

Tumbarello, P. (2007). Are Regional Trade Agreements in Asia Stumbling or Building Blocks? Implication for the Mekong-3 Countries. *IMF Working Paper*, WP/07/53, Washington D.C.: IMF.

Urata, S. (1993). Japanese Foreign Direct Investment and Its Effect on Foreign Trade in Asia. In Ho, T., & Krueger, A.O. (eds.). *Trade and Protection*. Chicago: University of Chicago Press, 273-304.

___. (2007). Competitive Regionalism in East Asia: An Economic Analysis. *GIARI Working Paper*, Tokyo: Waseda University.

Urata, S., & Okabe. (2007). Competitive Regionalism in East Asia: An Economic Analysis. *GIARI Working Paper*, 2007-E-2, December 2007.

Viner, J. (1950). *The Custom Union Issue*. New York: Carnegie Endowment for International Peace.

Vogelvang, B. (2005). *Econometric: Theory and Applications with E-Views* (1st ed.). U.K.: Pearson Education Limited.

Walz, U. (1997). Innovation, Foreign Direct Investment and Growth. *Economica, New Series, 64*(253) (February), 63-79.

Yoshimatsu, H. (2002). Preferences, Interests and Regional Integration the Development of the ASEAN Industrial Cooperation Agreement. *Review of International Political Economy*, *9*(1) (March), 123-149.