FOREIGN DIRECT INVESTMENT AND IMPORTS INTRA AND EXTRA ASEAN IN THE PERIOD 2009- 2013

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ABSTRACT

The Association of Southeast Asian Nations (ASEAN) has been considered as the successful story for attracting foreign capital. Applying an augmented gravity model at the commodity level, this paper aims at examining if foreign direct investment inflows from inside and outside ASEAN can have different impacts on intra- or extra- region imports of this commodity. Accordingly, an unbalanced panel data set including information of 10 main commodities classified by UNCOMTRADE in 10 countries in ASEAN from 2009 to 2013 will be dealt with such estimation methods as the OLS, random and fixed effects. The empirical results indicate that intra-ASEAN FDI inflows can play the role as efficiency -seeking FDI with a positive impact on ASEAN imports. However, FDI from outside ASEAN is associated with a negative relationship with imports among ASEAN but a positive effect with imports from extra region. All of these relationships are lowered for those countries with higher import volume.

Keywords: *foreign direct investment, imports, ASEAN, gravity model.*

INTRODUCTION

The continuous expansion of international trade and capital movement is commonly contributed by a substantial part of multinational enterprises which set up businesses and produce commodities outside their home country, forming direct investment. Foreign direct investment (FDI) has been proved as an important dynamic of a developing country's economic growth in various ways ranging from direct effects such as improving employees' skill to spillover effects such as enhancing domestic firms' degree of technology (UNCTAD, 1993; Giroud, 2003).

Regarding this circumstance, ASEAN region has been considered as a successful recipient of FDI from over the world. According to the ASEAN Secretariat (2015), from 1995 to 2013, FDI inflows to ASEAN nearly increase 355 times and achieved its peak at more than $122 billion which is accounted for 8% of global FDI in 2013. Among ten ASEAN countries, historical data shows that the five largest FDI destinations are Singapore, Malaysia, Indonesia, the Philippines, and Thailand. Singapore accounts for approximately haft of total FDI inflows to ASEAN countries.

The accelerated growth of FDI of ASEAN, especially with a greater pace than that in global international trade, rises the seriousness of understanding the linkages between FDI and trade along with the impacts of FDI on the host country economies. With this purpose, the study attempts to fill in the gap in existing literature on that FDI from inside and outside ASEAN may have different impacts on ASEAN imports from intra and extra the region. Accordingly, an unbalanced data set was set up at the commodity level for these 10 countries from 2009 to 2013.

The establishment and development of Association of Southeast Asian Nations ASEAN from 1967 until now have improved the occasion of globalization trend by stimulating inward FDI.[1] These developing country governments have been making progressive endeavors to attract FDI as well as granting foreign companies through tax exemption and other preferential treatments. Among them, financial and fiscal incentives are the most important enticement attracting foreign investors. According to Wysokińska (2001), because of the shortage of resource supporting financial incentives in developing countries, fiscal incentives including tax vacation and the open door policy are mainly implemented. On the other hand, ASEAN countries carry out an open economic policy towards an advantageous investment environment including stable macroeconomic situation, large labor forces, transparent policy which have played a significant role on bring investment in the region. (ASEAN – OECD Investment Policy, 2010)

In a study of Agnieszka (2013), FDI inflows have significant impact on improving the balance of payments of ASEAN developing countries in the short term, especially, a remarkable increase in exports. In the long term, FDI is considered as an effective mechanism transferring new technologies, management and organization skills and innovation which are essential factors contributing directly for economic development.

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[1] ASEAN was established on 8 August 1967 in Bangkok, Thailand with 5 first country members including Indonesia, Malaysia, Philippines, Singapore and Thailand. Following, Brunei Darussalam, Viet Nam, Lao, Myanmar and Cambodia joined in 1984, 1995, 1997, 1999 respectively. Hence today ASEAN consists of ten member states.

Still, there are a wide range of researches finding evidence of relation between inward FDI and trade in terms of imports and exports.[2] Bhagwati (1973), Buckley (1981) proved a significant negative impact of capital inflows on import while Wong (1988) found there is no obvious sign for the impact of FDI inflows on imports.

Following the strand of literature review, this study hopes to fill the deficiency of existing researches for the case of ASEAN where have been a successful FDI recipients so far. The main contribution is in-depth analyzing the impact of FDI inflows from inside and outside ASEAN on intra- or extra- region imports in order to elaborate the theoretical FDI-trade model at commodity level, especially, for ASEAN region. The findings point out that intra-ASEAN FDI inflows which perform efficiency -seeking FDI, have a positive effect on ASEAN imports. In contrast, FDI from outside to ASEAN can have inversed impacts on ASEAN imports from inside and outside the region. Furthermore, these all impacts become lower when country's import volume get higher.

This following parts of paper is constructed as follows. The next section presents the theoretical framework in FDI-trade correlation, followed by research methodology and data sources. The interpretations of empirical results are discussed in the section four. Then the last section will sum up the findings of the paper.

LITERATURE REVIEW

The effects of expanding international trade have appealed increasing scrutiny from numerous of economists from way back to the research of Hicks (1953) which pointed out that more efficient technology and the accumulation of factors of production boost the real income of an economy. Even so, in another study, Bhagwati (1958) argued the negative effects on the terms of trade, which lead to immiserizing growth. Then, Johnson (1977) developed immiserizing growth study by taking protectionism into account. Johnson proved that the increase of technical efficiency of an industry makes the marginal productivity go up and shifted resources toward that industry. If this industry is protected, the alteration increased waste of resources due to excess production costs and cause a reduction in social welfare.

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[2] Bhagwati (1973), Johnson (1977), Belderbos (1997), Belderbos and Sleuwaegen (1998), Reed and Ning (1996), Lipsey and Weiss (1981), Clausing (2000), El-Osta, MacPhee and Rosenbaum (1996), Petri (1995) and Pfaffermayr (1996)

As a result, a wide range of scholars have focused on investigating the role of FDI in deciding the change of imports and exports at both national and industrial levels.

FDI inflows can be classified into two types including *efficiency-seeking FDI* and *market-seeking FDI*. When investors aim to exploit benefits from host countries like low labor cost, preferential treatment and stable political conditions, these FDI inflows are considered as efficiency-seeking and present a complementary relationship with trade. While other investors mainly focus on the improvement of market access or market growth prospects, thus generating a market-seeking FDI that come up with a substitutional relationship with trade.

Such speedily increasing trend of globalization raised a noticeable question of whether FDI and trade substitute or complement for each other. The two terms of substitute and complement were mentioned and discussed in many papers which considered relationship between trade and factor mobility. This relationship is referred to as *substitutes* if an *increase* in the flow of sector-specific foreign capital to the host country *diminishes the level of imports* (by the host country) of the product(s) that will be produced by that sector-specific capital, or *augments the level of net exports* (by the host country) of the product(s) that will be produced by that sector-specific capital. The relationship is considered as complement if an *increase* in the flow of sector-specific foreign capital to the host country *augments the level of imports* (by the host country) of the product(s) that will be produced by that sector-specific capital, or *diminishes the level of net exports* (by the host country) of the product(s) that will be produced by that sector specific capital.

Bhagwati (1973) declared that host country attract FDI in order to reduce its imports and exports. When analyzing Chinese FDI inflow, Buckley (1981) affirmed that imports are negatively associated with FDI at a significant level. The result might be because FDI invested in the same industry by which imports will be substituted. There is also a blend of results from the previous empirical researches. Several early studies of Mundell (1957) and Wong (1988), the substituting nature relationship between FDI and trade was illustrated.

In addition, these substitute results were supported in the papers of Caves (1996), Belderbos (1997), Belderbos and Sleuwaegen (1998), Reed and Ning (1996) and Gopinath, Pick and Vasavada (1999).

Meanwhile, Wong (1988) found no significant substitute between inflow capital and import. So the results may depend on what a country imports.

In contrast, there are also noticeable empirical researches which have found a complement relationship between FDI and trade. Among them, recent empirical works of Lipsey and Weiss (1981) and Clausing (2000) claimed FDI and trade to be complements. El-Osta, MacPhee and Rosenbaum (1996) also found a complementary correlation between FDI and exports by explaining the tendency of multinational companies to engage in intra-firm trade. The other advocates such as Collins, O'Rourke and Williamson (1997) who investigated panel data of 700 observations from the Atlantic economy in the period from 1870 to 1940, to figure out evidence of no-substitutability.

Alternatively, others researchers such as of Petri (1995) and Pfaffermayr (1996) still argued the impact of FDI on trade could not be predicted since it depended on other factors such as firm strategies, motivation of FDI and government orientation. Another study conducted by Blonigen (2001) analyzed data at product level of Japanese automobile parts industry in the U.S. market. Blonigen found evidence of both substitution effect and complementarity effect. Then as well, Swenson (1998) showed a substitute relationship between foreign investment and trade at narrow industry level, but a complementary relationship at higher levels. The reasons why several studies' results finding both complementarity and are probably other factors such as developing policies. In other words, capital flows to the developing country might come up a complementary effect, if the host country is experiencing simultaneous trade and investment liberalization.

In summary, most of the previous empirical studies investigated FDI-trade relationship though FDI inflows and imports or exports have found evidence of either complementary or substitutional relationship. There is still another aspect of FDI-import relation needed to be analyzed to have an in-depth study about FDI-trade interaction.

RESEARCH MODEL AND METHODOLOGY

The gravity model for trade states that the trade flow from country i to country j proportional to the size of the two countries which can be denoted by GDP or GDP per capita and inversely proportional to their distance. In case we are investigating imports as the trade from country i to country j, we can come up with the following gravity model:

$$M_{ij} = Y_i^{\beta 1} Y_j^{\beta 2} D_{ij}^{\beta 3} \epsilon_{ij}$$

where:

M_{ij} is volume of imports of country i from country j

Y_i is the GDP per capita of country i

Y_j is the GDP per capita of country j

D_{ij} is the distance in term of transportation cost between two countries

ϵ_{ij} is an error term with $E(M_{ij}/Y_i, Y_j, D_{ij}) = 1$

$\beta_1, \beta_2, \beta_3$ are parameters

Taking log for both sides of the equation above will result a log-linearizing version:

$$ln(M_{ij}) = \beta_0 + \beta_1 ln(Y_i) + \beta_2 ln(Y_j) + \beta_3 ln(D_{ij}) + ln(\epsilon_{ij})$$

As our interest lies in understanding the effect of FDI inflows from intra-ASEAN and extra-ASEAN on ASEAN imports from within or outside the region, we thus estimate the augmented gravity models as follows.

- **FDI and imports from Intra-ASEAN:**

Ln_aseanM_{imt}

$$= \alpha_0 + \alpha_1 Ln\_aseanFDI_{it} + \alpha_2 Ln\_rowFDI_{it} + \alpha_3 Ln\_cost_{it}$$
$$+ \alpha_4 \boldsymbol{Ln\_gdp_{it}} + i.year + \overline{u}_{im} + \varepsilon_{imt} \qquad (Eq. 1)$$

Our model is being applied for a data set with imports at the commodity level instead of using total imports as in many other papers. Therefore, size of one economy should be replaced with total imports of a commodity of country i:

Ln_aseanM_{imt}

$$= \alpha_0 + \alpha_1 Ln_{aseanFDI_{it}} + \alpha_2 Ln\_rowFDI_{it} + \alpha_3 Ln\_cost_{it}$$
$$+ \alpha_4 \boldsymbol{Ln\_sumM_{imt}} + i.year + \overline{u}_{im} + \varepsilon_{imt} \qquad (Eq. 2)$$

The equation Eq.2 will be further examined with the role of country size with the interaction variables Ln_AM and Ln_RM.

- **FDI and imports from Extra-ASEAN:**

With the similar approach, equations for analyzing ASEAN imports from the rest of the world is below:

Ln_rowM_{imt}

$$= \alpha_0 + \alpha_1 Ln\_aseanFDI_{it} + \alpha_2 Ln\_rowFDI_{it} + \alpha_3 Ln\_cost_{it}$$
$$+ \boldsymbol{\alpha_4 Ln\_gdp_{it}} + i.year + \overline{u}_{im} + \varepsilon_{imt} \qquad (Eq. 3)$$

$$Ln\_rowM_{imt}$$
$$= \alpha_0 + \alpha_1 Ln_{aseanFDI_{it}} + \alpha_2 Ln\_rowFDI_{it} + \alpha_3 Ln\_cost_{it}$$
$$+ \alpha_4 \boldsymbol{Ln\_sumM_{imt}} + i.year + \overline{u}_{im} + \varepsilon_{imt} \qquad (Eq.4)$$

The equation Eq.4 will be also tested the role of country size with the interaction variables Ln_AM and Ln_RM.

where:

$aseanM_{imt}$	Imports of commodity *m* from other nine countries in ASEAN as the whole to country $\boldsymbol{i}$ in year *t*. (unit: US$) Data source: UNCOMTRADE
$rowM_{imt}$	Imports of commodity *m* from outside ASEAN as the rest of the world to country $\boldsymbol{i}$ in year *t*. (unit: US$) Data source:UNCOMTRADE
$aseanFDI_{it}$	Foreign direct investment from other nine countries in ASEAN as the whole to country $\boldsymbol{i}$ in year *t*. (unit: US million $) Data source:Asean Statistical Yearbook
$rowFDI_{it}$	Foreign direct investment from outside ASEAN as the rest of the world to country $\boldsymbol{i}$ in year *t*. (unit: US million $) Data source:Asean Statistical Yearbook
$cost_{it}$	Imports c o s t from the border to country *i* in year *t*. *(unit: $USD per container)* Data source:WorldBank Development Indicators
gdp_{it}	Gross domestic products per capita reported by country *i* in year *t*. (unit: Constant 2005 US$) Data source: WorldBank Development Indicators
$sumM_{imt}$	Total imports of commodity *m* to country *i* in year *t*. Unit: US$, Data source: UNCOMTRADE
Ln_AM	Interaction variable = $Ln_{aseanFDI_{it}}$ * Ln_sumM_{imt}
Ln_RM	Interaction variable = $Ln_{rowFDI_{it}}$ * Ln_sumM_{imt}

We apply econometric methods for panel data in order to find out consistent empirical results. Hence, the pooled ordinary least squares OLS, random effects RE, fixed effects FE controlled with year dummies will be used for all the equations above.

DATA DESCRIPTION

Data sample:

Our data consists of 2,820 observations of bilateral trade of 10 commodities which are classified by UNCOMTRADE for the case of 10 ASEAN members from 2009 to 2013. *Table 1* describes lists of these commodities and countries. Details of observations from country to country or sorted by country, commodity and year are given in *Appendix*. In general, information about imports of Myanmar and Brunei Darussalam is limited. There are no observations about imports of Myanmar from Brunei Darussalam, Cambodia, and Laos; also imports of Brunei Darussalam in the years 2009-2011, Myanmar in 2009 and 2011-2013, and Indonesia in 2009.

Table 1: **Lists of Country Codes and Commodities in the Sample**

List of Countries	Country Code	Ord. No. Commodities	Commodities	Observations (2009-13)
Brunei Darussalam	BRN	*1*	*Food and live animals*	*293*
Cambodia	KHM	*2*	*Beverages and tobacco*	*275*
Indonesia	IDN	*3*	*Crude materials, inedible, except fuels*	*299*
Lao PDR	LAO	*4*	*Mineral fuels, lubricants and related materials*	*248*
Malaysia	MYS	*5*	*Animal and vegetable oils, fats and waxes*	*225*
Myanmar	MMR	*6*	*Chemicals and related products, n.e.s.*	*291*
Philippines	PHL	*7*	*Manufactured goods classified chiefly by material*	*310*
Singapore	SGP	*8*	*Machinery and transport equipment*	*309*
Thailand	THA	*9*	*Miscellaneous manufactured articles*	*312*
Vietnam	VNM	*10*	*Commodities and transactions not classified elsewhere in the SITC*	*258*

Extra ASEAN	WLD			

In addition, data for FDI inflows are obtained from ASEAN members' Statistical Year Book; cost of import GDP per capita from World Bank. All above data are manually collected from these different and reliable sources.

Summary Statistics:

As can be seen from *Table 2*, we have 2820 observations in the period 2009-2013 in total but missing some information about imports cost and GDP per capita of importing countries in ASEAN. Mean of row_FDI is over six times higher than mean of asean_FDI, so ASEAN is a successful recipient of FDI from the rest of the world. GDP per capita is highest in Singapore but lowest in Cambodia. In addition, ASEAN tend to import more from countries intra region than from countries outside region because mean of asean_M is about five times higher than row_M.

Table 2: **Summary Statistics**

| Variable	Obs	Mean	Std. Dev.	Min	Max
asean_FDI	2820	1902.079	2456.651	-342	8411
row_FDI	2820	13079.77	16259.31	365.113	60645
costM_D	2762	503.9367	275.4102	55.05	900
gdp_D	2762	9570.256	12904.3	580.0238	37491.08
sumM_D	2820	1.31e+10	2.39e+10	2421587	1.55e+11
asean_M	2820	6.64e+09	1.55e+10	352920	1.55e+11
row_M	2820	1.43e+10	2.48e+10	295179	1.85e+11

Figure 1 introduces scattering plots for 2820 observations to see the tendency of relationship between FDI and imports which are categorized into two types as inside and outside ASEAN. Two graphs in the first line show a seemingly positive impacts of FDI on ASEAN imports from its members. However, there are some outliers for the case of Myanmar in 2010 and Brunei Darussalam in 2013. Moreover, the next two graphs also show a positive relationship between FDI and the ASEAN imports from the countries outside this region.

Figure 1: **Intra and Extra ASEAN FDI and Imports**
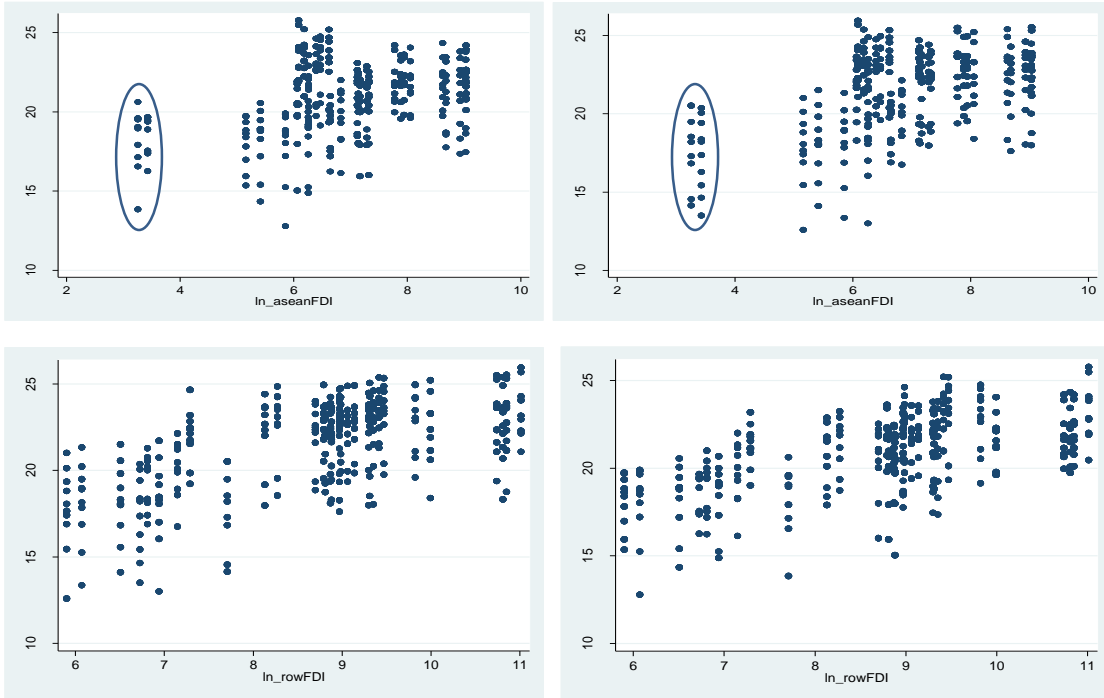
According to the *Figure 2* below, Singapore is always the largest importer in ASEAN while Cambodia and Brunei Darussalam rank in the bottom group. However, looking at the imports as proportional to GDP per capita, Vietnam and Indonesia seems to have much higher rate than Singapore, Cambodia and Brunei Darussalam.

Figure 2: **ASEAN members' Imports and Imports per capita**
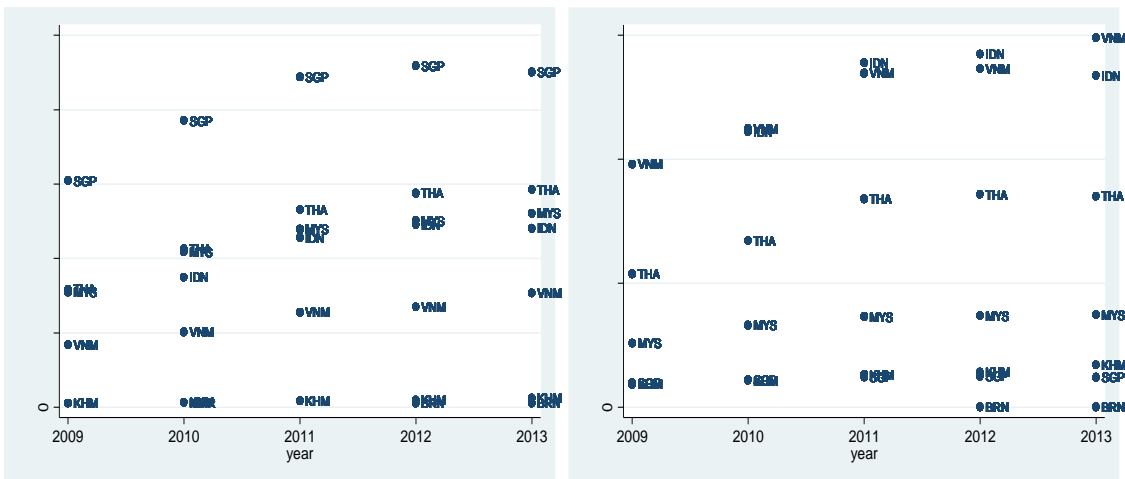
EMPIRICAL RESULTS AND ANALYSIS

All models given in equations Eq.1 through Eq. 4 are applied with such panel data methods

as the OLS, random and fixed effects. The results for the OLS estimation is consistent when error terms are independent and identically distributed. However, it has a disadvantage when not taking into account country and commodity specific characteristics. For this reason, random effects RE and fixed effects FE estimations are preferred as they solve country and commodity heterogeneity. Hausman tests are then applied and shows that the FE estimation are more robust than the RE estimation for all types of models. Following, we only demonstrate the results of the OLS and FE results. All year dummies are included to control for macro vulnerability over time.

FDI and imports from Intra-ASEAN:

Table 3   shows two how types of FDI influence the ASEAN imports within the region in the period 2009 – 2013.   The OLS estimation controlling time dummies gives the results in columns 1 and 3, responsively to the equations Eq.1 and Eq.2. In a gravity model, GDP or GDP per capita are used to measure the country size. We argued that total imports of a commodity in one industry may be considered more suitable with data at commodity or industrial levels. Consequently, *R-squared* for the regression shown in column 3 is 84%, much higher than 41.9% in column 1. That means the model after replacing total imports for GDP per capita is more fitted. Similarly, when applying the fixed effect method for equations Eq.1 and Eq.2 in columns 1 and 3, *R-squared* increases from 75.5% to 83.5%, which confirms the same conclusion. Hence, the results in the columns (3) and (4) are better to be considered.

Table 3: **FDI and Imports from Intra-ASEAN:**

	(1)	(2)	(3)	(4)	(5)
	OLS	FE	OLS	FE	FE
Dependent variables: Intra ASEAN imports (log)					
ln_aseanFDI	**0.00473**	**-0.0512****	**-0.140*****	**0.0803*****	**0.394*****
	(0.0496)	(0.0249)	(0.0261)	(0.0178)	(0.129)
ln_rowFDI	**0.994*****	**-0.122***	**0.157*****	**0.0636**	**-0.631*****
	(0.0388)	(0.0685)	(0.0200)	(0.0464)	(0.180)
ln_cost	-0.443**	-0.547***	-0.268***	-0.368***	-0.338***
	(0.181)	(0.0811)	(0.0897)	(0.0540)	(0.0516)
ln_gdpD	-0.132***	-0.687			
	(0.0344)	(0.959)			

ln_sumMD			0.907***	-0.635***	-0.825***
			(0.0114)	(0.0213)	(0.0677)
ln_aseanFDI * ln_sumMD					**-0.0141****
					(0.00568)
ln_rowFDI * ln_sumMD					**0.0319***
					(0.00800)
Constant	15.89***	30.75***	1.957***	35.51***	39.37***
	(1.406)	(7.651)	(0.708)	(0.718)	(1.544)
Observations	*2,406*	*2,406*	*2,406*	*2,406*	*2,406*
R-squared	*0.419*	*0.755*	*0.840*	*0.835*	*0.836*
Year Dummies	Y	Y	Y	Y	Y

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

As the FE estimation are proved to be more consistent, the analysis is based on the results of the columns (4) and (5). Accordingly, FDI from countries from 10 countries in ASEAN is positively correlated with their imports from intra ASEAN. Imports intra region can increase 0.08% with 1% increase in FDI from the same region. This ratio changes to 0.39% when we control interaction variables considering the level of a country's imports in column (5). The larger importing country, the smaller positive impact FDI. As a matter of facts, the result can present the tendency of efficiency- seeking of ASEAN investors.

In contrast, the negative scope for FDI from the rest of the world shows that these source is different from FDI intra ASEAN as they tend to market-seeking in this region. However, the larger importing country, the smaller market-seeking evidence.

FDI and imports from Extra-ASEAN:

Table 4 presents impacts of FDI from inside and outside ASEAN on ASEAN imports from outside the region during 2009-2013. We again confirm that applying total imports for commodity level is more suitable than GDP per capita. The R-*squared* rises from 45% to 91.7% for the OLS estimations in columns (1) and (3) and from 61.4% to 78% for the FE estimation in columns (2) and (4).

Table 4: **FDI and Imports from Extra-ASEAN:**

	(1)	(2)	(3)	(4)	(5)
	OLS	FE	OLS	FE	FE
Dependent variables: Extra ASEAN imports (log)					
ln_aseanFDI	0.217***	0.246***	0.0877***	0.0880***	-0.0131
	(0.0439)	(0.0235)	(0.0164)	(0.0180)	(0.128)
ln_rowFDI	1.137***	0.191***	0.0667***	0.0117	1.336***
	(0.0420)	(0.0356)	(0.0160)	(0.0226)	(0.209)
ln_cost	-0.229	0.0539	0.233***	-0.191***	-0.216***
	(0.196)	(0.0676)	(0.0702)	(0.0685)	(0.0675)
ln_gdpD	-0.272***	2.001**			
	(0.0341)	(0.959)			
ln_sumMD			1.083***	0.700***	1.201***
			(0.00907)	(0.0505)	(0.0907)
ln_aseanFDI * ln_sumMD					0.00530
					(0.00574)
ln_rowFDI* ln_sumMD					-0.0617***
					(0.00922)
Constant	13.90***	1.415	-4.986***	6.458***	-4.104**
	(1.513)	(7.646)	(0.538)	(1.025)	(1.730)
Observations	2,485	2,485	2,485	2,485	2,485
R-squared	0.450	0.614	0.917	0.780	0.788
Year Dummies	Y	Y	Y	Y	Y

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

As we mentioned before, fixed effects estimators are applied in considering commodity and country fixed effects. Therefore, columns (4) and (5) will show the final results. For the case of FDI intra ASEAN, 1% increase in it can cause 0.088% increase in ASEAN imports from outside the region. In column (5), the positive effect is found for the impact of FDI from outside ASEAN to ASEAN imports from the rest of the world. Similarly, the larger importing country, the smaller the impact. This result has different sign as compared to the effect of FDI extra

ASEAN to imports within ASEAN. Thus, it is hard to conclude that FDI from the rest of the world has a market-seeking tendency. On other words, FDI inflows and imports relationship may be not only explained by the complements and substitution effects.

CONCLUSION

ASEAN economies have become an attractive destination for foreign investors because of natural resources for both types of efficiency-seeking and market-seeking FDI and partly due to the rising wage and production costs in China and India. According to the 2013 Asia Pacific Investment Climate Index, Singapore ranked as the most attractive country for foreign investors Following Singapore, Indonesia and Malaysia were the 2nd and 3rd largest recipients of FDI in 2012, respectively. With total amount of FDI received $294 million in this year, Laos is the lowest recipients of FDI among ASEAN countries.

In the shortage of literature for those relationship at the level of commodity trade among these ASEAN members from 2009 to 2013, this paper contributes an in-depth analysis in order to find robust results based on solving an unbalanced panel data set with panel data methods such as the OLS, random and fixed effects.

In sum, this study provides an evidence of different behaviors of inward FDI from intra and extra ASEAN in terms of their impacts on ASEAN imports. Accordingly, FDI from ASEAN members has a positive effect on ASEAN imports both from inside or outside the region. That means bilateral FDI inflows within this region can be efficiency –seeking. So ASEAN multinational enterprises tend to find available resources in the neighboring countries to set up business. In contrast, FDI from outside ASEAN can have different impacts on ASEAN imports. Once rest-of-the world multinationals appear in this association, these countries' imports within the region will reduce but their imports from the world will increase. All of these relationships are lowered for those countries with higher import volume.

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APPENDIX

Observations from country to country in ASEAN

Exporting Country	BRN	IDN	KHM	MMR	MYS	SGP	THA	VNM	Total
BRN	0	24	16	0	47	44	35	27	193
IDN	20	0	50	9	50	50	49	50	278
KHM	9	25	0	0	44	45	41	43	207
LAO	3	25	32	0	31	38	43	46	218
MMR	12	26	19	0	43	49	44	38	231
MYS	20	40	50	9	0	50	50	50	269
PHL	20	38	45	7	50	50	50	50	310
SGP	20	40	50	9	50	0	50	50	269
THA	20	40	50	9	50	50	0	50	269
VNM	17	38	50	6	50	50	46	0	257
WLD	20	40	50	9	50	50	50	50	319
Total	161	336	412	58	465	476	458	454	**2,820**

Observations of ASEAN members, 2009 - 2013

Importing countries	2009	2010	2011	2012	2013	Total
BRN	0	0	0	79	82	161
IDN	0	85	81	84	86	336
KHM	82	83	82	81	84	412
MMR	0	58	0	0	0	58
MYS	92	92	93	92	96	465
SGP	95	97	96	94	94	476
THA	89	91	93	92	93	458
VNM	85	93	92	92	92	454
Total	443	599	537	614	627	2,820