A STUDY ON THE IMPACF OF FDI ON ECONOMIC GROWTH IN ASEAN

By

SON, Su Hyeon

THESIS

Submitted to
KDI School of Public Policy and Management
in partial fulfillment of the requirements
for the degree of

MASTER OF DEVELOPMENT POLICY

2015

A STUDY ON THE IMPACF OF FDI ON ECONOMIC GROWTH IN ASEAN

By

SON, Su Hyeon

THESIS

Submitted to
KDI School of Public Policy and Management
in partial fulfillment of the requirements
for the degree of

MASTER OF DEVELOPMENT POLICY

2015

Professor shun Wang

A STUDY ON THE IMPACF OF FDI ON ECONOMIC GROWTH IN ASEAN

By

SON, Su Hyeon

THESIS

Submitted to
KDI School of Public Policy and Management
in partial fulfillment of the requirements
for the degree of

MASTER OF DEVELOPMENT POLICY

Committee in charge:

Professor Shun WANG, Supervisor

Professor Ba Ran HAN

Professor Seung Joo LEE

Approval as of July, 2015

ABSTRACT

A STUDY ON THE IMPACF OF FDI ON ECONOMIC GROWTH IN ASEAN

By

Su-Hyeon Son

This paper examines the impact of foreign direct investment (FDI) on economic growth of the Association of Southeast Asian Nations (ASEAN) countries, using the panel data of ASEAN 8 countries over the period of 2000-2012. Employing various social factors and macroeconomic indicators as independent variables for fixed effect model and random effect model, we find evidence for the positive impact of FDI on economic growth of the region in both estimations.

TABLE OF CONTENTS

INTRODUCTION 2

INTEGRATION OF ASEAN REGION 3

FDI 6

THEORETICAL DISCUSSION 7

EMPIRICAL DISCUSSION 8

VARIABLE SELECTION 10

EMPIRICAL MODEL AND DATA 12

RESUTLS 15

CONCLUSION 18

APPENDIX 20

BIBLIOGRAPHY 28

INTRODUCTION

Foreign direct investment (FDI) is considered to enhance the economic development because it can bring capital and technology to the host countries. Many literature reviews, for example, Kjetil et al. (2000) argue the importance of FDI on economic growth, and prove the positive impact of FDI on economic growth in many regions by empirical analysis.

However, it seems that not many papers examine the impact of FDI on economic growth in ASEAN region, even though the importance of the region is becoming significant as the economy of the countries in the region started to be merged into an economic bloc. Instead, Many studies explore other regions such as Latin-American countries, or the least developed countries overall.

For instance, Bengoa and Sanchez-Robles (2003) and De Gregorio (1992) focuses on the FDI impact on economic growth in Latin American region and Soto (2000), sees the correlation of FDI and growth in 44 developing countries using different components of private capital flows of dynamic panel data over the period of 1986-97. Abdul and Ilan (2007), and Svetlana and Mikael (2006) focuses on Russian Regions.

As the Association of Southeast Asian Nations (ASEAN) established in 1967, there has been an attempt to integrate the economy of 10 ASEAN member countries. Announcing to launch the ASEAN Economic Community (AEC) by 2015, it is assumed that the economy of ASEAN region will be the attractive destination for foreign direct investment. Moreover,

ASEAN is ranked at 3rd place in Real GDP growth over the period of 2000 to 2013 according to HIS Global Economic Data and expected to become more important as the economy of 10 ASEAN countries emerge into one enormous economy bloc with the population of 570 million. Thus, this paper investigates whether there has been positive impact of aggregate FDI on ASEAN region using panel data of ASEAN 8 countries over the period of 2000-2012.

The paper is constructed as following contents; Section 2 introduces ASEAN region and AEC's economic integration and briefly explains about FDI. Section 3 reviews the theoretical discussion on the economic growth theory and empirical discussion on the FDI impact analysis. Section 4 describes the variable selection, the data, empirical model, and the results. Section 5 summarizes the empirical results and concludes

INTEGRATION OF ASEAN REGION

Southeast Asia is one of the fastest growing economic blocs of the world. The Association of Southeast Asian Nations (ASEAN), which was established in 8th of August in 1967, was aimed to enhance peace and stability in the region, and to boost economic growth, social development and cultural progress of the region. The member countries are Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam. However, an attempt to integrate the economy of 10 ASEAN member countries didn't actually start at that point. In fact, serious efforts for economic integration among the members started in 1992 as ASEAN formed a free trade area (FTA) in that year.

In January 2007, the leaders of ASEAN made public the creation of the ASEAN

Economic Community (AEC) by 2015, finally. The purpose of the creation is to integrate ASEAN into a region with freer movement of skilled labor, investment, goods, services, and free flow of capital.

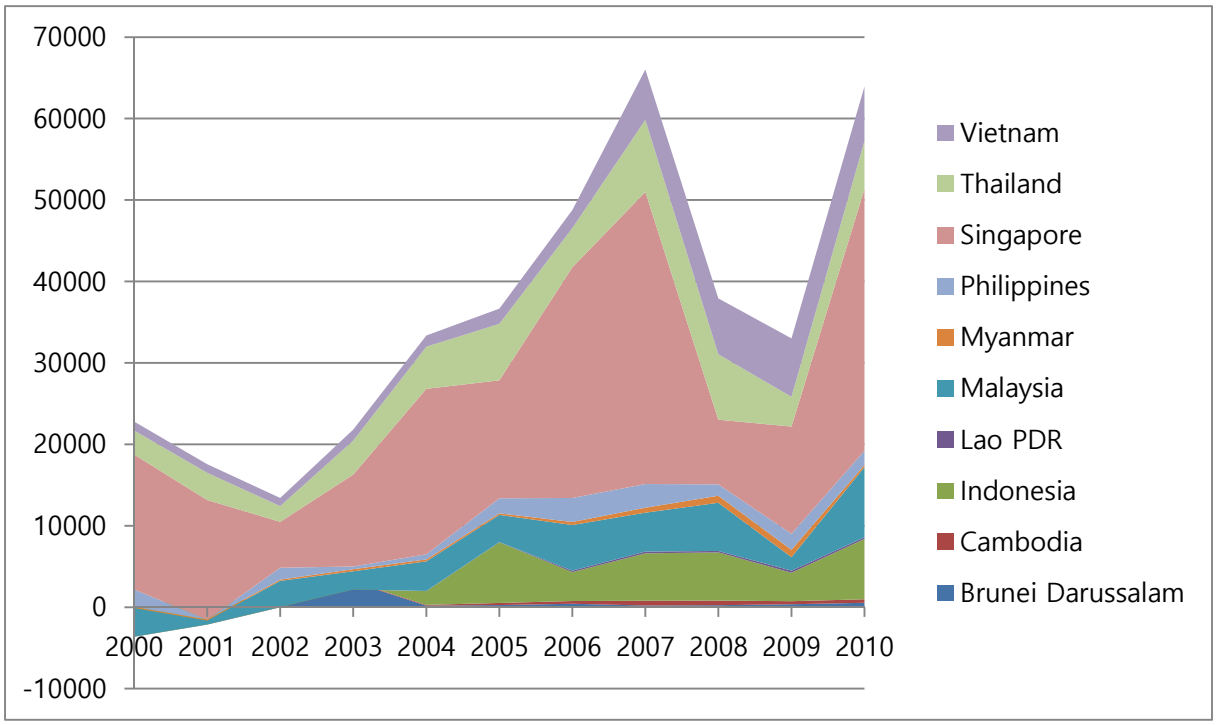
ASEAN is now ranked at 3rd place in Real GDP growth over the period of 2000 to 2013 with the growth rate of 5.1 after China and India with 10% and 7% of growth rate relatively, according to HIS Global Economic Data, and it is expected to accelerate the economic development even faster after the economic integration of the region.

[Table 1] GDP per capita growth (%) of ASEAN 9 countries (2006-2012)

Year	2006	2007	2008	2009	2010	2011	2012
Brunei Darussalam	2.48	-1.62	-3.60	-3.35	1.02	1.92	-0.45
Cambodia	9.15	8.67	5.21	-1.35	4.34	5.30	5.45
Indonesia	4.00	4.84	4.53	3.20	4.82	5.12	4.95
Lao PDR	6.68	5.50	5.61	5.29	6.36	5.96	6.00
Malaysia	3.65	4.37	2.96	-3.24	5.58	3.42	3.91
Philippines	3.38	4.81	2.43	-0.52	5.84	1.90	4.98
Singapore	5.51	4.66	-3.49	-3.56	13.22	3.87	0.02
Thailand	4.58	4.74	2.32	-2.47	7.61	-0.18	7.33
Vietnam	5.80	5.98	4.54	4.29	5.31	5.14	4.14

Source: World Development Indicators

[Figure 1] FDI Inflows from Extra-ASEAN (US$ millions)



Source: ASEAN Statistical Foreign Direct Investment, 2010

There are still worried voices on the integration of the region. In particular, Asian Development Bank (ADB) criticizes that the vision and goals of AEC are too ambitious and worries that ASEAN still has far way to go to meet the high standard and time limit that AEC has made for itself. ADB suggests that ASEAN needs to be equipped with the management capability and political will to achieve the targets in the blueprint of AEC and put their effort on rationalization, liberalization, and integration to grab the chance and successfully get though the economic challenges in the future.

However, ASEAN Economic Integration has been progressed and was able to achieve gradually reducing tariffs to 0-5% for member countries, investment liberalization, Free Trade Agreements, free flows of skilled labor, so forth. To date, the region is still putting

effort to integrate the economy of 10 ASEAN member countries.

FDI

The definition of FDI defined by UNCTAD (2007) is "an investment involving a long-term relationship and reflecting a lasting interest and control by a resident entity in one economy (Foreign direct investor or parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor". FDI is considered to one of the important factor to foster the economic development as it is known to bring capital and technology to the host countries. Many literature reviews support the benefits of FDI on economic growth.

The motivations of FDI are mostly categorized into four; which are resource seeking motivation, market seeking motivation, strategic asset-seeking motivation and efficiency seeking motivation, according to Dunning (1993). In particular, efficiency-seeking motivation of FDI, which closely related to the production of goods forward global market and crucial to properly clarify the low-cost location of production site in the worldwide, is tend to go to developing countries in order to reduce the cost of labour (or capital-labour ratio), according to Tejinder and Benjamin(1995).

Various literature reviews suggest the mechanism of impact of FDI on economic growth is through the technology diffusion. Representatively, Borensztein et al. (1998) and Findlay (1978) support the idea that FDI has impact by bringing the technology spillover in host countries.

The determinants of FDI effectiveness may vary, and the one determinant suggested in Tajul, and Eliza (2013) is the good quality of institution when they observed ASEAN 8

countries using panel data over the period 2002 to 2010. Other literature, Blomström, et al. (1992), argues that the higher levels of per capita income brings the bigger the impact of FDI on economic growth based on the empirical results of a cross-country analysis of 78 developing countries.

THEORETICAL DISCUSSION

Neoclassical growth model (the aggregate production function) suggested by Solow is that

$$Q = F(K,L;t)$$

where Q is output, K is capital input, L is labor inputs in physical units, and t is for time appears in F to allow for technical change, including improvement in education of the labor force so forth. Therefore, due to the diminishing returns on capital formation, investment only affects short run economic growth as it is independent from technological progress which is the only source that leads the long-term economic growth.

However, new growth model (Endogenous growth theory) strengthens the importance of FDI on economic growth because FDI may act as a source of long-term economic growth as FDI brings the technological spillover in host countries. Consequently, it may stimulate economic growth in long run.

Many literature reviews that study the relationship between FDI and economic growth currently, has been written based on the new growth model. For example, Borensztein et al. (1998) developed a model based on the new growth theory and explored a panel data of 69 Least Developed Countries over the period 1970-89. They describe that FDI foster economy by bringing technological diffusion. In addition, Findlay (1978) also says that

FDI enhance the technical development of FDI-host countries by method of adoption of advanced managerial processes by the local enterprises.

In this context, this paper also investigates the impact of FDI on economic growth using the model that constructed based on the new growth theory and sees the FDI impact on the rate of GDP growth by putting it as the independent variable.

EMPIRICAL DISCUSSION

Huge literatures have been done regarding the FDI impact analysis on economic growth.

Soto (2000) says that the FDI show a robust positive correlation with growth by analyzing different components of private capital flows of dynamic panel data in 44 developing countries over the period of 1986-97. Abdul and Ilan (2007) investigates the impact of FDI on Economic growth using FDI inflows into Indonesia by sector from 1997 to 2006. Results show that aggregate FDI has positive effect on the economic growth, while FDI inflows in the mining sector in Indonesia shows negative effects on economic growth.

Kotrajaras et al. (2011) says the positive impact of FDI is closely related to the factors such as financial development, good governance, proper policies on macro economy, institutional development so forth by analyzing 15 East Asian countries with panel data analysis in 1990 to 2009.

De Mello (1999) explores the sample of both non-OECD and OECD countries over the period of 1970-1990 by employing the time series data and panel data. He argues that FDI has a positive impact on growth if a complementation exists between foreign and domestic investment.

Chen and Zulkifli (2012) say FDI outward and economic growth has positive

relationship when they investigate a sample of Malaysia over the period over 1980-2010. by a vector error-correction model (VECM) in long-run. Sánchez-Robles (1998) analyzes the correlation between economic growth and the level of public infrastructure in Latin America over the period of 1970-1985. The results of the study suggest a significant and positive impact of FDI on the economic growth of the countries of the area, as well.

De Gregorio (1992) explores the relationship between the two variables employing a panel data from 12 Latin American countries over the period of 1950-1985. The results suggest a positive and significant impact of FDI on economic growth. It also argues that the productivity of domestic investment is lower than that of FDI.

Chee and Nair (2010) analyze the relationship between economic growth and FDI as well by observing the 44 countries in Asia and Oceania over the period of 1996-2005. By using panel data, they find that financial sector development accelerates the effectiveness of FDI on economic growth and the corresponding role of FDI. Hong (2014) sees the FDI impact on economic growth in China over the period of 1994-2010 employing dynamic panel data of 254 cities. The study finds out that FDI fosters positive impact on economic development.

The recent study done by Jun (2015) sees the effect of FDI on output growth in eight SAARC (South Asian Association for Regional Cooperation) member countries by using panel cointegration test, panel unit root test, panel Granger causality test and traditional two estimations, the fixed effect test and random effect test. Panel cointegration and Panel Granger causality test determine a two-way cointegration and causality between two indicators. With fixed effect and random effect estimations, the paper finds out that the FDI has positive effects on output growth of countries in SAARC region over the period of 1960-2013.

However, the literatures that are opposite with mentioned studies above exist as well.

Yalta (2013) explores the causal relationship between FDI and economic growth in China over the period of 1982-2008 and proves that FDI and the growth do not have relationship. Svetlana and Mikael (2006) investigate the impact of FDI on per capita growth in 74 regions on Russia over the period of 1996 to 2003 using the Arellano-Bond GMM-DIFF methodology. The results say FDI in general doesn't have impact on economic growth in the regions. But, there was positive impact of aggregate FDI in higher income regions using Barro and Sala-I-Martin framework. The results could be consistent with Blomström et al. (1992) saying that the higher levels of per capita income bring the bigger impact of FDI on growth.

Lian and Ma (2013) examine the relationship between FDI and GDP in the western region of China using time-series data over the period of 1986 to 2010. By cointegration and error-correction estimations, they find out that FDI inflow does not lead to economic growth.

VARIABLE SELECTION

In order to see the impact of FDI on economic growth, it is essential to select which to be fixed for the regressions. The variables used in Marta (2001) that affect economic growth are human capital, economic freedom, public consumption, inflation rate, and government debt.

Human capital is generally considered as one of important factors for economic growth of country. The mechanism of the influence of human capital on economic growth suggested by Romer (1990) is follows; human resource is an endogenous factor thus can

bring the technological changes that speed up the growth of economy as neoclassical growth theory argues. Huge amount of empirical studies also support the idea.

Hans (1996) studies the empirical investigation on the influence of human capital on Total factor productivity (TFP) it among OECD countries. It finds out that human capital has effect on TFP as factor of production at the same time it plays important role to knowledge spillover which is a trigger to enhance the productivity. On the other hand, there are some opposite opinions also exist. Jess and Mark (1994) show that the results of their cross-country estimations of physical and human capital stocks by a Cobb-Douglas aggregate production function saying the human capital fails to explain the influence on per capita growth rates while it affects the growth of total factor productivity.

When it comes to Economic freedom and trade openness, lots of literatures also see the relation between two. Romer (1990) suggests that free international trade can foster the growth, and Jakob and Jan-Egbert (2000) also say that the high economic freedom has positive influence on economic growth based on the investigation on 80 countries over the period of 1975 to 1990. The consistency of the results is also shown in the investigation of relationship between two indicators in the paper of Mogen (2008).

There are lots of literature reviews that explore the relationship between the economic growth and government expenditure, as well. John and George (2005) investigate the relation between two indicators using data of UK, Ireland and Greece. They find out from the empirical study that the government expenditure, which proxies the size of government, causes the economic growth of investigated countries in short term and in the long term both. In addition, Niloy et al. (2007) see the impact of disaggregated government expenditure by using annual panel period over 1970s to 1980 in 30 developing countries. The results of the study suggest that, the government expenditure has positive correlation

with the economic growth significantly, which is consistent with various literatures regarding the relationship between two indicators.

Many literatures on the relationship between public debt and economic growth also exist. Most of the results show that government debt has negative effect on economic growth. For example, Ugo and Andrea (2014) prove the consistent results with existing literatures from the data of OECD countries. However, some other literature reviews, such as Cirstina and Philipp (2012), show different results. Cirstina and Philipp (2012) explore the impact of government debt on economic growth for the euro area an conclude that there is non-linear impact of government debt on GDP growth per capita.

About inflation rate, Robert (1995), as a representative study, sees the causal relationship between inflation and growth using data of about 100 countries over the period of 1960 to 1990. He finds out from the empirical test that inflation has significantly negative effect on economic growth.

EMPIRICAL MODEL AND DATA

The model used in the paper is modifies version of the model suggested by Marta (2001), which is

$$\textit{Growth rate per capita}_{it} = r_0 + Z_{it}\, r + a_i + u_{it}$$

where Z i,t is consisted of variables that may affect economic growth. The components of Z are FDI inflows into the region, proxy of human capital development, index of economic freedom, trade openness, inflation rate, public consumption, and Government debt. The variables are the proxies for social capacities and macroeconomic indicators which affect the economic growth of the host countries. The proxy of human capital is substituted by

government expenditure on education (% of GDP) because the enrollment rate of primary school and secondary school, which are commonly used as proxies for the human capital, cannot cover the period of observation for observed countries. Public consumption is the proxy for the size of government. The data is described in appendix.

This paper uses annual panel data over the period from 2000 to 2012. The 8 ASEAN countries are Brunei Darussalam, Cambodia, Indonesia, Malaysia, Singapore, Thailand, The Philippines, and Vietnam. Lao PDR and Myanmar are dropped in the investigation due to the lack of data.

In order to investigate the impact of FDI on economic growth in ASEAN 8 countries, the fixed effect model and the random effect are used to test the null hypothesis that there is no positive link between economic growth and FDI. Fixed effect technique is generally preferred when analyzing the impact of variables which vary over time since the technique remove the effect of time-variant characteristics, thus can show the clear effect of independent variables on the dependent variable. Random effect is another traditional technique for the impact analysis and it is different from fixed effect since it possibly can estimate the embodied residuals, according to Paul et al. (2010).

Fölster and Henrekson (2001) argue that it is hard to separate the long term effects from the change of business cycles when interpret the results of the panel data analysis constructed by annual data. Thus it suggests a solution for the problem to use averages of five year periods. However, since the period of observation of the paper is short, the annual data is used for the empirical analysis.

[Table2] Variable Descriptions

Series Name	Definition	Description
GDP	GDP growth rate	GDP per capita growth (annual %)
FDI	Foreign Direct Investment	Foreign Direct Investment, net inflows (% of GDP)
INF	Inflation Rate	Inflation, consumer prices (annual %)
PS	Government Consumption	General government final consumption expenditure (% of GDP)
EF	Economic Freedom	Level of economic freedom, (value, out of 1)
HC	Human Capital	Government expenditure on education, total (% of GDP)
GD	Government Debt	Government budget deficit, (% of GDP)
TO	Trade Openness	Export+Import (% of GDP)

The data is collected from ASEAN Statistic Books, World Development Indicators, and Fraser Institute mainly. The period of observation has been chosen according with the data availability.

[Table3] Summary of Variables

VARIABLES	N	mean	sd	min	max
GDP	104	3.552	3.164	-3.600	13.22
FDI	102	0.0567	0.0871	-0.0300	0.700
INF	104	4.081	4.415	-2.315	25.00
PS	104	10.74	5.142	3.460	29.40
EF	81	0.700	0.0816	0.567	0.886
HC	68	3.827	1.495	1.599	7.658
GD	101	0.288	6.213	-6.370	28.45
TO	104	152.5291	97.54612	45.51212	439.6567

RESUTLS

The results of the empirical analysis are presented in table 4 and 5 below. The table 4 shows the results of fixed effect estimations and the results in table 5 are the results of random effect estimations.

These regressions are all robust results and tested in several ways by omitting one independent variable in every regression. Among the regressions, we choose column (1) as the finest model for the analysis since it shows the highest R-square among the model in fixed effect models. In addition, column (1b) is the comparable model since the variables are the same with column (1), thus the results of (1) and (1b) are to be discussed mainly.

Hausman test, which helps to decide which model between fixed effect model and random effect model is preferred by testing the null hypothesis that there are no correlation between unique errors and regressors, suggests to reject the null hypothesis and to use random effect test. Therefore, it is assumed that model (1b) is most reliable between (1) and (1b).

As it is shown in the table 4 and 5 below, FDI is positively significantly correlated with economic growth rate at the 99% level in all regressions of both estimation showing rather high coefficients. The results of the analysis are consistent with many of literature reviews aforementioned arguing FDI has positive effect on economic growth in long term.

Economic freedom in column (1) is however insignificantly positively correlated with GDP growth rate showing 2.653 coefficients. The results of the impact of economic freedom are consistent with the huge literature reviews arguing it positively influence the economic growth. However, EF in column (1b) presents results that it has negative impact on the economic growth, which is opposite with the result of column (1). When we assume

that column (1b) is more reliable, it is appropriate to interpret that economic freedom in ASEAN 8 countries has negative impact on the economy of the region. Another interesting finding from the results is that trade openness has negative impact on the economic growth in both estimations. In particular, column (1b) shows the negative impact at 95% significance. From those results of economic freedom and trade openness, we may assume that international trade has negative impact on economic growth rate. Since the finding is inconsistent with the previous research investigating other regions, further research on the issue in the AESAN region shall be conducted.

In column (1b), human capital development level (HC) shows the positive effect on GDP growth rate in ASEAN 8 countries significantly and Government deficit and inflation rate show the negative impact on the economic growth. These results are all expected results. When it comes to Government final consumption expenditure, it has negative impact on economic growth. The result is in accord with Marta(2001) and the result is interpreted as the signal of the crowding out effect.

The most predominant feature of the results is that FDI is positively significantly correlated with economic growth rate at the 99% level in every regression thus we can conclude that FDI has positive impact on the economic growth of ASEAN 8 countries in long term.

[Table 4] Results of fixed effect

VARIABLES	(1) GDP	(2) GDP	(3) GDP	(4) GDP	(5) GDP	(6) GDP	(7) GDP 1
FDI	38.95***	40.86***	42.09***	35.55***	27.62***	43.73***	39.69***
	(7.092)	(7.738)	(8.123)	(4.521)	(5.213)	(3.343)	(7.376)
INF	0.175		0.187	0.0259	0.0109	0.0855	0.188
	(0.120)		(0.138)	(0.100)	(0.0451)	(0.101)	(0.106)
PS	-0.466*	-0.482		-0.789**	-0.472	-0.468*	-0.428
	(0.246)	(0.269)		(0.226)	(0.260)	(0.216)	(0.259)
EF	2.653	-6.511	1.272		1.671	-6.980	7.022
	(16.87)	(12.29)	(17.20)		(6.538)	(16.59)	(11.06)
HC	0.456	0.307	0.268	0.204		0.475	0.433
	(0.413)	(0.366)	(0.391)	(0.467)		(0.352)	(0.419)
GD	0.0984	0.0532	0.199	-0.0900	-0.0359		0.151
	(0.162)	(0.137)	(0.145)	(0.134)	(0.135)		(0.116)
TO	-0.0116	-0.0148	-0.00485	-0.0207	-0.0197	-0.0187	
	(0.0308)	(0.0288)	(0.0295)	(0.0216)	(0.0148)	(0.0209)	
Constant	5.918	16.22	2.070	14.37**	10.47	16.01	-0.356
	(22.15)	(16.03)	(21.94)	(6.018)	(8.460)	(17.29)	(10.76)
Observations	59	59	59	65	77	60	59
R-squared	0.757	0.752	0.746	0.691	0.660	0.754	0.755
Number of Country	8	8	8	8	8	8	8
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

[Table 5] Results of random effect

VARIABLES	(1b) GDP	(2b) GDP	(3b) GDP	(4b) GDP	(5b) GDP	(6b) GDP	(7b) GDP
FDI	41.90***	41.55***	43.82***	39.90***	29.70***	38.35***	17.35***
	(4.696)	(5.954)	(5.053)	(6.091)	(7.159)	(2.446)	(4.175)
INF	-0.103		-0.0405	-0.174***	-0.0640	-0.100	-0.0493
	(0.0922)		(0.0642)	(0.0522)	(0.0472)	(0.0813)	(0.0869)
PS	-0.235	-0.0889		-0.449***	-0.192	-0.270	-0.459
	(0.248)	(0.210)		(0.0863)	(0.124)	(0.187)	(0.304)
EF	-0.156	-0.357	-0.613		-0.149	-0.0849	0.561
	(0.763)	(0.716)	(0.389)		(0.405)	(0.280)	(0.962)
HC	0.427**	0.399**	0.350**	0.398*		0.408**	0.339
	(0.177)	(0.195)	(0.167)	(0.225)		(0.171)	(0.264)
GD	-0.000562	0.0125	0.0348	0.000970	-0.0279		-0.0526
	(0.156)	(0.151)	(0.135)	(0.0703)	(0.108)		(0.169)
TO	-0.0166***	-0.0159***	-0.0179***	-0.0159***	-0.0126**	-0.0146***	
	(0.00311)	(0.00363)	(0.00301)	(0.00384)	(0.00509)	(0.00181)	
Constant	5.553***	3.770***	3.645***	8.166***	6.622***	5.769***	5.768***
	(2.080)	(1.159)	(0.766)	(0.644)	(1.027)	(1.822)	(2.077)
Observations	59	59	59	65	77	60	59
Number of Country	8	8	8	8	8	8	8

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

CONCLUSION

This paper explores the impact of foreign direct investment in AEC (ASEAN Economic Community) 8 countries, using traditional estimations, fixed effect model and random effect model. It analyses the annual panel data of macroeconomic variables of those countries over the period of 2000 to 2012 extracted from ASEAN Statistic Book, World Development Indicators and Fraser Institute.

The findings of this paper are that FDI has positive effect on economic growth in AEC 8 countries in long term, which is consistent with many literature reviews mentioned above. Human capital development level has the positive impact on economic growth of the countries as well, while economic freedom and trade openness are investigated to have negative impact on dependent variable. Inflation rate and government debt have also negative impact on the economic growth while government consumption shows positive impact on the economic growth.

The contribution of this paper is that it investigates the impact of FDI on economic growth using the panel data of those countries thus can see the impact of the FDI while other important variables affecting the economic growth are fixed. Moreover, it sees the rate growth of economy rather to see the growth of level in economy so that can proof the long term effect of FDI on economic growth.

The limitations of this paper are followings; the observation period is short so that cannot use average over five year periods as Fölster and Henrekson (2001) suggest. In addition, the quality of data is not high. Thus, the results of regressions show inconsistency in some variables. Moreover, the paper couldn't cover Lao PDR and Myanmar because of the lack of data. For further research, it is suggested to find the reliable dataset of Lao PDR

and Myanmar to see the impact of FDI on AESAN region.

Policy implication to be suggested to policy makers in the region is as follows; As FDI has positive impact on economic growth of ASEAN 8 countries, policy makers in the region can make proper international economic policies for the economic growth of the region. The results of the paper provide justification for favorable policies toward foreign investors such as setting up a favorable environment to invest, providing incentives, so forth. In addition, the results would inspire policy makers to utilize FDI wisely as a tool for enhancing the economic growth of the region and eradicating poverty in the region.

APPENDIX

GDP per capita growth (%) of ASEAN 8 countries (2000-2006)

Year	2000	2001	2002	2003	2004	2005	2006
Brunei Darussalam	0.59	0.53	1.69	0.80	-1.49	-1.53	2.48
Cambodia	6.43	5.88	4.70	6.62	8.54	11.49	9.15
Indonesia	3.42	2.16	3.01	3.29	3.54	4.19	4.00
Malaysia	6.42	-1.60	3.28	3.76	4.79	3.38	3.65
Philippines	2.21	0.76	1.53	2.87	4.64	2.84	3.38
Singapore	7.03	-3.59	3.26	5.99	8.18	4.99	5.51
Thailand	3.54	0.99	4.11	5.99	5.37	3.85	4.58
Vietnam	5.36	4.86	5.09	5.66	6.26	6.30	5.80

GDP per capita growth (%) of ASEAN 8 countries (2007-2012)

Year	2006	2007	2008	2009	2010	2011	2012
Brunei Darussalam	2.48	-1.62	-3.60	-3.35	1.02	1.92	-0.45
Cambodia	9.15	8.67	5.21	-1.35	4.34	5.30	5.45
Indonesia	4.00	4.84	4.53	3.20	4.82	5.12	4.95
Malaysia	3.65	4.37	2.96	-3.24	5.58	3.42	3.91
Philippines	3.38	4.81	2.43	-0.52	5.84	1.90	4.98
Singapore	5.51	4.66	-3.49	-3.56	13.22	3.87	0.02
Thailand	4.58	4.74	2.32	-2.47	7.61	-0.18	7.33
Vietnam	5.80	5.98	4.54	4.29	5.31	5.14	4.14

FDI (% of GDP) of ASEAN 8 countries (2000-2006)

Year	2000	2001	2002	2003	2004	2005	2006
Brunei Darussalam	0.13	0.13	0.24	0.70	0.04	0.03	0.04
Cambodia	0.03	0.03	0.04	0.02	0.03	0.06	0.07
Indonesia	-0.03	-0.02	0.00	0.00	0.01	0.03	0.01
Malaysia	0.01	-0.02	0.03	0.02	0.04	0.03	0.04
Philippines	0.02	0.01	0.02	0.01	0.01	0.02	0.02
Singapore	0.06	0.10	0.09	0.18	0.23	0.14	0.25
Thailand	0.03	0.03	0.03	0.04	0.04	0.05	0.05
Vietnam	0.04	0.04	0.03	0.04	0.04	0.04	0.04

FDI (% of GDP) of ASEAN 8 countries (2007-2012)

Year	2007	2008	2009	2010	2011	2012
Brunei Darussalam	0.02	0.02	0.03	0.05	0.07	-
Cambodia	0.10	0.07	0.05	0.07	0.07	0.00
Indonesia	0.02	0.02	0.01	0.02	0.02	0.00
Malaysia	0.04	0.03	0.01	0.04	0.04	0.00
Philippines	0.02	0.01	0.01	0.01	0.01	0.00
Singapore	0.26	0.06	0.14	0.23	0.21	0.00
Thailand	0.05	0.03	0.02	0.03	0.03	0.00
Vietnam	0.09	0.11	0.08	0.08	0.06	-

Inflation Rate (Annul %) of ASEAN 8 countries (2000-2006)

Year	2000	2001	2002	2003	2004	2005	2006
Brunei Darussalam	1.5581	0.5958	-2.3149	0.3000	0.8142	1.2444	0.1598
Cambodia	-0.7919	-0.6006	3.2250	1.2100	3.9242	6.3492	6.1432
Indonesia	3.7200	11.502	11.8787	6.5857	6.2435	10.4519	13.1094
Malaysia	1.5347	1.4167	1.8078	0.9928	1.5185	2.9608	3.6092
Philippines	3.9501	5.3455	2.7227	2.2891	4.8292	6.5168	5.4852
Singapore	1.3616	0.9971	-0.3916	0.5079	1.6627	0.4251	1.0209
Thailand	1.5919	1.6269	0.6973	1.8043	2.7591	4.5403	4.6374
Vietnam	-1.7103	-0.4315	3.8308	3.2198	7.7591	8.2814	7.3857

Inflation Rate (Annul %) of ASEAN 8 countries (2007-2012)

Year	2007	2008	2009	2010	2011	2012
Brunei Darussalam	0.9677	2.0849	1.0357	0.3568	2.0159	-
Cambodia	7.6683	24.9971	-0.6613	3.9962	5.4785	2.9327
Indonesia	6.4074	9.7765	4.8135	5.1327	5.3575	4.2795
Malaysia	2.0273	5.4407	0.5833	1.7100	3.2000	1.6553
Philippines	2.9000	8.2604	4.2190	3.7898	4.6473	3.1720
Singapore	2.0951	6.5185	0.6036	2.8000	5.2529	4.5286
Thailand	2.2415	5.4684	-0.8457	3.2722	3.8087	3.0149
Vietnam	8.3037	23.1163	7.0545	8.8616	18.6774	9.0942

Government Final Consumption Expenditure (% of GDP) of ASEAN 8 countries (2000-2006)

Year	2000	2001	2002	2003	2004	2005	2006
Brunei Darussalam	25.814	29.398	27.169	24.067	22.052	18.408	18.061
Cambodia	5.232	5.301	5.442	5.260	4.483	4.070	3.460
Indonesia	6.531	6.889	7.257	8.129	8.321	8.109	8.627
Malaysia	10.165	12.039	12.957	12.968	12.579	11.473	11.167
Philippines	11.423	11.080	10.573	10.202	9.382	9.039	9.180
Singapore	10.730	11.783	11.955	11.555	10.508	10.183	10.298
Thailand	11.331	11.320	11.079	10.748	11.104	11.894	11.803
Vietnam	5.947	5.861	5.758	5.851	5.878	5.465	5.532

Government Final Consumption Expenditure (% of GDP) of ASEAN 8 countries (2007-2012)

Year	2007	2008	2009	2010	2011	2012
Brunei Darussalam	22.620	22.620	22.620	22.620	22.620	22.620
Cambodia	5.730	5.634	6.162	6.344	6.019	5.666
Indonesia	8.346	8.423	9.589	9.109	9.017	8.910
Malaysia	11.566	11.504	13.048	12.226	13.047	13.532
Philippines	9.284	8.831	9.860	9.721	9.701	10.836
Singapore	9.511	10.548	10.287	10.186	9.736	9.380
Thailand	12.190	12.343	13.426	12.964	13.259	13.576
Vietnam	5.554	5.625	5.778	5.992	5.911	5.927

Level of Economic Freedom (Out of 1) of ASEAN 8 countries (2000-2006)

Year	2000	2001	2002	2003	2004	2005	2006
Brunei Darussalam	-	-	-	-	-	-	-
Cambodia	-	-	-	-	-	-	-
Indonesia	0.607	0.570	0.587	0.627	0.605	0.648	0.654
Malaysia	0.679	0.639	0.645	0.654	0.659	0.700	0.692
Philippines	0.651	0.616	0.661	0.672	0.663	0.672	0.684
Singapore	0.697	0.681	0.686	0.699	0.676	0.706	0.711
Thailand	0.861	0.851	0.876	0.872	0.863	0.886	0.877
Vietnam	-	-	-	0.567	0.607	0.619	0.632

Level of Economic Freedom (Out of 1) of ASEAN 8 countries (2007-2012)

Year	2007	2008	2009	2010	2011	2012
Brunei Darussalam	-	-	-	7.180	7.030	7.180
Cambodia	-	-	-	0.717	0.706	0.702
Indonesia	0.662	0.660	0.663	0.688	0.691	0.689
Malaysia	0.699	0.672	0.677	0.700	0.702	0.700
Philippines	0.684	0.682	0.674	0.670	0.663	0.662
Singapore	0.699	0.689	0.684	0.714	0.724	0.729
Thailand	0.878	0.875	0.873	0.866	0.866	0.854
Vietnam	0.631	0.620	0.648	0.655	0.626	0.642

Government Expenditure on Education (% of GDP) of ASEAN 8 countries (2000-2006)

Year	2000	2001	2002	2003	2004	2005	2006
Brunei Darussalam	3.705	-	-	-	-	-	-
Cambodia	1.666	1.724	1.711		1.719		
Indonesia		2.460	2.645	3.218	2.748	2.872	
Malaysia	5.971	7.484	7.657	7.502	5.923		4.485
Philippines	3.267	3.026	2.997	3.044	2.567	2.426	2.533
Singapore	3.321	3.551	3.900	4.007	3.677	3.219	
Thailand	5.410	5.016	4.091	3.977	4.242	4.228	4.337
Vietnam	-	-	-	-	-	-	-

Government Expenditure on Education (% of GDP) of ASEAN 8 countries (2007-2012)

Year	2007	2008	2009	2010	2011	2012
Brunei Darussalam	-	-	-	2.046	3.681	3.207
Cambodia	1.599	-	-	2.603	-	-
Indonesia	2.901	3.525	2.994	-	3.567	2.901
Malaysia	4.372	3.958	5.974	5.116	5.940	-
Philippines	2.595	2.692	2.652	-	-	-
Singapore	-	2.779	3.031	3.108	3.074	3.130
Thailand	3.836	3.750	4.125	3.752	5.787	7.568
Vietnam	-	4.886	-	6.285	-	6.303

Government Budget Deficit (% of GDP) of ASEAN 8 countries (2000-2006)

Year	2000	2001	2002	2003	2004	2005	2006
Brunei Darussalam	17.39	5.99	-4.15	11.13	14.65	6.17	21.99
Cambodia	-1.90	-3.21	-3.25	-3.87	-2.34	-0.61	-1.50
Indonesia	-2.26	-2.43	-1.81	-1.61	-1.23	-0.98	-0.99
Malaysia	-5.75	-5.51	-5.62	-5.30	-4.32	-3.28	-3.20
Philippines	-4.11	-4.00	-5.29	-4.66	-3.86	-0.67	-0.99
Singapore	1.98	1.59	-1.10	-1.58	-1.15	-0.53	0.52
Thailand	-2.23	-2.40	-1.41	0.40	0.13	-1.54	2.31
Vietnam	-2.79	-2.52	-2.41	-2.82	-2.00	-1.73	-1.77

Government Budget Deficit (% of GDP) of ASEAN 8 countries (2007-2012)

Year	2007	2008	2009	2010	2011	2012
Brunei Darussalam	15.04	24.29	3.92	8.55	28.45	17.47
Cambodia	0.64	0.12	3.33	3.53	3.78	-
Indonesia	-1.43	-0.08	-1.58	-0.73	-1.14	-2.31
Malaysia	-3.10	0.82	0.22	1.01	0.32	0.24
Philippines	0.18	-0.88	-3.72	-3.49	-2.04	-2.30
Singapore	3.07	1.45	-0.95	0.17	1.26	-
Thailand	-1.69	-1.06	-4.44	-2.63	-4.42	-2.07
Vietnam	-2.19	-2.11	-6.37	-3.65	-1.95	-

Sum of Export and Import, Goods and Services (% of GDP) (% of GDP) of ASEAN 8 countries (2000-2006)

Year	2000	2001	2002	2003	2004	2005	2006
Brunei Darussalam	103.171	108.718	108.747	105.258	100.589	97.457	96.941
Cambodia	111.609	113.863	119.692	123.080	134.511	136.831	144.616
Indonesia	71.436	69.793	59.079	53.616	59.761	63.987	56.657
Malaysia	220.407	203.364	199.356	194.195	210.373	203.854	202.577
Philippines	104.729	98.908	102.435	101.849	102.642	97.878	94.940
Singapore	366.070	352.749	354.277	382.791	406.292	422.330	430.357
Thailand	124.922	125.222	121.697	124.579	136.537	148.254	143.803
Vietnam	103.244	103.688	107.828	115.117	122.261	130.714	138.313

Sum of Export and Import, Goods and Services (% of GDP) (% of GDP) of ASEAN 8 countries (2007-2012)

Year	2007	2008	2009	2010	2011	2012
Brunei Darussalam	95.750	105.913	108.572	114.311	108.212	112.544
Cambodia	138.268	133.320	105.138	113.603	113.581	131.265
Indonesia	54.829	58.561	45.512	47.485	51.311	50.148
Malaysia	192.466	176.667	162.558	169.662	166.619	158.936
Philippines	86.619	76.282	65.590	71.419	67.697	64.661
Singapore	398.657	439.656	360.230	372.099	373.964	367.722
Thailand	138.460	150.326	126.157	135.141	149.350	148.825
Vietnam	154.605	154.317	136.310	152.217	162.914	156.553

BIBLIOGRAPHY

Abdul, K. and Ilan, N. 2007. "Foreign Direct Investment and Economic Growth: Empirical Evidence from Sectoral Data in Indonesia," *Indonesia Journal and Review*, pp. 01-27.

ADB, 2013. "The ASEAN Economic Community: Progress, Challenges, and Prospects"

ADB, 2013. "The Road to ASEAN Financial Integration A Combined Study on Assessing the Financial Landscape and Formulating Milestones for Monetary and Financial Integration in ASEAN"

Alessia, A., Roberta, R. and Marco, S. 2011. "China's Outward FDI: An Industry-level Analysis of Host country Determinants," China and the Global Economy Post Crisis, CES ifo Venice Summer Institute.

Bengoa, M. and Sanchez-Robles. 2003. "FDI, Economic Freedom, and Growth: New Evidence from Latin America," European Journal of Political Economy 19, pp. 529-545.

Borensztein, E., De Gregorio, J. and Lee, J. W. 1998. "How does Foreign Direct Investment affect economic growth?" Journal of International Economics 45, pp. 115-135.

Blomström, M., Lipsey, R. and Zejan, M. 1992. "What explains developing country growth?" NBER Working Paper, n. 4132. Cambridge, Mass

Chee, Y. L. and M. Nair. 2010. "The impact of FDI and financial sector development on economic growth: Empirical evidence from Asia and Oceania," International Journal of Economics and Finance, vol. 2, no. 2, pp. 107-119.

Chen, J.-E. and S. A. M. Zulkifli. 2012. "Malaysian outward FDI and economic growth," *Procedia - Social and Behavioral Sciences*, vol. 65, no. 3, pp. 717-722.

Cirstina, Chencehrita-Westphal. and Philipp, Rother. 2012. "The Impact of high government Debt on Economic Growth and its Channels: An empirical Investigation for the Euro Area," *European Economic Review 56 (2012)*, pp. 1392-1405.

De Gregorio, J. 1992. "Economic growth in Latin American," Journal of Development Economics 39, pp. 59-83.

De Mello, L. 1999. “Foreign Direct Investment led growth: Evidence from time series and panel data,” Oxford Economic Papers 51, pp. 133-151.

Dunning, J.H. 1993. “Multinational Enterprises and the Global Economy,” Reading, MA: Addison-Wesley.

Economic Research Institute for ASEAN and East Asia, 2012. “Mid-Term Review of the Implementation of AEC Blueprint Executive Summary”

Fölster, S. and Henrekson, M. 2001. “Growth effects of government expenditure and taxation in rich countries”, European Economic Review 45, pp. 1501-1520.

Findlay, R. 1978. “Relative backwardness, Direct Foreign Investment, and the transfer of technology: A simple dynamic model,” *Quarterly Journal of Economics*, 92, pp. 1-16.

Hans, J Engelbrecht. 1996. “International R&D Spillover, human capital and productivity in OECD economies: An empirical investigation”, *European Economic Review 41, pp.* 1479-1488.

Hong, L. 2014. “Does and how does FDI promote economic growth? Evidence from dynamic panel data of prefecture city in China,” IERI Procedia, vol. 6, pp. 57-62.

Jakob de Haan, and Jan-Egbert, Strum. 2000. “On the Relationship between Economic Freedom and Economic Growth,” European Journal of Political Economy, Vol. 16 (2000), pp 215-241.

Jess, B, and Mark M Spiegal. 1994. “The role of human capital in economic development: Evidence from aggregate cross-country data,” Journal of Monetary Economics 34, pp 143-173.

John, Loizides. and George, Vamvoukas. 2005. “Government Expenditure and Economic Growth: Evidence from Trivariate Causality Testing,” Journal of Applied Economics, Vol. Ⅷ, No.1 (May 2005), pp. 125-142.

Jun. S. J. 2015. “The Nexus between FDI and Growth in the SAARC Member Countries,” Journal of East Asian Economic Integration Vol.19, No.1, pp. 39-70.

Kotrajaras, P., Tubtimtong, B. and P. Wiboonchutikula. 2011. “Does FDI enhance economic growth? New evidence from East Asia,” ASEAN Economic Bulletin, vol. 28, no. 2, pp. 183-202.

Kjetil, Bjorvatn., Hans, Jarle Kind. and Hildegunn, Kyvik Nordås. 2000, "The Role of FDI in Economic Development," *Nordic Journal of Political Economy*, Vol 28, pp. 109-126.

Lian, L. and H. Ma. 2013. "FDI and economic growth in western region of China and dynamic mechanism: Based on time-series data from 1986-2010," *International Business Research*, vol. 6, no. 4, pp. 180-186.

Marta, Bengoa, C. and Blanca Sanchex-Robles. 2002. "Foreign Direct Investment, Economic Freedom and Growth: New Evidence from Latin-America," *Universidad de Cantabria*, Economics Working Paper No. 4/03.

McKinsey Global Institute. 2014. "Southeast Asia at the crossroads: Three paths to prosperity Executive summary."

Mogen, K.Justesen. 2008. "The Effect of Economic Freedom on Growth revisited: New Evidence on Causality from a Panel of Contries 1970-1999," *European Journal of Political Economy 24*, pp. 642-660.

Niloy Bose, M. Emranul Haque, and Denise R. Osborn. 2007. "Public Expenditure and Economic Growth: A Disaggregated Analysis for Developing Countries," *The Manchester School* Vol. 75, No. 5, pp.533-556.

Oscar Torres-Reyna. 2007. "Panel Data Analysis – Fixed and Random Effects using Stata," Princeton University, Data & Statistical Services, v.4.2

Paul, Clark., Clair, Crawford., Fiona, Steele., and Anna, Vignoles. 2010. "The Choice Between Fixed and Random Effect Models: Some Considerations or Educational Research," IZA DP No. 5287.

Peter, N., and Julius, S. 2003. "Foreign Direct Investment and Economic Growth in Developing Countries: How relevant are host-country and industry characteristics?" Kiel Working Paper No. 1176.

Robert J. Barro. 1995. "Inflation and Economic Growth," NBER Working Paper Series, Working Paper 5326

Romer, Paul, 1990. "Endogenous technological change," Journal of Political Economy Vol. 98, S71lSlO2.

Sánchez-Robles, B. 1998. "Infrastructure investment and growth: Some empirical evidence," Contemporary Economic Policy, Vol. XVI, n.1, pp. 98-109.

Solow, Robert M., 1957. “Technological Change and the Aggregate Production Function,” Review of Economics and Statistics 39 (August), pp. 312-320.

Soto, M. 2000. “Capital flows and growth in developing countries: recent empirical Evidence,” OECD Development Center Working paper No160, 07/2000, Organization for Economic Co-operation and Development, Paris.

Syetam Hansakul, 2013. “Current Issues: Emerging markets ASEAN Economic Community (AEC); A potential game changer for ASEAN Countries,” Deautsche Bank DB Research

Svetlana, L. and Mikael, L. 2006. “Foreign Direct Investment and Economic Growth: Empirical evidence from Russian Regions,” BOFIT Discussion Papers 17/2006.

Tajul, A. M. and Eliza, N. 2013. “FDI in ASEAN-8: Does Institutional Quality Matter?” Applied Economics Letters, Volume 20, Issue 2, pp 186-189.

Tejinder, S., and Benjamin, N. 1995. “Transaction Costs and Foreign Direct Investment in Developing Countries”, International Advances in Economic Research Volume 1, Issue 4, pp 317-325.

Ugo, Panizza. and Andrea F. Presbitero. 2014. “Public Debt and Economic Growth: Is There a Causal Effect?”, Journal of Macroeconomics, Vol 41, pp. 21-41.

UNCTAD, 2007. “World Investment Report 2007: Transnational Corporations, Extrative industries and Development”

Yalta, A. Y. 2013. “Revisiting the FDI-led growth hypothesis: The case of China,” Economic Modelling, vol. 31, pp. 335-343.