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Foreign Direct Investment in Southeast Asia

Is Malaysia Falling Behind?

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This paper examines patterns and determinants of foreign direct investment (FDI) in Malaysia from a comparative Southeast Asian perspective. There is clear evidence that Malaysia's relative attractiveness for FDI within the region has eroded in recent years; outflow of FDI from Malaysia has consistently surpassed inflow of FDI, a pattern not seen in the other major Southeast Asian countries. The explanation seems to lie with the dualistic investment policy regime and the narrow domestic human capital base. We find no evidence that FDI in Malaysia (or major Southeast Asian countries) is crowded out by an increasing flow of FDI into China. On the contrary, Malaysia is well placed to benefit from a complementary FDI relationship with China as a favoured location of high-end tasks within global production networks.

Keywords: Malaysia, Southeast Asia, China, foreign direct investment.

I. Introduction

Over the past four decades, foreign direct investment (FDI) has played a pivotal role in the rapid growth and structural transformation of Malaysia through export-oriented industrialization. Affiliated companies of multinational enterprises (MNEs) now account for over 60 per cent of Malaysia's manufacturing output and over 80 per cent of manufacturing exports (65 per cent of total exports). Rapid employment growth associated with integration of domestic manufacturing within global production networks, particularly in electronics and electrical goods, has been a key factor in the country's impressive record of poverty reduction (Athukorala 2003*a*; NEAC 2010).

During the period following the Asian financial crisis (1997–98) there has, however, been a notable slowdown in FDI inflows to Malaysia compared to its own record over the previous two decades and, more importantly, relative to other major FDI-receiving countries in the region. Given the pivotal role played by FDI in the country's growth, this new development on the foreign investment front has caused concern in Malaysia on whether they would adversely affect the country's march to graduating from middle-

income status (NEAC 2010). The apparent waning of Malaysia's attractiveness to MNEs has given credence to the argument that the Malaysian economy is caught in a "middle-income trap", no longer able to compete with China and others in low-cost production and at the same time lacking sufficient innovative capability and skills to specialize in the high-end tasks in the global production networks of the region (World Bank 2011).

The purpose of this paper is to inform this policy debate by examining patterns and determinants of FDI in Malaysia from a comparative Southeast Asian perspective. We are specifically interested in knowing if Malaysia's recent FDI performance has been underpinned by cyclical or structural factors. The paper is organized as follows: section II of the paper examines the trend of FDI in Malaysia within the Southeast Asian and global contexts, paying attention to the period following the Asian financial crisis (1997–98). Section III undertakes an econometric analysis of the determinants of FDI in Southeast Asia's five largest economies. The results of this empirical analysis are then used to make policy inferences on why Malaysia might have exhibited a notable deviation from average regional trends in recent years. The key findings and policy inferences are summarized in the final section.

II. Trends and Patterns

Policy emphasis on promoting FDI in Malaysia dates back to 1968 when the Investment Incentives Act was enacted.[1] However, it was not until the enactment of the FTZ Act in 1971 and the subsequent opening of the first free trade zone in Penang in 1972 that FDI began to play a significant role. The foreign investment regime was further liberalized as part of the structural adjustment reforms implemented in response to the macroeconomic crisis in the mid-1980s. These reforms, which coincided with a move by firms in the United States, Japan, South Korea, and Taiwan to relocate production bases into low-cost countries in response to rising domestic wages, set the stage for an FDI boom in Malaysia.

Total FDI inflow to ASEAN countries increased sharply from an average annual level of US$3 billion in the second half of the 1980s to nearly US$30 billion in 1996, the year before the onset of the Asian financial crisis (1997–98) (Table 1). Singapore remained by far the largest recipient of FDI in the region, but the gap between Singapore and Malaysia narrowed during this period. By the mid-1990s Malaysia accounted for one-fourth of total inflows to ASEAN (Figure 1). The shares of Thailand, Indonesia and the Philippines remained well below that of Malaysia. In the first half of the 1990s, net capital inflow relative to gross domestic capital formation (GDCF) stood at over 30 per cent in Singapore, 19 per cent in Malaysia, 10 per cent in the Philippines, and 4 per cent in Thailand.

Malaysia's impressive record of attracting FDI was severely disrupted by the financial crisis of 1997–98 (Figure 1). Total annual inflows contracted from US$7.2 billion in 1996 to US$2.7 billion in 1997. However, the magnitude of FDI dip in Malaysia during the crisis period (1997–99) was not different from the other two crisis-affected countries, Indonesia and Thailand, despite Malaysia's unorthodox decision in September 2008 to embark on a capital-control based crisis management strategy. This was because the newly introduced capital controls were confined to short-term capital flows and were aimed at making it harder for short-term portfolio investors to sell their shares and keep the proceeds, and for offshore hedge funds to drive down the currency (Athukorala 2003*b*). With the exception of limits on foreign exchange for travel overseas by Malaysian citizens, there was no retreat from the country's long-standing commitment to a relatively open trade and investment policy. Moreover, some new measures were introduced to further encourage FDI participation in the economy.

The crisis-driven contraction in FDI in Malaysia, Thailand and Indonesia continued until about 2001. The continuation of FDI contraction well beyond economic recovery from the crisis was largely a reflection of a large overall decline in global FDI flows during 2000–03 (UNCTAD 2005). Total global FDI inflows declined from

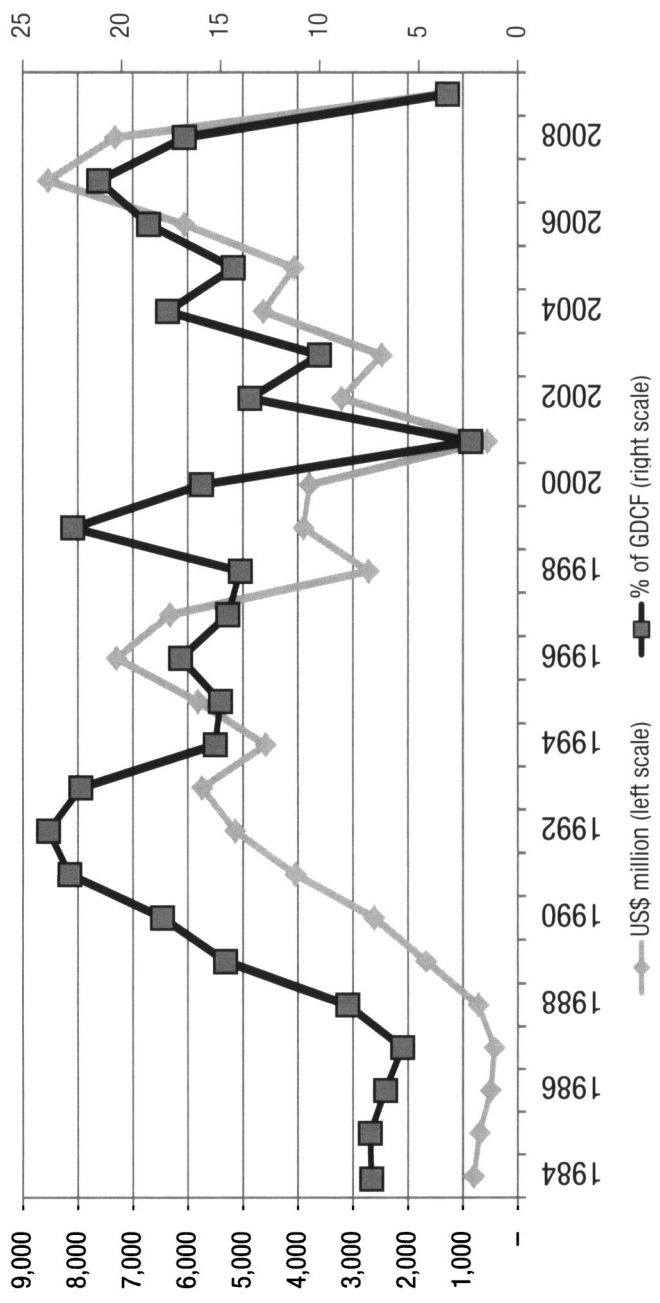
TABLE 1
FDI in ASEAN Countries, 1985–2009

Region/economy	*1985–89*	*1990–96*	*1997–99*	*2000–04*	*2005*	*2006*	*2007*	*2008*	*2009*
(A) Volume, US$ million									
ASEAN-6 total	4,878	18,406	28,485	24,507	40,734	56,408	73,971	47,289	36,806
Indonesia	442	2,518	895	1,160	8,336	4,914	6,928	9,318	4,877
Malaysia	799	4,897	4,311	2,928	4,064	6,060	8,538	7,318	1,381
Philippines	449	1,064	1,416	1,031	1,854	2,921	2,916	1,544	1,948
Singapore	2,427	6,387	12,548	14,188	15,460	29,056	35,778	10,912	16,809
Thailand	744	2,038	5,822	4,584	8,067	9,517	11,355	8,544	5,949
Viet Nam	4	1,005	1,924	1,370	2,021	2,400	6,739	8,050	4,500
(B) Host-country composition (%)									
ASEAN-6 total	100	100	100	100	100	100	100	100	100
Indonesia	9.1	13.7	3.1	–4.7	20.5	8.7	9.4	19.7	13.3
Malaysia	16.4	26.6	15.1	11.9	10.0	10.7	11.5	15.5	3.8
Philippines	9.2	5.8	5.0	4.2	4.6	5.2	3.9	3.3	5.3
Singapore	49.8	34.7	44.1	57.9	38.0	51.5	48.4	23.1	45.7
Thailand	15.2	11.1	20.4	18.7	19.8	16.9	15.4	18.1	16.2
Viet Nam	0.1	5.5	6.8	5.6	5.0	4.3	9.1	17.0	12.2
(C) Percentage of gross domestic capital formation (GDCF)									
ASEAN-6 total	7.4	11.5	18.9	16.0	19.5	22.4	23.9	12.5	9.4
Indonesia	1.8	5.6	0.2	–4.0	12.3	5.6	6.4	6.6	2.9
Malaysia	8.7	19.1	17.0	11.9	14.4	18.6	21.2	16.8	3.5
Philippines	6.8	7.9	9.2	7.1	13.0	17.7	13.8	6.3	8.2
Singapore	31.7	31.5	39.7	56.4	60.0	94.6	89.3	20.8	32.9
Thailand	3.9	4.2	20.5	14.5	15.8	16.4	17.4	11.4	9.2
Viet Nam	0.6	32.7	26.4	12.2	11.6	11.8	24.8	25.5	12.8
Memo items:									
ASEAN share (%) in FDI inflows to,									
Developing countries	4.6	11.6	5.2	4.2	6.5	5.8	5.1	4.6	6.5
Developing countries excluding China	4.7	13.4	5.6	4.5	7.4	6.3	5.4	5.2	7.8
Developing Asian countries	40.4	42.2	28.1	20.1	23.8	26.1	28.6	16.7	15.8
Developing Asian countries excluding China	55.5	67.8	50.2	36.7	41.2	39.4	42.2	27.2	26.7

SOURCE: Compiled from UNCTAD, *World Investment Report* database <www.unctad.org>.

FIGURE 1

FDI in Malaysia: Volume (US$ million) and as a Percentage of Gross Domestic Capital Formation (GDCF), 1984–2009



SOURCE: Based on data compiled from UNCTAD, *World Investment Report* database.

US$134 billion in 2000 to US$83 billion in 2001, US$72 billion in 2002, and US$63 billion in 2003, recovering marginally in 2004 at US$65 billion.[2] Total inflows during the four years from 2001 to 2004 were 24 per cent lower than the comparable figure for the preceding three years (1998–2000).

During the period from about 2002, Malaysia's FDI performance has begun to deviate from the overall trend for ASEAN (Table 1 Panel B, and Figure 2). Malaysia's share in total FDI in the five major Southeast Asian countries during 2005–09 was down by 9.7 percentage point from 26.6 per cent during 1990–96. From about 2000, Thailand has become the second largest recipient of FDI in the region (after Singapore), a position occupied by Malaysia for over two decades until the onset of the financial crisis in 1997. Indonesia, which experienced a major contraction in FDI flows during 1998–2003, has made a comeback, surpassing Malaysia in 2008. Since 2008, the volume of FDI inflows to Vietnam has surpassed those to Malaysia. FDI as a share of GDCF in Malaysia has also recorded a declining trend, although the ratio has fluctuated widely from year to year.

Furthermore, after 2005, outward FDI from Malaysia (that is overseas investment by Malaysian firms) has surpassed FDI inflow to Malaysia consistently (Figure 3). During 2006–09, total outflow amounted to US$40.4 billion compared to a total inflow of US$23.2 billion, with the gap between inflow and outflow widening over time. This is a unique pattern not seen in the other four Southeast Asian countries (Figure 4). The World Bank interprets this massive net FDI outflow as an outcome of attempts by Malaysian companies "to better tap into the rapidly growing regional markets" (World Bank 2011, p. 41). But this simplistic interpretation runs counter to the fact that all other major economies in the region continued to record net inflows during this period. In particular, Singapore, by far the biggest outward investor in the region, recorded a net inflow of over US$48 billion.

Provisional data for 2010 point to a notable increase in FDI in Malaysia, from US$1.8 billion in 2009 to US$9.2 billion in 2010, which is comparable to the 2006–08 average.[3] However, it is risky to read too much into this provisional figure because it takes two to three years for the data to get settled. The apparent increase could also reflect a surge in FDI flows to developing countries in general following the onset of the global financial crisis (2008–09). According to UNCTAD (2011) developing countries and transition economies, for the first time, absorbed more than half of global FDI inflows in 2010. There has been a strong rebound in FDI flows to developing Asia and Latin America in the face of a notable decline in inflows to developed countries. The World Bank Economic Monitor of Malaysia observes that the FDI increase in 2010 is "to some extent, a reflection of the achievement of Malaysia's Economic Transformation Program (proposed in the New Economic Model), particulary in raising awareness on the availability of ready-to-investment projects" (World Bank 2011, p. 41). But this inference does not appear to be consistent with the actual developments in the Malaysian economy. As stated elsewhere in the same report, "limited headway has been made in the implementaion of the NEM ... and skepticism abounds with respect to the NEM measures." (p. 40).

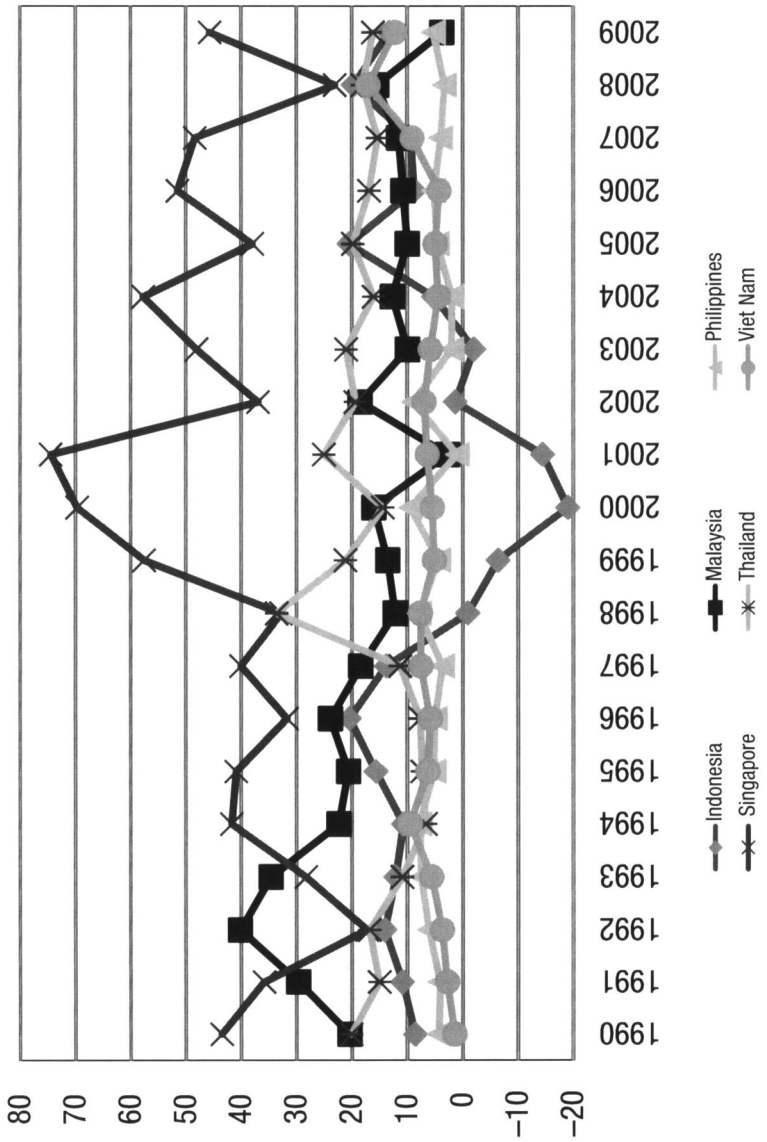
III. What Explains Recent Trends?

We address this question by first undertaking an econometric analysis of the determinants of FDI inflows to the five major ASEAN economies. The results from this analysis are then used as a point of departure for suggesting why Malaysia might have deviated from the average FDI experience in ASEAN.

III.1 Modelling FDI into ASEAN

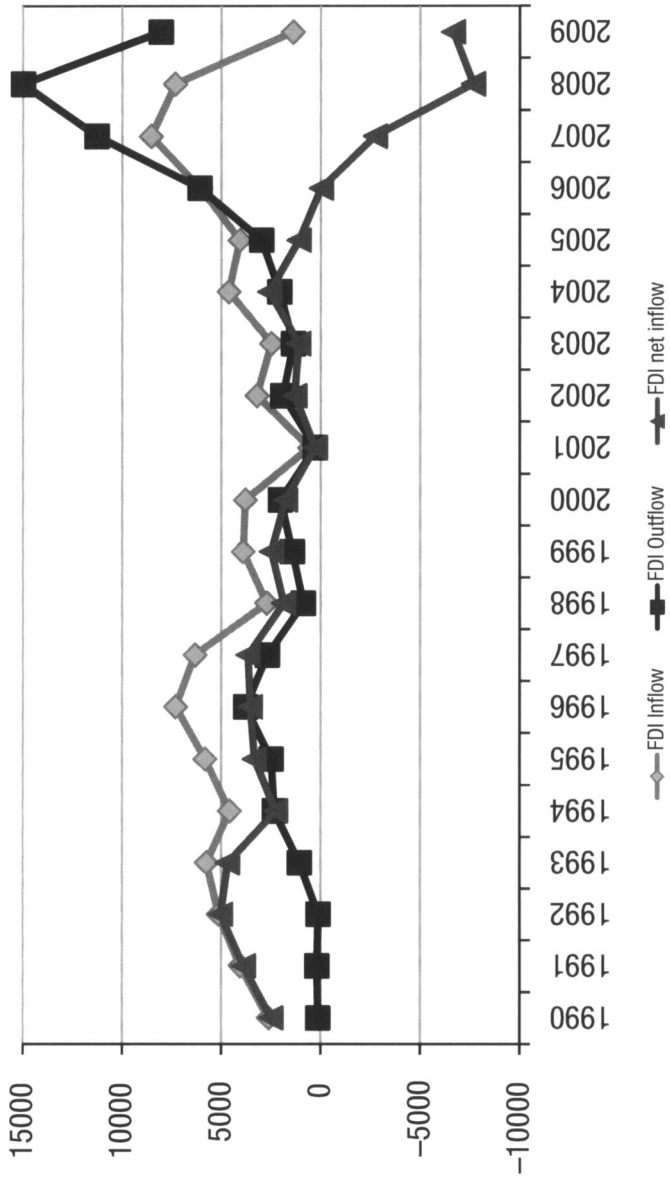
The framework of analysis is the familiar workhorse of international economics, the gravity model.[4] The underlying hypothesis is that, like trade, FDI between two countries increases with joint mass (GDP) and decreases with "resistance" posed by geographic and policy barriers. The

FIGURE 2
Country Composition of FDI in ASEAN, 1990–2009 (%)



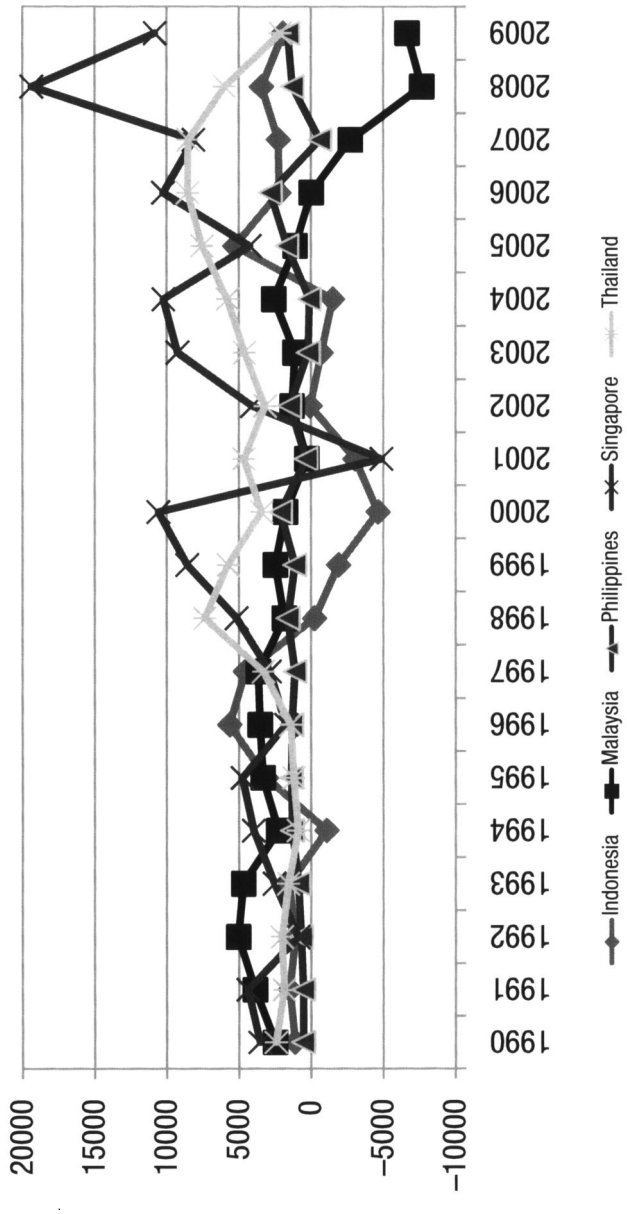
SOURCE: Based on data compiled from UNCTAD, *World Investment Report* database.

FIGURE 3
FDI in Malaysia: Inflow, Outflow and Net Inflow,[1] 1990–2009



1. FDI inflow — outflow
SOURCE: Based on data compiled from UNCTAD, *World Investment Report* database.

FIGURE 4
Net FDI in ASEAN, 1990–2009



1. FDI inflow — outflow
SOURCE: Based on data compiled from UNCTAD, *World Investment Report* database.

standard resistance in the gravity model is distance, which proxies for costs associated with transport. In the context of FDI, distance also captures costs associated with information and communication, and corporate control which plausibly decline with proximity (Eichengreen and Tong 2007). In addition to the distance effect operating through these channels, we consider the implications for FDI of the use of a common language and a prior colonial relationship.[5] The policy variables we consider are FDI-related regulations and institutions, education level, and innovation capability. Following Eichengreen and Tong (2007), we also include FDI flows into China as an additional explanatory variable to test whether FDI into ASEAN is crowded out by FDI into China, which has become the most attractive destination for FDI among developing countries since the 1990s. Our linear regression model is a one-way fixed effects model with the dependent and explanatory variables mentioned below: subscripts i, j and t denote host country, source country, and five averaged time-periods between 1995 and 2009. The estimation equation is,

$$
\begin{aligned}
&Log\ of\ (FDI)_{ijt} \\
&\quad = \beta_0 + \beta_1\ (Investment\ Policy)_{it} \\
&\quad + \beta_2\ (Education)_{it} + \beta_3\ (Innovation)_{it} \\
&\quad + \beta_4\ (Governance)_{it} + \beta_5\ (Log\ of\ Wage)_{it} \\
&\quad + \beta_6\ (Log\ of\ GDP)_{it} + \beta_7\ (Log\ of\ GDP)_{jt} \\
&\quad + \beta_8\ (Log\ of\ Distance)_{ij} + \beta_9\ (Colony)_{ij} \\
&\quad + \beta_{10}\ (Language)_{ij} \\
&\quad + \beta_{11}\ (Log\ of\ FDI\ into\ China)_{jt} \\
&\quad + \beta_{12}\ (Malaysia\ Dummy)_{i} \\
&\quad + \beta_{13}\ (Malaysia\ *\ Log\ of\ FDI\ into\ China)_{jt} \\
&\quad + \beta_{14}\ (Inverse\ Mills\ Ratio) \\
&\quad + Country\ Dummies \\
&\quad + Period\ Dummies + \varepsilon_{ij}
\end{aligned}
$$

All variables other than the FDI-to-China variable and its interaction with the Malaysia dummy are now standard in the literature and do not require further discussion. The inclusion of this as an explanatory variable is based on a widespread concern in other Asian countries, particularly ASEAN that the emergence of China as an attractive investment location has begun to erode their prospects for attracting FDI. This so-called "China fear" has been particularly prominent in policy circles in Malaysia given the dominance of the electronics and electrical industry in the country's manufacturing, which has also been a target industry for FDI flowing into China. This pessimistic view, however, ignores the fact that migration of some production processes (mostly final assembly) within vertically integrated electronics and electrical industries to China does not necessary imply a zero-sum competition for FDI. Rather, this process could open up opportunities for additional investment in parts and components assembly and production and head-quarter back-room operations in ASEAN countries for the Chinese market. Put simply, multinational companies operating within global production networks are likely to invest in both China and ASEAN when they expand their operations in the region benefiting from China's attractiveness as a final assembly centre. Therefore, the sign of the coefficient of this variable can go either way.

The model is estimated using data on FDI inflows from OECD countries to the five major ASEAN countries (Indonesia, Malaysia, Philippines, Singapore and Thailand) over the period 1995–2009. OECD countries have historically accounted for an overwhelming share of FDI into ASEAN countries. Because FDI flows are volatile year-on-year, they are grouped into three-year periods from 1995–97 to 2007–09. FDI policy restriction on cross-border investment is captured by the Heritage Foundation's indicator on Investment Freedom. Their indicator scores FDI regimes on whether countries discriminate against foreign investors, pose risks against expropriation, have transparent bureaucracy, impose equity restrictions on foreign ownership, and have currency controls. Skills are measured by the percentage of population with completed secondary education (Barro and Lee 2010). National innovation capability is measured by the number of patent applications by residents as reported by the World Intellectual Property Organization (WIPO), and scaled by population. Data on average gross earnings per worker per

month is from the Economist Intelligence Unit (EIU), excluding non-pay costs such as social security. Quality of governance and institutions are an averaged index of sub-indicators from the World Governance Indicators (WGI) on the rule of law, government effectiveness, control of corruption, political stability, and regulatory quality.[6] Data sources, variable definitions, and the mean values of variables are given in the Appendix.

Our dataset contains 405 observations on the dependent variable of which 63 observations are confirmed to be zero, that is, no FDI occurred during any of the three years that are averaged to form each of the five time periods. When the data series is used in log form, these observations are automatically dropped from the dataset which we consider to be a serious methodological issue. In estimating the determinants of FDI, information about *non*-investment is as important as the information about positive FDI inflows between pairs of host and source countries. If it is the case that countries with active FDI relationships are not randomly selected from the population and the probability of selection is correlated with independent explanatory variables, then the OLS coefficients in the gravity model are likely to be biased. To redress this problem, we employ the two-step estimation technique due to Helpman et al. (2008). First, we run a Probit estimation. To prevent the identification from relying on assumptions of joint normality in the errors in the first and second stages, a newly constructed index — the ease of establishing a wholly foreign-owned subsidiary — is included in the first stage, but not in the second stage. The indicator was created by the "Investing Across Borders" project of the World Bank Group to evaluate regulatory regimes for foreign business start-up scoring countries on whether they, (i) impose restrictions on the composition of the board of directors, (ii) require the use of a local third party during establishment process, (iii) have in place fast-track procedures, (iv) require investment approval, (v) restrict the holding of a foreign currency account, and (vi) impose minimum capital requirements. This index that captures the ease of establishing a foreign business is argued to affect the probability of two countries engaging in an FDI relationship, but is assumed not to influence the amount of FDI once the investor has decided to locate in the host country. This identifying variable resembles a fixed cost, instead of a per unit variable cost of investing. When included in the Probit regression, it is found to be positive and highly significant.[7] In the second stage, we construct an Inverse Mills Ratio from Probit and include it as an additional regressor in the second stage of estimation. This, we believe, redresses part of the problem posed by country selection.

III.2 Results

The results are reported in Table 2. Column 1 is our preferred estimate based on the two-stage estimation procedure consisting of the Inverse Mills Ratio as an additional regressor. The same specification of the model estimated after omitting the zero observations for the dependent variable is reported in Column 2 for comparison.

The coefficient of investment policy variable is statistically significant at the 5 per cent level with the expected (positive) sign. A ten percentage point improvement in the investment policy score is associated with an average inflow of over US$34 million from an OECD country. The (normalized) number of patent applications by residents, an indicator of national research and innovation-related capability, is also shown to significantly affect FDI inflow. An increase in 10 patents (per 1 million people) is associated with an increase in FDI by approximately US$13 million. The coefficient of the wage variable is statistically significant with the positive sign. This finding is consistent with the view that at this stage of development, FDI inflow to ASEAN countries, on average, is not determined by locational advantages arising from low relative wages. The positive coefficient possibly reflects the fact that skill formation in the labour force is naturally related to increase in wages, coupled with the ongoing

TABLE 2
Determinants of FDI in ASEAN-5: Regression Results
(Dependent variable: FDI inflow in log)

	(1)	*(2)*
Investment policy	0.032**	0.032**
	(0.009)	(0.009)
Education	–0.052	–0.048
	(0.040)	(0.039)
Innovation	0.012*	0.012*
	(0.006)	(0.006)
Governance quality	–0.148	–0.148
	(0.154)	(0.154)
Monthly wages (log)	2.385***	2.3894***
	(0.508)	(0.511)
Host country GDP (log)	–2.275	–2.453
	(1.648)	(1.712)
Source country GDP (log)	0.227	0.238
	(0.214)	(0.213)
Bilateral distance (log)	–1.154**	–1.128**
	(0.310)	(0.300)
Common language	1.391**	1.369**
	(0.377)	(0.372)
Colony	0.821	0.838
	(0.546)	(0.528)
FDI into China (log)	0.713***	0.683***
	(0.089)	(0.098)
FDI_China*Malaysia	0.006	0.006
	(0.054)	(0.053)
Inverse Mills Ratio	0.427**	
	(0.146)	
Constant	46.326	50.759
	(42.380)	(43.972)
N	315	315
R-sq.	0.616	0.615

NOTE: Standard errors in parentheses, clustered by host country; * p<0.1, ** p<0.05, *** p<0.01.

process of shifting FDI flows to higher-paying services sector from manufacturing.

Among the standard gravity variables, the coefficient of GDP of source and host countries is not statistically different from zero. The latter is understandable given that the bulk of FDI is efficiency-seeking rather than market-seeking, and so not affected by the size of the host market. Sharing a common language has a statistically significant positive impact on FDI inflows to a given country. Despite potentially carrying little explanatory variation because all ASEAN countries are on average equi-distant from the source countries, the coefficient of the distance variable is negative and highly significant with 1 per cent increase in bilateral distance (in kilometres) between host and source associated with more than 1 per cent fall in average FDI inflow.

The coefficient of FDI into China is highly significant with a positive sign, suggesting a high degree of complementarity (rather than competition) between China and the major economies of Southeast Asia as a potential location for FDI. The estimated coefficient suggests that a 10 per cent increase in FDI into China is associated with 7.1 per cent increase in FDI into ASEAN-5. The slope dummy coefficient of this variable for Malaysia is highly significant, suggesting a high degree of complementarity with FDI into China.[8] The explanation seems to lie in Malaysia's history of having been a pre-eminent magnet for FDI in electronic manufacturing preceding the rise of China. Even though low-wage assembly activities have migrated to China and elsewhere in recent years, Malaysia has retained higher-end functions, giving itself a tentative foothold on a regional supply chain in manufacturing.

From this regression analysis, two variables stand out as relevant for explaining Malaysia's indifferent performance in recent years in attracting FDI: *investment policy* and *innovation capability*. We elaborate on these next.

III.3 Investment Policy

Starting with the Investment Incentives Act enacted in 1968, inward investment policy in Malaysia has become increasingly open over the past four decades. In particular, relaxing or removal of restrictions on foreign ownership of enterprises, and streamlining of investment approval procedures were key elements of the structural adjustment reforms undertaken after the macroeconomic crisis in the mid-1980s. Despite these reforms, Malaysia's average measure for openness to ownership of equity by foreigners across a broad swath of sectors is lower than the global and regional average, especially in services, according to a recent report on FDI regulations across eighty-seven economies (World Bank 2010). However, in other aspects of FDI regulations, such as the time and procedures it takes to start up a wholly foreign-owned business enterprise, or the legal regimes in place to arbitrate commercial disputes, the indicators of Malaysia compare well with peers (see Tables 3 and 4).

It is important to note that the nature of these macro-level, averaged indicators found in global policy benchmarking exercises like the "Investing Across Borders" report are largely based on policy declarations and legal documents, and sometimes feedback from existing investors. For Malaysia, they fail to reveal a deep-rooted dualistic incentive structure which is directly relevant for understanding recent trends in FDI. While the light manufacturing industries, especially the export-oriented electronics and electrical (E&E) industry are fully open to foreign ownership, many other sectors are governed by regulations designed to conform with the multi-ethnic country's socio-political objectives in a manner that runs counter to the global profit-maximizing objective of MNEs (Lim 1992). The employment and ownership quotas introduced under the Industrial Coordination Act (ICA) of 1975 aimed to improve the relative position of ethnic Malays (*bumiputera*) are still applicable to firms operating in these sectors. Furthermore, the presence of government-linked companies (GLCs), a relic of the heavy-industrialization drive in the mid-1980s, still distort the incentive structure and act as a *de facto* constraint on MNE entry in many sectors (Lim 1992, Gomez 2011, NEAC 2010, part 1, p. 4).[9]

Given the paucity of relevant data, it is not possible to explicitly test the impact of dualism in

TABLE 3
Openness on Foreign Equity Ownership (%)

	Mining, oil and gas	*Agri-culture and forestry*	*Light Manu-facturing*	*Telecom*	*Electricity*	*Banking*	*Insurance*	*Transport*	*Media*	*Construction, tourism and retail*	*Health care and waste management*
Indonesia	97.5	72	68.8	57	95	99	80	49	5	85	82.5
Malaysia	70	85	100	39.5	30	49	49	100	65	90	65
Philippines	40	40	75	40	65.7	60	100	40	0	100	100
Singapore	100	100	100	100	100	100	100	47.4	27	100	100
Thailand	49	49	87.3	49	49	49	49	49	27.5	66	49

SOURCE: World Bank (2010).

TABLE 4
Indicators of Starting a Foreign Business and Arbitrating Disputes

	Starting a foreign business			*Arbitrating commercial disputes*		
	No. of procedures	*No. of days*	*Ease of establishment index*[a]	*Strength of laws index*[a]	*Ease of process index*[a]	*Extent of judicial assistance index*[a]
Indonesia	12	86	52.6	95.4	81.8	41.3
Malaysia	11	14	60.5	94.9	81.8	66.7
Philippines	17	80	57.9	95.4	87	33.7
Singapore	4	9	78.9	94.9	81.8	93.5
Thailand	9	34	60.5	84.9	81.8	40.8

NOTE: a. The index varies between 0 (worst score) and 100 (best score).
SOURCE: World Bank (2010).

policy regimes on FDI in Malaysia. However, a close look at the sectoral/industry profile of FDI in Malaysia does provide indications of the impact of policy dualism (Table 4). Manufacturing has continued to account for the lion's share, around 80 per cent, of FDI in Malaysia, whereas in recent years there has been a significant shift in FDI towards services (UNCTAD 2010). Within manufacturing, electronics and electrical goods industries have accounted for over a third of total FDI inflows to Malaysia. The data, in fact, show that decline in FDI in E&E industries (which reflects the recent downturn in the global electronics cycle) has contributed significantly to the decline in total FDI over the past few years. The transport industry, which is dominated by the two national car companies (Proton and Perodua) is perhaps the the most obvious case of a dualistic regime constraining FDI in Malaysia. In many developing countries, this industry has been a key magnet for foreign investors in recent years. The most striking example closer to home is Thailand, which has become a major production centre of the global automotive networks ("Detroit of Asia") over the past decade (Doner 2009). During 2007–09, total FDI in automotive industry in Thailand amounted to US$4.8 billion (one fourth of total FDI in the country)[10] compared to a mere US$0.8 billion (3 per cent of total FDI) in Malaysia.

III.4 Innovative Capacity

Until recently, MNEs in export-oriented manufacturing (which accounted for the overwhelming share on FDI) were involved in simple assembly activities which required unskilled and semi-skilled labour. However, over time, Malaysia's advantage in these types of activities has eroded, reflecting a combination of increasing domestic wages and the emergence of low-wage investment locations elsewhere. It appears that the country has not upgraded the capacities and the incentives needed to become an innovation-driven economy in a significant way, in congruence with its aspiration to graduate from being a middle-income country. In our regressions, the coefficient on the proxy used to capture national innovative capability — patents per 1 million residents — is statistically significant. On this variable, Malaysia lags behind the regional leader, Singapore, in a substantial manner.

Even though Malaysia's share of the population aged fifteen and over with a completed secondary education is the highest in the region, shortages of high-level manpower has been a recurrent theme in a number of recent macro-level studies. They identify it as a fundamental cause behind Malaysia's "middle-income trap". This is also supported by firm-level evidence from Penang, the centre of Malaysia's E&E industry (Invest Penang 2007 and 2008). Most of the major MNEs covered in these surveys have reported shortages of R&D and design engineers, process engineers, and technical and production workers as a major constraint on their future expansion plans.

IV. Conclusion

Foreign direct investment has been a major driver of Malaysia's rapid growth and structural transformation through export-oriented industrialization over the past four decades. However, there are clear signs in recent years that the Malaysian FDI engine has begun to run out of steam. Over the past few years, Malaysia's relative attractiveness for foreign investors has clearly eroded within the Southeast Asian context. Outflow of FDI from Malaysia has consistently surpassed inflow, a pattern not seen in the other four Southeast Asian countries.

We find no evidence to support the popular perception that China's rise as a global manufacturing hub is having a negative impact on FDI inflows to Malaysia (or other Southeast Asian countries). China's emergence as a major actor within global production networks has been complementary to, rather than a competition, for production-network-related FDI flows to Malaysia and other countries in the region. Given its well-established position as a favoured location for the major MNEs for component production/assembly, Malaysia is well placed to benefit from China's

TABLE 5
FDI in Malaysia by industry/sector, 1985–2010[a]

Year	*1985*	*1993*	*1995*	*2000*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*[c]
(a) Volume, US$ million										
Manufacturing	343	2,226	3,129	6,353	6,894	11,208	16,714	17,033	8,501	4,318
Food	24	72	48	278	385	442	721	803	576	591
Textiles and clothing	13	185	189	312	99	224	424	118	97	42
Paper, printing and Publishing	41	48	39	401	252	188	876	263	147	62
Chemicals and chemicals products	12	685	729	254	454	2,493	1,149	767	2,447	433
Petroleum and gas	0	0	157	618	194	3,118	4,183	794	344	114
Rubber and rubber products	12	15	31	248	204	195	154	208	64	251
Non-metallic mineral products	45	45	501	465	243	318	393	366	1,873	227
Basic Metal products	60	306	189	207	846	743	3,682	7,439	755	557
Fabricated metal products	18	37	114	108	200	361	199	310	400	482
Electrical & electronic products	45	711	948	3,206	3,642	2,733	4,570	5,131	1,386	1,217
Transport equipment	75	123	184	256	374	395	362	834	411	343
Other sectors[b]	43	217	522	2,571	1,306	1,330	1,412	1,092	1,030	1,062
Total	386	2,442	3,651	8,845	8,201	12,538	18,126	18,125	9,530	5,400
(b) Composition (%)										
Manufacturing	88.8	91.1	85.7	71.8	84.1	89.4	92.2	94.0	89.2	80.0
Food	6.1	2.9	1.3	3.1	4.7	3.5	4.0	4.4	6.0	10.9
Textiles and clothing	3.3	7.6	5.2	3.5	1.2	1.8	2.3	0.7	1.0	0.8
Paper, printing and Publishing	10.6	1.9	1.1	4.5	3.1	1.5	4.8	1.5	1.5	1.1
Chemicals and chemicals products	3.1	28.0	20.0	2.9	5.5	19.9	6.3	4.2	25.7	8.0
Petroleum and gas	0.1	0.0	4.3	7.0	2.4	24.9	23.1	4.4	3.6	2.1
Rubber and rubber products	3.1	0.6	0.8	2.8	2.5	1.6	0.9	1.1	0.7	4.7
Non-metallic mineral products	11.6	1.8	13.7	5.3	3.0	2.5	2.2	2.0	19.7	4.2
Basic Metal products	15.4	12.5	5.2	2.3	10.3	5.9	20.3	41.0	7.9	10.3
Fabricated metal products	4.6	1.5	3.1	1.2	2.4	2.9	1.1	1.7	4.2	8.9
Electrical & electronic products	11.5	29.1	26.0	36.2	44.4	21.8	25.2	28.3	14.5	22.5
Transport equipment	19.4	5.0	5.0	2.9	4.6	3.1	2.0	4.6	4.3	6.3
Other sectors[b]	11.2	8.9	14.3	29.1	15.9	10.6	7.8	6.0	10.8	19.7
Total	100	100	100	100	100	100	100	100	100	100

NOTES: a. Data based on investment approvals which differ from those reported in Table 1 which are based on balance of payments records (realized FDI).
b. Includes unclassified manufacturing products.
c. Provisional.

SOURCE: Compiled from Malaysia Ministry of Finance, Economic Report (various issues) (based on Malaysian Industrial Development Authority (MIDA) record).

rise as the major final assembly centre within global production networks of electronics and electrical goods.

The dualistic investment policy regime and limited national innovative capabilities appear to be the major determinants of Malaysia's relative attractivness to FDI. On both indicators, there is room for further reforms in Malaysia. The investment policy regime could be made more even-handed, through reforms aimed at opening the domestic industries hitherto dominated by government-linked companies and services sectors to greater FDI participation. Malaysia could also build on its laudable achievement in ASEAN for secondary education for further human capital development in order to set the stage for harnessing FDI participation in the process of graduating from the middle-income status.

APPENDIX
Variable Definitions, Data Sources and Mean Values for 2007–09

Variable	*Source*	*Mean*				
		Malaysia	*Singapore*	*Indonesia*	*Thailand*	*Philippines*
Total FDI Flow from OECD countries (US$ billion)	OECD FDI database	3.7	23.9	3.5	3.9	1.73
Log of total FDI inflow from OECD countries	OECD FDI database	22.03	23.9	21.98	22.08	21.27
Investment Policy (out of 100)	Heritage Foundation database	40	80	30	30	33.3
Patent applications by residents (per million people)	World Intellectual Property Organization (WIPO) database	27.75	155.3	1.26	13	2.46
Percentage of 15+ population with completed secondary education	Barro and Lee (2010)	38.1	20.2	21.4	13.83	21
World Governance Indicators	World Governance Indicators (WGI)	2.41	9.21	–2.57	–0.94	–2.6
Log of average monthly wages (in US$)	Economist Intelligence Unit database	6.3	7.82	5.21	5.44	4.76
Log of (mean) source country GDP (in US$)	World Development Indicators, World Bank	25.61	25.69	26.17	28.11	27.7
Log of host country GDP (in US$)	World Development Indicators, World Bank	27.94	27.85	27.96	25.88	25.4
Log of average bilateral distance (in km)	CEPII database	9.18	9.2	9.27	9.09	9.13

NOTES

1. For details on the history and modalities of Malaysian foreign direct investment policy, see Lim (1992) and Tham (2006) and the work cited therein.
2. What caused this massive contraction in FDI flows, an unprecedented occurrence since 1970 when the Word Investment Report FDI series began, remains a mystery.
3. Data from Bank Negara Malaysia, *Monthly Statistical Bulletin*, March 2011 <www.bnm.gov.my>.
4. For an introduction to the gravity model and recent methodological and theoretical advances in its applications to trade flow modeling, see Bergeijk and Brakman (2010).
5. "Common border effect" is not relevant for our analysis because no ASEAN country is contiguous with an OECD country.
6. According to the WGI, the rule of law score measures the extent to which agents have confidence in and abide by the rules of society, in particular the quality of contract enforcement, the police, and the courts, etc. Government effectiveness score measures the quality of public services, the quality of the civil service and the degree of its independence from political pressures, etc., Control of corruption measures the extent to which public power is exercised for private gain, including petty and grand forms of corruption, as well as capture of the state by elites and private interests. Political stability captures perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means; and the measure of regulatory quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.
7. The results are available from the authors upon request.
8. Note that to determine the significance of the interaction term, we rerun the regression (not shown) with the demeaned value of log FDI into China multiplied by the coefficient of the Malaysia dummy. At the mean (log) value of FDI into China of 18.2, the interaction coefficient (5.12 + 0.006*18.2) is statistically significant.
9. The term government-linked company (GLC) used in Malaysia is equivalent to the more internationally recognized term of state-owned enterprise (SOE): a company which is controlled by the federal or state government and is directly funded by the government, or exposes the government to contingent liabilities via capital, debt or income guarantees. Their presence and operations remain a rather "secretive" aspect of the Malaysian economy. A recent search by the National Economic Advisory Council resulted in a list of 445 companies, but NEAC believes that the number could be much higher, perhaps nearly 1,000 (NEAC 2010). Although the government engaged in a privatization exercise in the late 1980s, most of the GLCs were only partially divested and they continue to remain government-linked and controlled.
10. Calculated from data extracted from Bank of Thailand electronics database Ec-XT-027: net flow of foreign direct investment classified by sector, <www.bot.or.th/statistics/>.

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