

Chapter 3

Intra-Asian FDI Flows: Trends, Patterns, and Determinants*

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1. Introduction

According to the UNCTAD (2006), “a number of developing countries have emerged as significant sources of FDI in other developing countries, and their investments are now considered a new and important source of capital and production know-how, especially for host countries in developing regions” (p.6). The phenomenon of South–South FDI flows, particularly those arising from multinational corporations (MNCs) from China and India, has generated significant interest from policymakers, academia and the popular press in recent times.

Available data from the World Bank indicates South–South FDI to have increased almost three-fold (from US\$14 billion in 1995 to US\$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). Of the top hundred MNCs from developing economies that have the potential to become global players, 65 are from Mainland China and India (BCG, 2006; also see Aguiar *et al.*, 2006). The Chinese government has stated its intention to help develop 30–50 “national champions” that can “go global” by 2010 (Accenture, 2005; Sauvart, 2005, Wu, 2005). Given this, along with aggressive overseas acquisition plans by cash-rich and highly confident firms from India, Hong Kong, South Korea, and Taiwan, as well as by national holding companies in Singapore (Temasek Holdings) and Malaysia (Khazana National Berhad), outward investments by Asian companies are set to rise further.

* Comments by K.C. Fung at the ICRIER workshop are appreciated. The usual disclaimer applies.

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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 | 22.3 |
| 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 | 38.6 |

Notes: 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 (2008).

Apart from the usual efficiency-seeking, resource-seeking, and market-seeking investments, OFDI 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 like China and India have been particularly keen on promoting an internationalization thrust and have facilitated OFDI 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 companies have become significant foreign direct investors abroad, a large share of outward investments from Asia may have been recycled intra-regionally. According to some rough estimates,

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 Chapter 1 for a general overview of determinants of outward FDI from Asia and Chapters 5 and 6 for discussions of outward FDI from China and India more specifically.

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 with 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 chapter uses bilateral FDI flows data to investigate trends and drivers of intra-Asian FDI flows over the period 1997–2005. Eichengreen and Tong (2007), Liu *et al.* (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 country since they use data from the OECD.³ In contrast, the focus of this chapter is on developing Asian economies as the sources of FDI to other developing Asian economies using data from UNCTAD.

The remainder of the chapter is organized as follows. Section 2 discusses FDI definitions and data sources. Section 3 discusses broad patterns and trends in intra-Asia FDI flows using bilateral net FDI flows over the period 1997–2005. Section 4 employs an augmented gravity model framework to examine the main determinants of intra-Asian FDI flows using bilateral data based on a panel dataset. We examine a range of drivers of FDI flows, from macroeconomic variables, transactional and informational distance (proxied by distance and common official language) to institutional quality. The final section offers a few concluding remarks.

2. Definitions and Data Sources

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.

³ A selective list of recent papers that use bilateral FDI data from OECD but are not specifically limited to Asia are Bénassy-Quéré *et al.* (2007), Daude and Stein (2004), Head and Ries (2007), Lougani *et al.* (2002), Razin *et al.* (2003), Razin *et al.* (2005) and Stein and Daude (2007).

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'.⁴

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*.⁵ 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 country), 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 country, but rather reinvested in the host country). 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).⁶

While this is the most common definition, it is not always adhered to by all countries systematically. In fact, reported OFDI often tends to be under-reported as it tends to exclude the financing and reinvested

⁴ See <http://www.unctad.org/Templates/Page.asp?intItemID=3146&lang=1>.

⁵ *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).

⁶ Gliberman and Shapiro (2005) find many common determinants in both modes of FDI.

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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.⁷ 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.

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. 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 the data obtained from other international organizations such as the IMF, the World Bank (*World Development Indicators*), the Organization 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.⁸

⁷ See UNCTAD (2006, pp. 15–21) for a discussion of Greenfield versus M&As. Cross-border M&A have been experiencing a surge in recent years. UNCTAD reports that in 2005 both the value and the number of cross-border M&A rose to US\$ 716 billion and to 6134 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. The UNCTAD M&A database is drawn from Thomson Financial.

⁸ The process of data collection for UNCTAD FDI/TNC databank is complicated and requires using data from different databases or own estimation. For instance, UNCTAD uses data from the World Bank's *World Development Indicators* for economies that lack data from national official sources or the IMF or for which available data do not cover the entire period. For developing countries in which their FDI flows data are unavailable in either IMF or World Bank, UNCTAD employed regional cooperation databases, such as ECLAC, and ECE, to fill in the missing data. For OECD countries, data on the FDI outflows from OECD database are used as proxy for FDI inflows. For those economies for which data were not available from either of the above-mentioned sources or only partial were available, UNCTAD uses its 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 consider only data on flows of OFDI (net decreases in assets or when a foreign country invests in the country in question) and inward FDI (net increases in liabilities or when the home country 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 is apparent, the Triad (the EU, Japan, and the United States) continue to dominate both as sources and hosts 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

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 |

(Continued)

Table 2: (Continued)

| 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.

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OFDI from developing economies rose from around US\$70 billion in 1980 to about US\$150 billion in 1990 and to more than US\$1 trillion in 2005.

Table 3 focuses specifically on FDI inflows and outflows of selected Asian developing economies between 1990 and 2005. During 1990–1996, 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 inflows to the region. In contrast, during 1997–2005 average annual FDI growth in outflows from Asia outpaced inflows to Asia (US\$22 billion on average compared with US\$50 billion annually). Further, FDI outflows and inflows for most countries during the sub-periods 1990–1996 and 1997–2005 appear to have been positively correlated, with the exceptions of Korea (first sub-period), the Philippines (second sub-period), and Bangladesh (entire period). The correlations in Greater China (Mainland plus Hong Kong) and India are particularly high, suggesting that periods of economic liberalization have been characterized by simultaneous rises in both FDI inflows as well as outflows (Table 4).

Interestingly, the two countries with the highest magnitudes of inflows and outflows are Mainland China and Hong Kong. In both of our sample periods (1990–1996 and 1997–2005), Mainland China has been the single largest host of FDI, contributing between 38 percent 40 percent of inflows to developing Asia during the last 15 years. More specifically, for the period 1990–1996, the average FDI inflows to Mainland China was around US\$20 billion, while for the second sub-period, 1997–2005, 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

⁹ Chen and Lin (2006) discuss patterns and determinants of FDI outflows from Hong Kong and Mainland China. Also see Chapters 5 and 7 of this volume.

Table 3: FDI inflows and outflows of selected asian countries (in billions of U.S. dollars)

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

(Continued)

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Table 3: (Continued)

| Country | 1990–1997– | | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | |
|-------------------------------|------------|--------|--------|--------|----------|----------|--------|--------|--------|--------|--------|
| | 1996 | 2005 | | | | | | | | | |
| Outflows | | | | | | | | | | | |
| <i>World</i> | 269.72 | 776.31 | 483.14 | 694.40 | 1,108.17 | 1,244.47 | 764.20 | 539.54 | 561.10 | 813.07 | 778.73 |
| <i>Asia (excluding Japan)</i> | 29.14 | 50.05 | 51.23 | 31.69 | 39.87 | 80.69 | 48.35 | 33.76 | 21.15 | 76.11 | 67.63 |
| <i>New Industrial Asia</i> | 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 |
| <i>China</i> | 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 |
| <i>South Asia</i> | 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 |

Sources: UNCTAD FDI/TNC database.

Table 4: Correlations between inflows and outflows to and from Asia.

| Country | 1990–1996 | 1997–2005 |
|----------------------------|-----------|-----------|
| <i>Asia</i> | 1.0 | 0.9 |
| <i>New Industrial Asia</i> | 0.9 | 0.5 |
| Korea | −0.4 | 0.6 |
| Singapore | 0.9 | 0.5 |
| Taiwan POC | 0.1 | 0.4 |
| <i>China</i> | 1.0 | 0.8 |
| China: Mainland | 0.2 | 0.6 |
| Hong Kong SAR | 0.9 | 0.9 |
| <i>ASEAN-4</i> | 0.8 | 0.5 |
| Indonesia | 0.1 | 0.6 |
| Malaysia | 0.9 | 0.8 |
| Philippines | 0.7 | −0.1 |
| Thailand | 0.8 | 0.1 |
| <i>South Asia</i> | 0.4 | 0.8 |
| India | 0.8 | 0.9 |
| Pakistan | 0.4 | 0.4 |
| Sri Lanka | 0.8 | 0.1 |
| Bangladesh | −0.4 | −0.1 |

Sources: Authors calculation.

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 OFDI from the Mainland which itself experienced a spurt between 1990 and 2005 (UNCTAD, 2006, p. 12).¹⁰

Referring to Table 3 on flows and Table 5 on stocks, the significant difference between outflows from Hong Kong with the rest of our sample countries is apparent. Hong Kong's outflows are at an altogether different level than any other regional economy. Excluding Hong Kong from the analysis, the picture is more even across our sample countries. It is apparent that the three NIEs of Singapore, South Korea, and Taiwan have consistently remained among the top developing economy

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

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Table 5: Top 20 developing and transition economies in terms of stocks of outward FDI, 1980, 1990, 2000, and 2005 (in Millions of US dollars).

| Rank | Economy | 1980 | Rank | Economy | 1990 | Rank | Economy | 2000 | Rank | Economy | 2005 |
|------|------------------------|-------|------|---------------|-------|------|------------------------|--------|------|------------------------|--------|
| 1 | Brazil | 38545 | 1 | Brazil | 41044 | 1 | Hong Kong SAR | 388380 | 1 | Hong Kong SAR | 470458 |
| 2 | Taiwan | 13009 | 2 | Taiwan | 30356 | 2 | Taiwan | 66655 | 2 | British Virgin Islands | 123167 |
| 3 | Argentina | 5970 | 3 | South Africa | 15004 | 3 | British Virgin Islands | 64483 | 3 | Russian Federation | 120417 |
| 4 | South Africa | 5541 | 4 | Hong Kong SAR | 11920 | 4 | Singapore | 56766 | 4 | Singapore | 110932 |
| 5 | Mexico | 1632 | 5 | Singapore | 7808 | 5 | Brazil | 51946 | 5 | Taiwan | 97293 |
| 6 | Kuwait | 1046 | 6 | Argentina | 6057 | 6 | South Africa | 32319 | 6 | Brazil | 71556 |
| 7 | Libyan Arab Jamahiriya | 870 | 7 | China | 4455 | 7 | China | 27768 | 7 | China | 46311 |
| 8 | Panama | 811 | 8 | Panama | 4188 | 8 | South Korea | 26833 | 8 | Malaysia | 44480 |
| 9 | Bermuda | 727 | 9 | Kuwait | 3662 | 9 | Malaysia | 22874 | 9 | South Africa | 38503 |
| 10 | Singapore | 623 | 10 | Mexico | 2672 | 10 | Argentina | 21141 | 10 | South Korea | 36478 |
| 11 | Bahrain | 598 | 11 | Malaysia | 2671 | 11 | Cayman Islands | 20553 | 11 | Cayman Islands | 33747 |
| 12 | Botswana | 440 | 12 | South Korea | 2301 | 12 | Russian Federation | 20141 | 12 | Mexico | 28040 |

(Continued)

Table 5: (Continued)

| Rank | Economy | 1980 | Rank | Economy | 1990 | Rank | Economy | 2000 | Rank | Economy | 2005 |
|-------------|------------------|------|------|---------------------------|-------|------|-------------|-------|------|-------------------------|-------|
| 13 | Bahamas | 285 | 13 | Saudi Arabia | 1873 | 13 | Bermuda | 14942 | 13 | Argentina | 22633 |
| 14 | Saudi Arabia | 239 | 14 | Bermuda | 1550 | 14 | Chile | 11154 | 14 | Chile | 21286 |
| 15 | Malaysia | 197 | 15 | Libyan Arab Jamahiriya | 1321 | 15 | Mexico | 8273 | 15 | Indonesia | 13735 |
| 16 | Uruguay | 171 | 16 | Venezuela | 1221 | 16 | Venezuela | 7676 | 16 | Panama | 12891 |
| 17 | Philippines | 171 | 17 | Nigeria | 1,207 | 17 | Indonesia | 6940 | 17 | Venezuela | 10665 |
| 18 | Hong Kong SAR | 148 | 18 | Turkey | 1157 | 18 | Nigeria | 4132 | 18 | United Arab Emirates | 10087 |
| 19 | Colombia | 136 | 19 | British Virgin Islands | 875 | 19 | Panama | 4004 | 19 | India | 9569 |
| 20 | Paraguay | 129 | 20 | Bahrain | 719 | 20 | Turkey | 3668 | 20 | Colombia | 8876 |
| <i>Memo</i> | | | | | | | | | | | |
| 25 | India | 78 | 39 | India | 124 | 23 | Thailand | 2203 | 26 | Thailand | 3947 |
| 39 | Thailand | 13 | 26 | Thailand | 418 | 25 | India | 1859 | 31 | Philippines | 2039 |
| 45 | Indonesia | 6 | 43 | Indonesia | 86 | 28 | Philippines | 1597 | | | |

Source: UNCTAD, Foreign Direct Investment (WIR 2006 data) www.unctad.org/fdistatistics.

sources of FDI over the last two decades. Malaysia (a near-NIE) is also notable for the size of their OFDI flows, particularly since the 1990s.¹¹ Indonesia remains an important source of FDI, while more aggressive internationalization strategies by Indian companies has seen it rise in the rankings from 39 in 1990 to top 20 by 2005.¹² These seven economies constitute the bulk of OFDI from Asia.

3.2. *Intraregional Asian FDI Flows: A First Look*

Having considered broad country 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 (Table 6). While some source countries have relatively complete outflows data, others either have incomplete data or no data at all. Different reporting practices of FDI data create bilateral discrepancies between FDI flows reported by home 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 2002.¹³ Faced with these concerns we draw inferences on FDI outflows 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 *host of outflows*. To

¹¹ While there is not necessarily a one-to-one link between nationality of MNCs 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. MNCs from the first four economies (i.e. Greater China and Singapore) constituted 60 percent of the top 100 MNC from developing economies (UNCTAD, Chapter 1).

¹² Anecdotal evidence suggests that Indian companies have been particularly aggressive in investing overseas in 2006–2007. Also see Chapter 6 of this volume. Hiratsuka (2006) discusses outward investments by ASEAN corporates.

¹³ 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 earnings or loans when considering FDI outflows.

Table 6: Average of intra-Asian bilateral FDI outward flows (In millions of U.S. dollars, unless otherwise noted).

| | Host region 1/ | | | | | |
|----------------------------------|----------------------------------|------------------------|----------------------------------|------------------------|----------------------------------|------------------------|
| | (1997-2000) | | | (2001-2005) | | |
| | Asia 2/ in percent of Asia | in percent of World | Asia 2/ in percent of Asia | in percent of World | Asia 2/ in percent of Asia | in percent of World |
| <i>Donor countries</i> | | | | | | |
| <i>Newly Industrialized Asia</i> | 11024.1 | 1.2 | 9621.1 | 1.2 | 27.6 | 1.4 |
| Korea | 650.4 | 0.1 | 253.1 | 0.1 | 0.7 | 0.0 |
| Singapore | 6997.9 | 0.8 | 5331.7 | 0.8 | 15.3 | 0.8 |
| Taiwan POC | 3375.7 | 0.4 | 4036.3 | 0.4 | 11.6 | 0.6 |
| ASEAN-4 | 1027.3 | 0.1 | 1089.5 | 0.1 | 3.1 | 0.2 |
| Indonesia | 257.6 | 0.0 | 189.5 | 0.0 | 0.5 | 0.0 |
| Malaysia | 334.3 | 0.0 | 415.6 | 0.0 | 1.2 | 0.1 |
| Philippines | 180.3 | 0.0 | 267.2 | 0.0 | 0.8 | 0.0 |
| Thailand | 255.0 | 0.0 | 217.2 | 0.0 | 0.6 | 0.0 |
| <i>China</i> | 20179.9 | 2.8 | 24018.0 | 2.8 | 69.0 | 3.5 |
| Mainland China | 7334.6 | 0.8 | 5576.2 | 0.8 | 16.0 | 0.8 |
| Hong Kong SAR | 18845.3 | 2.0 | 18441.8 | 2.0 | 53.0 | 2.7 |
| India | 43.8 | 0.1 | 34.8 | 0.0 | 0.1 | 0.0 |

(Continued)

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Table 6: (Continued)

| | Host region 1/ | | | | | |
|---------------------------|-----------------|------------------------------|-------------------------------|-----------------|------------------------------|-------------------------------|
| | (1997-2000) | | | (2001-2005) | | |
| | Asia 2/ 20.2 | in percent of Asia 0.1 | in percent of World 0.0 | Asia 2/ 37.4 | in percent of Asia 0.1 | in percent of World 0.0 |
| <i>Low income Asia</i> | | | | | | |
| 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 | 2.1 | 0.0 | 0.0 |
| Sri Lanka | 2.7 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 |
| Vietnam | 9.5 | 0.0 | 0.0 | 31.9 | 0.1 | 0.0 |
| <i>Other Asia</i> | 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 |
| <i>Developing Asia 3/</i> | 27297.6 | 71.2 | 2.9 | 25197.0 | 72.4 | 3.7 |
| <i>Asia 2/</i> | 38321.7 | 100.0 | 4.1 | 34818.1 | 100.0 | 5.1 |

Source: UMCTAD FDI/TNC database.

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.

keep the analysis manageable, we examine data for the averages of 1997–2000, and 2001–2005 rather than on an annual basis.¹⁴

FDI inflows between Asian countries accounts for about one-third of all FDI inflows to the region (Table 7 and Figure 1), and is particularly pronounced between and within East Asian economies and South-East Asian economies. This is apparent from Table 8 which highlights that the bilateral flows between East Asian countries are the highest in Asia with an average of US\$28 billion for the period of 1997–2005. According to Table 9, 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 40 percent of intra-Asia. Apart from Hong Kong–China–Taiwan flows, bilateral flows between East and South-East Asia are also significant. 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. The city state has also been a major investor to China. Malaysia and Thailand have also invested in China.

Consideration of intra-Asian bilateral flows highlights a few other important characteristics of intra-Asian FDI flows (Tables 8 and 9). First, the leading investors from the region have stayed the same between 1997 and 2006, with Hong Kong as the leading 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 Chantasawat *et al.* (2004), Eichengreen and Tong (2007), Liu *et al.* (2007), Mercereau (2005), and Sudsawasd and Chaisrisawatsuk (2006)).¹⁵

While Hong Kong's FDI to the Mainland has remained stable between the two sub-periods, that from the Mainland to Hong Kong

¹⁴ 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 stayed roughly the same during the period under consideration.

¹⁵ 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.

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Table 7: Average intra-Asian bilateral FDI outward flows 1/ (In millions of US dollars).

| | Host region | | | | | | | | |
|---------------------|-----------------|-----------------------|------------------|-----------------------|-----------------|-----------------------|------------------|-----------------------|--|
| | (1997–2000) | | | | (2001–2005) | | | | |
| | East Asia 2/ | South East Asia 3/ | South Asia 4/ | South East Asia 4/ | East Asia 2/ | South East Asia 3/ | South Asia 4/ | South East Asia 3/ | |
| <i>Donor region</i> | | | | | | | | | |
| East Asia 2/ | 28453.6 | 1550.9 | 201.6 | 27293.6 | 937.0 | 76.8 | | | |
| South–East Asia 3/ | 6328.7 | 1652.2 | 86.6 | 3622.3 | 2735.5 | 111.1 | | | |
| South Asia 4/ | 0.0 | 42.8 | 5.2 | 0.0 | 27.1 | 14.6 | | | |
| Rest of the World | 42812.3 | 21490.0 | 3732.2 | 48678.6 | 21036.2 | 3823.2 | | | |

Source: UNCTAD FDI/TNC database.

Notes:

1. Based on FDI inflow data in host economy.
2. East Asia consists of China, Hong Kong SAR, Korea, Taiwan POC, and Macau SAR.
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, Sri Lanka, and Pakistan.

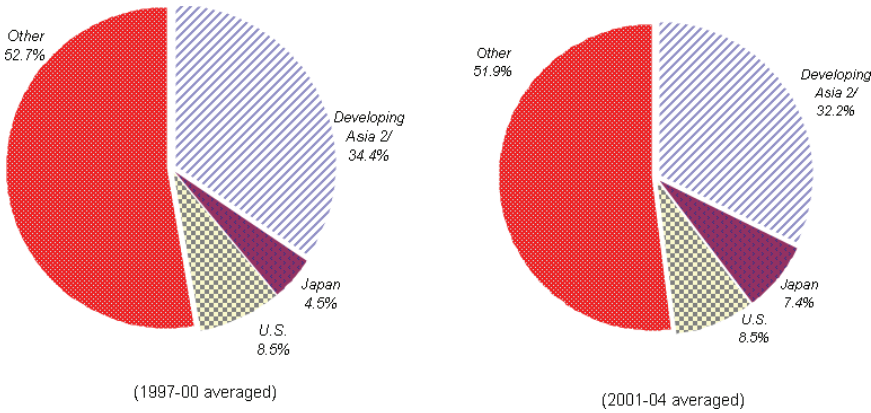


Figure 1: Source of FDI Inflows to Asia.

Source: UNCTAD.

1. Definition of Asia follows UNCTAD’s definition which includes Eastern, Southern, and South–Eastern Asia and excludes Japan.
2. Developing Asia consists of Bangladesh, Brunei Darussalam, Cambodia, Hong Kong SAR, India, Indonesia, Korea, Lao PDR, Mainland China, Malaysia, Myanmar, Pakistan, Philippines, Singapore, Sri Lanka, Taiwan POC, Thailand, and Vietnam.

has declined. Second, intra South–East Asia investment accounted for 6.7 percent of cumulative 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 4.3 percent to 7.8 percent, with Singapore as the leading investor in both periods. Singapore’s investments to its ASEAN neighbors, Malaysia and Thailand, have increased in the second sub-period, while the city state’s investments to China and especially Hong Kong have declined. Third, FDI between East Asia and South Asia remains low and stagnant.¹⁶

It is important to note that the data analyzed above exclude the offshore financial centers (OFCs) such as the British Virgin Islands, Bermuda, Cayman Islands, Mauritius, and Western Samoa as sources

¹⁶ Recent interest expressed by Japanese, Korean and Taiwanese firms in the booming Indian economy may alter this, though that remains to be seen. There appears to be some desire to diversify export market platforms from China although it is unclear whether this will lead to a shift of some FDI from Korea, Japan, and Taiwan to India or to developing Southeast Asian economies such as Indonesia, Thailand, Vietnam, Philippines, Malaysia, etc.

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Table 8: Top 50 bilateral flow between Asian countries 1/ (In million of US dollars)

| Donor | Host | Average | | | In percent to Asia | |
|---------------|---------------|-------------|-------------|-------------|--------------------|--|
| | | (1997-2000) | (2001-2005) | (1997-2000) | (2001-2005) | |
| Hong Kong SAR | China | 17 750.8 | 17 819.1 | 46.3 | 51.2 | |
| China | Hong Kong SAR | 7 266.9 | 5 459.4 | 19.0 | 15.7 | |
| Taiwan POC | China | 2 774.8 | 3 361.3 | 7.2 | 9.7 | |
| Singapore | China | 2 706.3 | 2 136.7 | 7.1 | 6.1 | |
| Singapore | Thailand | 441.7 | 1 381.9 | 1.2 | 4.0 | |
| Singapore | Malaysia | 844.1 | 1 273.3 | 2.2 | 3.7 | |
| Taiwan POC | Hong Kong SAR | 268.9 | 446.6 | 0.7 | 1.3 | |
| Singapore | Hong Kong SAR | 2 835.3 | 353.1 | 7.4 | 1.0 | |
| Malaysia | China | 290.8 | 316.7 | 0.8 | 0.9 | |
| Hong Kong SAR | Malaysia | 272.3 | 296.5 | 0.7 | 0.9 | |
| Philippines | China | 135.9 | 212.2 | 0.4 | 0.6 | |
| Thailand | China | 185.8 | 183.7 | 0.5 | 0.5 | |
| Hong Kong SAR | Thailand | 360.1 | 160.8 | 0.9 | 0.5 | |
| Hong Kong SAR | Macau | 0.0 | 0.0 | 0.0 | 0.0 | |
| Korea | Hong Kong SAR | 313.0 | 155.7 | 0.8 | 0.4 | |
| Malaysia | Hong Kong SAR | 62.0 | 147.2 | 0.2 | 0.4 | |
| Indonesia | China | 115.0 | 134.0 | 0.3 | 0.4 | |
| Hong Kong SAR | Myanmar | 0.0 | 0.0 | 0.0 | 0.0 | |
| Thailand | Hong Kong SAR | -3.1 | 110.7 | 0.0 | 0.3 | |
| China | Singapore | -17.3 | 99.9 | 0.0 | 0.3 | |

(Continued)

Table 8: (Continued)

| Donor | Host | Average | | In percent to Asia | |
|---------------|---------------|-------------|-------------|--------------------|-------------|
| | | (1997-2000) | (2001-2005) | (1997-2000) | (2001-2005) |
| Taiwan POC | Thailand | 130.8 | 96.1 | 0.3 | 0.3 |
| Taiwan POC | Singapore | 96.0 | 87.9 | 0.3 | 0.3 |
| Hong Kong SAR | Singapore | 250.1 | 81.9 | 0.7 | 0.2 |
| Singapore | Philippines | 88.9 | 95.0 | 0.2 | 0.3 |
| Singapore | India | 22.0 | 67.6 | 0.1 | 0.2 |
| Hong Kong SAR | Philippines | 50.0 | 3.5 | 0.1 | 0.0 |
| Hong Kong SAR | Korea | 79.2 | 51.5 | 0.2 | 0.1 |
| Philippines | Thailand | 4.9 | 48.4 | 0.0 | 0.1 |
| China | Cambodia | 0.0 | 0.0 | 0.0 | 0.0 |
| Korea | Thailand | 24.5 | 32.4 | 0.1 | 0.1 |
| China | Macau | 0.0 | 0.0 | 0.0 | 0.0 |
| Vietnam | Malaysia | 1.2 | 29.8 | 0.0 | 0.1 |
| Indonesia | Hong Kong SAR | 0.0 | 28.1 | 0.0 | 0.1 |
| India | Singapore | 36.8 | 24.9 | 0.1 | 0.1 |
| Singapore | Bangladesh | 59.6 | 24.1 | 0.2 | 0.1 |

(Continued)

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Table 8: (Continued)

| Donor | Host | Average | | In percent to Asia | |
|---------------|------------|-------------|-------------|--------------------|-------------|
| | | (1997–2000) | (2001–2005) | (1997–2000) | (2001–2005) |
| Korea | Bangladesh | 1.6 | 23.5 | 0.0 | 0.1 |
| Korea | India | 112.6 | 23.0 | 0.3 | 0.1 |
| Malaysia | Thailand | 19.4 | 21.2 | 0.1 | 0.1 |
| Hong Kong SAR | Bangladesh | 17.5 | 20.3 | 0.0 | 0.1 |
| Korea | Singapore | 143.9 | 20.0 | 0.4 | 0.1 |
| Korea | Cambodia | 0.0 | 0.0 | 0.0 | 0.0 |
| Malaysia | Bangladesh | 5.1 | 19.4 | 0.0 | 0.1 |
| Taiwan POC | Malaysia | 67.6 | 42.4 | 0.2 | 0.1 |
| Philippines | Malaysia | 6.3 | 22.3 | 0.0 | 0.1 |
| Malaysia | Cambodia | 0.0 | 0.0 | 0.0 | 0.0 |
| Indonesia | Singapore | 104.5 | 16.1 | 0.3 | 0.0 |
| Thailand | Cambodia | 0.0 | 0.0 | 0.0 | 0.0 |
| Singapore | Cambodia | 0.0 | 0.0 | 0.0 | 0.0 |
| Thailand | Malaysia | 10.2 | 10.7 | 0.0 | 0.0 |
| China | Thailand | 0.4 | 10.8 | 0.0 | 0.0 |

Note: 1. Based on FDI inflow data in host economy.

Source: UNCTAD FDI database

Table 9: The determinants of intra-Asia bilateral FDI outflows.

| Dependent variable: Ln of bilateral FDI outflows | Regression (1) | Regression (2) |
|--|----------------------|----------------------|
| ln (GDP _{<i>i</i>}) | 0.317 (0.209) | 0.889*** (0.286) |
| ln (GDP _{<i>j</i>}) | 0.465*** (0.058) | 0.560*** (0.213) |
| Common border | -0.727*** (0.231) | |
| Common language | 1.102*** (0.182) | |
| ln distance | -0.551*** (0.153) | |
| Bilateral real exchange rate of <i>i</i> w.r.t. <i>j</i> | -0.027* (0.016) | -0.107 (0.069) |
| Control of Corruption index <i>j</i> | -0.325** (0.136) | -0.666*** (0.136) |
| Investment profile index <i>j</i> | 0.102*** (0.038) | 0.185*** (0.036) |
| Trade agreement between <i>i</i> and <i>j</i> | 2.708** (1.129) | |
| Preferential agreement between <i>i</i> and <i>j</i> | 0.660 (1.148) | 3.845*** (1.367) |
| Observations | 1950 | 1950 |
| Overall R-squared | 0.26 | 0.11 |
| Number of country-pairs | | 130 |
| Specific effects | | |

Notes: Robust standard error in parentheses.

* Significant at 10%; ** significant at 5%; *** significant at 1%.

Year dummies, country-pair dummies, inverse Mills' ratio, and constant are not shown.

Source: Authors calculation.

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 country (i.e., transshipping as opposed to round-tripping), we are undercounting the size of intra-Asian FDI flows. For instance, the British Virgin Islands 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 2006.¹⁷ Similarly, investments from other sources may have been re-routed to India via Mauritius which has consistently been the top source of FDI to India.¹⁸

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 a simple empirical investigation of some of the possible determinants of FDI outflows from Asia to the rest of the region over the period 1997–2004.¹⁹ Is a gravity model framework that is commonly used to rationalize OFDI flows from OECD economies applicable as a tool 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 postulates 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

¹⁷ <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).

¹⁸ Mauritius has low corporate tax and has signed a liberal Double taxation agreement (DTA) with India. As such, the extent of actual extent of flows of FDI between India and East and Southeast Asia may be understated. This is especially so as many companies from abroad and in India use Singapore as a regional headquarters, particularly following the signing of a bilateral Comprehensive Economic Cooperation Agreement (CECA). This said, Pardhan (2005) has argued that outward investments from Indian MNCs since the mid-1990s have been more global in nature.

¹⁹ While we have FDI data until 2005, some of the independent variables are truncated at 2004.

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.²⁰

The basic specification of our estimated model is outlined below

$$\ln(FDI_{ijt}) = \beta_0 + \beta_1 \ln(GDP_{jt}) + \beta_2 \ln(GDP_{it}) + \beta_3 \ln(COST_{ij}) + \beta_4 X_{ijt} + \mu_{ij} + \lambda_t + v_{ijt} \quad (1)$$

where: FDI_{ijt} is the FDI outflow from source country (i) to host country (j) in time (t); GDP_{it} and GDP_{jt} are nominal GDPs for the source country (i) and the host country (j) in time (t); $COST_{ij}$ is a vector of transaction cost between host and source countries; for our study we used geographical distance between host and source countries, a dummy variable equal to one if the two countries share a border; a dummy variable equal to one if the two countries have a common language; and share a common border; X_{ijt} is a vector of control variables influencing FDI outflows; μ_{ij} denotes the unobservable country-pair individual effects; λ_t denotes the unobservable time effects (we use year dummies); and v_{ijt} is a nuisance term.

The set of control variables includes: the real exchange rate of i with respect to j (with depreciation or appreciation constructed by taking log difference of end-month exchange rates); an index of the corruption level in country j ; an index of investment profile in country j ; a binary variable equal to 1 if i and j belong to a common free trade agreement (FTA); and a binary variable equal to 1 if i and j belong to a common preferential trade agreement (PTA).

We expect the coefficients of the GDP of the source and host countries to both be positive as they proxy for masses which are

²⁰ The augmented gravity model for FDI is broadly similar — but by no means identical — to those used in recent papers including Lougani *et al.* (2002). Stein and Daude (2007), Liu *et al.* (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.

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important in gravity models.²¹ As for the control variables, common official language should positively impact bilateral FDI flows. The contiguity dummy should also have a positive sign, while the sign for distance from source to host country should be negative, as a greater distance makes a foreign operation more difficult and expensive to supervise and might therefore discourage FDI.²² The bilateral real exchange rate which is measured in terms of the host country, ought to have a negative sign as a depreciated real exchange rate in the host country should raise FDI outflows from the source country (due to the wealth effects). However, there are other channels that could lead to ambiguity of the signage (Cushman, 1985). A common trade agreement should have a positive impact on bilateral FDI flows insofar as it is a proxy for lower transaction and information costs.²³

Anghel (2005), Bénassy-Quéré *et al.* (2007), and Daude and Stein (2004) have discussed and explored in some detail the importance of 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 two institutional measures which are subcomponents of Political Risk Index of International Country Risk Group (ICRG) database. The first is a control of corruption index — a higher control of corruption index in country *j* should encourage FDI inflow (Wei, 2000). The impact of investment profile, on the other hand, is more intuitive. Since the index of “investment profile” measures government’s attitude toward FDI, a higher investment profile index should encourage FDI flows into that country.²⁴

²¹ 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 host countries’ GDP.

²² However, if the foreign firm is looking to service the host country’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.

²³ There is a growing body of literature examining the links between FDI and regional trade agreements. For instance, see Jaumotte (2004).

²⁴ Investment Profile is an index made of various subcomponents including contract viability/expropriation, profits repatriation, and payment delays.

4.2. Data, Methodology, and Results

Tables A.1 and A.2 summarize the data sources to be used. The FDI data are based on the *UNCTAD FDI/TNC* database. Nominal GDP in US dollar, real GDP per capita, exchange rates (average and deflated by consumer price index) are taken from the IMF's *World Economic Outlook* database. Corruption and investment profile indices are taken from International Country Risk Group (ICRG) database. Data on the share of border land and common official language are from the CEPIL.²⁵

Although we have 14 countries in the sample, not every country receives FDI from others. There are potentially 130 host–source country pairs (10×13) from 1990 to 2004. However, there are many instances of zero bilateral flows and missing variables. Following convention (see Eichengreen and Irwin (1995) and Stein and Daude (2007)) we replaced the zero flows with one. This will make them zeros when we take their natural logs in our empirical analysis.

In all of our estimations, we deal with the issue of censored data. The common approach to dealing with censored data is to run a Tobit model (for instance see Bénassy-Quéré *et al.* (2007), Daude and Stein (2007) and Lougani, *et al.* (2002)).²⁶ We follow di Giovanni (2005) by computing a Tobit model using the two-step procedure. First, a probit model is estimated for whether a deal is observed or not conditional on the same right-hand variables as in Equation (1), and the inverse Mills' ratio is constructed from the predicted values of the model. Second, a regression is run to estimate Equation (1) including the inverse Mills ratio as a regressor.²⁷

We calculated our model of Equation (1) using pooled cross-section and panel regression and present two specifications in Table 9. The first specification is based on pooled ordinary least squares. Regression (1) imposes that the slopes and intercepts are the same

²⁵ <http://www.cepii.fr/>

²⁶ Another alternative suggested by Santos Silva and Tenreyo (2006) is to use the Poisson pseudo maximum likelihood method. This methodology has been recently applied to FDI by Head and Ries (2007). Coe *et al.* (2007) suggest another log-linear estimation method to deal with this problem.

²⁷ The standard errors are corrected for heteroskedasticity and we use an estimated parameter of an exogenous variable (the inverse Mills' ratio) in the second stage. See di Giovanni (2005) for details.

across country-pair, i.e., $\mu_{ij} = 0$. Regression (2) is based on an unrestricted fixed effect model for panel data. The advantage of using fixed effect is to allow for unobserved or mis-specified factors that simultaneously explain FDI flow between two countries. In Regression (2), we remove the restriction that the country-pair intercept terms equal zero, although we maintain the restriction that the slope coefficients are constant across country pairs and overtime to address the biasness of pooled regressions. Specifically, we allowed for $\mu_{ij} \neq \mu_{ji}$. Our country-pair fixed effects application is similar to Wall (1999).²⁸

Our specifications broadly concur with earlier findings based on cross-sectional data (for instance, Lipsey (1999)). Both specifications show that larger countries receive larger volumes of FDI in dollar terms. The impact of distance comes out as significant with correct sign only in Regression (1); longer distance tends to reduce bilateral FDI flows. Common official language comes out with correct sign and significant in Regression (1). The result for common border, on the other hand, is not consistent to our initial assumption. Consistent with Wei (2000), both specifications suggest that lower levels of corruption lead to a higher FDI bilateral flow. Trade agreements between emerging Asian countries have positive effect on bilateral FDI bilateral flows.

5. Conclusion

Intra-Asian investment flows in the region by Japanese MNCs are not something new, having been fuelled partly by the Plaza Accord of 1984–1985. 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 toward OFDI 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

²⁸ A recent study by Anderson and Marcouiller (2002) suggests that country-pair fixed effect is important. Also see Eichengreen and Tong (2007).

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 chapter has investigated trends, patterns, and drivers of intra-Asian FDI flows using bilateral FDI flows involving 15 developing Asian countries for the period 1990–2005. In other words, the primary contribution of this chapter 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 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. 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.²⁹ While the intra-Asian flows are substantial, two issues stand out. First, a large portion of these flows pertains to bilateral flows between Hong Kong and Mainland China. Second, 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.

The chapter finds that an augmented gravity model fits the data fairly well. We find that the greater the host country size and the higher the institution quality in the host country (proxied by lower corruption levels) appears to facilitate bilateral FDI flows within Asia. There also appears to be evidence that a common language, shorter distance, and a bilateral trade agreement all tend to facilitate intra-Asian bilateral FDI flows. These three variables appear to suggest that importance of “transactional distance” and “informational distance” between countries *a la* Lougani *et al.* (2002).³⁰

²⁹ See UNCTAD (2006, pp. 3–12), for a brief discussion of round-tripping and trans-shipping in the context of cross-border FDI flows.

³⁰ Also see Portes and Rey (2005).

Annex**Table A1:** Variables included in the dataset.

| Variables | Source |
|---------------------------------|---|
| FDI Outflows | UNCTAD FDI/TNC database |
| Nominal GDP in US dollar | World Economic Outlook, IMF |
| Nominal GDP in local currency | World Economic Outlook, IMF |
| Consumer price indices | World Economic Outlook, IMF |
| Nominal Bilateral Exchange Rate | International Financial Statistics, IMF |
| Nominal Real Exchange Rate | Authors |
| Nominal Relative Price Indices | Authors |
| Distance | CEPII |
| Common Official Language | CEPII |
| Shared Land Border | CEPII |
| Control of corruption | ICRG |
| Investment profile | ICRG |
| Trade agreements | WTO website |

Table A2: Source and host economies in the dataset.

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

Table A.3: Summary of statistics.

| Variable | Units | Observation | Mean | Std. Dev. | Min | Max |
|--|--------------------|-------------|--------|-----------|---------|---------|
| Bilateral FDI outflows from i to j | US\$ millions | 696 | 589.7 | 2556.0 | -1274.8 | 20677.0 |
| Nominal GDP country i | US\$ billions | 1950 | 208.3 | 279.0 | 6.5 | 1931.6 |
| Nominal GDP country j | US\$ billions | 1950 | 246.2 | 319.6 | 30.5 | 1931.6 |
| Common border | Dummy, 1 = yes | 1950 | 0.1 | 0.3 | 0 | 1 |
| Common official language | Dummy, 1 = yes | 1950 | 0.3 | 0.4 | 0 | 1 |
| Distance | Kilometers | 1950 | 3003.7 | 1325.2 | 315.5 | 5840.5 |
| Bilateral real exchange rate of i w.r.t. j | Index | 1950 | 180.0 | 837.0 | 0.0 | 10766.0 |
| Corruption index in i | 100 = min; 0 = max | 1950 | 3.0 | 1.1 | 0.1 | 5.0 |
| Investment profile index in i | 100 = min; 0 = max | 1950 | 6.6 | 1.8 | 2.0 | 12.0 |
| Free trade agreements | Dummy, 1 = yes | 1950 | 0.2 | 0.2 | 0 | 1 |
| Preferential trade agreements | Dummy, 1 = yes | 1950 | 0.2 | 0.4 | 0 | 1 |

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