Determining the directional flows of Foreign Direct Investments in the ASEAN Region: Key Macroeconomic and “Doing Business” indicators affecting the direction of ASEAN FDI inflows and its impact on intra and extra ASEAN trade

by

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Objectives

- To determine where most of the foreign direct investments are flowing within the ASEAN region over the last five years and explain why certain countries attract more inflows relative to the others.
- To determine the impact of the key indicators of each member country on the ability to attract foreign direct investments from within and outside the ASEAN region.
- To determine the impact of ASEAN foreign direct investment inflows on intra-ASEAN and extra-ASEAN trade.

Traditional determinants and ideal conditions required to encourage foreign direct investment

- Macroeconomic stability
- Market size
- Infrastructure support
- Skilled Labor
- Access to natural resources and raw materials
- Trade openness
- Liberal investment policies
- Fiscal incentives
- Effective institutions
- Good governance
- Political stability

Methodology

- The study uses panel data regression analysis to determine the impact and significance of the key economic indicators affecting both intra-ASEAN and extra-ASEAN foreign direct investment inflows.

- Panel data allows the control for variables that change over time but not across entities(or countries) which accounts for individual heterogeneity (Torres-Reyna, 2009).

- Longitudinal data on the nine (9) ASEAN economies (excluding Myanmar), over a period of five years per country, (totalling 45 observations) is used in two types of regression equations namely: 1) fixed effects with robust (HAC) standard errors and; 2) random effects using GLS.

Data

- ASEAN Statistical Database
- ASEAN Investment Report for 2011 and 2012
- Asian Development Bank Economic Indicators Report
- “Doing Business Report” published by the World Bank, for the years 2007 up to 2011.
- the rankings of each ASEAN country under the “Doing Business Report” of the World Bank provide indications of the change in the regulatory environment.
- Economies are ranked on the ease of doing business from 1 to 189. A high ranking on the ease of doing business index means that the regulatory environment is more conducive to the starting and operation of a local firm.

Ease of doing business

- The index averages the country's percentile ranking on 10 topics, made up of a variety of indicators, giving equal weights to each topic.

- For 2013, the topics included: starting a business; dealing with construction permits, getting electricity, registering property, getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts and resolving insolvency. (Doing Business, IFC, World Bank, 2013).

- When the rank of a country improves (the rank or value becomes closer to 1), its position among the 189 countries surveyed becomes higher indicating better or more liberal regulatory conditions in the economy.

Ease of doing business

- For this study, the doing business indicators which will be used as explanatory variables will be confined to: the ease of doing business; starting a businesses; trading across borders;

- protecting investors and; enforcing contracts. These indicators were consistently included across the 2007 to 2011 period for the nine (9) ASEAN countries included on the study.

- Myanmar and Brunei Darusalam did not always appear with ranking results across the 10 topics for the years 2007 to 2011 resulting to a reduction in the number of indicators that could be used for the panel regressions.

Foreign direct investment and the impact of key economic and ease of doing business indicators (Dependent variables)

Label	Description
EXTRA_FDI_	Extra ASEAN foreign direct investments in billions of US$
INTRA_FDI_	Intra ASEAN foreign direct investments in billions of US$
FINANCE_FDI	Foreign direct investments in the financial sector (in billions of US$)
MANUF_FDI	Foreign direct investments in the manufacturing sector (in billions of US$)
MINING_FDI	Foreign direct investments in the mining sector (in billions of US$)

Foreign direct investment and the impact of key economic and ease of doing business indicators (Explanatory variables)

Label	Description
CAPX_GOVT	Capital outlays as a percentage of government spending for each ASEAN country
EASE	Country rank between 1 to 185 in terms of the ease of doing business
ECO_GROWTH	Economic growth as measured in terms of the percentage change in real gross domestic product
ENFORCE	Country rank between 1 to 185 in terms of enforcing contracts
FOREX	Foreign exchange rate (amount of domestic currency per $1)
GDPDOLLAR	Gross domestic product of each ASEAN country in billions of US dollars at constant prices
GDP_CAPITA	Real per capita GDP of each ASEAN country at constant prices
INFLA	Inflation rate (percentage change in the consumer price index)
OPEN	Trade openness as measured by the ratio of the combined value of exports and imports divided by GDP: (X+M)/GDP
PROTECT	Country rank between 1 to 185 in terms of protecting investments
START	Country rank between 1 to 185 in terms of starting a business
TRADING	Country rank between 1 to 185 in terms of trading across borders

Foreign direct investment and its impact on intra-ASEAN and extra ASEAN trade (Dependent variables)

Label	Description
EXTRA_A_TRADE1	Extra ASEAN trade (in billions of US$)
INTRA_A-TRADE1	Intra ASEAN trade (in billions of US$)

Foreign direct investment and its impact on intra-ASEAN and extra ASEAN trade (Independent variables)

Label	Description
ASEAN_FDI	ASEAN Foreign direct investment inflows (intra-ASEAN + extra-ASEAN FDI inflows) (in billions of US$)
ECO_GROWTH	Economic growth as measured in terms of the percentage change in real gross domestic product
ENFORCE	Country rank between 1 to 185 in terms of enforcing contracts
FOREX	Foreign exchange rate (amount of domestic currency per $1)
GDPDOLLAR	Gross domestic product of each ASEAN country in billions of US dollars at constant prices
PROTECT	Country rank between 1 to 185 in terms of protecting investments
START	Country rank between 1 to 185 in terms of starting a business
TRADING	Country rank between 1 to 185 in terms of trading across borders

Table 1
ASEAN: FDI Inflows, 2006-2011
(Millions of dollars)

Country	2006	2007	2008	2009	2010	2011
ASEAN	63,689.2	84,152.4	49,289.7	46,896.7	92,278.6	114,110.6
Brunei Darusalam	434.0	260.2	330.1	371.14	625.4	1,208.3
Cambodia	483.2	867.3	815.2	539.0	782.6	891.7
Indonesia	4,913.8	6,928.3	9,318.1	4,876.8	13,770.9	19,241.6
Lao PDR	187.4	323.5	227.8	318.6	332.6	300.7
Malaysia	6,072.4	8,538.4	7,248.4	1,405.1	9,155.9	12,000.9
Myanmar	427.8	714.8	975.6	963.3	450.2	0.0
Philippines	2,921.0	2,916.0	1,544.0	1,963.0	1,298.0	1.262.0
Singapore	36,389.9	45,534.6	10,712.2	24,006.1	48,751.6	63,997.2
Thailand	9,459.6	11,330.2	8,539.5	4,853.5	9,111.6	7,778.1
Vietnam	2,400.0	6,739.0	9,579.0	7,600.0	8,000.0	7,430.0

Sources of ASEAN Foreign Direct Investment Inflows
(in percent)

Country / Region	2008	2009	2010	2011
Australia	1.7	2.1	2.3	1.2
China	4.0	10.4	3.6	5.3
European Union	15.0	24.1	22.4	16.0
India	1.2	2.2	3.4	-1.62
Japan	8.9	9.9	11.1	13.2
South Korea	3.4	3.9	4.9	1.9
United States	7.5	10.8	11.3	5.06
ASEAN	20.1	13.8	16.0	23.0
Others	1.4	2.5	2.4	35.15

Ranking ASEAN countries based on FDI inflows

- Singapore had consistently attracted that largest amount of foreign direct investment inflows with the biggest recorded in 2011 at $63.9972 billion
- In 2010 and 2011, approximately 53 percent and 56.08 percent of the total ASEAN foreign direct investment inflows went to Singapore
- Indonesia is the second largest recipient of foreign direct investment for 2010 and 2011 at $13.7709 billion and $19.2416 billion respectively
- Malaysia is the third largest recipient of foreign direct investment inflows and this was evident during the years 2006, 2007, 2010 and 2011
- Thailand is the fourth largest recipient of foreign direct investment inflows for the year 2010 and 2011 at $9.1116 billion and $7.7781 billion respectively

Ranking ASEAN countries based on FDI inflows

- Vietnam is the fifth largest recipient of foreign direct investment for the years 2010 and 2011 at $8.0 billion and $7.430 billion respectively

- The Philippines is the sixth largest recipient of foreign direct investment inflows, evident during the years 2007, 2008, 2010 and 2011

- Brunei Darusalam, Cambodia, Lao PDR and Myanmar are ranked 7th, 8th, 9th and 10th respectively in terms of receiving foreign direct investment inflows

Foreign Direct Investment flows in ASEAN: Sources from intra-ASEAN and Dialogue Partners, 2005 (Millions of dollars)

	2005	2006	2007	2008	2009	2010	2011
Intra-ASEAN	4,210.6	8,641.9	9,113.0	9,728.9	6,300.2	14,322.7	26,270.7
Dialogue Partners	24,717.2	33,461.5	50,870.6	22,280.7	23,772.2	54,482.1	47,720.8
Australia	257.0	569.3	2,170.3	1,042.4	993.0	2,584.9	1,338.0
Canada	682.7	364.5	408.7	636.7	720.3	1,393.0	985.4
China	615.6	1,938.5	2,069.2	1,208.4	1,852.6	2,784.6	6,034.4
European Union 27	11,722.3	15,808.2	21,902.1	8,871.7	8,063.1	17,012.1	18,240.5
India	471.5	-96.1	2,615.4	1,400.8	616.4	3,351.5	-1,848.5
Japan	6,581.7	10,758.7	8,723.5	4,335.5	3,789.9	10,756.4	15,051.1
New Zealand	595.0	-144.4	114.0	-106.1	98.9	3.4	13.4
Republic of Korea	528.7	1,290.3	2,444.9	1,550.8	1,794.0	3.764.2	2,138.3
Russian Federation	0.0	1.2	31.0	81.3	139.8	60.3	21.6
United States	3,262.6	2,971.4	10,391.6	3,259.1	5,704.3	12.771.6	5,782.7
Others	13,628.6	21,585.8	15,055.8	17,280.1	16,824.3	23,473.8	40,119.1
Total FDI Flows	42,556.4	63,689.2	84,152.4	49,289.7	46,896.7	92,278.6	114,110.6

Intra- and extra-ASEAN trade, 2011
value in US$ million; share in percent

Country	Intra-ASEAN trade	Share to total trade	Extra-ASEAN trade	Share to total trade	Total trade
Brunei Darussalam	2,912.1	19.6	11,910.2	80.4	14,822.3
Cambodia	3,003.8	23.4	9,840.3	76.6	12,844.1
Indonesia	99,353.2	26.1	281,579.1	73.9	380,932.3
Lao PDR	2,530.3	64.0	1,425.5	36.0	3,955.9
Malaysia	108,139.7	26.0	307,582.2	74.0	415,721.9
Myanmar	7,207.7	48.3	7,717.4	51.7	14,925.1
The Philippines	23,675.6	21.2	88,076.0	78.8	111,751.6
Singapore	205,670.9	26.5	569,481.7	73.5	775,152.6
Thailand	111,450.8	24.3	347,453.5	75.7	458,904.4
Vietnam	34,298.1	17.2	165,284.0	82.8	199,582.1
ASEAN	598,242.2	25.0	1,790,350	75.0	2,388,592.3

Intra- and extra-ASEAN exports, 2011
value in US$ million; share in percent

Country	Intra-ASEAN exports	Share to total exports	Extra-ASEAN exports	Share to total exports	Total ASEAN Exports
Brunei Darussalam	1,721.1	13.9	10,641.2	86.1	**12,362.3**
Cambodia	833.7	12.4	5,876.8	87.6	**6,710.6**
Indonesia	42,098.9	20.7	161,397.8	79.3	**203,496.7**
Lao PDR	959.8	55.0	786.7	45.0	**1,746.5**
Malaysia	56,049.7	24.6	172,129.5	75.4	**228,179.1**
Myanmar	3,957.4	48.7	4,161.8	51.3	**8,119.2**
The Philippines	8,635.3	18.0	39,406.9	82.0	**48,042.2**
Singapore	127,544.5	31.2	281,899.0	68.8	**409,443.5**
Thailand	72,226.6	31.6	156,594.1	68.4	**228,820.7**
Vietnam	13,504.8	14.2	81,860.7	85.8	**95,365.6**
ASEAN	**327,531.8**	**26.4**	**914,754.6**	**73.6**	**1,242,286.4**

Intra- and extra-ASEAN imports, 2011
value in US$ million; share in percent

Country	Intra-ASEAN imports	Share to total imports	Extra-ASEAN imports	Share to total imports	Total ASEAN imports
Brunei Darussalam	1,191.1	48.4	1,268.9	51.6	2,460.0
Cambodia	2,170.1	35.4	3,963.5	64.6	6,133.6
Indonesia	57,254.3	32.3	120,181.3	67.7	177,435.6
Lao PDR	1,570.5	71.1	638.8	28.9	2,209.4
Malaysia	52,090.0	27.8	135,452.8	72.2	187,542.8
Myanmar	3,250.3	47.8	3,555.6	52.2	6,805.9
The Philippines	15,040.3	23.6	48,669.1	76.4	63,709.4
Singapore	78,126.4	21.4	287,582.7	78.6	365,709.1
Thailand	39,224.2	17.0	190,859.5	83.0	230,083.6
Vietnam	20,793.2	20.0	83,423.3	80.0	104,216.5
ASEAN	270,710.4	23.6	875,595.5	76.4	1,146,305.9

Ease of doing business for 2011
ASEAN Country Rankings (1 to 189)

Country	Ease of doing business (Overall Index)	Starting a business	Trading across borders	Protecting investors	Enforcing contracts
Brunei Darussalam	112	133	52	120	159
Cambodia	147	170	118	74	142
Indonesia	121	155	47	44	154
Lao PDR	171	93	170	182	110
Malaysia	21	113	37	4	59
Myanmar	n.a.	n.a.	n.a.	n.a.	n.a.
The Philippines	148	156	61	132	118
Singapore	1	4	1	2	13
Thailand	19	95	12	12	25
Vietnam	78	100	63	173	31

Conclusions

- Panel regression results reveal that market size (measured in terms of real gross domestic product), sustained economic growth, per capita gross domestic product, infrastructure support (measured as the ratio of public capital outlay to total government spending), and the foreign exchange rate are the key macroeconomic variables which influence the entry of foreign direct investments into the ASEAN region.

- Intra ASEAN foreign direct investment is more responsive to the above mentioned macroeconomic variables

- empirical results for extra ASEAN foreign direct investment reveal that it is only responsive to market size and economic growth.

Conclusions

- The "doing business" indicators which revealed significant results were: the ease of doing business; starting a business; protecting investors and trading across borders.

- These explanatory variables generally provided results consistent with the a-priori expectations. As the ranking of each ASEAN member country improves under these indicators, more foreign direct investment is received.

- The doing business indicators are even more significant when used as explanatory variables for intra ASEAN and extra ASEAN trade. Trading across borders and protecting investors provided consistent significant results in explaining movements in both intra ASEAN and extra ASEAN trade.

Conclusions

- However, these results should not discount the possibility of inflation, low interest rates and trade openness being important in the desire to attract foreign direct investment

- These macroeconomic variables have been shown to be significant in other studies, particularly during years when they were most prominent.

- A panel regression using the nine (9) ASEAN countries over a 15 year period (in effect 135 observations) will likely provide better results in terms of more significant independent variables, compared to the current study's 45 observations. However, it is important to consider that not all the ASEAN countries will have complete data entries over the 15 year period