Chapter 4

The Impact of Free Trade Agreements on Foreign Direct Investment in the Asia-Pacific Region

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November 2011

This chapter should be cited as

Thangavelu, S. M. and C. Findlay (2011), 'The Impact of Free Trade Agreements on Foreign Direct Investment in the Asia-Pasific Region', in Findlay, C. (ed.), *ASEAN+1 FTAs and Global Value Chains in East Asia*. ERIA Research Project Report 2010-29, Jakarta: ERIA. pp.112-131.

CHAPTER 4

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According to the World Investment Report, outward foreign direct investment (FDI) increased dramatically faster than exports over the past decade. Since the 1990s, this dramatic rise in FDI flows has also been accompanied by an increase in the number and intensity of regional trade agreements (RTAs), many of which include key provisions for FDI. Specifically, trade agreements may be seen as the formal means for integrating trade and investment flows.

Given the context of proliferating trading arrangements and burgeoning FDI flows, it is interesting to examine the impact of RTAs in the determination of FDI flows. This paper investigates whether membership of a bilateral or regional trade agreement has a differential impact on FDI flows in the Asia-Pacific region using an extended gravity model. The panel data comprise 30 Organisation of Economic Development (OECD) source countries and 43 host countries including the 30 OECD countries and 13 non-OECD partners in the Asia-Pacific region from 1986 to 2007. These countries are chosen given their attractiveness as inward FDI locations and are also part of various bilateral and regional trading agreements. The paper also accounts for the horizontal and vertrical integration of multinational activities as highligted by Baltagi et al. (2007).

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1. Introduction

The rapid growth of trade and foreign direct investment (FDI) flows in recent decades has been one of the commonly highlighted characteristics of globalization. According to the *World Investment Report* (2010) and the United Nations' World Trade Data Base, world-wide outward FDI stocks expanded almost five times faster than exports, exceeding even the growth of intermediate goods exports from 1990 to 2009.

This dramatic rise in FDI flows was accompanied by an increase in the number and intensity of regional trade agreements (RTAs)² since the 1990s, many of which include provisions for investments. The plethora of trade liberalization agreements overlapping at the unilateral, bilateral, regional and multilateral levels gave rise to what Bhagwati (1995) terms the 'spaghetti bowl' phenomenon. Baldwin (2006) proposes a process of multilateralizing regionalism in which preferential trading arrangements (PTAs) are extended to additional partners,³ through juggernaut and domino effects. With the juggernaut effect, political economy considerations intensify trade opening. With the domino effect, countries participate in more open trading arrangements so as to avoid being left behind. Blomström and Kokko (1997) argue that by joining RTAs, trade and investment will be promoted in the short run while the extended market size, stronger competition, more efficient resource allocation and other positive externalities will enhance economic development of participating countries in the long run.

Given the context of proliferating trading arrangements and burgeoning FDI flows, it is useful to examining the role of RTAs in the determination of FDI location. Analogous to the Vinerian (1950) trade creation and trade diversion effects of a custom union (CU), the investment creation and diversion effects of RTAs have been estimated in various empirical analyses. These studies typically focus on case studies of the European Union (EU), Mercosur (Southern Common Market) and Latin American countries, and have produced mixed results. OECD (2003) found a that there would be a

² In this study, RTAs and regional integration agreements (RIAs) are used interchangeably as trade agreements often comprise commitments to domestic reformatory measures that promote trade and investment for the participating countries. Specifically, trade agreements may be seen as the formal means to the end of integrating trade and investment flows.

³ The extension of PTAs to additional partners may occur via the inclusion of new members in existing agreements or the creation of new arrangements including new members.

positive investment creation effect of EU membership for those countries joining the EU in 2004. In contrast, Brenton et al. (1999) and Di Mauro (2001) found no evidence of the EU diverting investment from the Central and Eastern European countries. Özden and Parodi (2004) and Yeyati et al. (2004) found substantial investment creation and diversion effects for Mercosur and Latin American countries, respectively.

Countries in the Asia--Pacific region deserve special attention for two reasons. First, FDI has played an instrumental role in the economic growth of developing countries in the Asia--Pacific region over time – from the 'flying-geese model of dynamic comparative advantage' in Association of South-East Asian Nations (ASEAN) beginning in the 1960s to the rise of the economic powerhouses of China and India today. Second, the Asia--Pacific region has been the focus of bilateral trade negotiations, including with major economies like the United States, Japan and China.

There is a variety of channels by which free trade agreements (FTAs) may drive FDI flows. One is that FTAs remove export regulations by lowering trade barriers to facilitate the movement of intermediate or final products between parent firms in source countries, and foreign affiliates in host countries. Other positive effects of FTAs on FDI could arise from other conditions negotiated in the FTA, such as investment regulations that increase the mobility of fund and capital flows. These regulations make it easier for multinational corporations (MNCs) to divert financial resources to their foreign affiliates when the need arises, such as the building of a new plant in the host country. Hence, countries targeting an increase in FDI inflows from a particular source country or region could seek to implement FTAs with the other party, using such international agreements as viable tools to achieve their aim.

FTAs could also provide other less tangible benefits. The signing of FTAs not only signifies economic cooperation between nations, but also cooperation on the political and institutional fronts. Chia (2010) notes that FTAs are increasingly being used as instruments to promote political diplomacy, while Kawai and Wignaraja (2008) imply that FTAs can help signatory nations harmonize their regulatory and institutional frameworks. Therefore, the political legitimacy and binding nature of these FTAs (Coe et al., 2007) help to create a more secure political and institutional environment for MNCs to invest, thereby increasing FDI flows.

This paper examines whether bilateral or regional trade agreements have a differential impact on FDI flows in the Asia-Pacific region using an extended gravity model. The panel data comprise 30 OECD source countries and 43 host countries including the 30 OECD countries and 13 non-OECD partners in the Asia-Pacific from 1986 to 2007. These countries were chosen given their attractiveness as inward FDI locations⁴ and also because they were part of various bilateral and regional trading agreements. Specifically, the non-OECD partners are the ASEAN countries, India, China and Hong Kong. The focus on OECD countries as sources of FDI reflects the characteristics of the data available.

This chapter is organized as follows. It is useful first to set the context concerning the extent of impediments to barriers to investment. Our main interest in this paper is the ASEAN economies and we first assess the treatment of investment in a number of trade agreements involving the ASEAN economies. The next section therefore provides a summary of FDI flows and an FDI restrictiveness index for ASEAN. Section 3 discussess the augmented gravity model to examine the key determinants of FDI and assesses whether bilateral and regional trade agreements have different impacts on the level of FDI flows. Section 4 provides the results of the model. The policy conclusions are given in section 5.

2. FDI Restrictiveness Index in ASEAN

Recent developments indicate that FTAs are used as a strategy to liberalize FDI activities with partner countries in order to increase access to multinational activities. In this section we derive an FDI Restrictiveness Index for ASEAN FTA (AFTA), China--ASEAN FTA (ACFTA) and Korean--ASEAN FTA (AKFTA). The FDI Restrictiveness Index follows closely the methodology proposed by Golub (2003), OECD (2003, 2010), Thangavelu and Lim (2011) and Urata and Sasuya (2007). The

⁴ The ASEAN countries received the most FDI, with an average FDI stock of 44 per cent of GDP in 1999 and net FDI inflows averaging 4.5 per cent of GDP over the 1980s and 1990s. The second most attractive RTA countries were from the Western Hemisphere with an average FDI stock of 39 per cent of GDP in 1999, with net FDI inflows averaging 4.8 per cent of GDP over the period 1995–99 (OECD, 2003).

restrictiveness of policy affecting FDI flows was evaluated in six areas: foreign ownership or market access; national treatment; screening and approval procedure; board of directors and management composition; movement of investors; and performance requirements. The higher the scores, the more open the FDI rules.⁵

In 2010, the OECD updated its FDI Restrictiveness Index (created in 2003 and updated in 2006) by expanding the study to include more sectors and more updated information on the regulatory requirements for FDI activities in OECD countries (OECD, 2010). The updated index highlights interesting results with respect to Asian countries: (1) China and Indonesia are listed with the top five countries having very restrictive FDI policies – Iceland, Russia and Saudi Arabia are the other three countries with very restrictive policies; (2) the Latin American countries of Brazil, Chile and Argentina have more liberal FDI policies compared to the Asian countries of China, India, Indonesia, Japan and Korea; and (3) the Eastern European countries of Estonia, Latvia, Slovenia, Lithuania, Slovak Republic and Czech Republic are more liberal with respect to FDI activities compared to the Asian countries.

Urata and Sasuya (2007) studied FDI rules in the FTA and created the FDI Restrictiveness Index for seven FTAs. The study covers 21 sectors and 158 ISIC (International Standard Industrial Classification) three-digit subsectors. The results show that US--Australia and US--Singapore FTAs have higher quality rules and more liberal FDI policies. Urata and Ando (2009) analysed the FDI environment of the ASEAN countries, looking not only at the FDI instruments but also the enforcement and implementation of the FDI policies. They found wide variations among the ASEAN countries and the most serious impediments for FDI are due to the lack of transparency and complicated/delayed processing in screening and appraisal procedures regarding FDI application.

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⁵ The OECD FDI Restrictiveness Index is given in descending order, where open economies are given lower scores.

The updated OECD FDI restrictiveness Index is expanded to include all primary sectors (agriculture, forestry, fishing and mining), as well as investments in real estate, are now included. Subsectors have been added to cover services other than banking and insurance (under finance), as well as media services (TV and radio broadcasting, as well as printed and other media). There is greater detail in manufacturing (five subsectors), in electricity (generation and distribution), distribution (retail and wholesale) and transport (added international/domestic breakdown for air and road transport).

The index used here covers sectors based on the classification given in Urata and Sasuya (2007). We have aggregated the analysis into 10 sectors: manufacturing, services incidental to manufacturing, agriculture, services incidental to agriculture, fishery, services incidental to fishery, forestry, services incidental to forestry, mining and quarrying, and services incidental to mining and quarrying. As highlighted by Urata and Sasuya (2007), the above methodology has its limitations as it is subjective to random and arbitrary weights. However, by careful usage of weights across all the sectors and consistently applied across the countries, we hope to reduce the bias in the scores. In this study, we use only the information provided in the FTA agreements.

The various weights for the respective groups are given in Thangavelu and Lim (2011). The weights follow closely those of Urata and Sasuya (2007). The restriction on ownership and market access is given a greater weightage of 0.4 to reflect the importance of foreign ownership and market access as key drivers of multinational activities. To capture the activities of governments in protecting domestic industries, we give a weight of 0.2 to national treatment of foreign firms, where foreign firms are treated in equal terms to domestic firms.

The summary of the FDI Restrictiveness Index for the AFTA, ACFTA and AKFTA are given in Table 1. Higher scores reflect a more liberal regime. The first important result is that the scores vary between economies, that is, even though all these economies are members of the same agreement, their treatment of investment varies significantly. These agreements are more likely to be characterized as network agreements where the non-ASEAN member may not be the most liberal. However the variation among members is smaller for AFTA than it is for the other two agreements.

Second, the results show considerable variation between agreements. The results for AFTA seem to be in line with the expectations. Singapore, which is driven by export growth, tends to have more liberal FDI policies to attract multinational activities in the economy and the region. The AFTA scores for Thailand, Philippines and Vietnam indicate that they are also adopting liberal FDI policies to attract multinational activities. However, in the AFTA scores, it is quite surprising to see Malaysia ranked lower among the key ASEAN-5 countries, which clearly indicates that there is an urgent need to remove some of the restrictions to FDI flows in the economy. Although they are ranked lower among the ASEAN-5 countries in terms of economic development, it

is also quite interesting to observe that emerging countries such as Vietnam and Cambodia tend to have adopted key FDI policies to maintain their momentum of economic liberalization and integration in the region. In fact, Cambodia is ranked higher in terms of the index compared to Indonesia and Malaysia.

Table 1. FDI Restrictiveness Index for AFTA, ACFTA and AKFTA

	ACFTA	Rank	AKFTA	Rank	AFTA	Rank
Brunei	0.178	10	0.227	10	0.399	10
Cambodia	0.525	2	0.530	2	0.562	2
Indonesia	0.295	6	0.320	7	0.496	5
Laos	0.273	8	0.346	5	0.499	4
Malaysia	0.305	5	0.331	6	0.489	6
Myanmar	0.073	11	0.089	11	0.442	7
Philippines	0.209	9	0.214	9	0.433	8
Singapore	0.554	1	0.539	1	0.594	1
Thailand	0.291	7	0.292	8	0.400	9
Vietnam	0.482	3	0.482	3	0.529	3
China	0.458	4	-		-	
Korea	-		0.467	4	-	

There are interesting differences in the treatment of investment, depending on the partners involved. For example, compared to AFTA, the FDI restrictiveness under ACFTA and AKFTA is much lower indicating that AFTA tends to give fewer FDI restrictions across the three FTAs. In fact, ACFTA indicates the lowest index values across the three FTAs, indicating that it is the least open to foreign investment, and shows greater caution among the ASEAN countries to allow more FDI inflows from China as compared to Korea. Further, as with the Japanese, Korean MNCs have been investing in ASEAN for past two decades and thus Korea has become part of the production value chain in the region. Hence, we observe greater complementarily between Korean MNCs and ASEAN industrial activities in comparison to Chinese MNCs. In comparison, Chinese companies are only in the initial stages of developing their overseas activities.

Under ACFTA Singapore, Vietnam, Cambodia and Malaysia tend to provide greater access to FDI flows to China. In comparison, China tends to have less FDI restrictiveness as compared to the other ASEAN countries indicating the commitment for more regional FDI flows from China. Under AKFTA, the ASEAN countries of Singapore, Cambodia, Vietnam and Laos tend to have more access to Korean FDI flows.

3. Impact of FTAs on FDI Flows

In this section, we present and estimate a model of the ways in which FTAs might affect FDI flows. This study adopts a country-pair fixed effects model using panel data. The country-pair fixed effects model has been used by Carrère (2006) and Egger (2008) who examined the effects of RTAs and exchange rate agreements on bilateral trade flows respectively. Here our application is to FDI flows. This estimation method accounts for any bias due to omitted variables that might be related to the unobserved time-invariant pair-specific heterogeneity which is not captured by the bilateral distance, border, language and colony dummies. Corrections are also made for the cross-section endogeneity of the FTA dummy variables and the resultant selection bias.

In addition, time-fixed effects are added to capture common events such as oil price shocks and the intensification of FDI flows in the context of globalization that are specific to a particular point in time but common to all country pairs. The model is as follows:

$$ln (FDI_{ijt}+1) = \alpha_{\theta} + \beta_{1} ln (GDP_{it}+GDP_{jt}) + \beta_{2} (GDPSim_{ijt}) + \beta_{3}BI_{ijt} + \beta_{4}MUL_{ijt} + \beta_{5}$$

$$(GDPPCR_{ijt}) + \beta_{6} ln (FDI_{ijt-1}+1) + \beta_{7} ln (Dist_{ij}) + \beta_{7}Bor_{ij} + \beta_{8}Lang_{ij} + \beta_{9}Col_{ij} + \alpha_{t} + \upsilon_{ij} + \varepsilon_{ijt}$$

$$(1)$$

Note that $ln\ (FDIO_{ijt}+1)$ is the logarithm of FDI outflows from source (i) to host (j) country plus one and $ln\ (FDI_{ijt-1}+1)$ is its lagged term. $Ln\ (GDP_{it}+\ GDP_{jt})$ is the logarithm of i's and j's gross domestic products (GDP) at time t. $(GDPSim_{ijt})$ is the GDP

similarity of country pairs: for estimation, this variable is measured as $GDPSim_{ijt}BAL = 1-si^2-sj^2$ and $GDPSim_{ijt}BE = ln(s_i/s_j)$ where $s_i = GDP_i/(GDP_i + GDP_j)$ and $s_j = GDP_j/(GDP_i + GDP_j)$ following Baltagi et al. (2007) and Bergstrand and Egger (2007), respectively, are used for robustness. BI_{ijt} and MUL_{ijt} are dummy variables equal to unity if i and j have a bilateral and multilateral trade agreement respectively at time t. Ln ($Dist_{ij}$) is the bilateral distance between i and j. Bor_{ij} , Off_{ij} and Col_{ij} are dummy variables equal to unity if i and j share a common border, official language and a colonial link respectively. v_{ij} is the country-pair specific effect where $v_{ij} \neq v_{ji}$ and ε_{ijt} is the error term assumed to be log-normally distributed.

Two points are to be noted about the trade agreement dummies used in this study. First, unlike most studies that use trade agreement dummies without variation across time, temporal variation is allowed for both the bilateral and multilateral trade agreements. New agreements and changes in membership for existing agreements were observed during the 1986-2007 estimation period. The inclusion of a temporal dimension in the trade agreement dummies allows us to better understand the differential dynamic impact of joining a trade agreement. In particular, variation of the trade agreement variables allows us to avoid collinearity issues associated with the estimations involving policy variables (Dee and Gali, 2005). Second, the multilateral trade agreement dummy is equal to unity when country pairs in the gravity model belong to an arrangement that includes three or more members such as ASEAN+1 FTAs.

3.1. Data

Nominal bilateral FDI flows are compiled from the OCED's *International Direct Investment Statistics* 2009 for the period 1986 to 2007 for 43 potential partners. These data are scaled by the United States (US) Consumer Price Index for all urban consumers from the Bureau of Labour Statistics to generate real trade flows for the panel analysis. Real gross domestic product (GDP) figures in constant US dollars at 2000 prices are from the World Bank's World Development Indicators (2010). The language, adjacency and colonial links dummy variables are obtained from the Centre d'Études Prospectives et d'Informations Internationales (CEPII) database. The trade agreement dummy variables include the FTAs notified to the GATT/WTO under GATT Articles XXIV or the Enabling Clause for developing economies. Appendix Table A1 lists the trade agreements used and Appendix Table A2 lists the countries in our sample.

4. Results and Analysis

Table 2 presents the results from the extended gravity models of outward FDI flows from OECD countries to other OECD countries and selected non-OECD countries in the Asia-Pacific region. As mentioned above, outward FDI flows from the OECD parent countries may be interpreted as inward FDI flows to their partnering host countries. Aligned with the empirical literature, the gravity model fits the data well, explaining a large part of the variations in bilateral FDI flows. Most of the estimated coefficients of the standard variables in a gravity model are statistically significant with the expected signs. However, a comparison of the results from regressions (1) to (3) that use time-fixed effects alone with regressions (4) to (6) that include both time-fixed and country-pair-fixed effects yields interesting findings. These findings are addressed below. We first analyse the behaviour of the commonly used gravity variables.

The estimated coefficients on the market size of country pairs are all positive and statistically significant across regressions (1) to (5) using different specifications. This implies that a larger combined market size of the country pairs is associated with an increase in the amount of FDI outflows from the source to the host economy. A larger

market justifies the incurrence of higher fixed costs of setting up a foreign affiliate compared to home production in the parent economy for exports.

Table 2. The Impact of Bilateral and Multilateral Trade Agreements on FDI Inflows

	Regressions							
Dependent variable: $ln(FDI_{ijt}+1)$	Time-fixed effects			Time-fixed and country-pair-fixed effects				
	(1)	(2)	(3)	(4)	(5)	(6)		
$ln\left(GDP_{i}+GDP_{j}\right)$	0.335***	0.339***		1.135 ***	1.156***			
	(0.019)	(0.019)		(0.305)	(0.311)			
$ln\left(GDP_{i}\right)$			0.172 ***			0.835		
			(0.013)			(0.524)		
$ln (GDP_j)$			0.165***			0.398		
			(0.011)			(0.474)		
$GDPSim_{ijt}BAL$	0.891***			4.40***				
	(0.098)			(1.193)				
$GDPSim_{ijt}BE$		0.147***			0.805***			
		(0.016)			(0.262)			
BI_{ijt}	0.334*	0.287	0.292	0.022	-0.065	-0.031		
Diyt	(0.183)	(0.186)	(0.186)	(0.202)	(0.209)	(0.208)		
MUL_{iit}	0.061*	0.0577***	0.050	0.176***	0.187***	0.180***		
MOL _{ijt}	(0.033)	(0.033)	(0.033)	(0.066)	(0.065)	(0.065)		
$GDPPCR_{iit}$	0.312***	-0.301***	-0.300***	-0.243	-0.112	-0.740		
ODI I CK _{ijt}	(0.023)	(0.023)	(0.024)	(0.380)	(0.397)	(1.156)		
$ln\left(FDI_{ijt-1}+1\right)$	0.777***	0.775***	0.775***	0.323***	0.324***	0.324***		
m (FD1 _{ijt-} [+1)	(0.010)	(0.010)	(0.010)	(0.020)	(0.020)	(0.020)		
$BI_{ijt}*MUL_{ijt}$				0.291***	0.318***	0.303***		
				(0.094)	(0.099)	(0.098)		
$BI_{iit}*GDPPCR_{iit}$				0.419	0.271	0.329		
BI _{ijt} **GDPPCR _{ijt}				(0.700)	(0.653)	(0.666)		
MUL _{iit} *GDPPCR _{iit}				0.048	0.0427	0.042		
MULijt UDI I CKijt				(0.109)	(0.108)	(0.108)		
ln (dist _{ij})	-0.212***	-0.211***	-0.210***					
	(0.019)	(0.019)	(0.019)					
Ror	-0.018	-0.024	-0.025					
Bor_{ij}	(0.057)	(0.059)	(0.059)					
Lang _{ij}	0.380***	0.387***	0.390***					
	(0.0585)	(0.060)	(0.060)					
Col_{ij}	0.227***	0.217***	0.218***					
	(0.067)	(0.065)	(0.066)					
No. of observations	9917	9917	9917	9917	9917	9917		
Adjusted R ²	0.834	0.835	0.835	0.868	0.868	0.868		
Durbin-Watson	2.375	2.373	2.375	2.057	2.057	2.057		
statistic								

Note: 1) *, ** and *** indicate that the estimated coefficients are statistically significant at 10%, 5% and 1%, respectively.

One of our interests here is whether FDI flows are horizontal (the same activities in different countries) or vertical (different stages of production in different countries) and how the impact of FTAs might vary between these types of flows. An examination of the GDP similarity variables sheds some light. The coefficients of the GDP similarity

²⁾ White period standard errors are in parentheses.

³⁾ Intercept and year dummy variables are included but not reported.

⁴⁾ $s_i = GDP_i/(GDP_i + GDP_j)$ and $s_i = GDP_i/(GDP_i + GDP_j)$

variables following either Baltagi et al.'s (2007) or Bergstrand and Egger's (2007) specifications are positive and statistically significant. Home countries are more likely therefore to invest in similar economies. This suggests that the dominance of horizontal export platform FDI is observed in this data set for FDI outflows from OECD to its fellow OECD and selected non-OECD partners.

This notable result, that implies the dominance of horizontal multinational enterprises (MNEs) in the data used here, is strengthened by other results showing the different and opposite impacts of GDP similarity and factor dissimilarity on FDI flows. The coefficients for the GDP per capita ratio are negative and statistically significant for regressions (1) to (3). Although they are insignificant in regressions (4) to (6), they remain with the expected sign. Unlike in the case of vertical FDI, where a positive sign is expected due to the exploitation of comparative advantage, the sign for factor dissimilarity is negative.

Aside from the GDPs of country pairs, the other variable forming the backbone of the gravity model is distance. Distance may refer to both actual physical distance reflecting trade costs and transactional distance involving informational costs, with the former often proxied by bilateral geographic distance or existence of a common border and the latter by the lack of a common language or a colonial link. We can only examine these variables in regressions (1) to (3) since as they must be dropped once they are subsumed within the country-pair fixed-effects model to avoid multicollinearity. In all regressions, bilateral distance, a common official language and a colonial link are statistically significant, while the border dummy is statistically insignificant. However the coefficient on physical distance contradicts earlier results which highlighted the importance of horizontal FDI flows. If the firm's motive is to serve the foreign market, a greater distance increases the trade costs of exporting and may hence encourage local production via horizontal FDI (Hattari et al., 2008). We find a negative sign on bilateral distance obtained in our regressions, which does not provide evidence of horizontal FDI.

The signs for the other two statistically significant variables – common language and colonial links – are positive as expected. As mentioned, a common language and a shared historical link as proxied by the colony dummy are likely to facilitate an

understanding of a foreign work culture and hence minimize associated disruptions. The common border variable is not significant.

With respect to trade agreements, Equations (1) to (3) include multilateral and bilateral agreements separately. In that case, mutual participation in a multilateral agreements provides the FDI flow but their joint membership of a bilateral agreement does not. However, in Equations (4) to (6), the coefficients on the interaction term of bilateral and multilateral trade agreements are positively and statistically significant. This implies that the addition of a bilateral agreement to mutual membership of a multilateral agreement raises FDI flows between two countries.

5. Policy Conclusion: Key Challenges to ASEAN Integration

Key results here include firstly the degree of variation among economies in the treatment of investment even within one agreement. This variation is much greater in the two agreements than within AFTA. Sectoral barriers to investment in manufacturing and services still exist and this forms major impediments to FDI in ASEAN. This is particularly important for key member countries such as Malaysia and Indonesia.

Secondly, the trade agreement with China is less liberal as compared to the Korean ASEAN FTA. Thirdly, econometric results indicate that for a sample of economies (dominated by OECD countries) multilateral agreements are more likely to promote FDI flows than a bilateral agreement in isolation, though the latter in conjunction with the former adds a positive effect.

The empirical results indicate that there is a positive relationship between participation in multilateral agreements and FDI inflows into the Asia--Pacific region. The recent conclusion of ASEAN+1 agreements are therefore expected to have a positive impact on the FDI inflows into the region. ASEAN could also work towards greater regional integration — 'multilateralizing regionalism' — through ASEAN+ agreements. While there is still greater scope for regional integration within ASEAN through intra-ASEAN FDI flows and intra-ASEAN trade, several key challenges lie

ahead that require economic and political considerations, as the results here indicate. These challenges are as follows.

ASEAN unlike other regions is very outward looking to other regions in terms of trade. This can be attributed to the fact that it has a small market size and constantly looks towards extra-ASEAN trade for economic growth. Thus, ASEAN should consider extending its ties with external relations as a whole rather than as individual member countries since individual FTAs according to these results are not significant contributors to greater FDI flows, and by implication deeper integration. However, organizing this group approach may also require a degree of leadership, based on a commitment to an open regime combined with significant size, which is not evident at present.

If there were such a leader in ASEAN in the same way as America is the leader in North America and France and Germany are leaders in the EU, ASEAN would be able to reduce the above-mentioned limitations to a large extent. ASEAN member countries, despite sharing common cultural and historical backgrounds, are essentially very different in terms of their levels of development. Countries like Singapore and Malaysia have been accepted as developed countries, while the CLMV (Cambodia, Laos, Myanmar and Vietnam) countries are ranked along with the third world countries. This disparity within ASEAN is quite large. Thus, with different levels of income and development, these countries will differ in their motivations and interests which might even diverge from each other, as clearly seen by the willingness of some members like Singapore and Malaysia to open up their markets to external relations and the reluctance of others like Laos. This divergence of interests can only be reconciled under strong leadership, which will in turn promote greater integration within the Asia--Pacific region.

References

- Adams, R., Dee, P., Gali, J. and McGuire, G. (2003) 'The trade and investment effects of preferential trading arrangements old and new evidence', *Australian Productivity Commission Staff Working Paper*, Canberra.
- Baldwin, R.E. (2006) 'Multilateralising Regionalism: Spaghetti Bowls as Building Blocks on the Path to Global Free Trade', *The World Economy*, 29(11): 1451-518.
- Baltagi B., Egger, P. and Pfaffermayr, M. (2007) 'Estimating models of complex FDI: Are there third-country effects?', *Journal of Econometrics*, 140: 260-81.
- Bergstrand, J.H. (1989) 'The generalized gravity equation, monopolistic competition, and the factor-proportions theory in international trade', *Review of Economics and Statistics*, 71(1): 143-53.
- Bergstrand, J.H. (1990) 'The Heckscher-Ohlin-Samuelson model, the Linder hypothesis, and the determinants of bilateral intra-industry trade', *Economic Journal*, 100(4): 1216-29.
- Bergstrand, J.H. and Egger, P. (2007) 'A Knowledge-and-Physical-Capital Model of International Trade Flows, Foreign Direct Investment, and Multinational Enterprises', *Journal of International Economics*, 73: 278-308.
- Bhagwati, J. (1995) 'U.S. Trade Policy: The Infatuation with Free Trade Areas' in Claude Barfield (ed.), The Dangerous Obsession with Free Trade Areas, AEI.
- Blomström, M. and Kokko, A. (1997) 'Regional Integration and Foreign Direct Investment', Working Paper Series in Economics and Finance No. 172, Washington D.C.: World Bank.
- Blonigen, B.A. and Davies, R.B. (2005) 'A Review of the Empirical Literature on FDI Determinants', NBER Working Paper No. 11299, Cambridge, MA.
- Brainard, S.L. (1997) 'An empirical assessment of the proximity-concentration trade-off between multinational sales and trade', *American Economic Review*, 87: 520-44.
- Brainard, S. and Riker, D. (1997) 'US Multinationals and Competition from Low Wage Countries', NBER working paper 5959.
- Brenton, P., Mauro, F.D. and Lücke, M. (1999) 'Economic Integration and FDI: an Empirical Analysis of Foreign Investment in the EU and in Central and Eastern Europe', *Empirica*, 26: 95-121.
- Carr, D., Markusen, J. and Maskus, K. (2001) 'Estimating the knowledge-capital model of the multinational enterprise', *American Economic Review*, 91(3): 693-708.
- Carr, D., Markusen, J. and Maskus, K. (2003) 'Estimating the knowledge-capital model of the multinational enterprise: Reply', *American Economic Review*, 93(3): 995-1001.
- Carrère, C. (2006) 'Revisiting the effects of regional trade agreements on trade flows with proper specification of the gravity model', *European Economic Review*, 50: 223-47.

- Centre d'Études Prospectives et d'Informations Internationales (CEPII) (2010) 'Distances', available at: http://www.cepii.fr/anglaisgraph/bdd/distances.htm.
- Chia, S.Y. (2010) 'Trade and Investment Policies and Regional Economic Integration in East Asia', *ADBI Working Paper 210*, Tokyo: Asian Development Bank Institute, retrieved from http://www.adbi.org/working-paper/2010/04/05/3652.trade.investment.policies.east.asia/
- Dee, P. (2006) 'Multinational corporations and Pacific regionalism', *Pacific Economic Papers*, No. 358.
- Dee, P. and Gali, J. (2005) 'The trade and investment effects of preferential trading arrangements', in T. Ito and A. Rose (eds), *International Trade in East Asia*, University of Chicago Press, Chicago and London, pp. 133–75.
- Di Mauro, F. (2001) 'Economic Integration between the EU and the CEECs: A Sectoral Study', LICOS Discussion Paper 105/2001, Leuven: Catholic University of Leuven.
- Egger, P. (2008) 'De Facto Exchange Rate Arrangement Tightness and Bilateral Trade Flows', *Economics Letters*, 99: 228-32.
- Egger, P., Larch, M. and Pfaffermayr, M. (2004) 'Multilateral trade and investment liberalisation: effects on welfare and GDP per capita convergence', *Economics Letters*, 84: 133-40.
- Egger, P. and Pfaffermayr, M. (2004) 'Distance, trade and FDI: A Hausman-Taylor SUR approach', *Journal of Applied Econometrics*, 19: 227-46.
- Ekholm, K., Forslid, R. and Markusen, J. (2003) 'Export platform foreign direct investment', NBER Working Paper No. 9517.
- Golub, S. (2003) 'Measurement of Restrictions on Inward Foreign Direct Investment for OECD Countries', Economic Department Working Papers No.357, Paris: OECD.
- Grossman, G., Helpman, E. and Szeidl, A. (2006) 'Optimal integration strategies for the multinational firm', *Journal of International Economics*, 70: 216-38.
- Hattari, R., Rajan, R.S. and Thangavelu, S. (2008) 'Understanding Intra-ASEAN FDI flows: Trends and Determinants and the Role of China and India', mimeo.
- Kawai, M. and Wignaraja, G. (2008) 'Regionalism as an Engine of Multilateralism: A Case for a Single East Asian FTA', *ADB Working Paper Series on Regional Economic Integration No. 14*, Tokyo: Asian Development Bank Institute. Retrieved from http://aric.adb.org/pdf/workingpaper/WP14 East Asian FTA.pdf.
- Markusen, J. (1984) 'Multinationals, Multi-Plant Economies, and the Gains from Trade', *Journal of International Economics*, 16: 205-26.
- Markusen, J. (1997) 'Trade Versus Investment Liberalization', NBER Working Paper 6231, Cambridge, United States: National Bureau of Economic Research Department.

- Markusen, J. (2002) 'Multinational Firms and the Theory of International Trade', MIT Press, Cambridge, MA.
- Markusen, J. and Maskus, K. (2002) 'Discriminating Among Alternative Theories of the Multinational Enterprise', *Review of International Economics*, 10(4): 694-707.
- Markusen, J. and Venables, A.J. (2000) 'The theory of endowment, intra-industry, and multi-national trade', *Journal of International Economics*, 52: 209-34.
- Miroudot, S. (2009) 'Impact of Investment Provisions in Asian RTAs' in Chaisse and Gugler (eds), *Expansion of Trade and FDI in Asia*, New York: Routledge.
- OECD (2003) 'Policies and International Integration: Influences on Trade and Foreign Direct Investment', Paris: Organisation for Economic Co-operation and Development.
- Özden, Ç. and Parodi, F.J. (2004) 'Customs Unions and Foreign Investment: Theory and Evidence from MERCOSUR's Auto Industry', Working Papers 282, Santiago: Central Bank of Chile.
- Thangavelu, S.M. and Lim, H. (2011) 'Comprehensive Mapping of FTAs in ASEAN and East Asia: FDI Restrictiveness Index for ASEAN Free Trade Area (AFTA)', ERIA working paper.
- Urata, S. and Sasuya, J. (2007) 'An Analysis of the Restrictions on Foreign Direct Investment in Free Trade Agreements', Japan: Research Institute of Economy, Trade and Industry.
- Urata, S. and Ando, M. (2009) 'Investment Climate Study of ASEAN Member Countries', Jakarta: Economic Research Institute for ASEAN and East Asia.
- World Trade Organisation (2010) Regional Trade Agreements. Available at: http://www.wto.org/english/tratop_e/region_e/region_e.htm
- Yeaple, S. (2003) 'The complex integration strategies of multinationals and cross country dependencies in the structure of foreign direct investment', *Journal of International Economics*, 60: 293-314.
- Yeyati, L.E., Stein, E. and Daude, C. (2003) 'Regional Integration and the Location of FDI', Inter-American Development Bank (IDB) Working Paper 492.
- Yeyati, L.E., Stein, E. and Daude, C. (2004) 'The FTAA and the Location of FDI', Working Papers 281, Santiago: Central Bank of Chile.

Appendix

Table A1. Free Trade Agreements

Association of Southeast Asian Nations, or ASEAN: Indonesia, Malaysia, Philippines, Singapore, Thailand (1967); Brunei (1984); Vietnam (1995); Laos, Myanmar (1997); Cambodia (1999)

Asia Pacific Trade Agreement (APTA): India; Korea; Laos (1976), China (2002)

Australia - New Zealand (ANZCERTA) (1983)

Central European Free Trade Agreement (CEFTA): Czech Republic; Hungary; Poland; Slovak Republic (1992-2004) Croatia (2003)

European Commission (EC)-Mexico (2000): EU Membership and Mexico

EC-Norway (1973): EU Membership and Norway

EC-Switzerland-Liechtenstein (1973): EU Membership and Switzerland, Liechtenstein

EC-Turkey (1996): EU Membership and Turkey

EC(9) Enlargement (1973): Belgium; Denmark; France; Germany; Ireland; Italy; Luxembourg; Netherlands; United Kingdom

EC(10) Enlargement (1981): Belgium; Denmark; France; Germany; Greece; Ireland; Italy; Luxembourg; Netherlands; United Kingdom

EC(12) Enlargement (1986): Belgium; Denmark; France; Germany; Greece; Ireland; Italy; Luxembourg; Netherlands; Portugal; Spain; United Kingdom

EC(15) Enlargement (1995): Austria; Belgium; Denmark; Finland; France; Germany; Greece; Ireland; Italy; Luxembourg; Netherlands; Portugal; Spain; Sweden; United Kingdom

EC(25) Enlargement (2004): Austria; Belgium; Czech Republic; Denmark; Finland; France; Germany; Greece; Hungary; Ireland; Italy; Luxembourg; Netherlands; Poland; Portugal; Slovak Republic; Spain; Sweden; United Kingdom

EC (27) Enlargement (2007): Austria; Belgium; Czech Republic; Denmark; Finland; France; Germany; Greece; Hungary; Ireland; Italy; Luxembourg; Netherlands; Poland; Portugal; Slovak Republic; Spain; Sweden; United Kingdom

EFTA - Korea, Republic of (2006): EFTA Membership and Korea, Republic of

EFTA – Mexico (2001): EFTA Membership and Mexico

EFTA – Singapore (2003): EFTA Membership and Singapore

EFTA – Turkey (1992): EFTA Membership and Turkey

EFTA (1960): Liechtenstein; Norway; Switzerland; Iceland (1970)

European Economic Area (EEA) (1994): Belgium; Denmark; France; Germany; Greece; Iceland;

Ireland; Italy; Luxembourg; Netherlands; Norway; Portugal; Spain; United Kingdom and EU Membership

Global System of Trade Preferences among Developing Countries (GSTP) (1989): India; Indonesia; Korea, Republic of; Malaysia; Mexico; Myanmar; Philippines; Singapore; Thailand; Vietnam

Japan-Mexico (2005)

Japan-Singapore (2002)

Japan-Thailand (2007)

Korea, Republic of – Singapore (2006)

New Zealand-Singapore (2001)

North American Free Trade Agreement (NAFTA): United States; Canada (1989); Mexico (1994)

Singapore–Australia (2003)

South Pacific Regional Trade and Economic Cooperation Agreement (SPARTECA) (1981): Australia; New Zealand

Thailand-Australia (2005)

Thailand-New Zealand (2005)

Trans-Pacific Strategic Economic Partnership (2006): Brunei Darussalam; New Zealand; Singapore

US – Australia (2005)

US – Singapore (2004)

Source: World Trade Organisation (2010) Regional Trade Agreements. Available at: http://www.wto.org/english/tratop_e/region_e/summary_e.xls.

Note: 1) Countries listed in agreements only include those in our sample of 43 countries listed in Appendix Table A2. Years in parentheses denote date of entry.

Table A2. Sample Countries Used in this Study

Source Countries		Host countries			
OECD		OECD		Non-OECD	
1	Australia	1	Australia	31	Brunei Darussalam
2	Austria	2	Austria	32	Cambodia
3	Belgium	3	Belgium	33	China
4	Canada	4	Canada	34	Hong Kong
5	Czech Republic	5	Czech Republic	35	India
6	Denmark	6	Denmark	36	Indonesia
7	Finland	7	Finland	37	Laos
8	France	8	France	38	Malaysia
9	Germany	9	Germany	39	Philippines
10	Greece	10	Greece	40	Singapore
11	Hungary	11	Hungary	41	Taiwan
12	Iceland	12	Iceland	42	Thailand
13	Ireland	13	Ireland	43	Vietnam
14	Italy	14	Italy		
15	Japan	15	Japan		
16	South Korea	16	South Korea		
17	Luxembourg	17	Luxembourg		
18	Mexico	18	Mexico		
19	Netherlands	19	Netherlands		
20	New Zealand	20	New Zealand		
21	Norway	21	Norway		
22	Poland	22	Poland		
23	Portugal	23	Portugal		
24	Slovakia	24	Slovakia		
25	Spain	25	Spain		
26	Sweden	26	Sweden		
27	Switzerland	27	Switzerland		
28	Turkey	28	Turkey		
29	United Kingdom	29	United Kingdom		
30	United States	30	United States		