Institutional Quality as a Determinant for FDI Inflows: Evidence from ASEAN

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Since the 1980s ASEAN has become an important avenue for FDI from the rest of the world. However, as the importance of FDI as a new source of economic growth engine has been recognized by many, especially other developing countries, other parts of the world are also becoming interested in attracting FDI to their countries. With the current intense competition in attracting FDI, inevitably, ASEAN has to create a better and more conducive business environment to enable it to retain the existing inflows as well as attract others to invest in Malaysia. One avenue that has not been intensively touched so far concerns the role of institutional quality in explaining the behavior of FDI inflows into ASEAN. The result of the analysis reveals the important and significant role of institutional quality in attracting FDI inflows into ASEAN.

Field of Research: Foreign Direct Investment, Developing economies

1. Introduction

Foreign direct investment (FDI) is strongly believed to have a major role to play in the economic development of emerging markets. This is particularly true for two reasons – lack of capital to finance domestic projects and lack of expertise to undertake the projects. As both advanced and developing countries are both showing growing interest in attracting FDI, the competition for attracting FDI inflow has become stiffer. Although FDI has existed since the According to UNCTAD (2006), the total world FDI inflows have grown tremendously from only US\$ 55 billion in 1985 to US\$ 1,511 billion in 1999-2000. However, it has started to decline since 2000. More importantly, the destination for the bulk of FDI flows is advanced countries and not developing countries. Moreover, the past decade remains identified with the increasing role of FDI in total capital flows (Alfaro, Chanda, Kalemli-Ozcan and Sayek, 2004, Table 1). For instance, FDI accounted for more than half of all private capital flows to developing countries in 1998 and this trend is consistent with the shifting emphasis among policy makers in developing countries from short-term capital to long-term capital (i.e. FDI)[1].

According to UNCTAD (2006), the total inflows of FDI into the region of East Asia, South Asia and South East Asia increased by 19% over the previous year and amounted to US\$165 billion in 2005. While China, Hong Kong and Singapore are receiving the lion's share of FDI in this region, it is surprising that

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even Indonesia overtook Malaysia in FDI inflows for the year 2005. More specifically, in the case of Malaysia, based on the rankings designed by the United Nations, Malaysia was ranked fourth in the world for FDI in 1990. However, FDI flows into Malaysia have decreased gradually and steadily and Malaysia was ranked 62 in 2006.

Table 1: The number of FDI projects into Asia-Pacific countries

Country	2004	2005	% Δ	Country	2004	2005	% Δ
Malaysia	125	91	- 27.1	Singapore	172	149	- 13.4
Australia	139	102	- 26.6	Hong Kong	125	118	- 5.6
Japan	155	114	- 26.5	Thailand	123	117	- 4.9
China	1543	1186	- 23.1	Vietnam	159	168	5.7
Taiwan	84	67	- 20.2	South Korea	103	113	9.7
India	684	561	- 18.0	Indonesia	59	75	27.1
Philippines	76	64	- 15.8	Pakistan	17	66	288.2

Source: LOCOmonitor (2005), retrieved from <www.ocoglobal.com> on January 2008.

Table 1 highlights that Malaysia's FDI figures in 2004 were higher than in 2005, implying that that although the whole region generally benefitted from an increase in FDI, recently, Malaysia actually experienced a decrease in foreign investments and in fact recorded the highest reduction in the number of FDI projects among Asia-Pacific countries. Other ASEAN countries that also experienced negative growth include the Philippines (-15.8%), Singapore (-13.4%) and Thailand (-4.9%). Conversely, Indonesia recorded the highest in ASEAN and the second highest in Asia-Pacific of FDI inflows with a figure of 27.1 percent, which is followed by Vietnam (5.7%). Nevertheless, the number of projects in Indonesia is still among the lowest compared to other countries. Even in the case of Malaysia, where a sharp reduction in the number of projects is observed, the number is higher than in Indonesia. Strikingly, Vietnam is currently leading in terms of the number of projects, surpassing Singapore and becoming a major threat, particularly to Malaysia and Thailand, for attracting low-cost-oriented FDI inflows.

ASEAN faces significant challenges in its economic development program, especially in terms of funds to finance projects and/or technology development. It is generally recognized that foreign direct investment (FDI) inflows can offer part of the solution. The significant role of FDI is not only recognized by ASEAN as now other developing countries are also focusing on attracting FDI, which makes the competition to attract FDI become even more intense. Economists are continuously searching for new and attractive ways to persuade new FDI, while retaining the existing investment. This issue is particularly important as core ASEAN economies such as Malaysia and Thailand started to lose some of their cost advantages due to rapid wage increases and currency appreciation (Urata, 1995). Therefore, firms in Japan and other advanced economies started to look at other East Asian countries such as new ASEAN members (i.e. Vietnam) as well as two emerging economic powers (India and China) as hosts for their investments. Consequently, it is crucial for core ASEAN economies to search for

new instruments in which they have a comparative advantage over their competitors.

A number of recent studies have emphasized the importance of policies as a mean to attract FDI. As mentioned in Kostevc, Redek and Sušjan (2007), one of the most important determinants of FDI flows to a country is the quality of its institutional framework, which can be classified into three basic institutions. These basic institutions, namely, private property rights, the law of contract and a strong but limited government will eventually shape the nature of the capitalist system. However, a study on quantifying the implications of institutions on foreign capital inflows has so far not been comprehensively analyzed, especially in the case of ASEAN. Nonetheless, it is a very pressing issue facing ASEAN. This idea was particularly stressed by Busse and Groizard (2008) who stated that any attempts by governments to attract FDI by offering special tax brackets will not result in the anticipated effect if the regulatory quality and liquidity remain low. The host country has to reform its fundamental framework for regulations so as to enhance the prospective growth-enhancing FDI to produce a positive outcome. Finally, looking at the large share of capital formation in poor countries (UNCTAD, 2004), Bénassy-Quéré, Coupet and Mayer (2007) also argue that the FDI-promoting effect of good institutions might be an important channel for their overall effect on growth and development. The stylized fact of institutional quality for ASEAN is discussed in greater detail in the next section. Concisely, this study, while asking what determines FDI inflows into ASEAN, will focus on the role of institutional quality in influencing the FDI flows into the region.

This paper is structured as follows. After an overview on the importance of FDI for economic growth in developing countries in the next section, we analyze the factors that theoretically as well as empirically justify the importance of determining the inflow of FDI. Under this section, our focal point concerns the various institutional frameworks that could determine the FDI flow. In the fourth section, we formulate the empirical model used to estimate the implications of various institutional variables on FDI inflow. Subsequently, a discussion on estimation procedures will be offered. A more rigorous econometric analysis follows and the final section concludes this study.

2. Literature Review

Stylized fact of Institutional Quality in ASEAN

As mentioned in the introduction section, several studies such as Bénassy-Quéré et al. (2007) and Busse and Groizard (2008) have stressed the potential positive role of good institutional quality in economic development, in particular as an attraction to further persuade inflows of FDI. Thus, this section is devoted to highlighting the fact about institutional quality in ASEAN, and whether or not institutional quality can be another attraction for FDI inflows.

With the large number of development projects in the developing countries, the competition to attract FDI has become stiffer over time. Apart from ASEAN-8

economies, several main competitors for FDI among developing economies have been added in Table 2 to identify the role of institutional quality pertaining to FDI attraction. From Table 2, by comparing the average value of each institutional quality element for two sub-periods (1996-2003 vs 2004-2008), countries like Thailand, Cambodia and the Philippines are experiencing declining institutional quality, of either the individual or the average sum of the elements of institutional quality. Other ASEAN economies are experiencing improvement in some elements but deterioration in other elements. Similar results are observed for China, Brazil and Argentina. Only India is experiencing an improvement in almost all elements, albeit minimal. Almost all the economies under consideration experienced a decline in their institutional quality over the period 1996 to 2008.

Table 2: Institutional Quality for ASEAN and its Competitors

	VA		PS		GE		RQ		RL		CC		AVERAGE		
	1996-2003	2004-2008	1996-2003	2004-2008	1996-2003	2004-2008	1996-2003	2004-2008	1996-2003	2004-2008	1996-2003	2004-2008	1996-2003	2004-2008	1996-2008
Panel I: ASEAN-8 Economies															
Thailand	0.36	-0.31	0.24	-0.82	0.22	0.22	0.29	0.25	0.38	0.01	-0.22	-0.27	0.21	-0.15	-0.03
Vietnam	-1.43	-1.53	0.28	0.32	-0.46	-0.36	-0.57	-0.52	-0.5	-0.42	-0.66	-0.76	-0.56	-0.55	-0.01
Singapore	0.07	-0.26	1.17	1.23	2.25	2.32	1.87	1.83	1.54	1.75	2.25	2.24	1.53	1.52	1.53
Philippines	0.19	-0.08	-0.64	-1.25	-0.18	-0.10	0.16	-0.12	-0.32	-0.50	-0.45	-0.71	-0.21	-0.46	-0.13
Malaysia	-0.33	-0.42	0.36	0.29	0.81	1.05	0.55	0.46	0.50	0.54	0.44	0.29	0.39	0.37	0.38
Laos	-1.36	-1.65	-0.26	-0.18	-0.65	-0.88	-1.36	-1.18	-1.22	-1.00	-0.94	-1.13	-0.97	-1.01	-0.02
Indonesia	-0.69	-0.20	-1.50	-1.21	-0.49	-0.38	-0.31	-0.39	-0.76	-0.74	-0.95	-0.77	-0.79	-0.62	-0.09
Cambodia	-0.84	-0.89	-0.95	-0.43	-0.84	-0.87	-0.21	-0.52	-1.12	-1.15	1.02	-1.13	-0.49	-0.84	-0.18
Panel II: Main recipients of FDI among developing countries															
India	0.28	0.43	-0.94	-0.90	-0.15	-0.04	-0.24	-0.24	0.18	0.14	-0.38	-0.33	-0.21	-0.16	-0.03
China	-1.49	-1.62	-0.19	-0.26	-0.07	0.06	-0.26	-0.26	-0.36	-0.41	-0.28	-0.57	-0.44	-0.51	-0.04
Brazil	0.27	0.46	-0.02	-0.12	-0.06	-0.07	0.29	0.05	-0.27	-0.38	0.02	-0.11	0.04	-0.03	-0.01
Argentina	0.26	0.32	-0.20	-0.03	0.00	-0.13	-0.00	-0.70	-0.28	-0.60	-0.33	-0.40	-0.09	-0.26	-0.09

Note: VA = voice and accountability; PS = political stability (and absence of violence); GE = government effectiveness; RQ = regulatory quality; RL = rule of law; CC = control of corruption.
Source: World Governance Indicators (World Bank, 2009b).

As the changes in the institutional quality among developing economies are not that significant, the most important point to focus on is the average institutional quality for the period from 1996 to 2008. On average, with the exception of Malaysia and Singapore, all economies are experiencing low institutional quality. Only Cambodia has significantly low institutional quality. The rest of the ASEAN members tend to have a similar level of institutional quality relative to India, China, Brazil and Argentina[2]. In other words, if ASEAN economies could further improve their level of institutional quality, combined with the regional cooperation of an ASEAN Free Trade Area (AFTA), ASEAN could win the competition to attract FDI inflows.

Review of determinant of FDI – the role of Institutions

The role of institutions, which constitutes the effectiveness of property rights, economic freedom, a regulatory system (i.e. tax system, corruption, transparency) and bureaucracy framework matter in explaining economic growth. Among the earliest attempts to address this relationship is Rodrik (1999). In searching for the answer of '*where did all the growth go*', Rodrik (1999) added social conflict as one of the explanatory variables. As part of the conclusion, Rodrik (1999) confirms that the sharp drop in growth after 1975 can be partly explained by a divided society[3] and weak institutions[4]. Therefore, what actually matters are the rules of the game in a society, as defined by prevailing explicit and implicit behavioral norms and their ability to create appropriate incentives for desirable economic behavior (Rodrik and Subramanian, 2003). Whether or not bi-directional causality exists between income growth and institutions is still a matter of debate. Studies like Kaufmann and Kray (2008) and Acemoglu, Johnson and Robinson (2004), while providing support that institutions can stimulate economic growth, do not find evidence for reverse causality. However, theoretically, Rodrik and Subramanian (2003) demonstrate that there could be a bi-directional causality running between income growth and institutions. Income growth requires good institutions, whereas good institutions will result in higher income growth.

Consequently, as foreign direct investment is also well-recognized as one major determinant of income growth, there is growing interest regarding the link between institutions and FDI inflows. Daniele and Marani (2006) discuss three potential channels through which institutions may affect FDI inflows. First, the presence of good institutions tends to improve factor productivity and subsequently stimulates investments, regardless of whether they are domestic or external. Second, good institutions will result in a reduction in investment related transaction costs (i.e. corruption-related costs). Finally, by definition, FDI generally involves high sunk costs. Therefore, with good institutions (i.e. proper property rights enforcement and effective legal systems) will give more security to multinational firms.

Recently, there have been many studies on the relationship of FDI-institutions such as Knack and Keefer (1995), Knack and Keefer (1997), Clarke (2001), Daniele and Marani (2006), Busse and Groizard (2008), Kostevc et al. (2007), Bénassy-Quéré et al. (2007) and Ghosh (2007). Knack and Keefer (1995) used two measures of institutional quality, which represent the security of property rights and contract rights, namely, risk of expropriation and the rule of law. These two proxies are available from the *International Country Risk Guide (ICRG).* Knack and Keefer (1997) add another emphasis regarding the importance of institutions in economic development by stating that all concepts of social capital have in common the idea that 'trust' and 'norms' of civic cooperation are essential to well-functioning societies, and, subsequently, to the economic progress of those societies. Empirically, Knack and Keefer (1997) find evidence to support the concept that social capital, which is proxied by trust and civic cooperation, has a significant impact on aggregate economic activity. Meanwhile, Clarke

(2001) focuses on the role of institutions on a specific variable, namely, technological deepening in developing countries. By using similar proxies for institutional quality as those used in Knack and Keefer (1995), while utilizing R&D expenditure (as % of GDP) as a proxy for technological deepening, regardless of the level of income, institutional quality was found to have a positive implication on technological deepening. In addition, Clarke (2001) also found that institutional quality has a positive correlation with FDI, which is another source of technological deepening. Hence, indirectly, Clarke (2001) establishes a positive association between FDI and institutional quality and, ultimately, the positive implication of good institutional quality on technology upgrading.

Busse and Groizard (2008) utilize the data provided by Doing Business[5]. Out of seven, five indicators that are strongly related to inflow of FDI, are chosen, namely, starting a business, labor market regulations, contract regulations, creditor rights and insolvency regulations. By using factor loadings in principal components analysis as weights, these indicators were then transformed into a single or overall index of regulations. Limiting the analysis to only the top 20 or 30 percent most regulated countries, Busse and Groizard (2008) found that countries with high regulation standards will, generally, benefit less from the inflow of FDI. Therefore, they suggest that governments have, in the first place, to improve the regulatory quality in the home country before the benefit from openness to foreign capital (i.e. in the form of FDI) can be derived. Similar to Busse and Groizard (2008), Daniele and Marani (2006) develop 'institutional efficiency' based on seven indicators developed by Kaufman and Kraay (2005) by using the same approach, namely, the principal component analysis. Using MENA countries as a sample, Daniele and Marani (2006) found that besides small local market size, governance and institutions demonstrate a strong effect on FDI inward, suggesting that institutions and legal reform are fundamental steps to improve the attractiveness of MENA in terms of FDI. Considering the possibility of the high correlation of GDP per capita and institutions might lead to a positive impact of institutions on FDI, Bénassy-Quéré et al. (2007) attempt to investigate the implication of institutions on FDI inflow by controlling for GDP per capita. By introducing another institutional indicator called the *Institutional Profiles,* developed by the French Ministry of Finance, Bénassy-Quéré et al. (2007) found that institutions matter independently of GDP per capita and, accordingly, conclude that public efficiency (i.e. tax systems, easiness to create a company, lack of corruption, transparency, contract law, security of property rights, efficiency of justice and prudential standards), in a broad sense, is a major determinant of inward FDI. Meanwhile, in his attempt to establish and investigate the correlations between trade openness and FDI liabilities, Ghosh (2007) adds the measure of institutional quality, essentially as a robustness check on these correlations. Despite playing a mere role as a controller, the results are worth mentioning. Ghosh (2007) argues that although there is evidence to support the positive role of institutional quality, it is not in a consistent or robust manner. In other words, the results are not consistent when different specifications are used, leading to a difficulty in interpreting whether institutions matter for FDI. Finally, Kostevc et al. (2007) investigate the same issue in transition economies and the results show that institutional quality significantly influenced the level of FDI in

those economies under consideration, as well as budget deficit, insider privatization and labor cost.

Despite relatively ample evidence suggesting the positive effect of institutions on inflow of FDI, most of the previous studies are mainly panel analysis. This is not surprising as the information about institutional quality was only recently gathered. Therefore, this study attempts to focus on the ASEAN region, which recently experienced a large inflow of FDI[6].

3. Model Specification

In order to assess the effect of institutions on inflows of FDI into ASEAN, we conduct a regression analysis. In setting up the FDI equation, we use the basic argument on the motivation of FDI inflows to other countries, which are market-seeking as well as efficiency-seeking, or simply[7]:

$$FDI = f(MSV, ESV)$$ (1)

Where *MSV* stands for market-seeking variables and *ESV* denotes efficiency-seeking variables. As for the proxies, we use gross domestic product (*GDP*) and institutional quality (*INS*) as proxies for *MSV* while utilizing education expenditure as a proxy for human capital development (*HCD*), relative wage (*RW*) and trade ratio (*TRADE*) as proxies for *ESV*. The use of GDP as a proxy for market size is intuitively clear and commonly used in the literature. In addition, as argued by many studies such as Wei (2000) and Daude and Stein (2007), market uncertainty (e.g. low and unpredictable enforcement of law, corruption and property right) has important negative effects on FDI[8]. Hence, expanding the above *MSV* and *ESV* into their respective proxies, we get the following equation:

$$FDI = f(INS, GDP, HCD, RW, TRADE)$$ (2)

where *FDI* is foreign direct investment, *INS* is institutional quality, *GDP* is gross domestic product, *HCD* is human capital development in the host economy and *RW* is relative wage. As a high value represents good institution, it is anticipated that there will be a positive association between *INS* and *FDI*. Meanwhile, *GDP* is generally added as a proxy for the domestic market. Large markets (and sometimes rapidly growing markets) can attract FDI (Holland, Benacek, Gronicki and Sass, 2000). Although these variables are not usually built into a formal theoretical model, the idea is intuitively straightforward. A larger economy affords more opportunities to foreign investors, as there are physically more firms and business projects in which one can invest. The motive for investment can stem from the combination of economies of scale and trade barriers (Holland et al., 2000). Therefore, *GDP* is hypothesized as having a positive association with FDI inflows.

In connection with the labor market, labor quality and labor cost have been two main determinants of FDI inflows. On the one hand, labor quality might be more important than cheap labor. For example, firms that produce differentiated goods

and are in search of new markets need local staff that will be able to operate the production technology used in the source country (Jaumotte, 2004). Hence, although human capital development and FDI are among the key drivers of growth in developed and developing countries and they individually affect growth, they might also reinforce each other through complementary effects. In general, enhanced *HCD* increases incoming FDI by making the investment climate attractive for foreign investors. This is done through the direct effect of the upgraded skill level of the workforce, as well as via indirect effects such as improved socio-political stability and health (Miyamoto, 2003). On the other hand, part of the FDI inflows, particularly in developing countries, is motivated by cheap labor costs and a reduction of production costs. This so-called "vertical FDI" consists in relocating the labor-intensive stages of the production process to the developing country in order to benefit from lower labor costs (Jaumotte, 2004). Accordingly, the empirical evidence on the effect of wage costs is somewhat mixed, depending on the type of FDI considered, while some evidence of a positive effect of education on FDI is found in several studies. As there is no labor cost data for developing countries available over a long period, one way to measure relative wage rates is by using the procedure introduced by Bende-Nabende et al. (2001). In the computation of relative wage rates, the real manufacturing earnings per employee for the country under study have been converted into US dollars and compared with those for China over the period under study as shown below[9]. Given the unavailability of the real manufacturing earnings, we proceed with GDP per labor as a proxy for local wage rates, which we denote with *WL*. If *WC* represents China's wage rates, *ERL* stands for the local exchange rate (local currency per 1 US dollar), *ERC* denotes the exchange rate for China (Reminbi per 1 US dollar), and subscript *t* denotes the year under observation, the relative labor cost or wage (*RW*) for country L for year t is given by:

$$RW_t = \frac{\left(WL_t / ERL_t\right)}{\left(WC_t / ERC_t\right)} \tag{3}$$

Another important determinant of FDI could be the openness to trade. Openness to trade is normally measured as the ratio of trade (imports plus exports) to GDP. In relation to FDI inflows, theoretically, we cannot generalize the impact as it could differ according to the type of FDI. FDI inflows will be higher in the case of tariff-jumping FDI to highly restrictive countries while not necessarily in the case of vertical FDI. However, vertical FDI could also be strongly invited to inflow if there is less restriction to export, or to be precise, to re-export to the home country or other third countries. Nevertheless, it is generally expected that the impact would be positive.

4. Estimation Procedure and Data Collection

Considering the small number of time series data, this study proceeds by using panel data, pooling 8 members of ASEAN[10] for the period 1996 - 2008. The following general specification of panel data has been adapted:

$$Y_{it} = \alpha_{it} + \sum_{n=1}^{N} \beta_{nit} X_{nit} + \varepsilon_{it} \tag{4}$$

where i implies regions and t the time periods. The fix effects method implies that when the hypothesis of global homogeneity is rejected for panel data, the OLS common coefficient estimator is inconsistent. One of the most common options used in the literature is to introduce the differences among countries. This inclusion reacts as a control variable. The most obvious generalization 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. 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, we could also test the existence of time effect by controlling the time dimension.

This study employs annual data spanning from 1996 to 2008, mainly due to the fact that the data for institutional quality only available from 1996 onwards. The data for *FDI*, *GDP* and *HCD* are collected from World Development Indicators (World Bank, 2009a). The data set on institutional quality[11] indicators are employed from the World Bank's Worldwide Governance Indicators (*WGIs*). Six WGIs are used to measure the overall institutional environment, namely[12]: (1) voice and accountability (*VA*) which measures the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, association, and the press, (2) political stability and absence of violence (*PS*), which represents the likelihood that the government will be destabilized by unconstitutional or violent means, including terrorism, (3) government effectiveness (*GE*), which reflects the quality of public services, the capacity of the civil service and its independence from political pressure; the quality of policy formulation, (4) regulatory quality (*RQ*) demonstrates the ability of the government to provide sound policies and regulations that enable and promote private sector development, (5) 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, and (6) control of corruption (*CC*), which indicate 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.

5. Results and discussions

We start our analysis by investigating the impact of *INS* on *FDI*. Here, *INS* is proxied by the sum of the *WGIs*. It is important to note here that the value for each of the *WGIs* ranges between -2.5 and 2.5. As for consistency of

measurement where we want to transform all variables into logarithmic form, we rescale the indicators by adding 3 to each value. This will ensure that we end up with a positive value for all *WGIs*, or at least the value will not be zero. By summing all the *WGIs*, we get the aggregate data of *INS.*

Table 3: Panel data estimation (Dep. Var. = ln*FDI*)

	Coefficient	Standard Error
ln*INS*	0.2583**	0.0147
ln*GDP*	1.2844**	0.3441
ln*HCD*	0.1151**	0.0499
ln*RW*	- 1.0046**	- 0.2985
ln*TRADE*	0.6427**	0.1748
Adjusted-R^2 = 0.4236		S.E. of Reg. = 0.0881
F-redundant test:		
Cross-F		8.5271**
Period-F		7.2015**
Hausman Test:		
Cross-random		58.0344**
Period-random		28.1502**

Note: Asterisk ** denotes significant at least at 10 %.

In line with the general belief that ASEAN economies are heterogeneous in many aspects such as culture, religion, level of economic development and so forth, we found that the results after controlling for country specific effect fared better. Interestingly, when we test for time effect, which controls for the year-to-year effect the outcome is less favorable. However, when we group the years into two classes, namely, 1996-2001 and 2002-2007, the adjusted-R^2 and standard errors of regression tend to suggest that this would be the better specification[13]. Finally, the same statistics suggest that the best model would be the one that controls for both, cross-effect as well as selective time-effect.

In addition, we also test the panel fixed effect model with other competing models such as pooled OLS and the panel random effect model. The results of two F-redundant tests, cross-F and period-F demonstrate the fact that relative to the pooled model, the panel fixed effect model is the better model. Similar results prevail when we test against the panel random effect model. The results of the Hausman tests, which are cross-random and period-random, reveal that the panel random effect model cannot outperform the panel fixed effect model. With this in mind, Table 3 presents the results from the panel fixed effect model.

The result supports the idea that institutional quality could be the solution for the slowing pattern of FDI inflows into the region. From Table 3, we can see that the impact of *INS* is not only positive but highly significant. Nevertheless, the impact of *INS* is the second lowest after literacy rate. This is not too surprising as the level of institutional quality between ASEAN economies and the world's largest recipient of FDI currently, China, is not too different. In other words, there is room for ASEAN to improve institutional quality as an attraction for FDI inflow into ASEAN. Market size remains the main determinant of FDI inflows. This could be

explained by the fact that although ASEAN as a whole is not as populous as China, the purchasing power of ASEAN is actually higher than China and, therefore, could serve as a good avenue for high quality products of multinational corporations. The literacy rate seems to be the least influential factor. Not too surprising because the literacy rate in China (and also India, which is the second largest recipient of FDI) are improving over time. It can also be explained by the fact that ASEAN is not yet successfully attracting high-tech oriented FDI into the region. Thus, the bulk of FDI into the region could be the efficiency-seeking type of FDI targeting the low cost of labor. In line with the lowest impact of *HCD*, we could see the high negative impact of *RW* on FDI. These two points could be complementing each other, demonstrating the failure of ASEAN in attracting high-tech multinational corporations. This issue is further exacerbated by the fact that India has a large domestic market as well as a large number of high-skilled workers. Finally, the impact of trade is positive and significant, implying that maintaining the level of openness could be another good policy.

6. Conclusion

This study attempts to investigate the impact of institutional quality on FDI inflows into ASEAN for the period from 1996 to 2008. We found an indication that improving the institutional quality is also crucial as part of future policy strategy to further attract new FDI to inflows into the region. The low impact of institutional quality does indeed suggest that ASEAN countries are yet to embark seriously on this issue and results could be different in the future. This is because, institutional quality could also serve as the cost of doing business and improvement would surely be able to reverse the inflows into ASEAN.

End-notes

1. For example, Malaysia has promoted Labuan as an offshore financial center as part of the effort to attract short-term capital but after the 1997 economic crisis no aggressive promotional effort has been observed. In other words, it is commonly perceived that after the crisis short-term capital is not loyal and does not suit the country's development program. As mentioned in Alfaro et al. (2004), another reason for this shift to FDI is because of the 1980s debt crisis that plunged the developing countries into turmoil.
2. While not denying that all these economies are large in size and size by itself could exert a strong influence on FDI from developed nations to go into these economies, as institutional quality represents another type of cost of production, we do believe that good institutional quality still matters for FDI inflows.
3. Proxied by inequality and ethnic fragmentation.
4. Proxied by the quality of governmental institutions, rule of law, democratic rights and social safety nets.
5. See www.doingbusiness.org, which is provided by the World Bank.
6. Other interesting studies dealing with this issue include Démurger, Sachs, Woo, Bao, Chang, and Mellinger (2002), Dollar and Kraay (2003), Hausmann and Fernández-Arias (2000), Smarzynska and Wei (2000), Stein and Daude (2001) and Wei (1997, 2000).
7. Another possible explanation for the motivation of FDI inflows is resource-seeking. However, due to the difficulty in obtaining data on the natural resources we decided not to include this factor in our model specification. Although the data on the amount of some productions of natural resources is available, the pressing issue in the case of ASEAN, particularly Malaysia, is the depletion of natural resources. Therefore, the level of reserve of natural resources could be more representative than the production of it. On this ground, we decided not to include the factor in

this paper but it will be considered in our next paper on the same issue. The motivation to proceed with this idea in our next paper is due to Kostevc et al. (2007). Kostevc et al. (2007) reveal that the quality of the institutional environment sometimes plays a secondary role, coming after the availability of abundant natural resources (e.g., fossil fuel).

8. Although this variable can be classified under government policy, to conserve space, we treat *INS* as one market indicator.

9. China is chosen because: (i) it is a neighboring country of the countries under study, and (ii) it has been the biggest competitor (locator and/or relocator of production) for FDI inflows.

10. Cambodia, Indonesia, Laos, Malaysia, the Philippines, Thailand, Singapore and Vietnam. Brunei, Myanmar and Timor Leste are omitted due to data unavailability.

11. Although the data taken from the World Bank and the word 'governance' is dominant, as argued by Kaufmann and Kraay (2008, p. 3) "Despite the long provenance of the concept, no strong consensus has formed around a single definition of governance or institutional quality". For the same reason, throughout this article the terms institutional quality will be used intensively but the meaning could be interchangeably the same as governance and institutions, if somewhat imprecisely.

12. The explanation on each indicator is taken directly and fully from Kauffman, Kraay, and Mastruzzi (2009). The data can be downloaded freely from www.worldbank.org/wbi/governance.

13. The reliability of the results is further enhanced by using the White method to correct for the heteroskedasticity problem.

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