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Trends and Patterns of Foreign Direct Investments In Asia: A Comparative Perspective

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**Research School of Pacific and Asian Studies
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Trends and Patterns of Foreign Direct Investments in Asia: A Comparative Perspective

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Abstract: This paper examines foreign direct investment (FDI) in developing Asia over the past three decades with emphasis on two key issues: the implications of the ongoing process of international production fragmentation and the alleged ‘crowding out’ effect of China’s rise as a major host to FDI on the other countries in the region. The evidence suggests that assembly processes within vertically integrated global industries (in particular, electrical goods and electronics) has gained prominence over the past two decades as the major area of attraction for foreign investors in the region. Contrary to the popular crowding out fear, China’s rise as a major assembly centre within global production networks seems to have added further dynamism to region-wide MNE operations in the regions. A key policy inference from our analysis is that, in designing policies of outward-oriented development, investment and trade policies must be considered together as co-determinants of the location of production and patterns of trade.

JEL Classifications: F21, F23, O53

Key words: FDI, production fragmentation, developing Asia, China

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Trends and Patterns of Foreign Direct Investments in Asia: An Interpretative Survey*

1 INTRODUCTION

The purpose of this paper is to review and analyse foreign direct investment (FDI) in developing Asia over the past three decades, with emphasis on two key issues which figure prominently in the contemporary policy debate: the implications of the ongoing process of international production fragmentation for global economic integration, and the alleged ‘crowding out’ effects on the other countries in the region of China’s rise to be the largest developing country recipient of FDI. These issues are probed against the backdrop of a comprehensive survey of emerging trends, source-country profile and industry composition of FDI flows. For the purpose of the study developing Asia is defined to cover developing East Asia (DEA), encompassing the newly industrialized economies (NIEs) in North Asia (South Korea, Taiwan and Hong Kong), China and members of the Association of Southeast Asian Nations (ASEAN), and South Asia (India, Pakistan, Bangladesh and Sri Lanka). To gain perspectives, the Asian experience is examined in the wider global context.

The paper is set out as follows. Section 2 presents an analytical account of the nature and changing patterns of FDI in developing countries. This is done in order to set the stage for the ensuing analysis. Section 3 examines overall trends in FDI and comparative performance of individual countries. Against this background, Section 4 specifically examines the implications of China’s rise as the largest developing-country recipient of FDI and its implications for FDI flows to the other Asian countries. Section 5 looks at source- country composition of FDI with emphasis on trends and patterns of intra-regional flows. Section 6 deals with structural shifts in the industry profile of FDI

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and the role of multinational enterprises in export expansion. The final section summarizes the key findings and draws out some general inferences.

2. ANALYTICAL CONTEXT

Foreign direct investment (FDI) originates from the decision of a multinational enterprise (MNE) to relocate part of its activities in a selected host country.¹ This decision is underpinned by the desire to reap benefits from its specific advantages (in the form of technology, managerial expertise, marketing know-how etc.), which cannot be effectively leased or purchased through ‘arms length’ market dealings with unrelated firms. In other words, FDI is a flow of long-term capital based on long-term profit considerations and a significant degree of influence by the investor on the management of the enterprise. It is this specific element of ‘influence and control’ that distinguishes FDI from portfolio investment and other forms of international capital flows (Caves 2006, Dunning 1998).

Attractiveness of a given country as a host to foreign investors is determined through a combination of its comparative advantage in international production and the domestic investment climate. The term ‘investment climate’ is used here in a broader sense to cover both the foreign investment regime (rules governing foreign investment and specific incentives for investors) and the general investment environment which encompasses various considerations impinging on investment decisions such as political stability, macroeconomic environment and attitudes of host countries towards foreign enterprise participation. Most economists today accept the argument that tax concessions and other profit-related incentives do not generally work unless they are appropriately combined with other initiatives to improve the general investment climate. These specific incentives are relevant for an investment decision only if the general business environment is conducive for making profit. Moreover, as countries compete for attracting investment, the incentives offered by a given country are generally counter-balanced by similar moves by other competing countries. Thus investment incentives

¹ According to the standard (United Nations) definition, the multinational enterprise (MNE) is a business organization that owns and controls business ventures in more than two countries, including its home country. When this definition is adopted the bulk (if not all) of FDI in a given country can be considered as MNE investment.

may matter only when other conditions are roughly similar as between alternative host countries (Wells 1986, Wells and Allen 2001, Caves 2006, Chapter 9).

Assuming a favourable investment environment, what are the specific characteristics, which determine a country's comparative advantage in international production? In answering this question, it is important to emphasize that FDI is not a homogeneous phenomenon, but complicated and finely differentiated means of globalisation of production. For the purpose of discussing factors impacting on the decision of multinational enterprises (MNEs) to locate production in a given country, it is important to distinguish between three categories of MNEs affiliates in terms of their operations in a given host country. These are, producers largely engaged in serving the domestic market ('market-seeking' investors), firms involved in extraction and processing of natural resources both for selling in the domestic market and exporting (usually for the latter purpose) ('resource seeking investors), and those engaged in production for the global market ('efficiency seeking' investors).

When it comes to market-seeking investment in developing countries, the forces explaining the location decisions of MNEs are about the same as those explaining their presence in industrialized countries. The location decision depends primarily on the prevalence in the host country of production opportunities aimed predominantly at meeting domestic demand. Given the scale economies and very small domestic markets in many developing countries, a major (if not the key) determinant of congenial domestic production is restrictions on international trade. As domestic income levels approached industrial country levels, MNEs may engage in production for serving both domestic and export markets, but MNE involvement in this area in most developing countries have so far been largely limited only to serving the domestic market, and such investments have predominantly been determined by the 'tariff jumping' motive. The so-called 'life-cycle' investors (*a la* Vernon 1962) who expand their production networks globally predominantly on scale-economy considerations hardly find low-income countries as attractive investment locations under free-trade conditions. In theory, under certain circumstances, MNE affiliates originally set up to serve local markets could well develop competitive advantage over the years and penetrate markets in other countries without government

support (Moran 1998,). But in the real world such cases are rare and limited predominantly, if not solely, to middle-income and upper-middle-income developing countries with sizable domestic market. As Caves (2006, P. 255) aptly put it, '[G]iven scale economies and the very small domestic markets of most developing countries, a foreign subsidiary will locate their either to serve the domestic market or to export exclusively, but it will not serve the domestic market and export a little....Accordingly, generalizations that span the export and domestic market are some what suspect'

In some circumstances it may be possible to entice MNE affiliates which originally entered production to meet local markets to shift to exporting though government intervention (Bennett and Sharp 1979, Fritsch and Franco 1992, Blomström 1990). But this is typically more difficult than the encouragement of 'fresh' export-oriented investors since it requires the alteration of the firm's global production and marketing strategies. A well-known feature of MNE behaviour is that the parent company strictly controls the performance of its affiliates in the interest of global profit. The export decision of affiliates is, therefore, not just a matter of responding to domestic export incentives and government directives. Even if import-substituting MNE affiliates do respond to host Government's carrot-and-stick approach, there is no guaranty that the final outcome would justify the overall cost involved. Import-substituting production units operating in a small protected market are not usually internationally competitive. Therefore, export incentives have to be introduced and maintained at high levels to generate the anticipated export push. In addition to the related budgetary and institutional constraints, the degrees of freedom available for host countries to resort to such a interventionist policy stance is becoming increasingly limited by the ongoing efforts to enhance the contestability of global markets through international agreements on cross-border investment and competition policies under the World Trade Organization (WTO) and regional trading agreements (RTAs). On the benefit side, there may be little to gain in terms of employment generation because such exports, being simply an extension of import-substitution production, tend to be highly capital intensive (Bhagwati 2006).

For these considerations, the present-day discussion on MNE involvement in export-led industrialization in developing countries is focused almost exclusively on 'efficiency seeking' investment (commonly known as export-oriented FDI). The role of

MNEs in this sphere is ‘distinctively a developing-country question’ (Caves 2007, p. 257). Export-oriented FDI is, however, not a homogeneous phenomenon. Rather it is a complicated and finely differentiated means of globalisation of production. The opportunities available to a given country in mobilizing FDI in economic growth and development depend on relevant typological characteristics and the investment environment of the country and the changing pattern of international production in the global context. In order to understand the opportunities arising from the interaction of these two factors, it is important to distinguish among three different categories of export-oriented production:

- (1) Resource-based manufacturing,
- (2) Labour-intensive final consumer goods, and
- (3) Assembly processes within vertically integrated global production systems.

In the first category, the relevance for a given host country of MNE participation for export expansion depends primarily on the availability of relevant natural resources. Even if resources are available, there are other factors which may render ineffective policies designed to entice foreign investors. For instance, some processing activities, particularly those in the mineral and chemical industries, are characterized by high physical and/or human-capital intensity and may not be economical in a low-income country. A further major deterrent is cascading tariff structures in industrialized countries, which still provide heavy effective protection to domestic processing industries. Insecure property rights in resource-rich developing countries also may act as a deterrent to investors in large, capital-intensive projects. These constraints notwithstanding, there are some product areas where there are significant opportunities for successful export expansion through MNE participation. One such product line, which has gained importance over the past two decades for agricultural-resource-rich developing countries, is agro-based processed food, seafood in particular (Athukorala and Jayasuriya 2003).

For the typical developing economy, labour-intensive consumables (Category 2) are generally considered the natural starting point in the process of export-led industrialization. However, the role of MNEs in this area remains a controversial issue. In the spectacular export take-off of the East Asian NIEs in the 1960s, the key role was

played by indigenous firms with the help of marketing services provided by foreign buyers, the Japanese trading houses and the large retail buying groups in developed countries.²

There are, however, strong reasons to argue that this ‘early East Asian pattern’ of local-entrepreneur dominance in exports may not be replicated in latecomer countries. First, perhaps the most important factor behind the East Asian experience was the unique entrepreneurial background of these countries. Hong Kong, Taiwan and to some extent Singapore started with a stock of entrepreneurial and commercial talents inherited from the pre-revolution industrialization in China. Hong Kong and Singapore also had well established international contacts based upon entrepot trade that involved exporting manufactured goods to begin with. Likewise, the considerable industrial experience that accumulated over the preceding five decades or so under the Japanese occupation was instrumental in the export take-off in Taiwan and Korea (Amsden and Chu 2003, Rhee *et al.* 1988). Therefore, there was no such a large difference between domestic firms in these countries and foreign firms with regard to knowledge of and access to market channels.

The present-day newcomers to export-led industrialization (including most transitional economies) are not generally comparable to the East Asian NIEs in terms of the initial level of entrepreneurial maturation. In many of these countries, the import-substitution growth strategy pursued indiscriminately over a long period has thwarted the development of local entrepreneurship. Domestic firms are generally weakly oriented towards, and have limited knowledge of, highly competitive export markets. This observation seems even more relevant for the present-day transition economies, which have embarked on the process of integration into the global economy following a long period of central planning (Lankes and Venables 1996).

Moreover, from around the mid 1980s, successful exporting firms in the East Asian NIEs have begun to play an important role as direct investors in the latecomers’ labour-intensive export industries. Two main factors accounted for this trend: the erosion of international competitiveness of labour-intensive export products from their home countries as a result of rising real wages and exchange rates; and the imposition and

² See Nayyar 1978, Westphal *et al.* 2002 and the work cited therein.

gradual tightening of quantitative import restrictions (QRs) under the Multifibre Arrangement (MFA) by Industrialized countries on certain labour intensive exports (mostly textile, garments and footwear) (Wells 1994). There are indications that, consistent with rapid structural transformations that are taking place in the NIEs, the intermediary role of these "new" investors in linking late comers to world markets may become increasingly important in years to come. A major advantage which investors from these new countries possess is that, unlike MNEs from developed countries they are familiar with and/or are easily adaptable to the more difficult business conditions (such as poor infrastructure, bureaucratic red tape, and unpredictable policy settings) in latecomers. Given that NIE firms have developed considerable specialized knowledge of small scale and labour-intensive production procedures in the manufacture of standardized products, they have a powerful competitive advantage over both local firms and MNEs from industrialized countries in these latecomer environments (Gereffi 1999).

The location in developing countries of relatively labour-intensive component production and assembly within vertically integrated international industries (Category 3) has been an important feature of the international division of labour since about the late 1960s. This process, which has been labeled using an array of alternative terms: 'global production sharing', 'international production fragmentation', vertical specialization, 'outsourcing' etc) was started by electronics MNEs based in the USA in response to increasing pressures of domestic real-wage increases and rising import competition from low cost-sources (Helleiner 1973, Krugman 1995, Feenstra 1998). The transfer abroad of component assembly operations now occurs in many industries where the technology of production permits the separation of labour-intensive components from other stages of production. Assembly operations in the electronics industry (in particular, assembly of semiconductor devices, hard disk drives and so on) are still by far the most important. The other industries with significant assembly operations located in developing countries are electrical appliances, automobile parts, electrical machinery, optical products, musical equipment, watches and cameras. In general, industries that have the potential to break up the production process to minimize the transport cost involved are more likely to move to peripheral countries than other industries.

Expansion of production fragmentation as an important facet of international production has been hastened by three mutually reinforcing developments. First, rapid advancements in production technology have enabled the industry to slice the value chain into finer, 'portable', components. Second, technological innovations in communication and transportation have shrunk the distance that once separated the world's nations, and improved the speed, efficiency and economy of coordinating geographically dispersed production processes. This has facilitated the establishment of 'services links' to combine various fragments of the production process in a timely and cost-effective manner. Third, liberalisation policy reforms in both home and host countries have considerably removed barriers to trade and investment (Jones 2000; Jones and Kierzkowski 2001). There is evidence that global trade in parts and components (middle products) is growing much faster than total manufactured exports (Athukorala and Yamashita 2009, Feenstra 1998, Yeats 2001).

At the formative stage, the process involved locating small fragments of the production process in a low-cost country and re-importing the assembled components to be incorporated in the final product. Subsequently, production networks began to encompass many countries engaged in the assembly process at different stages, resulting in multiple border crossings by product fragments before they are incorporated in the final product. Recently two other important developments in the process have set the stage for rapid expansion in the share of fragmentation-based trade in world trade. First, some fragments of the production process in certain industries have become 'standard fragments' which can be effectively used in a number of products.³ Second, as international networks of parts and components supply have become firmly established, producers in advanced countries have begun to move the final assembly of an increasing range of consumer durables (for example, computers, cameras, TV sets and motor cars) to overseas locations in order to be physically closer to their final users and/or take advantage of cheap labour.

³ Examples include long-lasting cellular batteries originally developed by computer producers and now widely used in cellular phones and electronic organizers; transmitters which are used not only in radios (as originally designed) but also in personal computers and missiles; and electronic chips, the use of which has spread beyond the computer industry into consumer electronics, motor vehicle production and many other product sectors (Brown and Linden 2005, Sturgeon 2003).

In final assembly, labour costs, while significant, are of secondary importance compared with the availability of world-class operator, technical and managerial skills; a good domestic basis of supplies and services; relatively free access to world-priced inputs including capital; and excellent infrastructure. In other words, the location decisions of MNEs in this sphere depend on the availability of a wider array of complementary inputs that enable their facilities to be efficient by world standards. Also, given the heavy initial fixed costs, MNEs are hesitant to establish overseas plants in final assembly without considerable first-hand commercial experience in the host country. For these reasons, overseas production units of MNEs involved in such final stage assembly are normally located in countries which are at a relatively advanced stage of export-led industrialization.⁴

MNEs from industrialized countries are the key actors in worldwide offshore assembly operations. While MNEs from the USA dominated the scene at the formative stage of global spread of assembly activities in the late 1960s, the involvement of Japanese and Western European MNEs also has been gaining importance since the late 1970s. More recently MNEs from more advanced developing countries, notably those from the East Asian NIEs, have also joined this process of internationalization of production. In response to rapid domestic wage increases, the growing reluctance of domestic labour to engage in low-paid blue-collar employment, and stringent restrictions on the importation of labour, firms in the electronics industry and other durable consumer goods industries in NIEs in East Asia have begun to produce components and sub-assemblies in neighboring countries where labour costs are still low.

Conventionally, international fragmentation of production took the form of an MNE building a subsidiary abroad to perform some of the functions that it once did at home. Thus there was a close relationship between FDI and trade in parts and components (henceforth referred to as fragmentation-based trade) within vertically integrated manufacturing industries (Helleiner 1989). However, in recent years, fragmentation practices have begun to spread beyond the domain of MNEs. As

⁴ However, as we will see below in recent years China has emerged as an important location for final assembly in many product lines largely because of the vast domestic market for these products, which naturally reduces the risk of covering the initial establishment costs (Naughton 2006, Athukorala 2009)

production operations in host countries have become firmly established, MNE subsidiaries have begun to subcontract some activities to local (host-country) firms to which they provide detailed specifications and even fragments of their own technology. At the same time, many firms which are not part of MNE networks have begun to procure components globally through arm's-length trade. Moreover, many MNEs in electronics and related industries have begun to rely increasingly on independent contract manufacturers for the operation of their global-scale production networks – a process that has been facilitated by the standardisation of some components and by advances in modular technology (Sturgeon 2003; Brown and Linden 2005). These new developments suggest that an increase in fragmentation-based trade may or may not be accompanied by an increase in the host-country stock of FDI (Brown et al. 2004: 305).

However, the bulk of fragmentation trade still takes place under the aegis of MNEs (Rangan and Lawrence 1999; Hanson et al. 2001).

In sum, the discussion in this section suggests that, in the context of emerging patterns of international division of labour, MNE involvement through FDI is bound to be more important for latecomer countries to export-led industrialization compared with the early experience of present-day NIEs. Inferences based on the early years of export-led industrialization in the East Asian NIEs may send quite inappropriate signals to policy-makers in latecomer exporting countries because of the two major developments in the trade and investment environment discussed in the previous sections. First, an increasing number of firms from some NIEs have become aggressive international investors and, significantly, these 'third world' MNEs seem to possess specific competitive advantages over 'first world' MNEs in some product areas, particularly where latecomers to export-led industrialization have a comparative advantage in international production. Second, and more importantly, the 'slicing up of the product chain' in high-tech industries, involving the cross-border reallocation of global MNE activities according to host country's relative factor endowments, has rapidly gained importance over traditional labour-intensive final goods production as the prime mover of the internationalization of production.

3. Trends

Data on FDI inflows are summarised in Tables 1 and 2. Total FDI flows to developing Asia increased sharply from an average annual level of \$7 billion during 1980-04 to \$200 billion in 2006. The share of Asia in total FDI flows to developing countries increased from 29.6% to 52.6% between these two time points. As a share of total global flows, the increase was from 9.4% to 15.3% (Table 1). FDI inflows as a share of gross domestic fixed capital (GDFCF) have been significantly higher than the comparable figure for all developing countries throughout the period 1980-1996, followed by a minor reversal in the pattern during the years of the Asian financial crisis, 1997-98. The average FDI/GDFCF ratio for developing Asia for the entire period 1970-2006 was 9.2%, compared to 6.2% for all developing countries and a global average of 7.0%.

A notable feature within developing Asia is the dramatic increase in inflows to China. Over the past two decades China has been by far the largest developing country recipient of inward FDI. For the six years 2000-06, China has been the second largest recipient of foreign investment in the world, at about \$50 billion per annum and accounting for 7% of total gross inflows, after the USA (which has received about \$140 billion per annum, or 13% of total inflows) (UNCTAD 2005). China's share in inflows to Asian developing countries increased from 11.4% during 1980-84 to 48.5% during 2000-06, and it has accounted for well over half of the total increment in FDI inflows to the region during this period.

Table 1 about here

Table 2 about here

Total FDI flows to the ASEAN countries increased sharply from an average annual level of \$3 billion in the second half of the 1980s to nearly \$30 billion during the six years before the onset of the 1997-98 financial crisis. Total FDI inflows to the region declined persistently from about \$35 billion per annum prior to 1997 to an annual average of about \$24 billion during 1997-99. However, the post-crisis experiences of individual countries vary substantially. Indonesia experienced negative FDI inflows until 2004, contributing significantly to the decline in total flows to the region. When the three atypical boom years prior to the onset of the crisis are excluded, owing to the abnormal

investor euphoria, there is no discernible break in the trend of FDI inflows to Singapore, Thailand and the Philippines. Flows to the Philippines, the country least affected by the crisis among this group, in fact continued to increase rapidly throughout. Net FDI flows to Malaysia declined from \$7.2 billion in 1996 to \$6.0 billion in 1997, a 24% contraction, and have remained virtually flat at that level from about mid-1998. This is contrast to a significant increase in flows to Korea and Thailand. It could well be that the prolonged period of policy and political uncertainty following the onset of the crisis, and widespread market skepticism about the fate of Malaysia's unorthodox reform package introduced in September 1998, may have played a role. The two extreme cases of Indonesia (continuous contraction until 2003) and the Philippine (continuous increase until its own political woes in recent years) clearly suggest the post-crisis decline in FDI inflows to the region was a temporary aberration associated with economic disruption and political turbulence caused by the crisis. Moreover, there is also evidence that the decline in FDI after the onset of the crisis was by and large limited to domestic market-oriented investment, while FDI in export-oriented industries continued to increase throughout the period, boosted by the now highly competitive exchange rates (Athukorala 2003).

It is also important to note that the continuation of the crisis-driven decline in FDI inflows to these countries well beyond the period of recovery after the crisis (that is, beyond 2000) was largely a reflection of a large overall decline in global FDI flows during 2000-2003 (UNCTAD 2005), and a global downturn in electronics. Total global FDI inflows declined from \$134 billion in 2000 to \$83 billion in 2001, \$72 billion in 2002, and \$63 billion 2003, before recovering marginally to \$65 billion 2004.⁵ Total inflows during the four years from 2001 to 2004 were 24% lower than the comparable figure for the preceding four years, 1998-2000. Interestingly, FDI inflows to the crisis-affected Asian countries (and to developing Asia in general) seemed to have been remarkably resilient in the face of this massive global contraction.

The 1990s saw a marked increase in FDI to India, a trend that represents a clear break from the preceding two decades. India's share of FDI in total developing country inflows increased from 0.4% in the 1980s to over 1.5% in the first two years of the new

⁵ This massive contraction in global FDI in an unprecedented occurrence during the entire period since 1970, when the *World Investment Report* FDI series commenced. What caused this contradiction remains yet to be explained.

millennium. FDI as a share of GDFCF increased from less than 0.3% to over 3% between these time points.⁶ Nevertheless, the increase has to be seen in perspective. Total annual FDI inflows to India during 2000-06 amounted to a mere 10% and 8% respectively of those into China and ASEAN. A notable aspect of FDI flows to India is that they have behaved quite independently of the global trends in FDI inflows to developing countries. This pattern clearly suggests that the domestic investment climate (demand-side factors in the investment market) has been the prime mover of investment flows to the country. FDI inflows to Bangladesh, Pakistan and Sri Lanka have registered notable increases over the past two decades, but they still account for a tiny share of total flows to developing countries, and are dwarfed by those into DEA.

4. THE CHINA FEAR

As we have already observed, FDI inflows to developing Asia from the mid-1990s have been dominated by inflows to China. The dramatic growth of FDI inflows to China has been accompanied by a sharp decline in the share of almost every other country in the total regional (as well as global) inflows. These contrasting patterns, coupled with some anecdotal evidence of foreign firms relocating to China (Yusuf 2003), have led to serious concern in policy circles in the region, particularly in Southeast Asia, where the growth dynamism for over two decades had relied heavily on FDI, that ‘competition’ from China has begun to erode their prospects for attracting FDI, hence jeopardizing a pivotal element of their outward-oriented growth strategy.⁷ Some of the FDI inflows to China could well have been at the expense of other countries, but it would be a mistake to overstate the ‘China factor’.

First, there is some controversy over China’s actual FDI inflows (Gunter 2004, Wee 2000, Pomfret 1989, Naughton 2006). Part of the reported FDI from Hong Kong, which has accounted for over 40% of total FDI inflows to China over the past ten years, is ‘round tripping’ capital. That is, it is investment that originated from the Mainland and returned to it in the guise of ‘Hong Kong investment’ to take advantage of tax, tariff and

⁶ The recorded increase in inflows in the past three years over the previous years partly reflects revisions to India’s FDI estimation procedures, as noted above (see footnote 5).

⁷ See for instance Freeman and Bartels (2004) Chapter 1, and the work cited therein.

other benefits accorded to foreign-invested firms. The available estimates of the share of round tripping flows in total Hong Kong investment in China varies in the range of 15% to 40%. Also, the official Chinese statistics on FDI are believed to contain ‘serious fat’, arising from the competition among various regions and provinces to demonstrate their superior performance in attracting foreign investors. The comparison of FDI flows to China reported by the official sources with those reported by source countries in Table 3 is consistent with this view. Total investment from countries reported in the table excluding China during the years 2000-05 is almost 90% higher than the amount reported by the investing countries. Even if we make the heroic assumption that the FDI flows to Hong Kong eventually ended up in China, the difference is still significant, at about 16.2%.

Table 3 about here

Second, a comparison of FDI inflows to China, a relatively new host of DFI, with those to other countries with a longer history of MNE involvement, needs to be qualified for possible bias arising from the nature of the available FDI data, as reported in the *World Investment Report* and based on individual country balance of payments records. A well-known limitation of the FDI data for most countries in the region – perhaps all ASEAN countries other than Singapore and China – is that these data do not adequately capture investment financed through retained earnings. At the same time, there is convincing evidence that the relative importance of retained earnings compared to the other two components of FDI (that is, equity capital and intra-company borrowing) is positively related to the duration of MNE involvement in a given host country (Lipsey 2000). This omission is therefore likely to overstate capital inflows to China and understate those to many other countries in the region, in particular the five major ASEAN countries.

Third, investors from Hong Kong and Taiwan accounted for a large share of China’s total FDI inflows, whereas over 80% of total FDI inflows to all developing countries originate from developed countries. The flows from Hong Kong and Taiwan (and also investment by ethnic Chinese investors from other countries such as Malaysia and Thailand) are presumably driven largely by ethnic links, in addition to the general

economic considerations impacting on overseas investment decisions (Huang 2003, Wee 2000, Pomfret 1989). Thus, even if the statistical errors noted above are incorporated and the official data are taken at face value, it is not realistic to assume that these flows are completely at the expense of other investment locations.

MNEs faced with the decision as to which country to invest in would naturally compare expected returns and risks across various investment locations. China may pose a particular difficulty because of the lack of well-defined property rights and the existence of political risk. Higher risk and lower expected returns may explain why some of the major source countries are not investing as much in China compared to norms based on various economic characteristics. This outcome can also explain why overseas Chinese such as those from Hong Kong and Taiwan seem to be investing a disproportionately high amount in China. In the absence of enforceable contracts, other informal instruments such as linguistic ties, family connections, geographical proximity, all of which facilitate the quicker acquisition of information, can serve as a means to increase the likelihood of securing a self-enforcing agreement (Fung 1998).

Fourthly, data on global investment patterns clearly indicate that the *measured* decline in the share in ASEAN in total developing country inflows was not entirely due to increased inflows to China. In fact, inflows to other developing countries (that is countries other than China and ASEAN) have increased at a much faster rate, from about 30% of total flows to developing countries to over 53% by 2002, compared to a *mild decline* in China's share from 32% to 28% between 1995 and 2002 (Table 1, Memorandum Items). In fact, these trends have prompted some authors to characterize China as an 'under-achiever' in attracting FDI, particularly from Europe. Much of these 'other developing country' flows were triggered by liberalization reforms in Eastern Europe, the formation of NAFTA (which triggered a massive relocation of production units from North America to Mexico) and regional cooperation initiated in other parts of Latin America.

Finally, the migration of some production processes within vertically integrated high-tech industries such as electronics, motor vehicles and cameras to China does not necessarily imply a zero sum game in the competition for FDI. Rather, this process opens up opportunities for additional investment in OEM (original equipment manufacturing)

and BTO (back to office) activities in the ASEAN countries for the Chinese market. For instance, recently Intel Corporation, the world's largest computer chip maker, simultaneously invested \$200 million in a second semiconductor chip assembly and testing plant in the central Chinese city of Chengdu, in addition to its \$500 million assembly and testing facility in Shanghai. However, at the same time it invested \$40 million to expand the design and development activities in its plant in Penang, Malaysia, and also announced plans to spend \$100 million a year on further expansion of R&D activities there.⁸ More recently Intel signed an agreement with the government of Vietnam to set up a large electronics component assembly plant in that country, as the first step in linking Vietnam to its regional and global operational network (Athukorala and Tran 2008). The Intel story nicely fits within the broader picture of emerging patterns of manufacturing trade in the region. There is clear evidence of the rapid expansion of components and parts exports within the broader product category of machinery and transport equipment (SITC7) from the five major ASEAN countries to China (Athukorala 2009a). That is, trade in parts and components in high-tech industries is dominated by MNEs, and the FDI flows to China and other countries in the region are 'complementary' rather than 'competitive'.

5. INTRA-REGIONAL FDI

There has been a significant increase in FDI outflow from countries in the region over the past three decades (Table 4). Japan emerged as a major overseas investor from the late 1960s, while for Korea, Singapore and Taiwan the outflows began to rise sharply from around the mid 1980s. The share of DEA in total global outflows is still quite small, although has been increasing rapidly, from just 0.3% in 1970-74 to over 6% in 2006. These countries, however, feature much more prominently in developing country outflows, accounting for 59% of the total in 2006, up from 41.0% in 1980-84.

Table 4 about here

⁸ *Asian Wall Street Journal*, 27 August 2003. P A1 and A4

Japan's FDI in the 1980s was directed largely to North America and Europe, when these two destinations accounted for about two thirds of the total (Kawai and Urata, 1989). But the East Asian share began to increase in the 1990s, with a sharp rise in manufacturing FDI flows. The driving force was the sharp appreciation of Japanese yen during 1992-95, which substantially reduced Japan's international competitiveness. Since the mid-1980s, the geographical distribution of Japanese FDI within Asia has changed significantly, first from the NIEs to ASEAN, and then to China and other Asian countries.

As an outcome of its dramatic economic transformation over the past two decades, China itself is now becoming a significant overseas investor, predominantly in the other developing countries in the region and beyond (Chen and Lin 2007). Resource-rich countries like Indonesia, Malaysia, Laos and Cambodia have begun to attract 'resource seeking' investors from China. There is also evidence that the rapid increase in wages propelled by this fast growth has already begun to erode China's attractiveness as a low-wage investment and to entice Chinese firms involved in labour intensive manufacturing (clothing and footwear in particular) to relocate production to lower wage neighbours. For instance, Chinese investors are already the largest investors in the Cambodian garment industry and they have also begun to enter Vietnam. The imposition of punitive trade restrictions by the European Union and the USA on clothing and footwear imports from China in the mid-2005 has also driven this process.

India has a history of outward FDI dating back to the late 1950s, but total outflows remained small; total cumulative outflows up to 1990/1 amounted to a mere US\$220 million (Athukorala 2009a). Following the liberalization reforms, outflows started to increase rapidly from about the mid-1990s. In particular, there has been a real surge in outflows since about 2005 following significant dismantling of foreign exchange restrictions on capital transfers for acquisition of foreign ventures by Indian firms during 2000-04. India's share in total outward FDI of developing countries increased from below 0.5% in the early 1990s to over 6% during 2006-7 (Table 4).

How important are these intra-regional flows compared to extra-regional inflows to host countries in the region? To shed light on this issue, data on the source country

composition of FDI inflows to some Asian countries are summarised in Table 5. It is evident that, notwithstanding recent increases in intra-regional flows, the bulk of FDI inflows to Developing East Asian countries, other than to China, come from extra-regional sources. However, there are significant differences among these countries in terms of relative importance of individual source countries. For instance, investors from the East Asian NIEs accounted for relatively large share of total investment in Lao PDR and Vietnam. So were investors from the EU in Lao PDR, Brunei and Myanmar (included under ‘other ASEAN’). A striking feature of the recent source-country profile of India compared to that of ASEAN in the relatively minor role played by investors from Japan and the East Asian NIE. This mostly reflect the fact that, despite recent reforms, the investment environment is still not conducive for efficiency seeking investment, an area where Japanese and East Asian investors generally played a more prominent role at the regional and global levels. Increase in the relative importance of investment by non-resident Indian investors (captured in ‘other’ sources in Table 5) has been an important feature of Indian investment approvals in recent years. China is unique for the dominance of regional investors in total inflows of FDI. During 2000-04, 52% of total FDI inflows to China originated in countries in East Asia, with Hong Kong, Korea and Taiwan accounting for 32.2%, 9.4% and 5.7% respectively.⁹ These regional flows are related to shift in production bases (mostly those involved in low-wage assembly activities to China). Thus, FDI inflow patterns in China mirror the growing importance of that country as the regional assembly center within regional production networks.

Table 5 about here

During the pre-reform era, over 85% of total approved FDI of Indian firms destined to other developing countries, with about a half going to other Asian countries. During the 1970s and 1980s, Indian firms, in particular the Birla Group of companies played an important role in the expansion of textile industry in Southeast Asia. Since about the mid-1990s, there has been a notable shift in the geographic profile in favour of developed-country locations. By 2007 developed countries accounted for 53% of the total approved outward FDI, up from 35% during 1991-95 (Athukorala 2009b, Table 2).

⁹ As noted above part of the reported FDI from Hong Kong is ‘round tripping’ capital.

6. INDUSTRY PROFILE: FDI-EXPORT NEXUS

The past three decades have witnessed a profound shift, though at varying times, in the relationship between MNEs and the host countries in the region, as more and more countries have adopted an outward-oriented growth strategy. During the first two decades of the postwar period, FDI in Taiwan and Korea was predominantly involved in domestic-market oriented production. In both countries from about the mid-1960s there was a major shift in the industry composition of FDI, from the early concentration on import substitution toward export-oriented production. From about the late 1980s, FDI has played an important role in the rapid world market penetration of exports from these economies, particularly in automotive, consumer electronics and electrical goods. In Singapore, from the beginning manufacturing FDI was predominantly in 'efficiency seeking' (export oriented) production, mostly electronics. In other ASEAN countries, there has been a shift in MNE activities away from 'market seeking' (domestic-market oriented) production and towards 'efficiency-seeking' production: gradually from the mid-1970s and at an accelerated pace in the 1990s. Old-style import-substituting FDI behind tariff barriers is still found, but only in a few industries, such as automobiles and petrochemicals, and even here significant liberalizations have occurred.

Efficiency-seeking FDI in Singapore, Malaysia and the Philippines has largely concentrated in electronics. In Thailand in recent years there has been major FDI into export-oriented electronics and automotive industries; for the latter industry, the country has become the major hub for Southeast Asia. By contrast, in Indonesia efficiency-seeking FDI has continued to remain confined largely to standard labour intensive consumer goods production. Among the later-reforming countries in the region, in Vietnam, during the first decade of liberalization, FDI was heavily concentrated in domestic-market-oriented capital-intensive industries and in construction and services sectors. The period from about the late 1990s has seen a notable expansion of MNE activity into labour-intensive consumer goods production, in particular clothing, footwear and furniture. More recent years have seen some promising signs of MNE entry into

component assembly in the electronics and electrical goods industries (Athukorala and Tran 2008).¹⁰

FDI into China heavily concentrated from the beginning in export-oriented industries, more so than in Vietnam and the other transition economies. As we show in the next section, until about the mid 1990s virtually all of the industrial output of foreign-invested enterprises (FIEs) was exported. Since then the share of domestic market sales in total FIE output has gradually expanded in line with the relaxation of investment approval procedures to permit production for the vast domestic market. The share of FIEs in total exports from China has, however, expanded persistently from a mere 2% in the early 1980 to nearly 60% by 2006 (Naughton 2006). Export-oriented FIEs in China are heavily concentrated in electrical goods and electronic industries (Sun 2007).

Among major Asian economies, India still remains an outlier in process of region-wide process of increased FDI participation in export-oriented activities. In the case of India, one-third of the FDI stock at independence in 1947 was in the primary sector (plantations, mining and oil), one-quarter in manufacturing, and the rest in services, mostly trade, construction, transportation and utilities (Athreye and Kapur, 2001, Table 3). From the 1960s, inflows tended to concentrate increasingly in manufacturing, while there was also considerable divestment out of other sectors. Within manufacturing, the capital goods sector (basic metal products, machinery and transport equipment) has continued to remain the predominant recipient of FDI. Though India has an enormous supply of low-wage, low-skill manpower that could be used to attract FDI into garments and other simple assembly activities, the overall investment regime has continued to favour foreign investment in heavy industry, complex activities predominantly focused on the domestic market. There has not been any significant increase in India's penetration

¹⁰ On 28 February 2006, Intel Corporation, the world's largest semiconductor producer, announced that it will invest \$300 million (subsequently revised to 1 billion) to build a semiconductor testing and assembly plant (with an initial to absorb 1200 workers) in Ho Chi Ming City as part of its worldwide expansion of production capacity. Following Intel's arrival, the Taiwanese-based Hon Hai Precision Industry Co., the world's biggest electronics contract manufacturer announced in August 2007 its plan to set up a \$5 billion plant in Vietnam (*The Wall Street Journal*, 213 30 August 2007, p. 1). The other major players in electronics industry which have already appeared in investment approval records of the Ministry of Planning and Investment include Foxconn, Compal and Nidec (*The Wall Street Journal*, 7 October 2007, p. 1).

of world markets in industrial products in the 1990s despite the increase in FDI. The only notable exception has been the phenomenal increase in software exports since the mid 1990s (Saxenian 2002, Dosani 2007).

Trade-FDI Nexus

Tables 7 summarises data on the role MNE officiates in the four East Asian NIEs and seven developing Asian countries (China, Indonesia, Malaysia, the Philippines, Vietnam, India and Sri Lanka). MNE involvement in export expansion is measured here in terms of the percentage share accounted for by MNE affiliates in total manufactured exports (MNEXS) (Column 3). Export performance is measured in terms of the share of each country in total world manufactured exports (world market share, WMSH) (column 4). The final column contains summary observations on the nature of the product composition of MNE-related exports in terms of the typology developed in the previous section.

Table 6 about here

It is important to emphasize that these data on the MNE share in exports are pieced together from diverse sources and are therefore not strictly comparable. In particular, there is no uniform treatment of the ownership share used in identifying the ‘multinationality’ of host-country firms across these sources. Estimation errors in individual country figures are also unlikely to be consistent across countries, as obviously data quality varies. Nevertheless, the estimates assembled here are the best available and, taken together, they yield a number of important inferences. The twelve Asian countries covered in this table account for over ninety per cent of total manufacturing exports from the developing Asia countries (or nearly two-thirds from developing countries) over the past two decades.

Overall, there is a clear difference between the three NIEs - South Korea, Taiwan and Hong Kong – and the other countries in terms of the relationship between the share of exports accounted for by MNE affiliates (*MMEXS*) and the share in total world manufacturing exports (*WMSH*). For the former three countries, the data do not point to

any systematic relationship. By contrast, for all other countries there is a close positive relationship, suggesting that the entry of MNEs has been *export creating*. The observation that MNE involvement in export expansion from the NIEs (other than Singapore) is low by international standards generally remains valid in our data set. Nevertheless, there is evidence that FDI has played a qualitatively much more important role than that suggested by these figures. Many joint ventures in Korea, particularly those with minority ownership (which constituted almost three-quarters of all investment) were initiated by Korean entrepreneurs who approached potential foreign investors (Koo 1985, p 213). In the case of Taiwan, Ranis and Schive (1985, p 134) observe that: 'While FDI never occupied a dominant position in total manufacturing investment, it was qualitatively important in certain specific industries.'

In any case, it is important to note that in both Korea and Taiwan the MNE share in exports did increase significantly from about the mid-1970s to mid-1980s, as compared to the figures reported by Nayyar (1978) for the late 1960s. Detailed case-studies of the export performance of these countries suggest that this increase reflected the important role played by MNEs in these countries, as they shifted from the early reliance on labour intensive, standard consumer goods sectors to assembly activities in vertically integrated high-tech industries, and subsequently to sophisticated consumer durables production.¹¹ The available evidence on product composition of exports by MNE affiliates in Taiwan and Korea clearly attest to this important role played by these firms in the structural transformation of exports from these countries. Given the rapid expansion of traditional labour intensive exports at the initial stage of export-led growth in these countries, any analysis based on MNE shares of *total* exports obviously fails to capture this important point. It is interesting to note that the MNE export shares in Korea and Taiwan have tended to decline from about the mid-1980s. This is most likely due to the combined effects of exports by domestic firms growing more rapidly in recent years, and an increase in domestic sales by MNE affiliates in consumer durable industries in response to the strong growth expansion in domestic demand fuelled by rapid economic growth.

¹¹ Numerous studies have drawn attention to this phenomenon. See for example Koo 1985, Lee 1992, Naya 1990, Schive 1991, and Amsden and Che 2003.

The relatively small role of MNEs in export expansion from Korea and Taiwan compared to Singapore, and more importantly to the second-tier exporting countries in the region, is generally interpreted as resulting significantly from the 'guided' industrial development policies pursued by these countries. These countries, Korea in particular, so the argument goes, followed the Japanese pattern by relying on non-equity arrangements rather than FDI to access technology and other MNE-controlled assets. However, following Goh Keng Swee (1993), the architect of modern Singapore's spectacular economic development, one can argue that this difference, at least to some extent, emanated from the nature of the investment environment at the time – from the late 1960s – when technical advances in the US electronics industry began to create rapid growth of demand for semi-conductors, whose production and assembly required the intensive use of low-cost labour. At this time, China's Cultural Revolution was reaching its height, and political stability was a key factor governing the location decisions of assembly operations by electronics MNEs (Goh 1993, p. 253).

This argument receives further support from the fact that not only Korea and Taiwan which, according to the revisionists, followed 'strategic' FDI policy, but also Hong Kong, a country that followed almost laissez-faire economic policy throughout, was largely shunned by the electronics multinationals. By the time the political risk waned, and export-led growth policies became firmly rooted in these countries, wage levels had already increased to levels which made them less attractive as labour-intensive assembly locations. The electronics revolution in Singapore, which began in the mid-1960s, absorbed all unemployed labour in that country within a period of five to seven years, and electronics MNEs shifted unskilled and semi-skilled simple assembly activities to neighbouring low-wage countries – Malaysia, Thailand and Indonesia, and more recently to the Philippines. In the process, Singapore then assumed a major regional headquarters function for the electronics industry in Southeast Asia (McKendrick et al, 2002). In the following 20 years, the MNEs diversified their operations in the region, first from simple assembly to component production operations (mainly hard disc drives), and more recently to consumer electronics, such as TV sets, radios and sound systems.

The inference that MNE participation is crucial for latecomers' export success gains further support from a comparison between China and India. In China, the share of

exports from enterprises with foreign equity rose from 0.4% in 1984 to over 46% in 1996 (Table 7). This was accompanied by a more than 10-fold increase in manufactured exports over this period. By contrast, in India, where MNE subsidiaries are still predominantly of the old-fashioned ‘tariff-jumping’ variety, both the share of MNEs in total manufactured exports and the rate of export growth have continued to remain low. Interestingly, since the mid 1980s there has been a mild, yet persistent, decline in the MNE share of India’s manufactured exports, and this decline became more pronounced following the 1991 reforms. A detailed analysis of the underlying factors is beyond the scope of this study, but the explanation seems to be in the nature of the post-reform trade and foreign investment regimes. From the early-1980s India gradually relaxed restrictions on intermediate and investment goods imports, and the removal of these restrictions was intensified as part of the liberalization reforms initiated in 1991. Consequently the pressure on MNE affiliates, which are predominantly domestic-market oriented, to export in order to become eligible for access to import (foreign exchange and quotas), gradually waned and then virtually disappeared after 1991. At the same-time, given the half-hearted nature of the policy regime relating to FDI and the still-binding bureaucratic restraints on FDI approval procedure, India has thus far not been successful in attracting export-oriented foreign investors.¹²

The available data do not permit precise disaggregation of exports by MNE affiliates according to the typology developed in Section 2. However, the various country case studies on the nature of the product composition of MNE-related exports (summarized in Column 5) do provide empirical support for our arguments concerning changing export patterns and the potential role of MNEs in the expansion of manufactured exports. It is evident that light manufactured goods and assembly activities within vertically integrated high-tech industries have been the main areas of MNE export activities. In Singapore, Malaysia and the Philippines, MNE involvement is predominantly in assembly activities. In the other second-tier exporting countries, the standard labour intensive products still account for the bulk of exports, but the relative importance of assembly activities seems to have increased over the years in all cases.

¹² Note that the increase in the export share in the late 1980s is consistent with the tightening of import and exchange controls in response to the balance of payments crisis preceding the 1991 liberalization.

There is also evidence of a notable shift in assembly processes, from component assembly to final good assembly in China, Thailand and Malaysia. Interestingly, there is no evidence of a shift in MNE activities from component specialization into final goods assembly in Singapore. It seems that, given the highly favorable investment climate and deep-rooted operational links coupled with relatively high domestic wages, MNEs use Singapore as the regional centre for high-tech activities in component *production*, while undertaking relatively more labour intensive assembly of components and final goods in neighboring ASEAN countries (mostly in Malaysia, Thailand and the Philippines) and China. Since the mid-1990s, China has become premier final assembly centre within global production networks of electrical goods and electronics. Affiliates of Taiwanese, Hong Kong and Korean MNEs account for the lion's share (over 80%) of assembly exports by all foreign firms located in China. However, developed-country MNEs (in particular, U.S. and Japanese MNEs) play a pivotal role in parts and component supply for these assembly firms from their home bases as well as from plants located in China and other countries in the region, in particular those located in Southeast Asia.¹³

Among the countries covered in the Table, Sri Lanka is unique for prolonged heavy concentration of MNE activities in standard labour intensive products (mostly garments and toys). The explanation lies in unfortunate developments in the investment climate; despite the government's continued commitment to an outward-oriented policy since the late 1970s, with further strengthening of general incentives for export-oriented FDI over the years, and the availability of cheap and trainable labour, political and policy instability has been a major deterrent to the diversification of export composition away from standard labour intensive goods to assembly activities in vertically integrated global industries (Athukorala and Rajapatirana 2000, Chapter 6). MNEs in these industries, unlike those involved in light consumer good industries, usually view country risk and the other elements in the investment climate from a long-term perspective. Two major electronics multinationals from the USA (Motorola and Harris Corporation) had in fact finalized plans to establish large assembly plants in the Katunayake Export Processing

¹³ For instance, the typical notebook computer made in a Taiwanese-owned factory in China has processing chips made by Intel in Malaysia, an operating system made by Microsoft in the U.S., a CD display screen sourced from Taiwan or Korea, and hard-disk drives sourced from Japan. Domestic value added (the cost of labour, components sourced within China, and the profit earned by foreign owned companies in China) is only one-third of the value of output (Dean and Tam 2005).

Zone in the early 1980s. These plans were abandoned as the political climate began to deteriorate. In the site selection process for MNE electronics facilities, there is something akin to a “herd psychology”, particularly if the first-comer is a major player in the industry. Considering this, one can surmise that, if the Motorola and Harris projects had been completed, many other MNEs would have followed suit, giving a major boost to the expansion of assembly exports from Sri Lanka.

There is some evidence of MNE involvement in resource-based processing activities in Indonesia, Vietnam, Thailand and Sri Lanka. But the share of MNE-related exports of these product lines in total manufactured exports have declined over time in the face of rapid expansion of the standard labour intensive products and/or component assembly.

7. CONCLUDING REMARKS

Over the past three decades Asia, in particular developing East Asia, has been by far the most favoured regional location for foreign direct investment in the developing world, notwithstanding a notable dip in total inflow in the aftermaths of the 1997-98 financial crisis. The rapid increase in FDI in the region has been accompanied by a notable structural shift in the composition away from traditional market-seeking (import-substitution) and towards efficiency-seeking (export-oriented) activities. Over the years, within efficiency-seeking category, FDI flows related to assembly processes within vertically integrated global industries (in particularly, electrical goods and electronics) have gained prominence over those related to traditional labour intensive manufacturing.

The across-the-board shift in FDI towards greater export orientation, does not, however, warrant the inference that there is a ‘single Asian, or even East Asia, experience’ with FDI. The region is characterised by great economic diversity among countries ranging from the highly developed economies of Korea, Taiwan and Singapore to late reforming low-income countries in South Asia, and to former centrally-planned economies of Vietnam, Cambodia and Lao, which only recently reconnected to the global economy after a long period of economic isolation. There are vast differences among

these countries in the structure of their economies, and hence in their patterns of comparative advantage. This suggests that individual countries have their own niche in attracting export-oriented FDI involved in different stages of international production and production process in vertically integrated global industries.

Contrary to the popular perception, China's emergence as a major investment location is not a 'zero sum proposition' from the perspective of the region. Rather it seems to have added further dynamism to region-wide MNE operations. There are significant potential complementarity of FDI in China and other countries in the region. Migration of some production processes within vertically integrated high-tech industries such as electronics, motor vehicles and cameras to China does not necessarily imply a zero sum game of competing for attracting FDI. Rather, it also opens up of opportunities for producing original-equipment-manufacturer goods and back-room operations in other countries in the region. Even if China continues to remain relatively attractive, not all stage of production within vertically integrated global industries are going to move to China. Supply chain managers are reluctant to procure all of their inputs from any one nation, preferring instead to diversify the risk of exchange rate instability or supply disruptions across countries.

India and other South Asian countries have continued to remain under performers in attracting FDI. India in particular has immense potential for becoming a major host to MNEs. It's greatest asset in this regard is a large, educated English speaking population that is willing to work at relatively low wages. In spite of widespread illiteracy, few countries can match India's combination of low-wage, highly skilled workers. The pull of a large established industrial economy like India, despite its current deficiencies and technological gaps, is also much greater than that of its smaller, less industrialized neighbours. This is not just because of the potential of its market, but because of the level of local industrial skills and experience, which could provide a fertile basis for operations of foreign firms if its liberalization process continues. In these circumstances, India could become a major destination of both market-seeking and efficiency-seeking FDI.

Despite significant since the early 1990 there are still many unresolved problems relating to the overall investment climate which make India less attractive to FDI

compared to China and other dynamic East Asian economies (UNCTAD 2002 and 2007, World Economic Forum 2008, Kearney 2007). For example, FDI is still not permitted in pure retailing (global retailers can only participate in India's retail sector through wholesale trade or by operating retail outlets through local franchises). In apparel and other light consumer-good producing industries, which are important in export expansion and job creation at the current stage of economic development of the country, FDI is limited to 24% of total equity. Restrictions on foreign ownership of land limit the entry of foreign builders and developers into the construction sector (See World Bank, 2003, 55-66 for details). Projects with 51% or more foreign ownership still require a long procedure of government approval. Tariff protection in India is still substantially higher than in most other developing countries, and this continues to block India's attractiveness as an export platform for labour-intensive manufacturing products. While the 'License Raj' (the infamous industrial licensing policy) has been largely eliminated at the centre, it still survives at the state level, along with a pervasive 'Inspector Raj'. Private investors require a large number of permissions for gaining access to infrastructure facilities such as water supply and electricity from the state governments to start business and also have to interact with the state bureaucracy in the course of day-to-day business. Stringent labour laws and other restrictive labour market practices, a weak bankruptcy framework and high corporate tax rates¹⁴, are other prominent issues. On the A.T. Kearney/Foreign Policy Magazine Globalization Index, an index closely-watched by the international investment community, India has continuously ranked among the bottom one percent since 2001 (when the index was first published) (*Foreign Policy* 2008; atkearney.com/index.php/publications/globalization-index.html).

The remarkable success in the global software and information technology industries perhaps provides a preview of India's potential to grow through export-oriented FDI under more liberal trade and investment regimes. Software industry is the unique case in India where restrictions on MNE entry were virtually abolished. This was also accompanied by abolition of quantitative restrictions on imports of computers and peripherals and drastic cuts in import tariffs on these products. This combination of FDI

¹⁴ The corporate tax rate for foreign companies is 48% in India compared to rates in the range of 15 to 30% in East Asia.

and trade liberalization laid the foundation to make the domestic software industry internationally competitive. Now virtually every major global companies in software industry has a base in India and the entry of MNEs has opened up opportunities for Indian companies to thrive through functional specialisation, to develop niche products and services for large clients abroad. As one commentator has puts it, the success of foreign investment in the software industry is a measure of the failure of India's restrictions on foreign investment elsewhere (Desai 2002).

A key policy inference from our analysis is therefore that, in designing policies of outward-oriented development, investment and trade policies must be considered together as co-determinants of the location of production and patterns of trade. Given the fact that an increasing number of developing countries compete in attracting export-oriented FDI, countries that attempt to implement a selective FDI promotion policy are likely to lose important opportunities for export expansion. Of course, enhancing national gains from export-oriented industrialization by encouraging greater participation of local companies is a legitimate objective for any country. But under the current competitive conditions governing international production, this objective can be achieved only by providing a conducive setting for domestic entrepreneurial development as part of the overall development strategy, not through direct restrictions on the entry and operation of MNEs.

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Table 1: FDI Inflows, 1944-2007

	1984-5 ¹	1989-0 ¹	1994-5 ¹	1999-0 ¹	2004-5 ¹	2006 ¹	2007 ¹
(a) US\$ millions							
World	56839	403898	597889	2486691	1676393	1411018	1833324
Developing economies ²	31785	65953	219661	484805	600025	412972	499720
Economies in transition ²	7	94	6163	15481	61338	57167	85942
Asia	11065	38723	144306	255550	320111	211657	248050
Japan	304	339	467	868	3037	2756	210
Developing Asia ³	10761	38384	143839	254682	317074	208902	247840
East Asia	5287	17194	90350	194357	222508	131879	156706
China	3375	6880	71287	81034	133036	72715	83521
Hong Kong SDR	1021	5316	14041	86502	67650	45054	59899
Taiwan	541	2934	2934	7854	3523	7424	8161
South Korea	350	1496	2066	18887	16053	4881	2628
Southeast Asia	5189	20536	48723	52387	74336	51243	60514
Brunei Darussalam	4	17	589	1297	623	434	184
Cambodia	...	...	220	381	513	483	867
Indonesia	530	1774	6610	-6333	10233	4914	6928
Lao People's Democratic Republic	-2	10	148	86	45	187	324
Malaysia	1492	4279	10396	7683	8591	6048	8403
Myanmar	1	281	453	512	487	143	428
Philippines	242	1118	3050	3487	2542	2921	2928
Singapore	2349	8461	20085	33062	33758	24743	24137
Thailand	572	4412	3439	9440	13910	9010	9575
Viet Nam	1	184	3725	2773	3631	2360	6739
South Asia	285	653	4766	7937	20230	25780	30620
Bangladesh	-7	3	103	888	1306	793	666
India	125	489	3125	5753	13377	19662	22950
Maldives	1	10	16	25	24	14	15
Nepal	2	6	0	4	2	-7	6
Pakistan	103	463	1281	841	3319	4273	5333
Sri Lanka	57	61	231	374	505	480	529
(b) Share in world inflows							
Developing economies ²	55.9	16.3	36.7	19.5	35.8	29.3	27.3
Economies in transition ²²	...	...	1.0	0.6	3.7	4.1	4.7
Asia	19.5	9.6	24.1	10.3	19.1	15.0	13.5
Japan	0.5	0.1	0.1	0.0	0.2	0.2	0.0
Developing Asia ³	18.9	9.5	24.1	10.2	18.9	14.8	13.5
East Asia	9.3	4.3	15.1	7.8	13.3	9.3	8.5
China	5.9	1.7	11.9	3.3	7.9	5.2	4.6
Hong Kong SDR	1.8	1.3	2.3	3.5	4.0	3.2	3.3
Taiwan	1.0	0.7	0.5	0.3	0.2	0.5	0.4
South Korea	0.6	0.4	0.3	0.8	1.0	0.3	0.1
Southeast Asia	9.1	5.1	8.1	2.1	4.4	3.6	3.3
Indonesia	0.9	0.4	1.1	-0.3	0.6	0.3	0.4
Malaysia	2.6	1.1	1.7	0.3	0.5	0.4	0.5
Myanmar	0.0	0.1	0.1	0.0	0.0	0.0	0.0
Philippines	0.4	0.3	0.5	0.1	0.2	0.2	0.2
Singapore	4.1	2.1	3.4	1.3	2.0	1.8	1.3

Thailand	1.0	1.1	0.6	0.4	0.8	0.6	0.5
Viet Nam	...	...	0.6	0.1	0.2	0.2	0.4
South Asia	0.5	0.2	0.8	0.3	1.2	1.8	1.7
Bangladesh	...	...	...	...	0.1	0.1	...
India	0.2	0.1	0.5	0.2	0.8	1.4	1.3
Pakistan	0.2	0.1	0.2	0.0	0.2	0.3	0.3
Share in inflows to developing countries							
Developing Asia ³	33.9	58.2	65.5	52.5	52.8	50.6	49.6
East Asia	16.6	26.1	41.1	40.1	37.1	31.9	31.4
China	10.6	10.4	32.5	16.7	22.2	17.6	16.7
Hong Kong SDR	3.2	8.1	6.4	17.8	11.3	10.9	12.0
Taiwan	1.7	4.4	1.3	1.6	0.6	1.8	1.6
South Korea	1.1	2.3	0.9	3.9	2.7	1.2	0.5
Southeast Asia	16.3	31.1	22.2	10.8	12.4	12.4	12.1
Brunei Darussalam	...	...	0.3	0.3	0.1	0.1	0.0
Cambodia	...	...	0.1	0.1	0.1	0.1	0.2
Indonesia	1.7	2.7	3.0	-1.3	1.7	1.2	1.4
Lao PDR	0.0	0.0	0.1	0.0	0.0	0.0	0.1
Malaysia	4.7	6.5	4.7	1.6	1.4	1.5	1.7
Myanmar	0.0	0.4	0.2	0.1	0.1	0.0	0.1
Philippines	0.8	1.7	1.4	0.7	0.4	0.7	0.6
Singapore	7.4	12.8	9.1	6.8	5.6	6.0	4.8
Thailand	1.8	6.7	1.6	1.9	2.3	2.2	1.9
Viet Nam	0.0	0.3	1.7	0.6	0.6	0.6	1.3
South Asia	0.9	1.0	2.2	1.6	3.4	6.2	6.1
Bangladesh	...	...	...	0.2	0.2	0.2	0.1
India	0.4	0.7	1.4	1.2	2.2	4.8	4.6
Pakistan	0.3	0.7	0.6	0.2	0.6	1.0	1.1
Sri Lanka	0.2	0.1	0.1	0.1	0.1	0.1	0.1

Notes:

- 1 Annual averages
- 2 Based on the United Nations standards classification
- 3 Countries in East Asia (other than Japan), Southeast Asia (ASEAN) and South Asia.
- ... Zero or negligible.

Source: Compiled from UNCTADT World Investment database.

Table 2: FDI Inflows as % of Gross Domestic Fixed Capital Formation (GDFCF), 1984-2007

	1984-5 ¹	1994-5 ¹	1999-0 ¹	2004-5 ¹	2006	2007
World	2.2	4.8	18.3	9.0	12.9	14.8
Developed economies ²	2.1	3.9	19.1	7.7	12.8	15.6
Developing economies ²	2.8	8.1	15.8	11.9	12.5	12.6
	2.3	7.9	12.1	9.9	11.0	10.6
Developing Asia ³						
East Asia	1.9	9.0	14.8	9.3	8.7	8.6
China	1.8	15.9	10.4	7.7	6.4	5.9
South Korea	0.6	0.6	6.6	3.8	1.9	0.9
Taiwan	2.2	2.3	5.3	2.4	9.6	10.1
South-East Asia	4.5	12.1	20.1	19.0	20.2	19.6
Brunei Darussalam	0.9	21.6	73.3	29.1	28.5	11.3
Cambodia	-	30.0	31.7	23.1	34.3	52.3
Indonesia	1.3	6.1	6.5	7.9	5.6	6.4
Lao PDR	***	38.6	25.9	2.6	17.7	26.1
Malaysia	7.4	15.2	19.2	15.9	18.5	20.6
Myanmar	0.0	23.2	31.9	18.5	7.0	20.4
Philippines	2.0	9.7	11.3	9.0	18.0	14.3
Singapore	14.3	38.6	58.4	65.7	79.9	60.0
Thailand	2.5	2.7	18.1	14.9	15.3	14.6
Viet Nam	0.0	41.5	17.5	11.1	11.6	25.4
South Asia	0.2	1.7	2.4	3.3	6.2	5.7
Bangladesh	***	0.6	4.0	4.1	4.5	3.4
Bhutan	***	***	0.3	1.4	1.2	11.3
India	0.1	1.7	2.7	3.1	6.6	5.8
Maldives	1.3	6.7	7.1	3.3	2.8	2.6
Nepal	0.2	***	0.2	0.1	***	0.4
Pakistan	0.7	4.4	3.4	8.8	16.8	17.4
Sri Lanka	1.9	3.6	4.2	4.7	6.8	6.6

Notes

1 Annual averages

2 Based on the United Nations standard classification

3 East Asia (excluding Japan) + Southeast Asia + South Asia.

*** Data not available.

Source: Compiled from UNCTADT World Investment database

Table 3: FDI flows to China as Reported by China and by Selected Investing Countries, 2000-05¹

	As reported by China (US\$ million)	As reported by investing country (US\$ million)		Percentage difference between (1) and (2)	
		China	China + Hong Kong	China	China + Hong Kong
France:	3,837	2,605	4,582	47.3	-16.3
Germany:	6,628	8,989	11,754	-26.3	-43.6
Italy	1,526	294	322	418.4	374.5
Japan:	28,490	18,420	22,686	54.7	25.6
Republic of Korea:	22,267	3,570	4,124	523.7	439.9
United Kingdom:	5,612	5,212	15,351	7.7	-63.4
United States	25,442	11,160	21,904	128.0	16.2
Total	93,801	50,251	80,723	86.7	16.2

¹ Total for the six year period. Selection of countries was based on data availability for the entire period.

Compiled from CEIC database (China data) and OECD International Direct Investment Statistics (<http://titania.sourceoecd.org>)

Table 4: FDI Outflows, 1970-2006

	1984-5 ¹	1989-0 ¹	1994-5 ¹	1999-0 ¹	2004-5	2006	2007
(a) US\$ million							
World	56048	235423	324724	1159852	900480	1323150	1996514
Developing economies ²	3143	15826	51270	101682	118793	212258	253145
Economies in transition ²	***	***	472	2739	14242	23706	51227
Developed economies ²	52905	219597	272982	1055431	767445	1087186	1692141
Asia	8472	58203	62883	87572	113045	168168	224045
Japan	6209	46077	20376	27150	38366	50266	73549
Developing Asia ³	2264	12126	42507	60422	74678	117902	150496
East and North Asia	1797	10321	31053	50872	56380	82301	102865
China	382	805	2000	1345	8880	21160	22469
Hong Kong SAR	1019	2594	23219	39361	36459	44979	53187
Taiwan	76	6097	2812	5561	6587	7399	11107
South Korea	322	825	3007	4598	4478	8127	15276
South East Asia	454	1789	11340	9113	15384	22232	33466
Brunei Darussalam	---	---	55	16	44	18	38
Cambodia	---	---	---	8	8	8	1
Indonesia	26	11	2301	111	3237	2703	4790
Lao PDR	-1	1	3	3	***	***	***
Malaysia	226	201	2409	1724	2516	6041	10989
Philippines	37	16	200	129	384	103	3442
Singapore	165	1458	5682	6959	8873	12241	12300
Thailand	1	103	691	164	290	1032	1756
Viet Nam	---	---	---	---	33	85	150
South Asia	13	15	115	437	2915	13369	14165
Bangladesh	---	---	1	1	5	4	21
India	4	8	101	295	2579	12842	13649
Pakistan	10	14	1	16	50	109	98
Sri Lanka	1	1	7	13	22	29	95
(b) Share in global flows							
Developing economies ²	5.6	6.7	15.8	8.8	13.2	16.0	12.7
Economies in transition ²	---	---	0.1	0.2	1.6	1.8	2.6
Developed economies ²	94.4	93.3	84.1	91.0	85.2	82.2	84.8
Asia	15.1	24.7	19.4	7.6	12.6	12.7	11.2
Japan	11.1	19.6	6.3	2.3	4.3	3.8	3.7
Developing Asia ³	4.0	5.2	13.1	5.2	8.3	8.9	7.5
East and North Asia	3.2	4.4	9.6	4.4	6.3	6.2	5.2
China	0.7	0.3	0.6	0.1	1.0	1.6	1.1
Hong Kong SAR	1.8	1.1	7.2	3.4	4.0	3.4	2.7
Taiwan	0.1	2.6	0.9	0.5	0.7	0.6	0.6
South Korea	0.6	0.4	0.9	0.4	0.5	0.6	0.8
South East Asia	0.8	0.8	3.5	0.8	1.7	1.7	1.7
Indonesia	...	...	0.7	0.0	0.4	0.2	0.2
Malaysia	0.4	0.1	0.7	0.1	0.3	0.5	0.6
Philippines	0.1	---	0.1	0.0	0.0	0.0	0.2
Singapore	0.3	0.6	1.7	0.6	1.0	0.9	0.6
Thailand	...	...	0.2	0.0	0.0	0.1	0.1

South Asia	...	...	...	...	0.3	1.0	0.7
India	...	...	...	...	0.3	1.0	0.7
(c) Share in inflows to developing countries							
Developing Asia ³	72.0	76.6	82.9	59.4	62.9	55.5	59.5
East and North Asia	57.2	65.2	60.6	50.0	47.5	38.8	40.6
China	12.1	5.1	3.9	1.3	7.5	10.0	8.9
Hong Kong SAR	32.4	16.4	45.3	38.7	30.7	21.2	21.0
Taiwan	2.4	38.5	5.5	5.5	5.5	3.5	4.4
South Korea	10.2	5.2	5.9	4.5	3.8	3.8	6.0
South East Asia	14.4	11.3	22.1	9.0	12.9	10.5	13.2
Indonesia	0.8	0.1	4.5	0.1	2.7	1.3	1.9
Malaysia	7.2	1.3	4.7	1.7	2.1	2.8	4.3
Philippines	1.2	0.1	0.4	0.1	0.3	0.0	1.4
Singapore	5.3	9.2	11.1	6.8	7.5	5.8	4.9
Thailand	...	0.7	1.3	0.2	0.2	0.5	0.7
Viet Nam	...	...	...	...	...	...	0.1
South Asia	0.4	0.1	0.2	0.4	2.5	6.3	5.6
India	0.1	0.1	0.2	0.3	2.2	6.1	5.4

Notes:

- 4 Annual averages
5 Based on the United Nations standards classification
6 Countries in East Asia (other than Japan), Southeast Asia (ASEAN) and South Asia.
*** Data not available
... Zero or negligible.

Source: Compiled from UNCTADT World Investment database.

Table 5: Source-country Composition of FDI Inflows into Selected Asian countries, 2000-05 (annual average, %)

Source country/region	DEA	North East Asia					ASEAN									South Asia	
		Total	CHN	HK	KOR	TWN	Total	NDO	MAL	PHL	SPR	THL	VTN	Others	Total	IND	
Developing East Asia (DEA)	38.6	42.0	52.3	27.8	9.5	33.8	21.5	16.5	25.6	27.4	---	13.0	81.2	69.4	4.8	3.0	
North East Asia (NEA)	34.5	39.2	47.3	29.9	7.5	14.5	9.2	8.8	8.7	1.1	---	9.5	44.9	55.9	1.8	1.0	
China (CHN)	6.7	7.7		26.9	6.6	1.4	0.9	3.3	0.1	---	---	1.6	4.1	9.8	0.3	---	
Hong Kong (HK)	18.7	21.0	32.2		0.8	9.7	6.2	2.4	7.6	0.8	---	6.5	---	41.4	0.8	---	
Korea (KOR)	5.5	6.3	9.4	0.9		2.7	1.7	3.1	0.3	0.1	---	1.4	40.8	2.0	0.7	1.0	
Taiwan (TW)	3.6	4.2	5.7	2.1	0.2		0.4	---	0.7	0.2	---	---	---	2.7	---	---	
ASEAN	4.0	2.9	5.0	-2.0	2.0	19.3	12.2	7.7	16.9	26.3	---	3.5	36.3	13.6	3.0	2.1	
Indonesia (INDO)	0.1	0.1	0.2	---	---	0.2	0.1		0.2	---	---	---	---	1.2	---	---	
Malaysia (MAL)	0.5	0.4	0.6	-0.1	0.8	2.2	1.4	5.1		0.7	---	1.2	24.5	4.2	0.9	---	
Philippines (PHL)	0.4	0.3	0.4	---	---	1.6	1.0	2.6	0.2			2.2	11.9	---	---	---	
Singapore (SPR)	2.8	1.9	3.6	-1.8	1.2	14.4	9.2	---	15.5	25.4	---		---	4.2	2.1	2.1	
Thailand (THL)	0.2	0.2	0.3	-0.1	---	0.3	0.2	---	0.2	0.2	---	---		4.0	---	---	
Vietnam (VTN)	0.1	---	---	---	---	0.6	0.4	---	0.7	---	---	---	---		---	---	
Others	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
South Asia (SA)	---	---	---	---	0.5	0.1	0.1	---	0.2	---	---	---	---	---	0.2	---	
India	---	---	---	---	0.4	0.1	0.1	---	0.1	---	---	---	---	---	0.2		
Japan	9.9	9.0	9.2	6.8	13.9	23.3	14.8	37.2	12.1	7.1	2.1	74.1	---	1.1	4.5	5.0	
NAFTA	11.3	12.0	7.1	19.0	25.0	18.9	12.0	---	11.2	11.1	38.5	1.3	9.3	0.8	20.8	20.3	
EU15	10.2	12.4	7.0	17.3	35.6	24.0	15.2	46.2	6.5	-40.6	48.6	11.6	9.5	16.1	25.2	26.9	
Other Region	28.8	24.5	24.4	29.1	15.4	45.0	28.6	---	44.4	95.0	8.5	---	---	12.6	44.4 ¹	44.8 ¹	
World	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	

Note: --- Zero or negligible

1 Includes investment by non-resident Indians and local private investment 'round-tripped' via Mauritius.

Source: Compiled from UNCTAD, World Investment database.

Table 6: MNE Involvement in Manufactured Exports and Selected Export Performance Indicators in Developing Asian Countries¹

Country	Period	MNE share in exports (MNEXS) ² (%)	World market Share (WMSH) (%) ³	Nature of export composition of MNE affiliates by the late 1990s ⁴ .
(1)	(2)	(3)	(4)	(5)
Hong Kong	1970-74	10.0*	0.52	Mostly B2 and B3.1 (Ramstetter 1999)
	1980-84	13.8*	1.10	
	1985-89	16.0	1.19	
South Korea	1970-74	19.3*	0.93	B3.1 and B3.2 (Nayyar 1978, Koo 1985, Ramstetter 1993)
	1975-79	25.0*	1.07	
	1980-84	25.8*	1.65	
	1985-89	26.1*	2.30	
Taiwan	1975-79	36.7	1.13	B3.1 and B3.2, with the share of the latter declining persistently since about the late 1990s (Schieve 1990, Amsden and Chu 2003)
	1980-84	27.9	1.76	
	1990-94	19.7	2.61	
	2000-04	10.1		
Singapore	1970-74	70.0	0.78	B3.1 and B3.2, with the share of the latter declining persistently since about the mid-1980s (Dobson and Chia 1996, McKendrik et al. 2000, Wong 2007)
	1980-84	74.9	1.35	
	1990-94	85.2	2.16	
	2000-04	89.1	1.52	
China	1985-89	5.3	1.49	Predominantly B2 and B3.2, with some increase in B3.1 recently (Sun 2007, Athukorala 2009)
	1990-94	24.3	2.44	
	2000-04	53.16	9.55	
	2005	58.30	13.12	
Indonesia	1990-94	28.5	0.62	Predominantly B2, with some increase in B3.1 in recent years (Athukorala 2006)
	1995-99	38.5	0.67	
	2000-04	45.3*	0.68	
Malaysia	1975-79	65.2	0.40	Predominantly B3.1, with some (but diminishing) involvement in B3.2. (Athukorala and Menon 1996, Devadasan 2006)
	1985-89	75.6	0.59	
	1990-94	78.1	1.11	
	2000-04	86.13	1.89	
	2005	87.80	1.85	
Philippines	1985-89	49.9*	0.16	Predominantly B3.1, with a small and diminishing share of B3.2 . Hill (2002)
	1990-94	47.6*	0.21	
	2000-04	85.7*	0.07	
Thailand	1970-74	11.4*	0.15	B1, B2, B3.1 and B3.2, with shares of the latter two increasing rapidly in recent
	1980-84	13.5*	0.33	

	1990-94	50.4*	0.91	years.(Kohpaiboon 2006)
	1995-99	62.6*	1.11	
Vietnam	1990-94	12.0	0.05	Predominantly B1 (mostly seas food) and B2, with a small, but an increasing, share of B3.1. (Athukorala and Tran 2008)
	1995-99	39.2	0.12	
	2000-04	48.6	0.20	
	2004-06	56.9	0.28	
India	1970-74	5.0	0.50	A wide range of A, with some minor increase in B2 and B3.1 (an IT software) (Athreye 2001, Kumar 2002, Dosani 2007)
	1980-84	8.7	0.40	
	1990-94	4.6	0.53	
	2000-04	4.6*	0.82	
Sri Lanka	1975-79	25.7*	0.01	Predominantly B2, and some B1 (mostly ceramics and rubber goods) and a small Percentage of B3.1 Athukorala and Rajapatirana (2000)
	1980-84	42.8	0.03	
	1990-94	63.5	0.05	
	2000-04	43.2	0.08	
	2005	36.3	0.07	

Notes

- 1 In all cases manufactured exports have been measured using the ISIC-based definition (i.e. all goods belonging to Division 3 of the International Standard Industry Classification) or an approximation to it. Figures reported are five-year averages unless otherwise indicated.
- 2 Annual averages.
- 3 Figures marked with asterisk are for a single year or some years falling within the given five year period. For details see the Appendix.
- 4 Product categories listed in Column 7 (based on Section 2 of the paper):
 - A Exports by market-seeking MNE affiliates: product mix varies depending on the nature of import-substitution policy regime, domestic market size, export incentives and export performance requirements imposed by the government.
 - B Exports by efficiency-seeking (export-oriented) MNE affiliates.
 - B1 Resource-based manufacturing – Local processing of primary products previously exported in raw state
 - B2 Standard consumer goods – clothing, shoes, sporting goods.
 - B3 Assembly activities within vertically integrated production systems
 - B3.1 Parts and component assembly : : parts of electronic and electrical machinery, motor vehicle parts etc.
 - B3.2 Final assembly: computers, cameras, motor vehicles etc

Source: Athukorala (2007), Chapter 3 (updates using the same data source detailed therein)

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