

Institutional Quality and Foreign Direct Investment in ASEAN

Tajul Arrifin Masron¹, N. A. M. Naseem²

Abstract: *This study aims to investigate the role of institutional quality in influencing foreign direct investment. It employs two-stage least squares (2SLS) regression analysis to minimise the risk of bias due to endogeneity issue. Institutional quality is proxied by its ratio and gap to capture simultaneous changes in institutional quality of two countries under study. The results show that institutional quality matters for foreign direct investment. More importantly, although ratio of institutional quality is statistically significant, the actual improvement in host country's institutional quality still depends on the changes in the competing country's institutional quality. In other words, changes in the country's institutional quality must be significantly greater than that of the competing country to assure that host country's changes can be attractive for foreign direct investment. It should be cautioned that institutional quality is a necessary but not a sufficient precondition to attract FDI.*

Keywords: ASEAN; China; Institutional quality; FDI; Panel data

JEL Classification: F23, O16, O40

Article Received: 17 January 2017; Article Accepted: 20 May 2017

1. Introduction

Foreign direct investment (FDI) is important for the development of many emerging economies. As a result, today's successful Asian economies such as Malaysia, Thailand, Indonesia and also some Latin American countries such as Chile and Argentina rely on FDI (alongside, foreign portfolio investment) for their growth. In addition, FDI bridges capital, technology know how and management gap between domestic and foreign firms. Thus, by allowing FDI, it can spur investment in the top prioritised area(s) of the economy as more capital, technology and skills are injected, and in the long term, it is expected to boost economic growth.

Multi-National Companies (MNCs) are driven by market, resource and efficiency-seeking motives (Athukorala, 2009). Market-oriented MNCs

¹ Corresponding author. School of Management, Universiti Sains Malaysia, 11800 USM Penang, Malaysia. Email: tams@usm.my

² Department of Economics, Faculty of Economics and Management, Universiti Putra Malaysia, 43400 Selangor, Malaysia. Email: naseemniaz@upm.edu.my

involve in the production of the host economy. Resource-oriented MNCs engage in extraction and processing of natural resources, not only for domestic consumption but for re-export (either to headquarters or third economies). Finally, efficiency-seeking MNCs involve in production of goods for global market and therefore, it is crucial for them to properly identify low-cost production sites across the globe. Cost-effectiveness is normally reflected in the cost of labour, either measured directly (through wage and salary) or through the capital-labour ratio. In other words, by using the latter measurement which is part of the neoclassical growth model, one would expect that in the absence of barriers to international factors movement, more capital will flow into developing economies (Sara & Newhouse, 1995).

However, from Table 1, not only the ratio of total stock of FDI in developing economies steadily declined since 1980, its flow also fluctuated. Another point to note is that within the developing economies, FDI mainly preferred Eastern Asia such as China, South Korea, Hong Kong and Taiwan. Consistent with Sara and Newhouse (1995), data show that FDI is concentrated in a small number of developing economies. The region with low capital-labour ratio like Africa merely receives around 5% of world FDI inflows and the accumulated stock of FDI (as a ratio of world stock of FDI) steadily declined since 1980 to around 2.9% in 2009. Similarly, in the case of Southern Asia, the ratio of stock as well as inflows of FDI barely exceeded 1% recently despite the presence of India in the region. The differences in FDI inflows could be well explained by the differences in institutional quality, alongside the structures of the economies. Therefore, this study aims to investigate the role of institutional quality in influencing foreign direct investment.

The paper is further organised as follows. Section 2 describes the challenges faced by developing economies from large economies such as China, India, Russia and Brazil in attracting FDI. The section also highlights the area where developing economies, in particular ASEAN economies, should focus on to attract FDI. Section 3 explains the methodology and data collection procedures while Section 4 presents the results. Section 5 concludes the study.

Table 1: Stock and Flow of FDI in Developing Economies (DE, as a ratio of World FDI)

	Stock of FDI						Flows of FDI							
	'80	'85	'90	'95	'00	'05	'09	'80	'85	'90	'95	'00	'05	'09
DE	42.6	38.3	25.2	25.1	23.2	23.5	27.6	13.8	25.4	16.9	33.8	18.3	29.8	42.9
DE: Africa	5.9	4.3	2.9	2.6	2.1	2.4	2.9	0.7	4.4	1.4	1.7	0.7	3.8	5.3
DE: America	6.0	7.0	5.4	5.5	6.7	6.5	8.3	11.9	11.1	4.3	8.6	7.0	6.5	10.5
DE: Asia	30.6	26.9	16.8	16.8	14.3	14.5	16.3	1.0	9.7	10.9	23.4	10.6	19.4	27.0
Eastern	26.4	19.8	11.6	10.6	9.5	8.5	8.8	1.8	4.0	4.2	13.6	8.3	9.0	13.9
Southern	0.7	0.6	0.3	0.5	0.4	0.8	1.2	0.5	0.2	0.1	0.8	0.3	1.9	3.7
South-Eastern	2.6	2.9	3.1	4.5	3.6	3.5	3.9	4.9	4.1	6.2	8.2	1.7	3.9	3.3
Western	0.8	3.6	1.8	1.3	0.8	1.8	2.4	-6.2	1.2	0.4	0.7	0.3	4.6	6.1

Source: UNCTADStat (UNCTAD, 2016).

2. Stylised Facts

2.1 *The threat of large economies¹*

This sub-section discusses the challenges faced by ASEAN to attract FDI inflows in the face of main competitors such as China. Using data from ASEAN Secretariat (2007), this study attempts to highlight the competition from emerging economies (Brazil, China, India and Russia (BCIR hereafter)), the difficult or complex aspects of expanding operations of MNCs and the existing competition faced by the host economy (from an institutional point of view).

In identifying the degree of threat posed by newly emerging economic powers, few important questions should be looked at. The first is on the action CEOs are willing to pursue to meet their business objectives. Out of seven items (as shown in Table 2 for action plan), only three of the items are reported and discussed. With regards to action plans, China seems to be top destination for all three sub-items. There is a shift in the perspective of international business executives which suggested that China would be their main destination. For instance, more than 50% of CEOs claimed that if they were to open a new office, China will be their most preferred location, followed by Russia and India. The second is on this issue of outsourcing and offshoring activities. Although China is the most preferred location attracting 34% and 33% of outsourcing and offshoring respectively, ASEAN and other developing countries can capitalise on their networking to attract MNCs. Meanwhile, the choice of re-location, outsourcing or offshoring to huge market economies such as China, India, Russia and Brazil is clear from the results of survey on business objectives. This aligns well with their recalibrated objective which is to gain access to newer markets, taking into account that prospective business partners in their resident countries would have the marketing networks and domestic connections. These business partners will then help MNCs by introducing them to new customers or new markets (ASEAN Secretariat, 2007, p. 16). Although the major objective of MNCs to invest abroad is to widen their market, one cannot ignore cost consideration - almost 50% of CEOs picked China as a future location for their investment while 40% of CEOs chose India as another attractive low-cost investment destination. Thus, the aim of majority of the CEOs was to tap new markets and customers in the emerging economies of BRIC, with cost reduction modestly trailing behind as a business motivation (ASEAN Secretariat, 2007).

Table 2: Responses of CEOs pertaining to BCIR (in percentage)

	Brazil	China	India	Russia
Action Plans^a:				
Outsourcing Manufacturing Activities	19	34	30	17
Offshoring Manufacturing Activities	15	33	28	13
Opening New Offices	35	54	44	48
Business Objectives^b:				
Reducing Costs	20	48	39	18
Accessing New Customers	76	75	74	82
Serving Existing Customers	56	50	46	48
Preferred Location in the next 3 years^c:				
Developed Economies	32	64	43	33
Developing Economies	36	37	22	15

Notes:

^a There are a total of seven items.

^b Total number of items surveyed is 5.

^c To be precise, 24 percent of CEOs of MNCs in developed economies and 34 percent in developing economies claimed that BCIR is not within their locus of locational option.

Source: ASEAN Secretariat (2007).

To sum up, China and India in particular are the preferred FDI destinations wherein CEOs of global companies based in developed countries intend to further their investments, at least in the next three years. About 64% of CEOs surveyed from developed countries pointed to China as their target destination for business. China is also ranked as the first choice to do business among 37% CEOs based in developing countries. While 43% of respondents in developed countries chose India as a preferred investment target, CEOs in the developing countries ranked Brazil as their second most preferred investment destination.

It is apparent that developing countries are not able to compete with BRIC due to their huge domestic market size. Therefore, an option is to form a regional bloc via an economic agreement. Studies have investigated the implication of regional economic agreement on FDI inflows (Rutngamlug & Chirathivat, 2004; Kim & Oh, 2007; Lim & Yi-Xun, 2008). However, market size is not everything. Although one of the reasons for FDI inflows is to gain from low-cost inputs (particularly labour and transportation cost²), data of FDI flows does not support this argument (Sara & Newhouse, 1995). As shown in Table 1, only small number of developing economies successfully attracted bulk of FDI flows. One possible reason for this is high cost of doing business. In the context of FDI, it is the cost of investing capital in the host economy which drives the investment decision. The conventional way to look at cost is to calculate costs related to labour, transportation, trade barriers (taxes) and so on. Nonetheless, according to Sara and Newhouse (1995) and Athukorala (2009), tax concessions and other profit-related

incentives do not generally work unless they are combined with other initiatives to improve the general investment climate.

Another finding by ASEAN Secretariat (2007) shows although many MNCs have an intention to invest abroad, the process is quite complex. As indicated in Table 3, 65% of surveyed CEOs believed that extending their MNCs operations to new territories may also mean an involvement in a very complex business organisation. This decision may imply incurring additional costs to ensure the smooth running of their business. Hence, MNCs may consider moving to any host economy as long as the extra cost of extending the operation to the new territories (economies) is higher than the cost of doing business in the host economy. Similarly, around 50% of CEOs perceived that the complexity is also due to certain functions of their MNCs being managed offshore while 40% of them felt that outsourcing certain functions to third parties will further complicate the organisation, and hence, leading to higher cost of operation. In a nutshell, while there is a clear intention to move or diversify operations of MNCs, additional complexity (which is translated as cost) could slow or hamper the plan. This could be fully utilised by the recipient countries to convince existing MNCs to stay longer by improving business conditions namely by making the environment conducive for business.

Table 3: Responses of CEOs on the extent of complexity in the organization to do it (in percent)

	No	Low	High
Extended Operations to New Territories	5	29	65
Offshored Functions within Your Organization	17	34	49
Outsourced Functions to Third Parties	24	39	36

Note: The total items under this domain are seven. Only three are taken for discussion. Source: ASEAN Secretariat (2007).

The ASEAN Secretariat (2007) also reported the perception of CEOs of MNCs in developed as well as developing economies. From Table 4, over regulation is ranked highest and is the biggest challenge to MNC efforts to globalise their business. Therefore, weak institutional quality such as over regulation, political instability, weak enforcement of intellectual property right and control of corruption may hamper FDI flows. Weak institutional quality, while also considered as an important issue in developed economies, is more pressing in developing economies.

Table 4: Responses of CEOs on Institutional Quality in the host economy (in percentage)

	Developed Economies			Developing Economies		
	No	Minor	Major	No	Minor	Major
Over Regulation	9	29	59	6	22	71
Change in Political Direction/Instability	12	36	49	7	25	67
Loss of Intellectual Capital	17	35	45	14	29	56
Corruption	23	37	36	11	21	67

Note: Total of nine items is in the list. Only 4 are taken for discussion.

Source: ASEAN Secretariat (2007).

2.2 *FDI and institutional quality in ASEAN*

ASEAN is widely regarded as the most successful region in the developing world in attracting foreign capital flows (at least until the Asian Crisis of 1997), especially foreign direct investment (FDI). The core members of ASEAN, in particular Singapore, Malaysia, and Thailand have been at the receiving end of a huge amount of FDI flows for the last three decades. Recently, ASEAN welcomed four new members (Cambodia, Laos, Myanmar and Vietnam), which are relatively poorer than the rest of its member states, and whose primary purpose for joining was to take advantage of the putative benefits of membership – especially in terms of encouraging inflows of FDI (Mirza & Giroud, 2003). Figure 1 shows stock of FDI in ASEAN is on an average upward trending, suggesting that the region is still attractive as a FDI destination. Nonetheless, as highlighted in Figure 2, the flows of FDI into ASEAN are not as smooth as the stock of FDI. Even in the case of high FDI-recipient economy like Singapore, the flows have fluctuated over the years, reaching a historical peak in 2007 but fell sharply immediately afterwards.

Figure 1: Stock of FDI in ASEAN-6

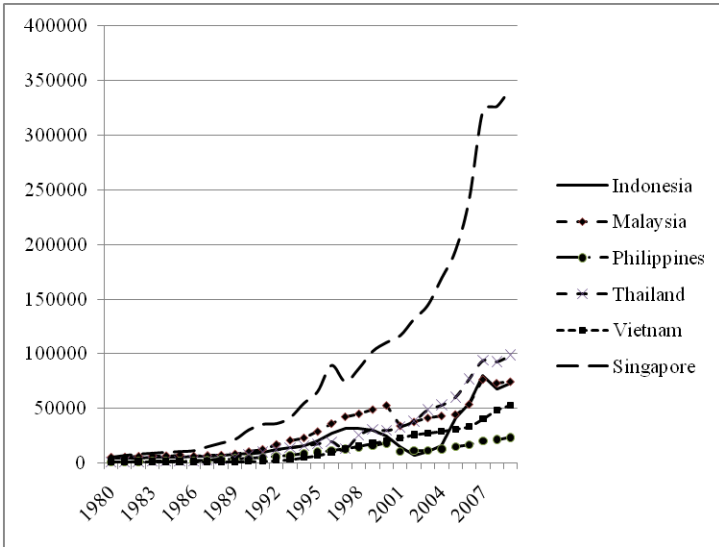
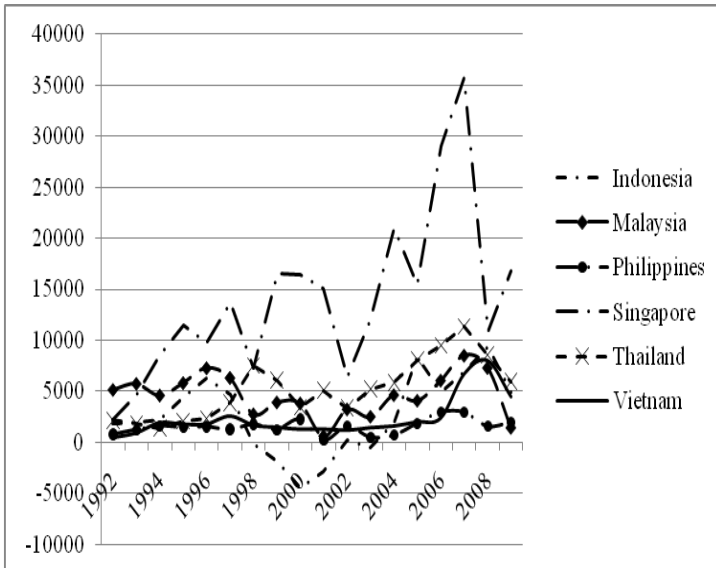


Figure 2: Flow of FDI in ASEAN-6



Source: UNCTADStat (UNCTAD, 2016)

Therefore, the important question is, how should ASEAN policy makers address the institution-related issues to attract a more consistent flows of FDI? By comparing the average value of each institutional quality factor for two sub-periods of 1996-2003 vs 2004-2008 in Table 5, institutional quality in countries such as Thailand, Cambodia and the Philippines recorded a declining pattern, either at the individual or the average sum of the factors of institutional quality. Other ASEAN economies conversely, experience improvement in some factors although they suffer deterioration in others. Similar results are observed for Argentina, Brazil and China. Only India is experiencing an improvement in almost all factors related to institutional quality, albeit minimally. In summary, almost all the economies under consideration in this study experienced a decline in their institutional quality over the period 1996 to 2008.

On average, with the exception of Malaysia and Singapore, the quality of institution in all other ASEAN economies is low. Cambodia has the lowest institutional quality. The rest of the ASEAN members tend to have a similar level of institutional quality relative to India, China, Brazil and Argentina. In other words, if ASEAN economies can further improve their level of institutional quality, it could help attract significant FDI.

Table 5: Institutional quality, ASEAN and its competitors

	1996 - 2003	2004 - 2008	1996 - 2008
<u>Panel I: ASEAN-8 Economies</u>			
Thailand	0.21	-0.15	-0.03
Vietnam	-0.56	-0.55	-0.01
Singapore	1.53	1.52	1.53
The Philippines	-0.21	-0.46	-0.13
Malaysia	0.39	0.37	0.38
Laos	-0.97	-1.01	-0.02
Indonesia	-0.79	-0.62	-0.09
Cambodia	-0.49	-0.84	-0.18
<u>Panel II: Main recipients of FDI among developing countries</u>			
India	-0.21	-0.16	-0.03
China	-0.44	-0.51	-0.04
Brazil	0.04	-0.03	-0.01
Argentina	-0.09	-0.26	-0.09

Note: The figure is calculated as an average of 6 institutional quality indices.

Source: Author’s calculation based on World Governance Indicators (World Bank, 2010).

3. Methodology

3.1 Model specification

Based on Busse and Hefeker (2007), FDI as a percentage of GDP is set as a dependent variable. Two dependent variables – FDI flows and stock of FDI are used. Both variables are used to examine whether developing economies, in particular ASEAN economies, are able to retain the FDI or not. In order to investigate this impact, concept of stock is utilised. In short, by utilising both flows and stock concept, this study aims at addressing the issues of ‘attracting new FDI’ as well as “retaining the existing FDI”.³

In terms of explanatory variables, a standard procedure is to use a common theoretical model for the determinants of FDI flows, integrate institutional quality indicators, before examining their effects. The model specification suggested by Masron and Abdullah (2010) is utilised based on the objectives of MNCs to go abroad.⁴ The difficulty to find a good proxy for resource-seeking variable has forced the researchers to rely only on the two remaining objectives – market-seeking orientation and efficiency-seeking orientation. The model is expressed as follows:

$$FDI_t = \alpha_1 + \alpha_2 MS_t + \alpha_3 ES_t + \mu_t \quad (1)$$

where, FDI stands for foreign direct investment, MS represents market-seeking variables and ES denotes efficiency-seeking variables. The FDI is proxied by flows of FDI and stock of FDI in the form of as a percentage of GDP. Hence, two models will be estimated. For market-seeking variables, the most influential variable which is very frequently found in any model is gross domestic product (GDP) which represents market size, through which MNCs predicts the market potential for their products.⁵ In this study, GDP will be replaced by GDP per capita as it would be more representative in reflecting the true purchasing power of the population.⁶

Meanwhile, several cost indicators are also employed to represent efficiency-seeking variables. The first indicator is direct cost indicator, or labour cost. According to Jaumotte (2004), the so-called “vertical FDI” refers to relocating the labour-intensive stages of the production process to the developing country in order to benefit from lower labour costs. Accordingly, the empirical evidence on the effect of wage costs (WG) is somewhat mixed, depending on the type of FDI considered. For instances, Schneider and Frey (1985), Jun and Singh (1996) as well as Masron and Abdullah (2010) noted a negative impact of labour cost on FDI inflow. In contrast, Wheeler and Mody (1992) and Lipsey (1999) showed that the impact of labour cost can also be either positive or insignificant.

Another important variable to capture the intention of MNCs of going abroad is the trade openness level (TRADE). The first argument that relates trade openness with FDI inflows is to allow MNCs to penetrate the domestic market in the face of protectionist measures adopted by the host economies. High protection (e.g. high import tax) raises the price of imported goods and thus, may result in lower demand from local consumers. Conversely, high level of export can also be another reason for attracting FDI as this represents the extent of easiness to re-export whatever products they produced in the host economies. Huge exports will automatically signal to MNCs that the host economy has a good relationship with its export destinations. Hence, MNCs can exploit this opportunity to widen their market size through the host economy. In this sense, trade openness can be considered as part of market-seeking motives. On the other hand, huge import volumes could also signal that operating cost in the host economy could be cheap as long as the cost of importing is not high due to steep import tariffs. Hence, trade openness can be part of cost-efficiency motives.

Sara and Newhouse (1995, p. 320) argued that "...firms seek locations that minimize on bounded rationality and minimize losses from opportunism." Under the bounded rationality, Sara and Newhouse (1995) further divided them into two categories, namely law and friendly government policies. Under the law category, fair and equitable, rule of law, international dispute settlement, consistent and stable laws for the repatriation of earnings and capital, and laws on compensation if a firm is nationalised are important factors. Meanwhile, friendly government policies refer to easy access to government agencies, post-approval services, and simple requirements for visa, work permits, and import licenses. Finally, under the opportunism, Sara and Newhouse (1995) outlined two important factors, namely a stable and unambiguous commercial code to protect against dishonest local agents, and intellectual property rights that are strictly enforced. In a nutshell, the quality of institution in which MNCs operate matters to them as it will affect the profit level of MNCs. In this study, governance indicators proposed by Kaufmann, Kraay and Mastruzzi (2010) are used to capture almost all factors described by Sara and Newhouse (1995).

In sum, the equation for the estimated model can be expressed as follows:

$$FDI_t = \beta_1 + \beta_2 GDP_t + \beta_3 IQ_t + \beta_4 WG_t + \beta_5 TRADE_t + \varepsilon_t \quad (2)$$

where FDI is FDI inflows or stock, GDP is gross domestic product per capita, IQ is institutional quality, WG is wage cost, and TRADE represents total trade. However, in order to capture the role of relative changes in IQ in each ASEAN country with respect to China, equation (3) which is applicable for

China (denoted by small c) and each ASEAN country (a), will be combined together.

$$FDI_{ct} = \beta_{11} + \beta_{12}GDP_{ct} + \beta_{13}IQ_{ct} + \beta_{14}WG_{ct} + \beta_{15}TRADE_{ct} + \varepsilon_{ct} \quad (3)$$

$$FDI_{at} = \beta_{21} + \beta_{22}GDP_{at} + \beta_{23}IQ_{at} + \beta_{24}WG_{at} + \beta_{25}TRADE_{at} + \varepsilon_{at} \quad (4)$$

Dividing (4) with (3) and taking log, the following equation is obtained⁷:

$$\ln \frac{FDI_{at}}{FDI_{ct}} = \alpha_1 + \alpha_2 \ln \frac{GDP_{at}}{GDP_{ct}} + \alpha_3 \ln \frac{IQ_{at}}{IQ_{ct}} + \alpha_4 \ln RW_t + \alpha_5 \ln \frac{TRADE_{at}}{TRADE_{ct}} + \mu_t \quad (5)$$

RW represents relative wage or a ratio between wage rate in ASEAN and China. As the primary interest of this study is to investigate the effect of China on FDI in ASEAN countries, equation (6) is further modified by: (i) bringing $\ln FDI_{ct}$ to the right hand side, and (ii) to replace the trade ratio into bilateral trade between China and ASEAN. The use of bilateral trade is in line with Chen's argument (2010) representing the level of integration between China and Asian economies, or ASEAN in this case, which is expected to be more intensified with each of the economies specialising in the production of those goods in which it has a comparative advantage.

Hence, the final estimating equation would be:

$$\ln FDI_{it} = \alpha_1 + \alpha_2 \ln RGDP_{it} + \alpha_3 \ln RIQ_{it} + \alpha_4 \ln RW_{it} + \alpha_5 \ln BT_{it} + \alpha_6 \ln FDIC_{it} + \mu_t \quad (6)$$

where RGDP stands for relative GDP per capita, RIQ denotes relative IQ, BT represents bilateral trade and FDIC stands for FDI in China. For FDI, the both, stock and flow data are employed. Data is used to capture the attractiveness of each factor in inducing inflows of new FDI, while the stock concept is utilised to gauge the extent each factor could help retain the existing FDI. In order to further confirm the reliability and stability of the findings, the analyses are conducted by using real FDI (real FDI inflows and real FDI stocks). For IQ, eight proxies are utilised in order to ensure the stability of the impact, namely total governance indicators (GI), average GI and six components of GI (VA = voice & accountability, PS = political stability, RL = rule of law, RQ = regulatory quality, CC = control of

corruption, GE = government effectiveness). Voice and accountability (VA) measure the extent in which citizens are able to participate in selecting their government, as well as freedom of expression, association, and the press. Political stability and absence of violence (PS) represent the likelihood that the government will be destabilised by unconstitutional or violent means, including terrorism. Government effectiveness (GE) reflects the quality of public services, the capacity of the civil service and its independence from political pressure; and the quality of policy formulation. Regulatory quality (RQ) demonstrates the ability of the government to provide sound policies and regulations that enable and promote private sector development. Rule of law (RL) highlights the extent to which agents have confidence in and abide by the rules of society, including the quality of property rights, the police, and the courts, as well as the risk of crime. Finally, control of corruption (CC) indicates the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as elite "capture" of the state. The score for each factor ranges between -2.5 (the worst) to 2.5 (the best). In order to get a ratio of IQ in ASEAN and China, the score is first transformed into positive value by adding to the original score by 2.5. BT is proxied by sum of exports and imports between China and each ASEAN country.

One primary obstacle in measuring the impact of labour cost on FDI is the absence of prolonged observation in the case of developing countries, including ASEAN economies. Thus, as an alternative, the study uses the formula proposed by Bende-Nabende, Ford, and Slater (2001):

$$RW_t = \frac{(LW_t / ERL_t)}{(CW_t / ERC_t)}$$

where, RW is wage rate (or more accurately, relative wage rate), LW is local wage, ERL denotes rate of foreign exchange of local currency against US dollar, CW represents wage rate in China and ERC is rate of foreign exchange of China's Reminbi against US dollar. Given the unavailability of real manufacturing earnings, the GDP per labour is used as a proxy for local wages.

3.2 Estimation procedure and data collection

Considering the short time series data, this study uses panel data, pooling 8 members of ASEAN⁸ for the period 1996 – 2014. The following general specification of panel data has been adapted:

$$Y_{it} = \alpha_t + \sum_{n=1}^N \phi_{nit} X_{nit} + \varepsilon_t$$

where i implies country and t the time period or year. The above model assumes a common constant for all cross-sections (or countries). This method implies that there are no differences between the estimated cross-sections and it is useful based on the hypothesis that data set is a priori homogeneous. Hence, it is very restrictive and rarely produces a desirable result. The fix effects method implies that when the hypothesis of global homogeneity is rejected for panel data, the OLS common coefficient estimator is inconsistent. The fixed effects method treats the constant as group (section)-specific, i.e. it allows for different constants for each group (section). The Fixed effects are also called the Least Squares Dummy Variables (LSDV) estimators, because it includes a dummy variable for each group. In other words, the most obvious generalisation of the model with intercept and constant slope parameters for panel data is to introduce dummy variables to incorporate the effects of omitted variables that are specified to the individual units of cross-section (cross-fixed effect). These dummy variables remain constant during the time and the effects that are specified at each time period, but are similar through the different cross-section units. In addition, the existence of time effect is taken into account by controlling the time dimension (time-fixed effect) or the combination of both (cross- and time-fixed effect). Finally, random effects method is also tested. The major difference between the two is that, the fixed effects model assumes that each country differs in its intercept term, whereas the random effects model assumes that each country differs in its error term. Hausman's (1978) specification test is used to select the appropriate model between fixed effects model and random effects model.

Data for FDI and bilateral trade are obtained from UNCTAD Stat (UNCTAD, 2016), while GDP and RW from World Development Indicators (World Bank, 2016a). Data set on institutional quality indicators are adopted from World Bank's (2016b) Worldwide Governance Indicators (WGIs).

4. Results and Discussion

This section analyses the main model of the study, examining the impact of gap in institutional quality on FDI inflows into ASEAN. Descriptive analysis is presented in Table 6. The mean ratio of FDI inflows (as percentage of GDP) for ASEAN countries is 5.18%, slightly higher than China's. Here, it has to be emphasised, relative to country size, ASEAN, on average, receives more FDI than China although in absolute value, China tops the world. In

fact, looking at the maximum FFDI, it shows that some ASEAN countries enjoy huge inflows of FDI relative to only 4.68% in the case of China. Similarly, for FDI stock in ASEAN, the average score was 50.49%, four times greater than China. The maximum stock of FDI in ASEAN was also several times higher than China, which stood at 16.91% only.

Table 6: Descriptive statistics

	Mean	Median	Maximum	Minimum	Std. Dev.
FFDI	5.18	3.64	26.84	-2.75	5.57
FFDIC	3.04	3.17	4.68	1.45	0.97
SFDI	50.49	35.55	288.07	3.63	58.22
SFDIC	12.68	12.62	16.91	8.31	2.92
ARIQ	1.24	1.18	2.17	0.61	0.39
RCC	1.12	0.94	2.63	0.59	0.51
RGE	1.06	0.94	2.04	0.53	0.39
RPS	1.06	1.14	1.98	0.20	0.43
RRL	1.12	1.01	2.12	0.60	0.40
RRQ	1.12	1.04	2.25	0.46	0.40
RVA	1.95	2.19	3.02	0.71	0.65
AGIQ	0.33	0.17	1.72	-0.78	0.66
GCC	0.24	-0.12	3.01	-0.83	1.03
GGE	0.13	-0.16	2.35	-1.13	0.98
GPS	0.15	0.32	1.88	-1.77	0.88
GRL	0.25	0.02	2.26	-0.82	0.84
GRQ	0.28	0.10	2.47	-1.18	0.91
GVA	0.94	1.13	1.88	-0.28	0.62

Notes: FFDI is the ratio of FDI inflows to GDP for ASEAN and FFDIC is for China. SFDI is the ratio of stock of FDI to GDP for ASEAN and SFDIC is for China. ARIQ represents average ‘relative’ or ‘ratio’ score of all factors of institutional quality. RCC, RGE, RPS, RRL, RRQ, and RVA are ratio of each IQ factor in each ASEAN country and China. AGIQ denotes average gap of all IQ element, while GCC, GGE, GPS, GRL, GRQ, and GVA represent gap of each IQ factor in each ASEAN country and China.

In the analysis of ratio of IQ in ASEAN and China, overall results show that IQ in ASEAN is at a better level with mean of ARIQ at 1.24. Out of 6 elements of IQ, voice and accountability (VA) have the highest score of 1.95, while political stability and absence of violence (PS) recorded the least score, for mean (1.06) as well as the lowest minimum score (0.20). Overall, based on ratio approach, IQ in ASEAN was better than China. The next concern is the gap between ASEAN and China’s IQs and how this could have an implication on the FFDI in ASEAN. The results of descriptive analysis in Table 6 indicated the gap in both countries were very narrow. The largest gap recorded was merely 0.94. While the largest positive gap was less than

1, the largest negative gap was close to -2. This indicates ASEAN countries need to improve in order to attract FDI into their countries.

4.1 Findings

The static panel data analysis is the most appropriate method of analysis. The Hausman test and F-test suggest that cross-fixed effects to be the best model for this study. The issue of heterogeneity is controlled by using generalised (weighted) least square. The results show that the estimated model passed all the tests and are reliable and valid.

Table 7 shows that the impact of IQ on FDI inflows as a percentage of GDP (FFDI) is consistently positive across the board. Except for RCC, RGE and RRQ, all IQ proxies have a significant positive impact on FDI inflows, including average ratio of IQ (ARIQ). This suggests that good IQ, such rule of law and the ability to enforce these rules to protect property rights are important for foreign investors. Unless property rights are protected and fear of nationalisation is eliminated, foreign capital will go elsewhere (Kostevc, Redek & Sušjan, 2007). In contrast to Masron and Nor (2013), the relatively high impact of CC (control of corruption) on FDI inflows is no longer significant when FFDI into China is considered. This could be explained by the fact that the ratio of CC between ASEAN and China is almost one-to-one. Hence, although it would be reasonable to expect that potential investors consider corruption as the biggest cost of doing business in China, similar level of CC in ASEAN has led multinational corporations (MNCs) to be indifferent between investing in ASEAN or China. Significant improvement in this area is therefore expected to spur FDI inflows. This argument is also applicable to other proxies or elements of IQ as out of six, only three demonstrated significant effect.

In terms of implication of market size, proxied by RGDP, a significant and positive coefficient can be only found in the case of a model with VA as a proxy for IQ. This is in line with findings of earlier studies. Under the market segmentation theory, any firm will surely target certain group of people and therefore, ASEAN could be a potential market segment for MNCs. The insignificance of almost all proxies for IQ is explained by the fact that currently, the average GDP per capita of ASEAN is similar to China which makes it important for MNCs to invest in both countries.

Table 7: FDI Flows Equation vs Ratio of IQ [Dependent = ln FFDI]

	1A	1B	1C	1D	1E	1F	1G
Panel A: Estimated Model							
Constant	1.65* (3.62)	2.11* (5.15)	2.58* (5.51)	1.83* (4.84)	2.12* (6.69)	2.28* (4.63)	1.39* (2.56)
lnRGDP	0.15 (0.52)	0.35 (1.23)	0.32 (1.07)	-0.15 (-0.52)	-0.08 (-0.25)	0.38 (1.11)	0.55* (1.91)
lnRIQ:							
lnARIQ	1.14* (3.61)	-	-	-	-	-	-
lnRCC	-	0.33 (1.25)	-	-	-	-	-
lnRGE	-	-	-0.60 (-1.20)	-	-	-	-
lnRPS	-	-	-	0.34* (4.12)	-	-	-
lnRRL	-	-	-	-	0.95* (2.62)	-	-
lnRRQ	-	-	-	-	-	-0.16 (-0.62)	-
lnRVA	-	-	-	-	-	-	0.69* (4.32)
lnRW	0.20* (2.73)	0.24* (3.34)	0.37* (5.26)	0.27* (4.16)	0.26 (4.04)	0.30* (4.83)	0.22* (3.23)
lnBT	0.06* (2.38)	0.07* (2.09)	0.07* (2.32)	0.07* (3.06)	0.06* (2.46)	0.08* (2.01)	0.08* (2.54)
lnFFDIC	-0.18 (-0.84)	-0.36 (-1.98)	-0.43* (-2.38)	-0.04 (-0.21)	-0.18 (-0.89)	-0.42* (-2.39)	-0.34* (-1.80)
Panel B: Model Criteria							
Adjusted-R ²	0.719	0.706	0.707	0.692	0.724	0.700	0.713
S.E. of Reg.	0.339	0.350	0.360	0.321	0.357	0.357	0.342
F-stat	29.79*	28.13*	28.26	26.32*	30.53*	27.32*	28.98*
(Overall)	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]
F-stat	14.48*	12.43*	17.91*	15.63*	19.53*	15.36*	20.40*
(Redundant)	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]

Notes: Figures in () indicate t-value. Figures in [] denote p-value. The model is estimated using cross-fixed effect method. Asterisks * denotes significant at least at 10 percent.

The result of relative labour wage rate (RW) also highlighted a significant positive impact, which is consistent across the models. This finding provides little support to the contention that China may have lured FDI away from ASEAN countries. MNCs seeking low cost destinations may eye China but high-tech oriented MNCs may choose ASEAN countries. In other words, if the model is combined in order to incorporate the networking factor such as possibility to re-export to China, then RW could provide avenue for product

specialisation and boost FFDI. The low coefficient might suggest that ASEAN is in the early stage of integrating itself with China. According to Akyuz (2005, p. 6), attracting FDI seeking low-cost locations has become increasingly important for participation in such a network. The results of BT, which is significant and positive in all models, lend support to the above idea of Akyuz (2005) that horizontal integration type of FDI is very common nowadays. MNCs prefer to relocate their production sites to many locations that could offer conducive business environment, in particular that having less regulation on export sectors. This will allow them to produce at low cost and beside penetrating domestic market, will also export their products to other countries, including home country. Finally, on the threat of China, only in three models out of six models the effect is significant. The remaining shows insignificant effect, including in the overall model or 1A. Hence, there is a weak indication that China posed a serious threat of crowding-out of FDI from ASEAN.

Table 8 presents the results of the second FFDI model. In this model, the gap in IQ approach is applied. More or less, similar story line can be observed as in the first model of FFDI. The only significant difference is about the lower impact of average gap of IQ (AGIQ) and additional significant impact of CC on FFDI. This further supports our earlier hypothesis that in order to lure more FDI inflows, ASEAN should improve its IQ level up to the point where the relative gap with China is very significant.

Table 8: Model 2 – Dependent = lnFFDI

	2A	2B	2C	2D	2E	2F	2G
Panel A: Estimated Model							
Constant	1.90* (5.04)	2.02* (4.91)	2.66* (5.45)	2.20* (6.58)	2.06* (5.85)	2.27* (5.29)	1.51* (3.57)
lnRGDP	0.09* (0.32)	0.35 (1.29)	0.29 (0.99)	0.11 (0.42)	0.03 (0.09)	0.45 (1.25)	0.29 (1.11)
GIQ:							
AGIQ	0.51* (3.01)	-	-	-	-	-	-
GCC	-	0.27* (1.76)	-	-	-	-	-
GGE	-	-	-0.36 (-1.57)	-	-	-	-
GPS	-	-	-	0.16* (2.96)	-	-	-
GRL	-	-	-	-	0.34* (2.22)	-	-
GRQ	-	-	-	-	-	-0.15 (-1.22)	-
GVA	-	-	-	-	-	-	0.39* (3.56)
lnRW	0.25* (3.63)	0.24* (3.31)	0.39* (6.06)	0.29* (4.81)	0.27* (4.18)	0.30* (4.74)	0.27* (4.29)

Table 8: (Continued)

<i>lnBT</i>	0.06*	0.07*	0.07*	0.06*	0.06*	0.08*	0.09*
	(2.36)	(2.25)	(2.41)	(2.69)	(2.51)	(2.36)	(2.84)
<i>lnFFDIC</i>	-0.23	-0.36*	-0.42*	-0.25	-0.24	-0.44*	-0.30
	(-1.26)	(-1.92)	(-2.25)	(-1.500)	(-1.19)	(-2.37)	(-1.73)
Panel B: Model Criteria							
Adjusted-R ²	0.703	0.699	0.705	0.670	0.719	0.700	0.712
S.E. of Reg.	0.342	0.347	0.358	0.339	0.359	0.357	0.343
F-stat	27.71*	27.14*	27.94*	23.84*	29.83*	27.29*	28.85*
(Overall)	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]
F-stat	16.97*	11.15*	17.03*	21.18*	16.22*	15.61*	20.20*
(Redundant)	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]

Notes: Figures in () indicate *t-value*. Figures in [] denote *p-value*. The model is estimated using cross-fixed effect method. Asterisks * denotes significant at least at 10%.

4.2 Robustness tests

The first robustness test is to examine the impact or effect of gap in IQ on stock of FDI in ASEAN (as shown in Table 9).⁹ For a model with ratio of IQ variables, ARIQ and three other proxies signify the importance of relative size of IQ on SFDI. Nonetheless, AGIQ does not share the same result as ARIQ. The impacts of GPS and GVA are not only significant but also negative. This could suggest that the threshold effect may work with regards to relationship between IQ and SFDI. In other words, the gap of IQ between ASEAN and China will only have positive impact if there is a certain level of gap. Any positive gap below that threshold may not able to persuade MNCs from diverting their investment from ASEAN to China.

Table 9: Stocks of FDI vs IQ [Dep. Var. = lnSFDI]

	<i>lnARIQ</i>	<i>lnRCC</i>	<i>lnRGE</i>	<i>lnRPS</i>	<i>lnRRL</i>	<i>lnRRQ</i>	<i>lnRVA</i>
Ratio Model	0.61*	0.98*	-0.70	0.22*	0.53*	0.18	0.06
	(2.81)	(4.83)	(-1.72)	(3.22)	(3.47)	(0.68)	(0.65)
	<i>AGIQ</i>	<i>GCC</i>	<i>GGE</i>	<i>GPS</i>	<i>GRL</i>	<i>GRQ</i>	<i>GVA</i>
Gap Model	0.12	0.54*	0.32	-0.46*	0.19*	0.08	-0.13*
	(0.62)	(3.80)	(1.07)	(-2.52)	(2.90)	(0.68)	(-2.52)

Notes: Figures in () indicate *t-value*. The model is developed using cross-fixed effect method. Asterisks * denotes significant at least at 10%. Full results are available upon request. To conserve space, we only present the effect of each IQ on FDI.

For the last robustness test, this study attempts to confirm that when all gaps are positive, its impact on FDI inflows is expected to be larger. For this purpose, those countries with IQ larger than China will be included in the list. The summary of variables is presented in Panel I of Table 10. The results show that if all IQs of all ASEAN countries are consistently higher than

China, than it will increase the effect of IQ in luring FDI inflows. Hence, the low as well as insignificant effect of average IQ or its element could probably due to the better IQ level in China for certain period as well as elements of IQ. In a nutshell, if ASEAN countries are able to assure the MNCs that their IQ level is better than China, they need not worry about FDI inflows.

Table 10: Positive gap of IQ on FDI Inflows

	$\ln RCC$	$\ln RGE$	$\ln RPS$	$\ln RRL$	$\ln RRQ$	$\ln RVA$
Panel I: List of IQ element which carries positive gap (\checkmark)						
Cambodia						\checkmark
Indonesia						\checkmark
Malaysia	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
Philippines			\checkmark		\checkmark	\checkmark
Singapore	\checkmark	\checkmark		\checkmark	\checkmark	\checkmark
Thailand	\checkmark	\checkmark		\checkmark	\checkmark	\checkmark
Vietnam			\checkmark			
Panel II: Estimated Model						
$\ln FFDI$	5.88*	6.70	2.42*	1.50*	1.22*	3.35*
	(4.22)	(1.32)	(1.84)	(2.47)	(2.38)	(1.97)

Notes: Figures in () indicate *t-value*. The model is developed using cross-fixed effect method. Asterisks * denotes significant at least at 10%. Laos failed to fulfil any of the factors which are consistently larger than China's IQ for the period of study.

Another robustness test is to estimate the models by using 2-stage least square (2SLS). If the error term is correlated with explanatory variables, then the ordinary least square (OLS) method will be biased and inefficient. An alternative to inefficient OLS is to employ 2SLS as it is consistent and in the class of single equation estimator, which is asymptotically efficient. Monte Carlo studies also suggest that under most conditions, the 2SLS estimator has better small sample properties than alternative single equation estimators (see Table 11 and 12 for results). The p-values of J-statistics are far from the rejection of its null, giving confidence that the instrument set is appropriate for all models. Overall, the projected models using 2SLS is consistent with that of fixed-effect model. Therefore, the conclusion is valid and robust.

Table 11: FDI Flows Equation vs Ratio of IQ – 2 Stage Least Square (2SLS)

	1A	1B	1C	1D	1E	1F	1G
Panel A: Estimated Model							
Constant	1.15* (1.91)	1.46* (2.07)	2.33* (4.15)	2.14* (3.16)	2.01* (5.61)	2.28* (3.94)	1.75* (2.88)
lnRGDP	0.20 (1.36)	0.41 (1.09)	0.37 (1.64)	-0.20 (-0.96)	-0.27 (-1.55)	0.33 (1.61)	0.31* (2.30)
lnRIQ:							
lnARIQ	0.63* (2.48)	-	-	-	-	-	-
lnRCC	-	0.42 (1.59)	-	-	-	-	-
lnRGE	-	-	-0.30 (-1.76)	-	-	-	-
lnRPS	-	-	-	0.21* (3.18)	-	-	-
lnRRL	-	-	-	-	0.86* (2.47)	-	-
lnRRQ	-	-	-	-	-	-0.28 (-0.87)	-
lnRVA	-	-	-	-	-	-	0.70* (2.97)
lnRW	0.21* (2.43)	0.23* (3.11)	0.28* (4.06)	0.27* (2.81)	0.29* (3.14)	0.27* (3.71)	0.28* (3.44)
lnBT	0.06* (1.98)	0.07* (2.49)	0.04* (3.41)	0.04* (2.46)	0.04* (1.87)	0.09* (3.11)	0.09* (2.78)
lnFFDIC	-0.22 (-0.47)	-0.19 (-1.40)	-0.18* (-2.00)	-0.16 (-0.75)	-0.49 (-1.04)	-0.32* (-2.17)	-0.28* (-1.99)
Panel B: Model Criteria							
Adjusted-R ²	0.541	0.574	0.555	0.594	0.569	0.510	0.543
S.E. of Reg.	0.312	0.345	0.318	0.344	0.309	0.337	0.327
J-Stat	0.348	0.325	0.307	0.344	0.391	0.358	0.346

Notes: Figures in () indicate t-value. Figures in [] denote p-value. The model is estimated by using cross-fixed effect method. Asterisks * denotes significant at least at 10 percent. J-Stat refers to p-value.

Table 12: FDI Flows Equation vs Gap of IQ – 2 Stage Least Square (2SLS)

	1A	1B	1C	1D	1E	1F	1G
Panel A: Estimated Model							
Constant	1.17* (3.71)	1.47* (2.31)	1.73* (4.06)	2.48* (4.19)	2.22* (3.37)	2.14* (2.57)	1.67* (3.82)
lnRGDP	0.17 (1.17)	0.28 (1.34)	0.34 (1.46)	0.27 (0.99)	0.18 (0.74)	0.21 (1.02)	0.31 (1.42)
GIQ:							
lnAGIQ	0.43* (2.57)	-	-	-	-	-	-
lnGCC	-	0.31* (1.99)	-	-	-	-	-
lnGGE	-	-	-0.40 (-1.07)	-	-	-	-
lnGPS	-	-	-	0.22* (2.05)	-	-	-
lnGRL	-	-	-	-	0.31* (2.19)	-	-
lnGRQ	-	-	-	-	-	-0.31 (-1.37)	-
lnGVA	-	-	-	-	-	-	0.34* (3.11)
lnRW	0.21* (3.17)	0.22* (3.08)	0.24* (4.16)	0.22* (3.97)	0.21* (3.10)	0.21* (3.64)	0.24* (3.33)
lnBT	0.06* (2.40)	0.06* (2.55)	0.06* (2.52)	0.04* (2.37)	0.04* (2.66)	0.06* (2.75)	0.06* (2.09)
lnFFDIC	-0.44 (-1.11)	-0.35 (-1.63)	-0.39 (-1.48)	-0.25 (-1.47)	-0.27 (-1.71)	-0.31 (-0.57)	-0.26 (-1.62)
Panel B: Model Criteria							
Adjusted-R ²	0.624	0.719	0.626	0.616	0.625	0.652	0.674
S.E. of Reg.	0.241	0.313	0.313	0.315	0.314	0.307	0.324
J-Stat	0.321	0.347	0.256	0.361	0.332	0.319	0.343

Notes: Figures in () indicate *t-value*. Figures in [] denote *p-value*. The model is estimated by using cross-fixed effect method. Asterisks * denotes significant at least at 10 percent. J-Stat refers to p-value.

5. Implications and Conclusion

This study investigated the impact of institutional quality on FDI inflows (and FDI stock) into ASEAN. Employing panel data analysis for ASEAN-8 countries for the period 1996-2014, this study was proxied by 7 variables to examine the capability of ASEAN to attract new FDI while FDI stock reflects ASEAN's strength to retain the investment.

The study found that first, the attractiveness of China vis-a-vis ASEAN in terms of FDI is negligible and not statistically significant. As ASEAN states fully integrates and has its own production network with China and other Asian countries, economic specialisation will take place and FDI inflows into China will not be at the expense of ASEAN. Chen (2010) opined with proper production networking among Asian countries, FDI inflows into China will complement those into other Asian countries. The results of both relative wage (RW) and bilateral trade (BT) between ASEAN and China prove this. The results of relative market size (RGDP) and FDI inflows into China (FFDIC) also support this point.

Second, the effect of IQ gap between ASEAN and China requires careful consideration. Proxied by ratio and gap of the two countries' IQ, the results generally support that higher IQ will have a significant impact on FDI inflows. As shown by the additional robustness test, which only includes all positive IQ gap, the poor or mixed effect is probably due to poor IQ performance of ASEAN countries. Surprisingly, even Singapore scored low on political stability than China while Laos has almost all IQ elements below China, whereas Cambodia and Vietnam have only one element consistently better than China. Therefore, ASEAN has to work harder to ensure their IQ is perceived as being better than China by MNCs in order to successfully lure new FDI inflows as well as retain the existing FDI stocks.

Third, insignificant results and significant negative results imply that there is threshold effect or the effectiveness of gap in IQ. In order to convince MNCs to invest in ASEAN there has to be a certain level of gap, and not merely a 'mild', positive gap. This could be a potential future research area.

This study cautions against the over-emphasis of IQ in attracting FDI inflows. While promoting better IQ is definitely the right step forward, this does not necessarily translate into more FDI inflows. In other words, IQ is a necessary condition but not a sufficient condition with regards to FDI. Hence, efforts to improve other aspects of ASEAN economies such as labour markets especially the supply of skilled labour, stable supply of natural resources and physical infrastructure should be continued alongside the IQ development.

Acknowledgement

The author would like to thank Universiti Sains Malaysia for funding this project under the Research University (RU) Research Grant No. 1001/PMGT/816220.

Notes

1. This section relied largely on the ASEAN Secretariat survey (2007). The results were utilised to highlight the issue at hand.
2. See Mukherjee and Broll (2007) for excellent development of theoretical evidence.
3. Busse and Hefeker (2007) reminded us a very important note about the measurement of FDI. According to Busse and Hefeker (2007), the existing measurement could underestimate the actual investment by MNCs especially if they also raised equity or debt in the local market. In this case, the estimated coefficient of IQ could also be overestimated.
4. Given that it is difficult to get data on reserve of natural resources such as oil, tin, and others, resource-seeking variable was omitted.
5. Other potential proxies for market size are GDP growth rate and private consumption (Kim & Oh, 2007) as well as access to regional market and growth stability (Lall, 1997). In fact, domestic saving can also be another proxy for market-seeking variables. High domestic saving could reflect the strong inter-temporal consumption pattern.
6. Other studies that utilizes per capita income are Egger and Winner (2006), Busse and Hafeker (2007), and Hong (2008), among others.
7. Masron (2017) offers a good discussion on the economic meaning of relative IQ of two countries. According to him, IQ is critical to be maintained or improved but may not be sufficient to attract FDI if competing countries also improve their IQ level.
8. Cambodia, Indonesia, Lao PDR, Malaysia, the Philippines, Singapore, Thailand and Vietnam.
9. The gap is measured as IQ of each ASEAN country minus IQ of China or $IQA - IQC$.

References

- Akyuz, Y. (2005). *Trade, growth and industrialization: Issues, experiences and policy challenges*. Penang, Malaysia: Third World Network.
- ASEAN Secretariat (2007). *ASEAN Investment Report 2006*. Jakarta: ASEAN Secretariat.
- Athukorala, P. (2009). Trends and patterns of Foreign Direct Investments in Asia: A comparative perspective. *Journal of Applied Economic Research*, 3(4), 365-408. <https://doi.org/10.1177/097380100900300403>
- Bende-Nabende, A., Ford, J., & Slater, J. (2001). FDI, regional economic integration and endogenous growth: Some evidence from Southeast Asia.

- Pacific Economic Review*, 6(3), 383-399. <https://doi.org/10.1111/1468-0106.00140>
- Busse, M., & Hefeker, C. (2007). Political risk, institutions and Foreign Direct Investment. *European Journal of Political Economy*, 23, 397–415. <https://doi.org/10.12691/jbms-2-2-1>
- Chen, C. (2010). Asian foreign direct investment and the China's effect. In Garnaut, R., Golley, J. & Song, L. (eds.) *China: The Next Twenty Years of Reform and Development*. ANU ePress: The Australian National University, Canberra, pp. 221-240.
- Egger, P. & Winner, H. (2006). How corruption influences foreign direct investment: A panel data study. *Economic Development and Cultural Change*, 459-486. <https://doi.org/10.1086/497010>
- Hausman, J.A. (1978). Specification tests in Econometrics. *Econometrica*, 46, 1251– 1272. <https://doi.org/10.2307/1913827>
- Hong, J. (2008). WTO accession and foreign direct investment in China. *Journal of Chinese Economic and Foreign Trade Studies*, 1(2), 136-147. <https://doi.org/10.1108/17544400810884709>
- Jaumotte, F. (2004). Foreign direct investment and regional trade agreements: The market size effect revisited. IMF Working Paper 04/206.
- Jun, K. & Singh, H. (1996). The determinants of foreign direct investment in developing countries. *Transnational Corporations*, 5, 67–105.
- Kauffman, D., Kraay, A., & Mastruzzi, M. (2010). The worldwide governance indicators: Methodology and analytical issues (September 2010). World Bank Policy Research Working Paper No. 5430.
- Kim, J.S. & Oh, Y. (2007). *Determinants of intra-FDI inflows in East Asia: Does regional economic integration affect intra-FDI?* Korea Institute for International Economic Policy (KIEP) Working Paper 07-01.
- Kostevc, Č, Redek, T., & Sušjan, A. (2007). Foreign direct investment and institutional environment in transition economies. *Transition Studies Review*, 14(1), 40-54. <https://doi.org/10.1007/s11300-007-0140-5>
- Lall, S. (1997). *Attracting foreign investment: New trends, sources and policies*. Commonwealth Secretariat Economic Paper 31.
- Lim, H.G., & Yi-Xun, K.T. (2008). *Regional integration and inclusive development: Lessons from ASEAN experience*. Asia-Pacific Research and Training Network on Trade (ARTNeT) Working Paper Series 59.
- Lipsey, R. (1999). *The location and characteristics of US affiliates in Asia*. NBER Working Paper 6876, Cambridge, MA: Harvard University.
- Masron, T.A., & Abdullah, H. (2010). Institutional quality as a determinant for FDI inflows: evidence from ASEAN. *World Journal of Management*, 2(3), 115 – 128. <https://doi.org/10.1.1.470.4575>

- Masron, T.A., Nor, E. (2013). FDI in ASEAN-8: Does institutional quality matter? *Applied Economics Letters*, 20(2), 186-189. <https://doi.org/10.1080/13504851.2012.687090>
- Masron, T.A. (2017). Relative IQ and FDI inflows in ASEAN. *Journal of Economic Studies*, 44(1), 115-137. <https://doi.org/10.1108/JES-04-2015-0067>
- Mirza, H., & Giroud, A. (2003). *Regionalization, foreign direct investment and poverty reduction: the case of ASEAN*. Paper presented at the Experts' Meeting on Foreign Direct Investment in Developing Asia, Asian Development Bank & OECD Development Centre, Paris, 26th & 27th November 2003.
- Mukherjee, A., & Broll, U. (2007). Welfare effects of foreign direct investment: cost saving vs. signaling. *Journal of Economics*, 90(1), 29–43. <https://doi.org/10.1007/s00712-006-0224-4>
- Rutngamlug, U., & Chirathivat, S. (2004). Integration-led foreign direct investment and the recent experience of ASEAN. *Chulalongkorn Journal of Economics*, 16(2), 147-159.
- Sara, S.T. and Newhouse, B. (1995) Transaction costs and foreign direct investment in developing countries. *International Advances in Economic Research*, 1(4), 317-325. <https://doi.org/10.1007/BF02295784>
- Schneider, F., & Frey, B. (1985). Economic and political determinants of foreign direct investment. *World Development*, 13, 161–175. [https://doi.org/10.1016/0305-750X\(85\)90002-6](https://doi.org/10.1016/0305-750X(85)90002-6)
- UNCTAD (2016). UNCTAD Statistics. Retrieved on November 2014 from <<http://unctadstat.unctad.org/>>
- Wheeler, D., & Mody, A. (1992). International investment location decisions: the case of U.S. firms. *Journal of International Economics*, 33, 57–76. [https://doi.org/10.1016/0022-1996\(92\)90050-T](https://doi.org/10.1016/0022-1996(92)90050-T)
- World Bank (2016a). World Development Indicators. Washington D.C. Retrieved on January 2014 from <http://info.worldbank.org/governance/wgi/index.asp>
- World Bank (2016b). World Governance Indicators. Washington D.C. Retrieved on January 2014 from <http://info.worldbank.org/governance/wgi/index.asp>