Chapter 13

Intra-Developing Asia FDI Flows: Magnitudes, Trends and Determinants

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March 2008

This chapter should be cited as
Rajan, R. S. (2008), 'Intra-Developing Asia FDI Flows: Magnitudes, Trends and Determinants', in Soesastro, H. (ed.), *Deepening Economic Integration- The ASEAN Economic Community and Beyond-*, ERIA Research Project Report 2007-1-2, Chiba: IDE-JETRO, pp.204-238.

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Ramkishen S. Rajan[*]

INTRODUCTION

Global economic expansion has been increasingly fuelled by the rapid growth in and transformation of China and India along with the revitalization of Japan and the recovery of the emerging economies in Southeast Asia and North Asia from the crisis of 1997-98. While Asia has been integrating rapidly with the global economy, there is clear evidence of closer *de facto* intra-developing Asian integration as well. While the focus of a great deal of scholarly work thus far has been on intra-Asian integration of trade flows and business cycle synchronizations, there are signs that intra-Asian capital flows have also been intensifying (see Kharas et al., 2006 in the case of East Asia). Of particular interest in this regard has been the rise of intra-regional FDI flows. Certainly, investments in the region by Japanese multinationals are not something new, having been fuelled partly by the Plaza Accord of 1984-85. This was followed by intra-regional investments by companies from high income economies such as Hong Kong, Korea, Singapore and Taiwan.

An interesting phenomenon in recent times (since early 2000), however, has been the rise of investments by Chinese and Indian companies around the world and in particular, in the rest of Asia. Anecdotal evidence of this phenomenon abounds, with many multinationals from China and India being in particularly expansive mood. In other words, intra-Asian FDI flows are no longer a North-South phenomenon but increasingly a South-South one as well. Much of these South-South investments tend to invest close to their home economy in the immediate neighbourhood or region (Aykut

[*] This paper was co-authored with Rabin Hattari.

and Goldstein, 2006) and in countries with similar levels of development (World Bank, 2006). The phenomenon of South-South FDI flows, particularly those arising from multinationals from China and India, has generated significant interest from policymakers, academia and the popular press in recent times (see reference list). The limited aggregate data that is available indicates South-South FDI to have increased almost three-fold (from $14 billion in 1995 to $47 billion in 2003), and accounts for almost 37 percent of total FDI flows to developing countries, up from 15 percent in 1995 (Table 1).

Table 1: Growing Importance of South-South FDI, 1995-2003 (US$ billions)

	1995	1999	2000	2001	2002	2003e
Total inflows (1)	90.3	163.5	154.7	159.3	135.3	129.6
from high-income OECD (2)	48.1	95.4	93.7	84.8	55.1	59.4
from high-income non-OECD (3)	28.2	35.0	22.7	24.8	27.2	22.8
South-South FDI (1)-(2)-(3)	14.0	33.1	38.3	49.7	53.0	47.4
South-South FDI (percent)	15.5	20.2	24.8	31.2	39.2	36.6

Note: The South–South estimates are based on 35 countries that account for 85 percent of total FDI flows to developing countries. The estimates are based on the World Bank's classification of developing countries.

Source: World Bank (2006).

The Chinese government has stated its intention to help develop 30-50 "national champions" that can "go global" by 2010 (Accenture, 2006 and Sauvant, 2005). Given this, along with aggressive overseas acquisition plans by cash-rich and highly confident firms from India, Hong Kong, Korea and Taiwan, as well as by national holdings companies and sovereign wealth funds (SWFs) in China, Singapore Malaysia and elsewhere, outward investments by Asian companies are set to rise further both intra-regionally and globally. Apart from the usual efficiency-seeking, resource-seeking and market-seeking investments, outward FDI from developing Asia is motivated by a desire to build a global presence and buy brand names, technology, processes, management know-how and marketing and distribution networks. The international expansion of some Asian firms may also have been motivated by a desire to offset or

diversify risks at home, for tariff-jumping reasons, geopolitical factors, etc.[1] Policy makers in many Asian countries have been particularly keen on promoting an internationalization thrust and have facilitated outward FDI via gradual liberalization of rules governing capital account outflows and in many cases, providing a financing mechanism to domestic firms looking to invest abroad.[2]

While Asian entities have become significant foreign direct investors abroad, a large share of outward investments from Asia may have been recycled intraregionally. According to some very rough estimates, intra-Asian FDI flows in 2004 have accounted for about 40 percent of Asia's total FDI inflows in 2004 (Kwan and Cheung, 2006; also see UNCTAD, 2006, Chapter 2). If correct, this share is broadly comparable to the extent of intra-Asian trade flows. However, unlike trade flows there has been little to no detailed examination of FDI flows between Asian economies at a bilateral level. This paper uses bilateral FDI flows data to investigate trends and drivers of intra-Asian FDI flows over the period 1997 to 2004-2005. Eichengreen and Tong (2007), Li, Chow and Li (2007) and Sudsawasd and Chaisrisawatsuk (2006) are three of possibly just a handful of papers that examine FDI to Asia using bilateral data. However, these papers only consider FDI from OECD economies as the source economy since they use data from the OECD.[3] In contrast, the focus of this paper is on developing Asian economies (i.e. Asia ex Japan) as the sources of FDI to other developing Asian economies using data from UNCTAD.

The remainder of the paper is organized as follows. Section 3 discusses broad patterns and trends in intra-Asia FDI flows using bilateral net FDI flows over the period 1990 to 2005. Section 3 employs a slightly augmented gravity model framework to examine the main determinants of intra-Asian FDI flows using bilateral data based on a panel dataset. The final section offers a few concluding remarks.

2. DEFINITIONS AND DATA SOURCES OF FDI

Before analyzing the FDI data, it might be instructive to say a few words on the official definition of FDI and data sources to be used. According to the IMF *Balance of Payments Manual (5th Edition, 1993)*:

> FDI refers to an investment made to acquire lasting interest in enterprises operating outside of the economy of the investor. Further, in cases of FDI, the investor´s purpose is to gain an effective voice in the management of the enterprise. The foreign entity or group of associated entities that makes the investment is termed the 'direct investor'. The unincorporated or incorporated enterprise-a branch or subsidiary, respectively, in which direct investment is made-is referred to as a 'direct investment enterprise'.

At an operational level, FDI commonly bears three broad characteristics. First, it refers to a source of external financing rather than necessarily net physical investment or real activity per se.[4] Second, as a matter of convention FDI involves a 10 percent threshold value of ownership. Third, FDI consists of both the initial transaction that creates (or liquidates) investments as well as subsequent transactions between the direct investor and the direct investment enterprises aimed at maintaining, expanding or reducing investments. More specifically, FDI is defined as consisting of three broad aspects, viz. new foreign equity flows (which is the foreign investor's purchases of shares in an enterprise in a foreign economy), intra-company debt transactions (which refer to short-term or long-term borrowing and lending of funds including debt securities and trade credits between the parent company and its affiliates) and reinvested earnings (which comprises the investor's share of earnings not distributed as dividends by affiliates or remitted to the home economy, but rather reinvested in the host economy). New equity flows could either be in the form of M&A of existing local enterprises or Greenfield investments (i.e. establishment of new production facilities).[5]

While this is the most common definition as set out by the OECD *Benchmark Definition of FDI* (3rd Edition, 1996) and IMF *Balance of Payments Manual (5th Edition*,

1993*)*, it is not always adhered to by all countries systematically. In fact, reported outward FDI often tends to be under-reported as it often excludes the financing and reinvested components. For emerging economies, the two most comprehensive databases on FDI inflows and outflows are IMF-BoP Manual and UNCTAD (see Duce, 2003 for a comparison of the two sources). Neither source divides FDI into M&A versus Greenfield investments.[6] While most M&A statistics are compiled by commercial data sources, they tend to include announced rather than actual financial flows and some of the announced flows may not even include activities considered to be FDI (as defined above). More to the point, announced flows often includes funding of capital via equity from local minority share-holders or local/international borrowing (as opposed to funds from the parent or sister companies) and are thus of limited use for the purposes at hand.

For developing economies, the two most comprehensive databases on FDI inflows and outflows are IMF-BoP Manual and UNCTAD (see Duce, 2003 for a comparison of the two sources). Neither source divides FDI into M&A versus Greenfield investments.[7] UNCTAD by far has the most complete FDI database, and unlike the IMF-BOP data, it compiles data on *bilateral* FDI flows -- both inflows and outflows.[8] The UNCTAD data are on a net basis (capital transactions credits less debits between direct investors and their foreign affiliates). The main sources for UNCTAD's FDI flows are national authorities (central banks or statistical office). These data are further complemented by data obtained from other international organizations such as the IMF, the World Bank (*World Development Indicators*), the Organisation for Economic Co-operation and Development (OECD), the Economic Commission for Europe (ECE) and the Economic Commission for Latin America and the Caribbean (ECLAC), and UNCTAD´s own estimates.

3. THE EXTENT OF INTRA-ASIAN FDI FLOWS: TRENDS AND PATTERNS

One could analyze FDI data on either *stocks* (i.e. International Investment Positions) or *flows* (i.e. financial account transactions) data. While much empirical analysis to date has been undertaken using the former, changes in stocks could arise either because of net new flows or because of valuation changes and other adjustments (such write-offs, reclassifications etc). To abstract from these valuation and other changes we primarily consider data on flows of outward FDI (net decreases in assets or when a foreign economy invests in the economy in question) and inward FDI (net increases in liabilities or when the source economy invests abroad). Our focus is on selected South, Southeast and East Asian developing economies. The economies included in our sample are Bangladesh, Cambodia, China (Mainland), Hong Kong, India, Indonesia, Malaysia, Pakistan, the Philippines, Singapore, Taiwan, Thailand, South Korea, and Vietnam. Thus, apart from excluding West Asia and some smaller Asian economies in South, South-East and East Asia, we exclude Japan but follow UNCTAD in defining the NIEs like Hong Kong, Singapore, South Korea and Taiwan as "developing".

3.1. Aggregate inflows to and outflows from developing Asia

Table 2 reveals relative shares of global FDI inflows and outflows as well as inward and outward stocks. As is apparent, the Triad (the EU, Japan and the United States) continue to dominate both as sources and destinations of FDI in terms of both stocks and flows. However, it is interesting to note that in 2003-2005 the Triad's share of FDI flows declined to a low of below 60 percent compared to about 80 percent on average between 1978 and 1990, while that to developing economies rose to a corresponding high of 40 percent, over half of which was destined to Asia. The share of FDI outflows from developing economies which were negligible until the mid 1980s, rose to about 15 percent of world outflows in 2005. According to the UNCTAD (2006), the stock of outward FDI from developing economies rose from around $70 billion in

1980 to about $150 billion in 1990 and to more than $1 trillion in 2005. However, as Table 2 makes apparent, this 2005 figures was still only 12 percent of global outward FDI stocks, little different from 1980. Thus, while the FDI outflows from developing economies appear to be rising relative to their developed economy counterparts, it has made little difference to the existing relative stocks of FDI.

Table 3 focuses specifically on FDI inflows and outflows of selected Asian developing economies between 1990 and 2005 compiled by the authors from UNCTAD sources. Between 1990 and 1996, FDI inflows to Asia grew at an average annual rate of just over US$ 50 billion, while outflows grew at a rate of US$ 30 billion during the same period. Buoyant global economic conditions and the liberalization of most of the Asian economies in the early 1990s led to an influx of FDI inflows to the region. In contrast, during 1997 to 2005 average annual FDI growth in outflows from Asia outpaced inflows to Asia (US$ 29 billion on average compared with US$ 50 billion annually).

The two countries with the highest magnitudes of inflows and outflows are Mainland China and Hong Kong. In both of our sample periods 1990 to 1996 and 1997 to 2005, Mainland China has been the single largest destination of FDI, constituting about two-fifths of inflows to developing Asia during the last 15 years. More specifically, for the period 1990 to 1996, the average FDI inflows to Mainland China was around US$ 20 billion, while for the second sub-period, 1997 to 2005, the average FDI inflows to Mainland China crossed US$ 50 billion. With regard to outflows, Hong Kong is clearly the single largest source of FDI outflows from Asia. FDI outflows from Hong Kong averaged just under US$ 15 billion annually in the first sub-period and over US$ 25 billion in the second sub-period.[9] As will be noted below, a large part of outflows from Hong Kong is bound for Mainland China, some of which is due to round-tripping from the Mainland to begin with. This round-tripping significantly inflates the amount of outward FDI from the Mainland which itself experienced a spurt between 1990 and 2005 (UNCTAD, 2006, p.12).[10]

Table 2: Distribution of FDI by Region and Selected Countries, 1980-2005 (in percent)

Region	Inward Stock				Outward Stock			
	1980	1990	2000	2005	1980	1990	2000	2005
Developed Economies	75.6	79.3	68.5	70.3	87.3	91.7	86.2	86.9
European Union	42.5	42.9	37.6	44.4	37.2	45.2	47.1	51.3
Japan	0.6	0.6	0.9	1.0	3.4	11.2	4.3	3.6
United States	14.8	22.1	21.7	16.0	37.7	24.0	20.3	19.2
Developing Economies	24.4	20.7	30.3	27.2	12.7	8.3	13.5	11.9
Africa	6.9	3.3	2.6	2.6	1.3	1.1	0.7	0.5
Latin America and the Caribbean	7.1	6.6	9.3	9.3	6.5	3.4	3.3	3.2
Asia	10.5	10.8	18.4	15.4	2.9	3.8	9.5	8.2
West Asia	1.4	2.2	1.1	1.5	0.3	0.4	0.2	0.3
South, East and South-East Asia	8.8	8.5	17.2	13.8	2.5	3.4	9.3	7.6
South-East Europe and CIS	-	0.01	1.2	2.5	-	0.01	0.3	1.2
World	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Region	Inflow				Outflow			
	1978-1980	1988-1990	1998-2000	2003-2005	1978-1980	1988-1990	1998-2000	2003-2005
Developed Economies	79.7	82.5	77.3	59.4	97.0	93.1	90.4	85.8
European Union	39.1	40.3	46.0	40.7	44.8	50.6	64.4	54.6
Japan	0.4	0.04	0.8	0.8	4.9	19.7	2.6	4.9
United States	23.8	31.5	24.0	12.5	39.7	13.6	15.9	15.7
Developing Economies	20.3	17.5	21.7	35.9	3.0	6.9	9.4	12.3
Africa	2.0	1.9	1.0	3.0	1.0	0.4	0.2	0.2
Latin America and the Caribbean	13.0	5.0	9.7	11.5	1.1	1.0	4.1	3.5
Asia	5.3	10.5	11.0	21.4	0.9	5.6	5.1	8.6
West Asia	-1.6	0.3	0.3	3.0	0.3	0.5	0.1	1.0
South, East and South-East Asia	6.7	10.0	10.7	18.4	0.6	5.1	5.0	7.7
South-East Europe and CIS	0.0	0.02	0.9	4.7	-	0.01	0.2	1.8
World	100.0	100.0	99.9	100.0	100.0	100.0	100.0	100.0

Source: UNCTAD FDI/TNC database.

Table 3: FDI Inflows and Outflows of Selected Asian Countries (In billions of U.S. dollars)

	1990-1996	*1997-2005*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*
Inflows											
World	*248.30*	*816.23*	*489.71*	*712.03*	*1,099.92*	*1,409.57*	*832.25*	*617.73*	*557.87*	*710.75*	*916.28*
Asia (excluding Japan)	*51.31*	*114.56*	*100.40*	*91.06*	*108.66*	*143.83*	*103.99*	*88.61*	*93.72*	*137.02*	*163.72*
NIEs ex Hong Kong	*9.18*	*21.55*	*18.64*	*12.60*	*29.13*	*30.06*	*23.62*	*11.83*	*14.72*	*24.45*	*28.91*
Korea	2.34	5.75	2.64	5.07	9.63	8.65	3.87	3.04	3.89	7.73	7.20
Singapore	5.89	13.60	13.75	7.31	16.58	16.48	15.65	7.34	10.38	14.82	20.08
Taiwan POC	0.95	2.21	2.25	0.22	2.93	4.93	4.11	1.45	0.45	1.90	1.63
China	*25.00*	*76.40*	*56.63*	*60.23*	*64.90*	*102.64*	*70.65*	*62.42*	*67.13*	*94.66*	*108.30*
China: Mainland	20.43	50.88	45.26	45.46	40.32	40.71	46.88	52.74	53.51	60.63	72.41
Hong Kong SAR	4.57	25.52	11.37	14.76	24.58	61.92	23.78	9.68	13.62	34.03	35.90
ASEAN-4	*8.48*	*8.50*	*16.13*	*11.72*	*9.37*	*4.83*	*1.66*	*5.84*	*4.32*	*8.62*	*14.05*
Indonesia	2.71	0.19	4.68	-0.24	-1.87	-4.55	-2.98	0.15	-0.60	1.90	5.26
Malaysia	3.62	3.50	6.32	2.71	3.90	3.79	0.55	3.20	2.47	4.62	3.97
Philippines	0.92	1.17	1.25	1.75	1.25	2.24	0.20	1.54	0.49	0.69	1.13
Thailand	1.23	3.63	3.88	7.49	6.09	3.35	3.89	0.95	1.95	1.41	3.69
South Asia	*2.44*	*5.90*	*5.34*	*3.87*	*3.21*	*4.65*	*6.38*	*6.97*	*5.70*	*7.29*	*9.75*
India	1.38	4.42	3.62	2.63	2.17	3.59	5.47	5.63	4.59	5.47	6.60
Pakistan	0.34	0.79	0.71	0.51	0.53	0.31	0.38	0.82	0.53	1.12	2.18
Sri Lanka	0.09	0.23	0.43	0.15	0.20	0.17	0.17	0.20	0.23	0.23	0.27
Bangladesh	0.63	0.47	0.58	0.58	0.31	0.58	0.35	0.33	0.35	0.46	0.69

Table 3 (continued): FDI Inflows and Outflows of Selected Asian Countries (In billions of U.S. dollars)

	1990-1996	*1997-2005*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*
Outflows											
World	*269.72*	*776.31*	*483.14*	*694.40*	*1,108.17*	*1,244.47*	*764.20*	*539.54*	*561.10*	*813.07*	*778.73*
Asia (excluding Japan)	*29.14*	*50.05*	*51.23*	*31.69*	*39.87*	*80.69*	*48.35*	*33.76*	*21.15*	*76.11*	*67.63*
NIEs ex Hong Kong	*8.92*	*16.87*	*20.60*	*10.74*	*16.62*	*17.62*	*28.07*	*9.79*	*12.25*	*20.32*	*15.86*
Korea	2.25	3.98	4.45	4.74	4.20	5.00	2.42	2.62	3.43	4.66	4.31
Singapore	3.62	7.40	10.90	2.16	8.00	5.92	20.17	2.29	3.14	8.51	5.52
Taiwan POC	3.05	5.49	5.24	3.84	4.42	6.70	5.48	4.89	5.68	7.15	6.03
China	*17.21*	*29.22*	*26.97*	*19.62*	*21.14*	*60.27*	*18.23*	*19.98*	*5.34*	*47.52*	*43.87*
China: Mainland	2.32	3.36	2.56	2.63	1.77	0.92	6.89	2.52	-0.15	1.81	11.31
Hong Kong SAR	14.89	25.85	24.41	16.98	19.37	59.35	11.35	17.46	5.49	45.72	32.56
ASEAN-4	*2.94*	*2.96*	*3.57*	*1.20*	*1.98*	*2.28*	*0.60*	*2.26*	*2.17*	*6.17*	*6.44*
Indonesia	0.91	0.80	0.18	0.04	0.07	0.15	0.13	0.18	0.01	3.41	3.07
Malaysia	1.44	1.73	2.68	0.86	1.42	2.03	0.27	1.90	1.37	2.06	2.97
Philippines	0.16	0.17	0.14	0.16	0.13	0.13	-0.14	0.07	0.30	0.58	0.16
Thailand	0.43	0.26	0.58	0.13	0.35	-0.02	0.35	0.11	0.49	0.13	0.25
South Asia	*0.07*	*1.00*	*0.10*	*0.11*	*0.13*	*0.52*	*1.45*	*1.72*	*1.38*	*2.09*	*1.46*
India	0.07	0.95	0.11	0.05	0.08	0.51	1.40	1.68	1.33	2.02	1.36
Pakistan	0.00	0.03	-0.02	0.05	0.02	0.01	0.03	0.03	0.02	0.06	0.04
Sri Lanka	0.00	0.01	0.01	0.01	0.02	0.00	0.00	0.01	0.03	0.01	0.04
Bangladesh	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.01	0.01

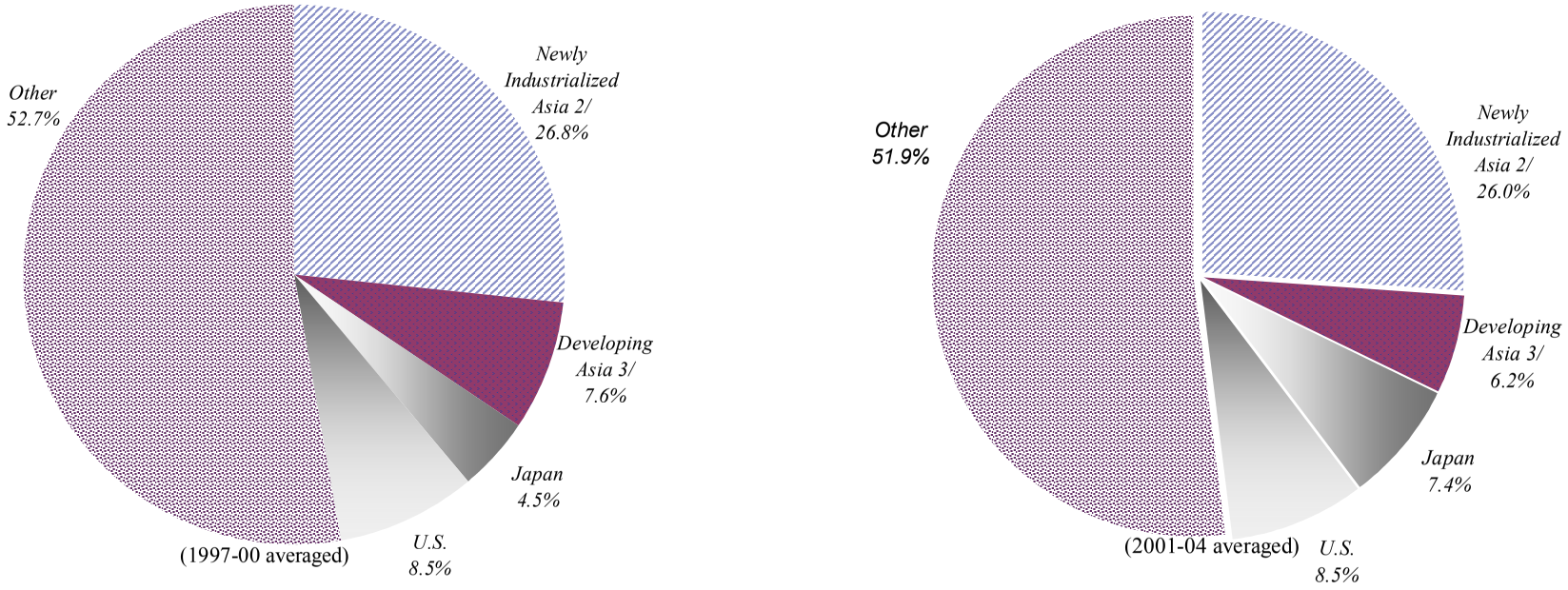
Source: UNCTAD FDI/TNC database.

Referring again to Table 3, apart from Hong Kong and China, the three NIEs of Singapore, South Korea and Taiwan have consistently remained among the top developing economy sources of FDI over the last two decades. Malaysia (a near-NIE) is also notable for the size of their outward FDI flows, particularly since the 1990s. While there is not necessarily a one-to-one link between nationality of TNCs and FDI outflows, it is instructive to note that the handful of firms from developing economies that made the top 100 list were from Hong Kong, Taiwan, Mainland China, Singapore, Korea and Malaysia. TNCs from the first four economies (i.e. Greater China and Singapore) constituted 60 percent of the top 100 TNC from developing economies (UNCTAD, 2006, Chapter 1).

3.2 Intraregional Asian FDI flows: A first look

Having considered broad economy aggregate outflows and inflows to and from Asia, we analyze bilateral FDI between Asian economies. This exercise is far from straightforward. UNCTAD data on inflows and outflows do not match exactly (also see UNCTAD, 2006, Chapter 3). It is apparent that UNCTAD FDI outflows data from source countries are incomplete for many countries. While some source countries have relatively complete outflows data, others either have incomplete data or no data all. Different reporting practices of FDI data create bilateral discrepancies between FDI flows reported by source and host countries, and the differences can be quite large. For example, data on FDI flows to China as reported by the Chinese authorities and by the investing countries' authorities differ by roughly US$ 30 billion in 2001, US$ 8 billion in 2001, and US$ 2 billion in 2002.[11] Faced with these concerns we draw inferences on FDI flows by examining FDI inflow data reported in the host economies as they are more complete and are available for all developing Asian economies under consideration. In other words, we focus on the *sources of inflows* rather than *destination of outflows*. To keep the analysis manageable we examine data for the averages of 1997 to 2000, and 2001 to 2005 rather than on an annual basis.[12]

Figure 1: Source of FDI inflows, 1997-2004



Source: UNCTAD.

1/ Asia consists of Newly Industrialized Asia, ASEAN-4, China, India, Low Income Asia, and Other Asia.

2/ Newly Industrialized Asia consists of Korea and Singapore.

3/ Developing Asia consists of ASEAN-4, China, India, Low Income Asia, and Other Asia.

Table 4: Average of intra-Asian bilateral FDI outward flows

(In millions of U.S. dollars, unless otherwise noted)

	Host region 1/					
	(1997-00)			(2001-05)		
	Asia 2/	*In percent of Asia*	*In percent of World*	*Asia 2/*	*In percent of Asia*	*In percent of World*
Donor countries						
Newly Industrilized Asia	*11,051.3*	*28.7*	*1.2*	*9,490.7*	*27.0*	*1.4*
Korea	656.4	1.7	0.1	276.8	0.8	0.0
Singapore	7,018.5	18.2	0.8	5,197.2	14.8	0.8
Taiwan POC	3,376.5	8.8	0.4	4,016.6	11.4	0.6
ASEAN-4	*1,101.2*	*2.9*	*0.1*	*1,129.2*	*3.2*	*0.2*
Indonesia	254.9	0.7	0.0	194.5	0.6	0.0
Malaysia	376.6	1.0	0.0	433.3	1.2	0.1
Philippines	180.4	0.5	0.0	263.8	0.8	0.0
Thailand	289.3	0.8	0.0	237.6	0.7	0.0
China	*26,226.6*	*68.2*	*2.8*	*24,436.0*	*69.6*	*3.6*
Mainland China	7,356.8	19.1	0.8	5,651.7	16.1	0.8
Hong Kong SAR	18,869.8	49.1	2.0	18,784.3	53.5	2.8
India	*43.9*	0.1	0.0	34.9	0.1	0.0
Low Income Asia	*10.7*	*0.0*	*0.0*	*5.5*	*0.0*	*0.0*
Bangladesh	0.2	0.0	0.0	0.5	0.0	0.0
Cambodia	0.5	0.0	0.0	3.1	0.0	0.0
Lao PDR	2.6	0.0	0.0	-0.5	0.0	0.0
Myanmar	4.7	0.0	0.0	2.2	0.0	0.0
Sri Lanka	2.7	0.0	0.0	0.2	0.0	0.0
Vietnam	0.0	0.0	0.0	0.0	0.0	0.0
Other Asia	*26.4*	*0.1*	*0.0*	*17.4*	*0.0*	*0.0*
Pakistan	1.4	0.0	0.0	6.2	0.0	0.0
Brunei Darussalam	25.1	0.1	0.0	11.1	0.0	0.0
Developing Asia 3/	*27,408.9*	*71.3*	*3.0*	*25,623.0*	*73.0*	*3.8*
Asia 2/	***38,460.2***	***100.0***	***4.1***	***35,113.6***	***100.0***	***5.2***

Note: 1/ Asia data is based on FDI inflow data in host economy; world data is based on FDI outflow from donor economy. 2/ Asia consists of Newly Industrialized Asia, ASEAN-4, China, India, Low Income Asia, and Other Asia. 3/ Developing Asia consists of ASEAN-4, China, India, Low Income Asia, and Other Asia.
Source: UNCTAD FDI/TNC database.

FDI inflows between Asian countries averaged around US$ 37 billion between 1997 and 2005. This has constituted about one-third of all FDI inflows to the region. Intra-regional FDI rises to over 40 percent if we include Japan as a source economy (Table 4 and Figure 1). Intra-Asian FDI flows are particularly pronounced between and within East Asian economies and South-East Asia economies. This is more clearly apparent from Table 5 which emphasizes that the intra-East Asia bilateral flows are the highest in Asia with an average of US$ 28 billion for the period of 1997 to 2005.

Table 5: Average intra-Asian bilateral FDI flows (US$, Mil.) [1/]

	Host region					
	(1997-00)			(2001-05)		
	East Asia [2/]	*South-East Asia*	*South Asia* [4/]	*East Asia* [2/]	*South-East Asia*	*South Asia* [4/]
Donor region						
East Asia [2/]	28,453.6	1,604.2	201.6	27,482.5	1,168.1	78.9
South-East Asia [3/]	6,328.7	1,748.2	86.6	3,622.3	2,641.7	111.1
South Asia [4/]	0.0	43.4	5.2	0.0	27.9	14.6
Rest of the world	45,393.3	20,845.5	3,971.4	49,070.8	20,403.7	4,060.3

Note: 1/ Based on FDI inflow data in host economy. 2/ East Asia consists of China, Hong Kong SAR, Korea, Taiwan POC, Macau SAR, and Mongolia. 3/ South-East Asia consists of Brunei Darussalam, Cambodia, Lao PDR, Malaysia, Myanmar, Singapore, Philippines, Thailand, and Vietnam. 4/ South Asia consists of Bangladesh, India, Maldives, Sri Lanka, and Pakistan.
Source: UNCTAD FDI/TNC database.

Table 6: Top 20 bilateral FDI flow between Asian countries

		Average		In percent to Asia	
Donor	Host	(1997-00)	(2001-05)	(1997-00)	(2001-05)
Hong Kong SAR	China	17,750.8	17,819.1	46.2	50.7
China	Hong Kong SAR	7,266.9	5,459.4	18.9	15.5
Singapore	China	2,706.3	2,136.7	7.0	6.1
Singapore	Hong Kong SAR	2,835.3	353.1	7.4	1.0
Singapore	Malaysia	844.1	1,133.8	2.2	3.2
Singapore	Thailand	441.7	1,381.9	1.1	3.9
Malaysia	China	290.8	316.7	0.8	0.9
Hong Kong SAR	Malaysia	272.3	296.5	0.7	0.8
Hong Kong SAR	Thailand	360.1	160.8	0.9	0.5
Korea	Hong Kong SAR	313.0	155.7	0.8	0.4
Thailand	China	185.8	183.7	0.5	0.5
Philippines	China	135.9	212.2	0.4	0.6
Hong Kong SAR	Singapore	250.1	81.9	0.7	0.2
Malaysia	Hong Kong SAR	62.0	147.2	0.2	0.4
Singapore	Philippines	88.9	76.1	0.2	0.2
Hong Kong SAR	Korea	79.2	51.5	0.2	0.1
Thailand	Hong Kong SAR	-3.1	110.7	0.0	0.3
Hong Kong SAR	Philippines	50.0	54.4	0.1	0.2
Singapore	India	22.0	67.6	0.1	0.2
China	Singapore	-17.3	99.9	0.0	0.3
China	Philippines	71.8	-0.1	0.2	0.0
India	Singapore	36.8	24.9	0.1	0.1
Philippines	Thailand	4.9	48.4	0.0	0.1
China	Cambodia	18.3	33.4	0.0	0.1
Malaysia	Cambodia	24.9	16.7	0.1	0.0
Malaysia	Thailand	19.4	21.2	0.1	0.1
Singapore	Cambodia	19.6	12.9	0.1	0.0
Thailand	Cambodia	19.1	13.4	0.0	0.0
Philippines	Malaysia	6.3	18.7	0.0	0.1
Malaysia	Bangladesh	5.1	19.4	0.0	0.1

Note: Based on FDI inflow data in host economy.
Source: UNCTAD FDI database.

Consideration of intra-Asian bilateral flows highlights a few other important characteristics of intra-Asian FDI flows (Tables 4-6).

First, the leading investors from the region have stayed the same between 1997 to 2006, with Hong Kong as the top Asian investor, followed by Singapore, Taiwan, Korea, China, and Malaysia, in that order. The importance of China as a source of capital is noteworthy in that there has been a great deal of debate on whether China has diverted extra-regional FDI from the rest of Southeast and East Asia (for instance, see Chantasasawat et al., 2004, Eichengreen and Tong, 2007, Li, Chow and Li, 2007, Mercereau, 2005 and Sudsawasd and Chaisrisawatsuk, 2006).[13]

Second, the average of FDI flows from Hong Kong to China and vice versa from 1997 to 2005 has been around US$ 24 billion and accounts for almost of two-thirds of intra-Asia flows. While Hong Kong's FDI to the Mainland has remained stable between the two sub-periods, that from the Mainland to Hong Kong has declined.

Third, almost three-fifths of flows from East Asia to South-East Asia have been destined for the relatively higher-income South-East economies, viz. Singapore, Malaysia, Philippines and Thailand. Singapore has attracted about half of all East Asian FDI destined for South-East Asia. Conversely, Singapore has been a particularly important investor in the region, with flows from the city state largely destined to China, Hong Kong as well as South-East Asia.

Fourth, intra South-East Asia investment accounted for just over 10 percent of FDI flows in Asia between 1997 and 2005. Comparing the two sample periods, intra South-East Asia's investment share of cumulative FDI flows in Asia increased between the two periods from 8 percent in 1997-2000 to 12 percent in 2001-2005, with Singapore as the leading investor in both periods. Singapore's investments to its South-East Asian neighbors, Malaysia and especially Thailand, have increased in the second sub-period. According to Table 7, Singapore's inflows to Malaysia and Thailand have constituted the bulk of intra-South-East Asia flows -- 78 percent in the first sub-period and massive 97 percent in the second sub-period.

Table 7: Top 7 bilateral flows between ASEAN countries (US$. Mil.) [1/]

Source	Host	Average		In percent of total Intra-ASEAN FDI inflows	
		(1997-00)	(2001-05)	(1997-00)	(2001-05)
Singapore	Malaysia	844.1	1,273.3	51.2	46.5
Singapore	Thailand	441.7	1,381.9	26.8	50.4
Singapore	Philippines	88.9	95.0	5.4	3.5
Indonesia	Singapore	104.5	16.1	6.3	0.6
Philippines	Thailand	4.9	48.4	0.3	1.8
Indonesia	Malaysia	26.0	15.8	1.6	0.6
Malaysia	Thailand	19.4	21.	1.2	0.8

Note: 1/ Based on FDI inflows data in host economy.
Source: UNCTAD FDI database.

Fifth, FDI flows between East Asia and South Asia remains low and stagnant, with most of the limited interest in South Asia having involved India. India is becoming an important host from for investments from Korea, Hong Kong and Singapore. [14] Conversely, many Indian firms use Singapore as a regional headquarters, particularly following the signing of a bilateral Comprehensive Economic Cooperation Agreement (CECA). More interestingly, a great deal of investments into India has thus far taken the form of foreign portfolio investments which have purchased stakes in existing Indian enterprises or in the form of private equity (including venture capital). These flows do not necessarily show up in the FDI statistics but are clearly contributing to domestic investment in India which has been rising rapidly. In addition, Mauritius has low corporate tax and has signed a liberal Double taxation agreement (DTA) with India. As such, many investments from other sources have been re-routed to India via Mauritius which has consistently been the top source of FDI to India, but this not captured in our data. Therefore, the actual extent of flows of FDI between India and East and Southeast Asia may be understated.[15]

In relation to the last point, it is important to note that the data analyzed above exclude the offshore financial centers (OFCs) such as the British Virgin islands (BVI), Bermuda, Cayman islands, Mauritius and Western Samoa as sources of FDI. Insofar as at least some part of inflows from the OFCs involve FDI that originated from other Asian economies, and the inflows are not destined back to originating economy (i.e. trans-shipping as opposed to round-tripping), we may be undercounting the size of

intra-Asian FDI flows. For instance, the BVI has consistently been the second largest source of FDI into China, surpassed only by Hong Kong, with the Cayman Islands and Western Samoa also being among the top 10 in 2006.[16]

4. DETERMINANTS OF FDI OUTFLOWS FROM ASIA

The previous section has highlighted the extent of FDI outflows from developing countries and more specifically, the intensification of intraregional FDI flows. But what explains the rise of intraregional FDI flows in Asia? This section undertakes an empirical investigation of some of the possible determinants of FDI flows from Emerging Asia to the rest of the region over the period 1997 to 2005. Can a gravity model framework that is commonly used to rationalize outward FDI flows from OECD economies be used to understand intra-ASIAN FDI flows?

4.1. The model

The aim of this section is to develop a relatively parsimonious model which includes commonly-used determinants as well as focus on specific bilateral variables. To this end we follow the basic gravity type framework which argues that market size and distance are important determinants in the choice of location of direct investment's source countries. The theoretical basis for a gravity model of FDI has recently been proposed by Head and Ries (2007). The model has been used in a host of papers with some variations.[17]

Our sample is based on annual data on 14 source countries and 10 host countries between 1990 and 2005. The data contains a large number of missing variables - approximately 40 percent - and a very small number of disinvestment figures—approximately 50 observations (shown in the data as negative). A missing variable for bilateral FDI may indicate either "unreported FDI", reflecting the fact that the two countries have chosen to report low FDI values as zero, or "no FDI," indicating no FDI flows between the two. After a thorough observation of our data we feel that most of missing variables in our dataset happen because of "no FDI". As for the negative

disinvestment figures, we treated them as zero observations since they represent no investment in the destination countries. Following normal convention in treating missing variables in bilateral data (see Eichengreen and Irwin, 1995 and Stein and Daude, 2007), we expressed the dependent variable as ln(1 + FDI).[18] This gives us around 1456 observations.

The basic specification of our estimated model is outlined below:

$$\ln(1+\mathrm{FDI}_{ijt}) = \beta_0 + \beta_1 \ln(\mathrm{GDP}_{jt}) + \beta_2 \ln(\mathrm{GDP}_{it}) + \beta_3 \mathrm{LANG}_{ij} + \beta_4 \ln(\mathrm{DIST}_{ij}) + \beta_4 \mathrm{X}_{ijt} + \lambda_t + \nu_{ijt} \quad (1)$$

where: FDI_{ijt} is the FDI inflow to host economy (j) from the host economy (i) in time (t); GDP_{it} and GDP_{jt} are nominal GDPs for the source economy (i) and the host economy (j) in time (t); LANG_{ij} is a binary variable equal to 1 if the source and host countries have same official language; DIST_{ij} is the geographical distance between host and source countries; X_{ijt} is a vector of control variables influencing FDI outflows; λ_t denotes the unobservable time effects (we use year dummies); and ν_{ijt} is a nuisance term.

The set of controls used are: difference in GDP per capita of the host and source countries, lag of export of goods from economy *i* to *j*; volatility of exchange rate of *i* with respect to *j* (constructed by first taking the log difference of end-of-month exchange rates and then calculating a five-years rolling standard deviation), nominal exchange rate of *i* with respect to *j*; average corporate tax rates in economy *j*; a political risk index in economy *j*; and a binary variable equal to 1 if *i* and *j* have a free trade agreement.

We expect the coefficients of the GDP of the source and destination countries to both be positive as they proxy for masses which are important in gravity models.[19] A destination economy that has a large market tends to attract more market-seeking FDI. The sign of the source economy size is ambiguous. While large GDP could indicates greater aggregate income and therefore higher ability to invest abroad, small GDP implies limited market size and consequent desire by companies to expand their wings overseas to gain market share. The sign for distance from the source to the host

economy should be negative, as greater distance between countries makes a foreign operation more difficult and expensive to supervise and might therefore discourage FDI.[20] Apart from these standard variables included in the gravity model, we have also included a set of controls on trade, exchange rates, institutions, etc.[21]

The prior sign of the difference in GDP per capita (source minus host) is unclear, depending on whether FDI flows are vertical or horizontal in nature. However, a positive sign may also suggest that FDI flows could help reduce income gap between countries. The nexus between FDI and trade is similarly ambiguous a priori. Insofar as both are a means of servicing a market, they could be competitive in nature. On the other hand, their relationship could be complementary if FDI is export-oriented or if greater exports increase familiarity with an economy, hence stimulating FDI inflows as well. Clearly there may be issues of reverse causality between FDI and exports. We therefore lag the exports variables by one period.[22] The bilateral nominal exchange rate should have a positive sign, as a depreciated nominal exchange rate in the host economy should raise FDI flows from the source economy (due to the wealth effects). However, there are other channels that could lead to ambiguity of the signage (Cushman, 1985). Similarly, while it could be argued that higher exchange rate volatility could deter FDI, the relationship is more complex. For instance, when one thinks about acquisitions, higher exchange rate volatility could lead to more inflows since expected future cash flows from the target firm is correlated with liquid assets.

Anghel (2005), Busse and Hefeker (2005), Bénassy-Quéré et al. (2007), Daude and Stein (2004) and others have discussed and explored in some detail the importance of political risk and institutional variables in determining FDI flows and Hur et al. (2007) have analyzed the importance of institutions in the case of M&A deals. In view of this we include a Political Risk Index -- broadly defined to reflect government stability, socioeconomic conditions, investment climate, internal and external conflict, corruption, involvement of the military in politics, religious tensions, law and order, ethnic tensions, democratic accountability, and bureaucracy quality -- of International Country Risk Group (ICRG) database.

We also included two other controls sometimes used in other studies. One, higher corporate tax in the host economy should deter FDI.[23] However, the presence of double tax agreements, tax sparing agreements, tax incentives, transfer pricing etc may muddy

the results as we have not accounted for them. Two, Free trade agreements (FTAs) in form of regional trade agreements (RTAs) and bilateral trade agreements (BTAs) between Emerging Asia have proliferated rapidly. It is commonly believed that FTA tends to stimulate FDI flows (for instance, see Levy Yeyati et al., 2002). We examine this linkage by including dummies for *operational* bilateral trade agreements.[24]

4.2. Data, methodology and results

Tables A1 and A2 in the Appendix summarize the data sources to be used and Table A3 offers the summary statistics. The FDI data are based on the *UNCTAD FDI/TNC* database. Nominal GDP in US dollar and GDP per capita in US dollar are taken from the IMF's *World Economic Outlook* database. Export data from the source to the host countries are taken from the IMF's Direction of Trade and Statistics database.[25] Data on distance and common official language are taken from the CEPII.[26] As noted, the Political Risk index is taken from International Country Risk Group (ICRG) database. The source of average corporate tax rate is a combination of the World Tax Database created by the Office of Tax Policy Research (OTPR) at the University of Michigan Business and KPMG Corporate Tax Survey.[27] The data on FTAs is constructed from the World Trade Organization (WTO) website (Table A4).

The results are summarized in Table 8 (Regression 1).

Table 8: Gravity model

Dependent variable: ln of bilateral FDI outflows	Regression (1)	Regression (2)
$\ln(GDP_i)$	0.239*** (0.088)	0.128 (0.081)
$\ln(GDP_j)$	0.682*** (0.076)	0.536*** (0.076)
Common official language	0.269** (0.132)	0.066 (0.130)
$\ln(distance_{ij})$	-0.302*** (0.114)	-0.395*** (0.114)
Difference in GDP per $capita_{ij}$	-0.011*** (0.001)	-0.011*** (0.001)
$\ln(export_{ij}(-1))$	0.192*** (0.056)	0.201*** (0.056)
$\ln(\text{nominal exchange rate}_{ij})$	0.010 (0.021)	0.003 (0.02)
$\ln(\text{volatility of exchange rate}_{ij})$	-0.078 (0.084)	0.121* (0.07)
Corporate tax_j	-0.061*** (0.013)	-0.053*** (0.013)
Political $risk_j$	0.032*** (0.007)	0.040*** (0.006)
FTA_{ij}	0.666*** (0.179)	0.089 (0.140)
Observations	1,219	1,187
Adjusted R^2	0.48	0.45

Note: Robust standard errors in parentheses.
* significant at 10%; ** significant at 5%; *** significant at 1%.
Year dummies and constant are not shown.
Regression 1 includes entire sample.
Regression 2 excludes bilateral flows between China and Hong Kong, vice versa.
Source: Authors' estimation.

Greater distance between the host and source economy tends to lower bilateral FDI. In particular, a 1 percent increase in distance between two countries reduces bilateral FDI by about 0.3 to 0.4 percent. This elasticity is broadly consistent with most studies using FDI stocks which find distance elasticities in the range of 0.05 to 1 percent (for

instance, see Loungani et al., 2002). Common official language appears to encourage more FDI inflows from source to host countries. Host and source market sizes are positive and statistically significant. Apart from the standard gravity variables, the difference in GDP per capita between host and source countries is negative, implying that the lower the degree of income divergence between the countries, the more likely there is to be bilateral FDI flows between the countries. Lagged exports from source to host economy shows up with a positive sign and is statistically significant, suggesting a degree of complementary between exports and FDI flows. Currency appreciation of the source economy vis-à-vis the host economy facilitates FDI, though the effect is not statistically significant.[28] Similarly, higher exchange rate volatility does not appear to impact bilateral FDI flows significantly. Lower political risk (i.e. a higher ICRG rating) in the source economy leads to more FDI inflows.[29] Consistent with the findings of Büthe and Milner (2005), we find that an operational FTA also seems to facilitate FDI flow between the source and host countries. The corporate tax rate has a negative sign and is statistically significant though weakly economically significant.[30] As a quick robustness check, we also excluded the economy pairings between China and Hong Kong as the bulk of bilateral Asian FDI flows were between these two economies (Regression 2). Reassuringly, the results remain largely unchanged. Therefore, China-Hong Kong flows are not driving our results.[31]

5. CONCLUDING AND POLICY IMPLICATIONS

Intra-Asian investment flows in the region by Japanese multinationals are not something new, having been fuelled partly by the Plaza Accord of 1984-85. However, an interesting phenomenon in recent times has been the rise of outward investments by many other developing Asian economies. Many governments in Asia have clearly taken a very positive attitude towards outward FDI and have taken notable steps to liberalize capital account transactions, foreign ownership policies and foreign exchange policies and related regulations as a means of facilitating the international expansion of firms in their countries. Consequently, intra-Asian FDI flows are no longer a North-South

phenomenon but increasingly a South-South one as well, and a substantial portion of FDI from Asia is intraregional in nature. However, much of the discussion surrounding intra-Asian FDI flows has been anecdotal and qualitative in nature (largely based on case studies), and most existing quantitative studies have only considered FDI from OECD sources to Asia.

This paper has investigated trends, patterns and drivers of intra-Asian FDI flows using bilateral FDI flows involving 15 developing Asian countries for the period 1990 to 2005. In other words, the primary contribution of this paper is that it is one of the first -- if not the first -- to examine the magnitudes and determinants of FDI flows from developing Asian sources to other developing Asian hosts. The data indicates that around 35 percent of FDI flows to developing Asia between 1990 and 2005 has come from within the region, with over 90 percent of the flows originating from Hong Kong, China, Singapore and Taiwan. Including Japan, intra-Asian FDI flows rise to about 40 percent. Clearly some of these flows are overstated as they involve recycling or round-tripping of funds (especially between China and Hong Kong). Against this, trans-shipping from offshore financial centers have not been included, implying a degree of understating.[32] Thus, it would be fair to say that at least 40 percent of flows to emerging Asia are from its Asian neighbours. While the intra-Asian flows are substantial, two issues stand out. One, a large part of these flows pertains to bilateral flows between Hong Kong and Mainland China. Two, the data do not indicate that intra-Asian flows are necessarily intensifying. Given that developing Asia is investing aggressively overseas, what this suggests is that relatively more investments are being made outside developing Asia.[33]

Having described the outward FDI boom in East Asia since 1997, the paper goes on to examine the determinants of intra-Asian FDI flows. An augmented gravity model appears to fit the data fairly well. The baseline regression is able to capture almost 50 percent of the variations in existing intra-Asian FDI flows. Most of the estimates are the correct signs and are statistically and economically significant. Apart from market size (especially of source economy), a depreciated host economy currency, lower political risk and the presence of a free trade agreement between source and host countries appear to stimulate bilateral FDI flows. As in the case of international trade, larger distance stands out as an important determinant that deters bilateral FDI flows.[34] This

result is robust to changes in specifications.[35] Exports and FDI appear to be complementary to one another; more specifically, higher exports appear to stimulate future FDI flows. This is suggestive of vertical specialization and production fragmentation between Asian economies *a la* Ando and Kimura (2003, 2005). The larger the per capita GDP difference between the host and source economy, the lower is FDI, further suggesting that FDI in the region is driven largely by a desire of firms to integrate vertically within the region.

While geographical distance is "natural", there could still be a role for government policy in reducing "transactional distance" and "informational distance" between countries *a la* Loungani et al. (2002).[36] International and spatial economists use the narrower terms of "trade costs" or "transport costs", respectively (see Anderson and Wincoop, 2004).[37] Arguably these terms are too narrow insofar as distance proxies transport and trade costs, informational asymmetries, lack of cultural familiarity, and all other factors that could hinder FDI flows. For instance, using bilateral FDI stocks data to China (from 28 OECD economies and 5 non-OECD Asian economies), Gao (2005) finds that both culture and geography matters in the case of FDI to China. As he notes, "the total FDI stock would be lowered by about 45% if China's economic center were located in New Delhi, India, and would be lowered by about 70% if it were located in New Delhi and there were no cultural ties."[38] In the final analysis, while some determinism is due to factors that are "natural" and cannot be shaped by policy, governments in Asia need to focus much greater attention on reducing communications and transactions costs and informational barriers that might hinder intra-regional FDI flows.

There are three immediate areas of future research. One, examine how much of the hindrances to FDI are actually due to informational barriers versus actual physical constraints. Two, investigate the share of Greenfield investments versus mergers and acquisitions (M&As) to the region, as the latter could have quite different macroeconomic consequences from the former. Three, compare the share of FDI flows to the region from the rest of the region versus FDI flows from the US and Europe. Clearly there is scope for much more important policy-oriented work in this area.

REFERENCES

Accenture (2005) *China Spreads its Wings – Chinese Companies go Global*. Accenture.

Anderson, J. E. and E. van Winocoop (2004) "Trade Costs." *Journal of Economic Literature* XLII: 691-751.

Ando, M. and F. Kimura (2003). "Fragmentation and Agglomeration Matter: Japanese Multinationals in Latin America and East Asia." *North American Journal of Economics and Finance*, 14: 287-317.

Ando, M. and F. Kimura (2005). "Two-dimensional Fragmentation in East Asia: Conceptual Framework and Empirics." *International Review of Economics and Finance*, 14: 317-348.

Anghel, B. (2005) "Do Institutions Affect Foreign Direct Investment?" Mimeo, Universidad Autónoma de Barcelona (October).

Aykut, D. and A. Goldstein (2006) "Developing Country Multinationals: South-South Investment Comes of Age." Mimeo, The World Bank (undated).

Bénassy-Quéré, A., L. Fontagné and A. Lahrèche-Révil (2005) "How Does FDI React to Corporate Taxation?" *International Tax and Public Finance* 12: 583-603.

Bénassy-Quéré, A., M. Coupet and T. Mayer (2007) "Institutional Determinants of Foreign Direct Investment." *The World Economy* 30: 764-782.

Blonigen, B. (1997) "Firm-specific Assets and the Link between Exchange Rates and Foreign Direct Investment." *American Economic Review* 87: 447-465.

Busse, M. and C. Hefeker (2005) "Political Risk, Institutions and Foreign Direct Investment." Mimeo (April).

Büthe, T. and H.V. Milner (2005) "The Politics of Foreign Direct Investment into Developing Countries: Increasing FDI through Policy Commitment via Trade Agreements and Investment Treaties?" Mimeo, Princeton University (May).

Chantasasawat B., K.C. Fung, H. Iizaka and A.K.F. Siu (2004) "Foreign Direct Investment in China and East Asia." Working Paper no. 1135. Hong Kong: Hong Kong Institute of Economics and Business Strategy, The University of Hong Kong.

Chen, E.K.Y. and P. Lin (2006) "Mainland China and Hong Kong Emerging TNCs from East Asia." Working Paper no. WP31. Canberra, Australia: East Asian Bureau of Economic Research, Australia National University.

Coe, D.T., A. Subramanian and N.T. Tamirisa (2007) "The Missing Globalization Puzzle: Evidence of the Declining Importance of Distance." *IMF Staff Papers* 5: 34-58.

Cushman, D.O. (1985) "Real Exchange Rate Risk, Expectations, and the Level of Direct Investment." *Review of Economics and Statistics* 67: 297-308.

Daude, C. and E. Stein (2004) "The Quality of Institutions and Foreign Direct Investment." Mimeo, University of Maryland (February).

di Giovanni, J. (2005) "What Drives Capital Flows? The Case of Cross-border Activity and Financial Deepening." *Journal of International Economics* 65: 127-149.

Dixon, L. (2001) "Financial Flows via Offshore Financial Centres as Part of the International Financial System." *Financial Stability Review*, June: 105-116.

Duce, M. (2003) "Definitions of Foreign Direct Investment (FDI): A Methodological Note." Mimeo, Banco de Espana (July).

Eichengreen, B. and D. Irwin (1995) "Trade Blocs, Currency Blocs and the Reorientation of Trade in the 1930s." *Journal of International Economics*, 38: 1-24.

Eichengreen, B. and H. Tong (2007) "Is China's FDI Coming at the Expense of Other Countries?" *Journal of Japanese and International Economics,* 21: 153-172.

Froot, K.A. and J.C. Stein (1991) "Exchange Rates and Foreign Direct Investment: An Imperfect Capital Markets Approach." *Quarterly Journal of Economics*, 106: 1191-1217.

Gao, T. (2003) "Ethnic Chinese Networks and International Investment: Evidence from Inward FDI in China." *Journal of Asian Economics*, 14: 611-629.

Gao, T. (2005) "Foreign Direct Investment in China: How Big are the Roles of Culture and Geography?" *Pacific Economic Review*, 10: 153-166.

Globerman, S. and D. Shapiro (2005) "Assessing International Mergers and Acquisitions as a Mode of Foreign Direct Investment." In *Governance, Multinationals and Growth*. Ed. L. Eden and W. Dobson. London: Edwin Elgar.

Gopinath, S. (2007) "Overseas Investments by Indian Companies: Evolution of Policy and Trends." Keynote address at the International Conference on Indian Cross-border Presence/Acquisitions (Mumbai, January 19).

Head, K. and T. Mayer (2002). "Illusory Border Effects: Distance Mismeasurement Inflates Estimates of Home Bias in Trade." Working Papers 2002-01, CEPII.

Head, K. and J. Ries (2007) "FDI as an Outcome of the Market for Corporate Control: Theory and Evidence." Forthcoming in *Journal of International Economics*.

Hiratsuka, D. (2006). "Outward FDI from and Intraregional FDI in ASEAN: Trends and Drivers." Discussion Paper No. 77. Tokyo, Japan: Institute of Developing Economies.

Kharas, H., R.S. Rajan and E. Vostroknutova (2006) "Finance." In *An East Asian Renaissance: Ideas for Competitive Growth*, ed. H. Kharas and I. Gill. Washington, D.C.: World Bank.

Hur, J., R.A. Parinduri and Y.E. Riyanto (2007) "Cross-border M&A Inflows and the Quality of Institutions: A Cross-country Panel Data Analysis." Working Paper no. 2007/08, Singapore: National University of Singapore.

International Monetary Fund (IMF) (2003) *Foreign Direct Investment Statistics: How Countries Measure FDI 2001*, Washington, D.C.: International Monetary Fund.

Jensen, N.M. (2007). "Fiscal Policy and the Firm: Do Low Corporate Tax Rates Attract Multinational Corporations?" Washington University, mimeo (January).

Kwan, N. and F. Cheung (2006) "Asia Focus: Intra-Asia Investment Reinforces Integration." Standard Chartered, June 21.

Liu, L.G., K. Chow and U. Li (2007) "Determinants of Foreign Direct Investment in East Asia: Did China Crowd Out FDI from Her Developing East Asian Neighbours?" *China and the World Economy*. May-June: 70-88.

Loungani, P., A. Mody and A. Razin (2002) "The Global Disconnect: The Role of Transactional Distance and Scale Economies in Gravity Equations." *Scottish Journal of Political Economy*, 18: 526-543.

Lunding, A. (2006) "Global Champions in Waiting: Perspectives on China's Overseas Direct on Direct Investment." Deutsche Bank Research, August 4.

Mercereau, B. (2005) "FDI Flows to Asia: Did the Dragon Crowd Out the Tigers?" Working Paper no. WP05/189. Washington, D.C.: International Monetary Fund.

Pardhan, J.P. (2005) "Outward Foreign Direct Investment from India: Recent Trends and Patterns." Working Paper no. 153. Gujarat, India: Gujarat Institute of Development Research.

Portes, R. and H. Rey (2005) "The Determinants of Cross-border Equity Flows." *Journal of International Economics* 65: 269-296.

Rajan, R.S. (2005) "Financing Development in the Asia-Pacific Region: Trends and Linkages." *The Role of Trade and Investment Policies in the Implementation of the Monterrey Consensus: Regional Perspectives*, Studies in Trade and Investment 55: 21-65.

Rajan, R.S., R. Kumar and N. Virgill, Ed (2008) *New Dimensions of Economic Globalization: Surge of Outward FDI from Asia*. Singapore and New Jersey: World Scientific.

Razin, A., Y. Rubinstein and E. Sadka (2003) "Which Countries Export FDI, and How Much?" Working Paper no. 10145. Cambridge, MA: National Bureau of Economic Research.

Rose, A.K. and M.M. Spiegel (2006) "Offshore Financial Centers: Parasites or Symbionts?" Mimeo, University of Berkeley, CA (April 4).

Santos Silva, J.M.C. and S. Tenreyo (2006). "The Log of Gravity." *Review of Economics and Statistics*, 88, pp.641-658.

Sauvant, K.P. (2005) "New Sources of FDI: The BRICs." *The Journal of World Investment and Trade*, 6: 639-711.

Stein, E. and C. Daude (2007) "Longitude Matters: Time Zones and the Location of Foreign Direct Investment." Forthcoming in *Journal of International Economics*.

Sudsawasd, S. and S. Chaisrisawatsuk (2006) "Tigers and Dragons against Elephants: Does the Rising Chinese and Indian Share in Trade and Foreign Direct Investment Crowd out Thailand and other ASEAN Countries?" *Asia-Pacific Trade and Investment Review* 2: 93-114.

Tong, S.Y. (2005) "Ethnic Networks in FDI and the Impact of Institutional Development." *Review of Development Economics* 9: 563-580.

UNCTAD (2006) *World Investment Report 2006*, New York and Geneva: United Nations.

UNCTAD (2007) *World Investment Report 2007*, New York and Geneva: United Nations.

United Nations (2006) *World Investment Report 2006*. New York and Geneva: United Nations.

World Bank (2006) *Global Development Finance*. New York: Oxford University Press.

Levy Yeyati, E., E, Stein and C. Daude (2002). "The FTAA and the Location of FDI." Mimeo, Washington, D.C.: Inter-American Development Bank (IADB), December.

Zoromé, A. (2007). "Concept of Offshore Financial Centers: In Search of an Operational Definition." Working Paper No. WP/07/87. Washington, D.C.: International Monetary Fund.

APPENDIX

Table A1: Variables included in the dataset

Variables	Source
FDI Outflows	UNCTAD FDI/TNC database
Nominal GDP in US dollar	World Economic Outlook, IMF
Per capita GDP difference	
Consumer price indices	World Economic Outlook, IMF
Exports of goods	Direction of Trade Statistics, IMF
Nominal Bilateral Exchange Rate	International Financial Statistics, IMF
Distance	CEPII
Common Official Language	CEPII
Political risk	ICRG
Trade agreements	WTO website
Corporate tax rate	KPMG Indirect and Corporate Tax Survey, and OTPR's World Tax Database

Table A2: Host and source economies in the dataset

Host	Source
Bangladesh	Bangladesh
China (Mainland)	China (Mainland)
Hong Kong, SAR	Hong Kong, SAR
India	India
Indonesia	Korea
Korea	Malaysia
Malaysia	Pakistan
Pakistan	Philippines
Philippines	Singapore
Singapore	Thailand
Sri Lanka	
Taiwan, POC	
Thailand	
Vietnam	

Table A3: Summary of statistics

Variables	Units	Mean	Std dev.	Min.	Max.
Bilateral FDI outflows from i to j	U.S. $ millions	614	2,593	0	20,677
Nominal GDP in country i	U.S. $ billions	245	313	6	2,244
Nominal GDP in country j	U.S. $ billions	251	404	31	2,244
Common official language	Dummy 1 = yes; 0 = no	0	0	0	1
Distance between i and j	Kilometers	2,610	1,394	0	5,221
Difference in GDP per capita$_{ij}$	U.S. ¢	-10	129	-267	262
Exports from i to j	U.S. $ millions	3,954	10,631	0	130,283
Bilateral nominal exchange rate$_{ij}$	Nominal rate	200	888	0	7,929
Exchange rate volatility$_{i,j}$	Nominal change	0.01	0.02	0.00	0.14
Corporate tax$_j$	Percent	31	7	16	55
Political risk$_j$	100 = min 0 = max	66	12	29	89
Free Trade Agreements	Dummy 1 = yes; 0 = no	0	0	0	1

Table A4: Established trade agreements between emerging Asian economies, 1990-2004

RTAs	BTAs
AFTA (ASEAN Free Trade Area)	India-Sri Lanka
SAPTA (SAARC Preferential Trade Agreement)	China-Hong Kong
	China-Thailand
	India-Thailand

NOTES

[1] A rather tangential rationale for - or rather, result of - overseas acquisitions and concomitant capital outflows has been an easing of exchange rate pressures on Asian currencies, thus reducing the need for reserve buildup and having to manage its inflationary consequences.

[2] See Lunding (2006) for a discussion of China's outward investments. Gopinath (2007) discusses the steps taken by the Indian government to facilitate outward FDI. Sauvant (2005) describes steps taken by both India and China to promote outward FDI. For case-studies of outward FDI from China, India and other Asian economies, see chapters in Rajan, Kumar and Virgill (eds.) (2008).

[3] A selective list of recent papers that use bilateral FDI data from OECD but are not specifically limited to Asia are Bénassy-Quéré, Coupet and Mayer (2007), Daude and Stein (2004), Head and Ries (2007), Lougani, Mody and Razin (2002). Razin, Rubinstein and Sadka (2003) and Stein and Daude (2007).

[4] A priori it is unclear whether FDI over or under-estimates actual real economic activity as this requires consideration of the impact of FDI on existing domestic investment, extent of technology transfer, employment creation, and the like. The impact on FDI on net capital flows is also uncertain as greater FDI inflows could encourage portfolio and bank flows, while simultaneously, M&A inflows could lead to the previous local owners choosing to invest some of their returns overseas, leading to capital outflows. The nexus between FDI and other sources of financing is explored in Rajan (2005).

[5] Globerman and Shapiro (2005) find many common determinants in both modes of FDI.

[6] See UNCTAD (2006, pp.15-21) for a discussion of Greenfield versus M&As. In the past three years, cross-border merger and acquisition (M&A) have been experiencing a surge. UNCTAD reports that in 2005 both value and the number of cross-border M&A rose to US$ 716 billion and to 6,134 which are increased of 88 percent and 20 percent, respectively. Bloomberg, Thomson Financial, Dealogic and OCO Consulting's LOCO Database record all M&A deals that are reported by news and media in their database. UNCTAD M&A database is drawn out from Thomson Financial.

[7] See UNCTAD (2006, pp.15-21) for a discussion of Greenfield versus M&As. Cross-border M&As in the past three years, have been experiencing a surge. While most M&A statistics are compiled by commercial data sources, they tend to include *announced* rather than *actual* financial flows, and some of the announced flows may not even include activities considered to be FDI (as defined above). More to the point, announced flows often includes funding of capital via equity from local minority share-holders or local/international borrowing (as opposed to funds from the parent or sister companies).

[8] For ASEAN economies, there is an additional data source, viz. ASEAN Secretariat database. However, this database is based on appropriations rather than actual flows and it is only limited to the manufacturing sector.

[9] Chen and Lin (2006) discuss patterns and determinants of FDI outflows from Hong Kong and Mainland China.

[10] Estimates put round-tripping at between 25 and 50 percent of total FDI flows from Hong Kong, SAR to Mainland China (UNCTAD, 2006, p.12).

[11] Apart from round-tripping and trans-shipping issues (discussed later in this section), part of the data inconsistencies between inflows and outflows arise because many countries do not include retained earning or loans when considering FDI outflows.

[12] It is instructive to note that the top destinations of FDI using data based on FDI inflow data in host economy and FDI outflow data from source economy have roughly stayed the same during the period under consideration.

[13] This said, the bulk of FDI flows from China have been to Hong Kong. However, there is evidence of growing investments by China into Southeast Asia.

[14] According to UNCTAD (2007), FDI inflows worldwide to India rose sharply in 2005-2006, making it the third most attractive developing Asian economy, after Hong Kong and Mainland China, and ahead of Singapore, Taiwan, Korea and Malaysia.

[15] Some of the Indian FDI from Mauritius is also round-tripping from Indian firms.

[16] http://www.uschina.org/info/forecast/2007/foreign-investment.html#table4. In the literature, OFCs have mainly been discussed in the context of bank flows and portfolio flows. For instance, see Dixon (2001), Rose and Spiegel (2006) and Zoromé (2007).

[17] The augmented gravity model for FDI is broadly similar -- but by no means identical -- to those used in recent papers, including Lougani, Mody and Razin (2002). Stein and Daude (2007), Liu, Chow and Li (2007). di Giovanni (2005) applies a gravity model to analyze cross-border M&A transactions, while Portes and Rey (2005) and Lee (2006) apply a gravity model for portfolio equity flows.

[18] Other bilateral FDI flow studies, such as Eichengreen and Tong (2007), only treat FDI flows data that have only zero observations by replacing zeros with the lowest positive FDI in the data, while not treating the missing variables. However, this methodology is not useful for our data since our data does not have zero observations. Another alternative is using two-stage Tobit models, such as di Giovanni (2005), or use the Poison pseudo maximum likelihood method as suggested by Santos Silva and Tenreyo (2006). The latter methodology has been recently applied to FDI by Head and Ries (2007). Coe, Subramanian and Tamirisa (2007) suggest another log-linear estimation method to deal with this problem.

[19] In physics, the law of gravity states that the force of gravity between two objects is proportional to the product of the masses of the two objects divided by the square of the distance between them. Most gravity models in bilateral trade and FDI have replaced the force of gravity with the value of bilateral trade or direct investments and the masses with the source and destination countries' GDP.

[20] If the foreign firm is looking to service the destination economy's market, a longer distance also makes exporting from source countries more expensive and might therefore make local production more desirable and encourage investment. This argument is not unlike the tariff-jumping one.

[21] The other standard variable in the gravity model, viz. dummies for common border was not robust and incorrect signs so we dropped it.

[23] Bénassy-Quéré et al. (2005) explore the impact of various tax schemes on FDI.

[24] We have dated FTAs based on when they have been operationalized rather than when they were signed.

[25] The data are limited to merchandise trade only.

[26] The distance is calculated following the "great circle" formula, which uses latitudes and longitudes of the most important cities/agglomerations (in terms of population). For more information, see CEPII's website at http://www.cepii.fr/.

[27] The corporate tax figures in OTPR's tax database refers only to the top marginal tax rate on corporations, while KPMG Tax Survey data refers to top marginal tax rates and other local taxes that burden a foreign corporation. OTPR's tax database goes up only to 2002, while KPMG extends to 2005. However, OTPR has a longer history which extends back to 1990, while KPMG only starts at 1993. To reflect the real situation in an economy, we used KPMG data as our starting point. We filled in the missing data on our economy samples by comparing tax rates data for each economy in our sample.

[28] The positive sign is aligned with works by Cushman (1985), Froot and Stein (1991), Blonigen (1997), and others.

[29] See Busse and Hefeker (2005) for a more detailed analysis of the impact of various types of political risks on FDI. Using a data set of 83 developing countries for the period 1984 to 2003, they find that government stability, the absence of internal conflict and ethnic tensions, basic democratic rights and ensuring law and order are highly significant determinants of foreign investment inflows.

[30] Bénassy-Quéré et al. (2005) notes that the impact of corporate taxation on FDI is asymmetrical. Using a panel of bilateral FDI flows 11 OECD countries over 1984-2000, they find that lower tax rates in the host countries do not appear to attract FDI, though higher taxes seem to discourage new FDI inflows. In a more recent study, Jensen (2007) utilized a panel data set for 19 OECD countries

from 1980-2000 and failed to not find any empirical relationship between the level of corporate taxation and FDI flows.

[31] We also tried weighted distance, which was developed by Head and Mayer (2002), share of common ethnic language (i.e. if a language is spoken by at least 9 percent of the population in both countries), and other institutional type controls, including investment profile. Results stayed the same with the benchmark. Results are available from authors on request.

[32] See UNCTAD (2006, pp.12-3) for a brief discussion of round-tripping and trans-shipping in the context of cross-border FDI flows.

[33] For instance, Pardhan (2005) has argued that outward investments from Indian multinationals since the mid 1990s have been more global in nature. Similarly Singapore through its holdings company (Temasek) and sovereign wealth fund (GIC) has been aggressively purchasing assets in the US and elsewhere outside Asia in addition to intraregionally.

[34] Coe et al. (2007) discuss the issue of distance and international trade, referring to it as the "missing globalization puzzle".

[35] For instance, we have included financial variables, altered time period, economy coverage, etc. Results available from authors on request.

[36] Loungnani et al. (2002) and Jeon et al. (2004) find that the distance variable remains statistically and economically significant even with the inclusion of a communications variables (such a cross-border telephone flows). Also see di Giovanni (2005) in the case of M&As and (Portes and Rey (2005) in the case of portfolio flows.

[37] Hiratsuka (2006) emphasizes the importance of such costs in the case of FDI to ASEAN.

[38] Gao (2005) suggests that these variables were specific to the ethnic Chinese business and social networks (however, he excludes Hong Kong because of data unavailability), a point confirmed empirically by Gao (2003) and Tong (2005). Accordingly it would be interesting to re-run the equations without China, Hong Kong, Taiwan and Singapore bilateral FDI flows.