

Role of Technological Capabilities in Enhancing FDI Flows in Developing Asia-Pacific Economies

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Developing countries look forward to foreign direct investment (FDI) as a stable source of non-debt creating capital. FDI also offers these economies access to advanced technology and global marketing networks. Similarly, foreign firms investing in developing country markets look for some conditions to be met in host countries, which allow them to produce more efficiently through better exploitation of their typical intangible assets, like superior patented technology, management and marketing skills (Lall and Streeten, 1977; Soci, 2002). Otherwise, foreign firms have the option of serving new markets through either exports or arm's-length arrangements like licensing. Of course, success in capturing new markets through exports depends heavily on barriers to trade, while licensing, particularly in products involving advanced know-how, needs to overcome critical problems arising from informational asymmetry between foreign sellers and local franchisees. Nevertheless, foreign firms commit to overseas investment by 'internalizing' operations once they find it cheaper to produce abroad (Buckley and Casson, 1976), given some intrinsic features of developing host countries. These features, as explained later, determine the capabilities of individual countries for attracting FDI.

Developing countries differ widely in their abilities to attract FDI. The Asia-Pacific region is a distinct case in point in this regard. In 2005, Asian developing countries held 15 per cent of total stock of world FDI (Table 1). Among these, East Asian developing countries accounted for 10 per cent of total world FDI stock, or 62 per cent of total FDI in developing Asia. In contrast, Southeast Asian and South Asian developing countries held 4 per cent and 1 per cent, respectively, of the world FDI stocks which translated for Southeast Asian countries into barely a quarter, and for South Asian countries to just 4 per cent, of Asia's FDI.

Table 1: FDI Inward Stock in the year 2005

	Inward stock (US Dollar billion)	Share in World total (per cent)
World stock of inward FDI	10 130	100
Developed economies	7 117	70
Developing economies, of which:	2 757	27
Asian developing economies	1 550	15 (56) ¹
Asian developing economies:	1 550	15 (100)
■ East Asian developing economies	963	10 (62) ²
■ South Asian developing economies	62	1 (4) ²
■ South-East Asian developing economies	375	4 (24) ²

Note: ¹ Share of Asian economies in total FDI stock of developing countries;

² Shares of East Asian, South Asian, and Southeast Asian developing countries, respectively, in total FDI stock of Asian developing countries

Source: World Investment Report, 2006; UNCTAD; Statistical Annex B; pp. 303-305

Furthermore, within Asian subregions, there are sharp inter-country variations in FDI flows. Almost three-fourth of South Asia's FDI goes into India. In Southeast Asia, Singapore alone accounts for half of the region's total FDI. A cross-regional comparison, on the other hand, indicates that Hong Kong, China and China are attracting more FDI inflows than Singapore, which is the leading FDI recipient in Southeast Asia¹.

Why do FDI flows to developing countries vary so much? The literature on FDI, both theoretical and empirical, suggests that FDI flows into a country are determined by a number of country-specific factors². These include the size of the domestic country market, labour costs, openness of the economy, exchange rate stability, quality of infrastructure services, availability of human capital, technological capabilities, enabling policies, investment incentives and business climate, among others. While economic factors like market size, labour costs, human capital, and technology, do explain cross-country variations in FDI flows in many cases, they alone, unfortunately, fail to provide sufficient explanations in some key cases. For example, if these were the only relevant determinants, then there is no reason why India could not have become one of the top most emerging markets for FDI, as it fares satisfactorily in most of these indicators.

It is evident that economic factors alone are insufficient in elucidating why some developing countries perform better than others in drawing FDI. A substantive part of the explanation probably lies in non-economic factors influencing FDI. Research on FDI has identified remoteness from source countries in terms of geographical distance between 'home' and host nations, and the difficulties of doing business in foreign locations having different regulations, business practices, as well as language (Yu, 1990; Bevan and Estrin, 2001), as significant determinants discouraging FDI. While geographical distance can partly explain horizontal FDI in manufacturing, it hardly explains investment in services. Similarly, if 'alien' institutional practices and

¹ At the end of 2005, Singapore had a total FDI stock of USD 187 billion, while China and Hong Kong, China, had 318 and 533 billion, respectively. Inward FDI flows to Singapore in 2005 were USD 21 billion, while for China and Hong Kong, China, they were 72 and 36 billion, respectively. See UNCTAD (2006).

² See, for example, Singh and Jun (1995), Nunnenkamp (2002), and Artige and Nicolini (2005) for detailed discussion of determinants of FDI.

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linguistic differences had discouraged investment, then there would have been little US investment in China or Japan. Such factors, indeed, matter little in a globalized world allowing free flow of capital across borders.

DOES BUSINESS CLIMATE MATTER?

In recent times, much attention has been devoted to the ease of doing business in different countries as a key factor influencing incoming FDI. The ease with which companies can do business in a foreign location primarily refers to existing procedures and regulations in the latter that either facilitate or impede growth of business ventures. The International Finance Corporation (IFC) and the World Bank have been studying various countries for assessing their procedures in this regard (Table 2). Needless to say, however, business practices in different countries vary almost as widely as their structural characteristics, as can be seen from a select group of Asian nations (Tables 3a and 3b).

The South and Eastern regions of Asia present a completely mixed picture in terms of ease of doing business. These regions comprise countries which offer the best climate for doing business (e.g., Singapore and Hong Kong, China), along with countries where local systems and regulations entail high transaction costs, thereby making them difficult places for doing business (e.g. Afghanistan, Lao PDR, Cambodia, Bhutan, India and Indonesia). Elsewhere, there are countries which can be clubbed as 'good' (e.g. Malaysia, Taiwan, PoC and Maldives) and 'not so good' (e.g. Pakistan, Bangladesh, Sri Lanka, Viet Nam and China).

Classifying a country as 'more' or 'less' attractive for doing business depends on various factors. The IFC looks at some key issues in this regard, which include time taken to start a business, number of licenses and permits required to be taken and the time involved in doing so, labour market flexibility in terms of ease of hiring and firing workers, land market rigidities as indicated by time and cost of

Table 2: Ease of Doing Business: World rankings of Selected Asian Economies

Countries	2005	2006	Countries	2005	2006
Afghanistan	159	162	Maldives	49	53
Bangladesh	81	88	Nepal	90	100
Bhutan	143	138	Pakistan	66	74
Cambodia	142	143	Philippines	121	126
China	108	93	Singapore	2	1
Hong Kong, China	6	5	Sri Lanka	89	89
India	138	134	Taiwan, Province of China	43	47
Indonesia	131	135	Thailand	19	18
Lao PDR	163	159	Viet Nam	98	104
Malaysia	25	25			

Source: *Economy Rankings*; <http://doingbusiness.org>; World Bank Group

Table 3a: Regional rankings of selected East Asian and Pacific economies for selected business practice indicators in 2006

Countries	Starting business	Dealing with licenses	Employing workers	Registering property	Getting credit
Cambodia	21	22	21	16	23
China	20	21	16	5	11
Hong Kong, China	1	13	7	8	1
Indonesia	23	18	22	18	8
Lao PDR	14	17	15	19	22
Malaysia	12	19	11	12	2
Philippines	19	16	20	15	11
Singapore	2	3	2	1	3
Taiwan, PoC	17	20	23	6	6
Thailand	5	1	12	4	5
Viet Nam	18	5	18	7	8

Source: *Economy Rankings*; <http://doingbusiness.org>; World Bank Group

Table 3b: Regional rankings of South Asian economies for selected business practice indicators in 2006

Countries	Starting business	Dealing with licenses	Employing workers	Registering property	Getting credit
Afghanistan	1	..	2	7	8
Bangladesh	6	2	3	6	1
Bhutan	7	6	6	2	7
India	8	7	5	4	2
Maldives	2	1	1	8	6
Nepal	4	5	8	1	4
Pakistan	5	4	7	3	2
Sri Lanka	3	3	4	5	4

Source: *Economy Rankings*; <http://doingbusiness.org>; World Bank Group

acquiring property rights, protection available to foreign investors, effectiveness of contract enforcement mechanisms, time and cost required for resolving bankruptcies, etc.³. In all these individual aspects, again, countries differ significantly. Hong Kong, China for example, which is among the top five countries in the world in terms of ease of doing business, fares worse than China, which is ranked 93, in acquiring property rights (Tables 2 & 3a). Similarly, Viet Nam, placed as the 104th, requires much less time in completing licensing and permit formalities than Taiwan, PoC which is ranked at a much higher 47th place (Tables 2 & 3a). Conventional wisdom suggests that Sri Lanka, given its long history of strife and unrest, is probably one of the most difficult places for doing business in South Asia. Surprisingly, Sri Lanka requires not only less time to start business than India – it also does better than India in awarding licenses and permits. However, India, despite such constraints, is still the largest recipient of FDI in South Asia.

There is no denying that a more facilitating climate for doing business is a 'pull' factor for FDI. However, is it the main driver behind inward FDI? Perhaps not. Indeed, had a good business climate been the key to attracting FDI, then China, ranked much below most other developing economies in the Asia-Pacific region, would not have drawn more FDI than the rest, including much 'better' business locations like Singapore and Taiwan, PoC. Arguments in favour of a good business climate will undoubtedly cite the example of Hong Kong, China in this regard. However, in recent times, FDI flows to China, averaging more than USD 60 billion per year, have been far more than those to Hong Kong, China or Singapore⁴ (UNCTAD, 2006). Similarly, India, widely considered as one of the more difficult places for doing business, received around USD 6.6 billion of FDI in 2005, more than those for Malaysia and Thailand, both of which are rated as much better places for doing business.

It is evident that being an attractive place for doing business is not sufficient for explaining why some countries get bigger shares of FDI relative to their counterparts. However, countries with relatively easy procedures and efficient institutions certainly induce greater investor confidence. But manifestation of such confidence into actual FDI requires host countries to possess additional vital attributes, which offer sources of long-term competitive advantages to foreign investors.

TECHNOLOGICAL CAPABILITY AND ITS EFFICIENT APPLICATION: KEY TO FDI

Development experiences of East Asian economies provide interesting evidence of the initial advantage of low-cost labour slowly giving way to developed technological capabilities as dynamic sources of competitive advantage for attracting FDI. Following Japan, the Asian 'Tigers' – Hong Kong, China; Republic of Korea; Taiwan, PoC and Singapore – and 'Cubs' – Indonesia, Malaysia and Thailand – moved up the growth ladder following the popular 'flying geese' pattern. All these countries, and later China, emerged as distinct hubs of labour-intensive exports on account of low labour costs (Guha and Ray, 2004) and were able to attract large volumes of export-oriented FDI.

It is, however, interesting to note that in recent years, except China, Hong Kong, China, Republic of Korea, and Singapore, most economies of Southeast and East Asia, are facing decelerations in FDI inflows. While country-specific factors might partially explain such trends, these economies might also be losing their initial advantage of

low-cost labour for 'pulling' FDI. Indeed, cheap unskilled labour can hardly be a source of dynamic competitive advantage, as rising wages, unaccompanied by rise in productivity, are certain to induce industrial relocation.

Maintaining labour efficiency as a key determinant for sustained inflows of FDI requires active policy interventions in some key segments of the domestic economy. Malaysia, Indonesia, and Thailand, could attract considerable labour-intensive export-oriented FDI, as rising wages in Asian 'Tigers' forced investors to look for other locations. Over time, however, the nature of FDI flows into East and Southeast Asia has changed from those directed at relatively simple labour-intensive technique-based production activities to more complex, technology-intensive segments. As a result, it has become essential for domestic labour in Asian economies to upgrade for remaining competitive.

How can such upgradation occur? National technological capabilities assume importance in this respect. Developing countries need to graduate from the initial stages of technological capability acquisition, characterized by 'learning-by-doing' to more advanced stages of 'learning by design' and creation of new processes (Lall, 1987). The East Asian experience is critical in this regard. Hong Kong, China; Republic of Korea, Taiwan, PoC, and Singapore, have retained their distinct comparative advantages as locations offering highly productive labour forces on account of the latter acquiring capabilities of efficiently applying 'know-why' based techniques in production, after progressing successfully from 'know-how' based applications⁵. In contrast, Malaysia and Thailand despite achieving success in assembling technology-intensive exports, lack advanced technological capabilities, primarily on account of low research and development (R&D) (UNCTAD, 2003).

Nurturing a domestic labour force capable of efficiently applying advanced technologies requires, *inter alia*, strong national emphasis on technological progress and human resource development. This is precisely where policies assume importance. The Asian evidence of FDI flows clearly indicates that countries like Singapore and Republic of Korea that have been able to attract large amounts of FDI possess well-qualified and technically sound labour forces. These countries, over time, have been able to successfully upgrade capabilities for maintaining their industrial competitiveness. The main drivers of such success have been technological progress and human capital formation. Indeed, Japan, Republic of Korea, Taiwan, PoC, and Singapore, figure among the top economies in the world in terms of expenditure on R&D⁶. At the same time, the skill-bases in these countries, particularly high-end technical skills, are also much deeper than in most other developing countries, which is evident from their higher tertiary level enrollments, as well as the fairly high share of students studying technical subjects at the tertiary level⁷.

⁵ Technological capabilities are often characterized into 'know-how' and 'know-why' with respect to the stages of technological development. 'Know-how' pertains to the early stages of technological development, where nations acquire capabilities by familiarizing with imported techniques and systems, introducing efficient production practices and learning optimal use of different raw materials. 'Know-why' follows 'know-how' and pertains to acquiring capabilities for developing new technologies through extensive use of R&D. See Guha and Ray (2004), pp. 304-305.

⁶ Japan, Republic of Korea, and Singapore, spend 3.1 per cent, 2.5 per cent, and 2.2 per cent of their GDP respectively on R&D. Corresponding ratios are much lower for other countries in the Asia-Pacific region, mostly below 1 per cent of country GDPs, except China (1.2 per cent). See *Human Development Report* (2005), UNDP.

⁷ See *Human Development Report* (2005), UNDP.

³ See *Doing Business* in 2006; A co-publication of the World Bank and the International Finance Corporation (IFC); Washington D.C.; <http://doingbusiness.org>.

⁴ See UNCTAD (2006).

CONCLUDING THOUGHTS

With developing countries varying widely in terms of country-specific sources of competitive advantage, their abilities to attract FDI also vary similarly. The experience of developing nations in the Asia-Pacific clearly shows that despite almost all economies following encouraging FDI policies, even within particular regions where geographical and cultural similarities prevail (e.g., South Asia and East Asia), the distribution of inward FDI is not uniform.

The success achieved by some of the East and Southeast Asian economies in consistently attracting FDI shows that it is essential to develop sound capabilities in technology and human skills for drawing FDI that generates spillover effects within the host economy in terms of further technological diffusion and other forms of 'learning'. Such capabilities need to be strengthened over time, along with changes in global production systems, for remaining potent sources of competitiveness.

The relative lack of success of many developing countries in attracting FDI, despite liberal enabling policies, might be explained to a large extent by their inability to develop sources of dynamic competitive advantage, primarily technological capabilities and skilled labour forces. Indeed, it is worth debating whether there is much point in 'chasing' FDI before acquiring such capabilities. Rather, focusing on policies aiming to develop such competencies by spending more resources on technology diffusion and creation, as well as higher education, can actually dispense with the need for having specific government strategies for drawing FDI, since these attributes act as strong 'pull' factors.

How important is a good business climate in attracting FDI? It certainly is important as far as increasing investor confidence is concerned. To the extent that difficulties in doing business lead to high transaction costs, efforts to reduce such costs can significantly improve the competitiveness of host countries (UNCTAD, 2003). Removing labour and land market rigidities are particularly important in this regard. However, enabling rules and efficient institutions, while 'necessary' for drawing FDI, cannot be 'sufficient' for ensuring FDI inflows, unless matched with distinct economic advantages like high labour productivity and developed technological capabilities. This probably explains why China, despite being ranked quite low in terms of ease of doing business, still attracts large FDI. While China, arguably, enjoys the advantage of a large domestic market, so does India, which has not been able to achieve as much as FDI as China has. It is

evident that the Chinese success in drawing FDI has much to do with factors other than domestic market size. China is successfully converting its intrinsic advantage of possessing a large body of low-cost, but relatively unskilled labour, ideally suited for lower-end, labour-intensive export production, to a more capable and technically-skilled labour force, competent to handle complex, high-end technology-intensive activities. Such success owes a lot to Chinese efforts in promoting research and development for achieving sustained technological progress along with the emphasis on developing human skills.

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