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Emerging Multinationals: A Comparison of Chinese and Indian Outward Foreign Direct Investment*

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Abstract: The present study deals with the origin and growth of outward foreign direct investment (OFDI) by emerging Chinese and Indian multinationals and examines the locational determinants of such investments. Both Chinese and Indian OFDI flows were observed to have surged after the adoption of economic openness policies by the home country in the late 1970s and the 1990s respectively and are now increasingly being driven by wholly-owned projects and acquisitions abroad. Indian and Chinese firms both started OFDI operations in developing countries and then they expanded into developed regions in the 1990s. Among locational factors, both Chinese and Indian OFDI projects are attracted by host country imports from the sources, greater strength of host currencies, rising host prices and host status of being offshore financial centres. While the Chinese multinationals were found to have preference for hosts with locational proximity, small size and high natural resource endowments, the Indian firms appear to choose countries with large size and that have bilateral investment treaty (BIT) with India irrespective of their physical distance from India.

Keywords: emerging multinationals, outward FDI, China, India

JEL classifications: F21, F23, F29, O53

1. Introduction

Emerging economies'[1] outward foreign direct investment (OFDI) has expanded rapidly in the past two decades with several of their firms becoming global players in a wider segment of global markets (Goldstein, 2009; Ramamurti and Singh, 2009; Sauvant *et al*., 2008, 2010; UNCTAD, 2006, 2007). Outward investments by firms based in emerging economies increased by a whopping 49 per cent in 1991-1999 and continued to grow faster by a 47 per cent upsurge in 2000-2007 (Table 1). In sharp contrast to emerging economies, developed economies OFDI decelerated from 60 per cent to 22 per cent between these two periods. While the mergers and acquisitions

Table 1: OFDI Flows from Emerging Economies, 1991−2007

Region/Country	OFDI Flows				M&A Purchase			
	Annual Average (US$ billion)		Annual Compound Growth Rate (%)		Annual Average (US$ billion)		Annual Compound Growth Rate (%)	
	1991-99	2000-07	1991-99	2000-07	1991-99	2000-06	1991-99	2000-06
World	438.6	1025.5	59.1	25.2	265.1	626.0	98.7	-3.1
Developed economies	388.9	883.0	60.2	22.0	247.5	568.4	100.0	-7.2
Emerging economies	49.7	142.5	49.4	47.4	17.5	56.4	79.3	62.8
Developing economies	48.4	126.9	49.0	41.6	17.3	53.1	79.0	59.9
Economies in transition	1.5	15.6	37.6	153.3	0.2	3.3	95.0	207.0
Brazil	1.0	6.3	66.3	106.9	1.1	5.9	247.0	221.3
China	2.5	9.3	1.5	149.9	0.5	3.6	96.5	253.5
India	0.1	4.6	158.0	168.1	0.2	1.9	195.6	70.5
Russian Federation	1.4	14.3	35.9	153.4	0.1	3.0	49.9	223.2
South Africa	1.4	1.2	57.4	168.4	2.1	2.8	100.9	-26.0

Note: Compound growth is obtained by fitting semi-logarithmic regression function.
Source: Based on UNCTAD online FDI database, 1991-2007.

(M&A) purchase has fallen in absolute terms for developed economies firms in 2000-2006, emerging economies firms continued with a whopping 62.8 per cent jump in their M&A investment. With this dramatic expansion into global markets, no wonder emerging multinationals are attracting global imagination and policy interests.

Within the emerging region, Chinese and Indian firms emerged as among the most aggressive outward investing firms in the last decade or so. Chinese and Indian OFDI flows respectively have expand by 150 per cent and 168 per cent in 2000-2007, suggesting a new stage of firms' internationalization process taking place in these two large and emerging economies. Unlike the 1950s-1970s when national firms of both these countries predominantly remained focused on domestic markets and did modest OFDI operations in a few developing countries, the international strategies of these firms became broad based since the late 1990s. Large scale cross-border greenfield investments and growing corporate pursuance of acquisitions abroad for a variety of firm-specific objectives like access to new markets, new technologies, skills, natural resources, etc. significantly changed the OFDI profiles of China and India (Buckley *et al*., 2008; Gammeltoft, 2008; Pradhan, 2008d; Sauvant, 2005; UNCTAD, 2007).

In the above backdrop, the objective of this paper is to present a long term review of the OFDI growth of emerging Chinese and Indian multinationals and to study the locational factors underlying the spatial distribution of Indian and Chinese overseas investments. Though there exist a number of studies pertaining to individual countries' OFDI, a comparative picture of outward investments undertaken by emerging Indian multinationals (EIMs) and emerging Chinese multinationals (ECMs) is still lacking. In addition to providing results on the locational choice of ECMs and EIMs on a comparable empirical formulation, this study addresses this issue through a relatively better quantitative methodology than those existing in the current literature.

This study has the following structure: Section 2 reviews the growth of EIMs and ECMs since their origin as reflected in a comparative analysis of Indian and Chinese OFD flows over different periods. Here, the focus shall be on the sectoral and regional distributions of such investments, ownership choice, government policy, etc. Section 3 examines EIMs and ECMs in terms of their locational behaviours of choosing to invest in some countries and not in others. Section 4 concludes the study.

2. Origin and Growth of OFDI by EIMs and ECMs

Chinese and Indian firms have a long history of outward investments among developing country multinationals. It will be interesting to analyze how these two groups of emerging multinationals evolved from being just regional

players in the past to be among emerging global players presently and to examine changes in their path of outward investment. This section specifically intends to provide a comparative picture of EIMs and ECMs in terms of the origin and growth of their outward investment, changing sectoral and regional profiles of their operations and their response to different policy regimes of the home countries.

2.1 The Early Growth

In the post-1949 period, the earliest OFDI activities of EIMs and ECMs can be traced back to the 1950s and the 1960s respectively (Zhang, 2003; Pradhan, 2008a). The starting of the state-owned China Resources Limited in 1950 and the Chinese-Polish shipping joint venture, CHIPOLBROK, in 1951 is known to have marked the emergence of international operations of Chinese firms. However, outward investments by ECMs during the 1950s-1970s have mostly been led by a few state-owned Chinese conglomerates aimed at promoting interest of Chinese banking, finance, shipping, travelling and trading in Hong Kong (Zhang, 2003; Sung, 1996).

Unlike state-owned enterprises that led the beginning of ECMs' outward investments, private sector firms were the initiators of OFDI from India. The establishment of a textile factory by the Birla group at Addis Ababa, Ethiopia, in 1960 and a wholly-owned subsidiary (WOS), namely Tata International AG by the Tata group at Zug, Switzerland in 1961 were EIMs' two earliest OFDI projects. The value of EIMs' OFDI in 1961-1979 was quite modest at US$119 million and nearly 89 per cent of it went to the developing regions. At the end of 1981 the OFDI stock of EIMs stood at US$80 million as per the UNCTAD information, nearly twice that of ECMs, indicating the relative edge of Indian firms in OFDI activities in this early phase. The sectoral and geographical depths of EIMs were greater than those associated with ECMs. A total of 66 EIMs invested in as many as 20 countries and about 82 per cent of their OFDI went for manufacturing activities in 1961-1979. Perhaps it is also interesting to note that early OFDI projects of EIMs in the developed regions were largely into service activities like trading, consultancy and construction and those in developing countries went mostly into the manufacturing sector (Pradhan, 2008b, 2008c).

During this period the economic policies of both India and China were overtly inward looking with reluctant approach to international trade and inward foreign investment. Chinese policies, based on socialist thinking and plan distribution systems, were relatively more dirigistic and closed than the Indian system of mixed economy with strong private ownership rights. India enjoyed a higher real GDP per capita in 1960-1977, nearly double that of China, but both exhibited slow GDP growth rates. The existing Indian

government policies to check the growth of large privately-owned industrial houses so as to avoid concentration of economic power in the economy and stagnant domestic demand were two important factors that motivated EIMs to use OFDI as a growth alternative.

2.2 The Growth and Developments in the 1980s

The scale and geography of OFDI by ECMs expanded rapidly in the 1980s after China shifted away from the restrictive economic policies of the past in 1979 and implemented a set of reforms for improving its agricultural sector, promoting inward FDI to access new technologies and encouraging national firms' participation in international trade. These reforms catapulted China into a sustainable path of high growth and competitiveness since the early 1980s. However, India continued to follow the import-substitution development strategy that had a strongly negative bias for export activities in this period. Though Indian firms were protected from imports and entry of foreign firms, they had little incentive or scope to increase their scale of production in the face of existing licensing and anti-monopolistic regimes. The result was that India continued with slow growth and technological retrogression in manufacturing activities during the 1980s. Needless to say, the change in the development paradigm in these two countries was a key factor to influence the differential OFDI behaviour of EIMs and ECMs since 1980.

The OFDI by ECMs significantly surpassed that of EIMs in the 1980s and their absolute gap only increased over time (Table 2). The rapidly growing GDP and accelerated infusion of new technologies through increased inward FDI flows during the open door policy seem to have brought more OFDI opportunities for ECMs. As expanding exports started relaxing the constraint of limited foreign exchange reserve, China was in a position to formulate a transparent and less restrictive OFDI policy regime since the mid-1980s (Tan, 1999; Wong and Chan, 2003; Buckley *et al*., 2008). In addition to ECMs from the public sector, the route of overseas investment was thrown open to private Chinese enterprises. Not just trading companies and those established as part of international economic and technological cooperation, but any Chinese firm possessing required finance and technology could undertake outward investment. However, the policy emphasis was still on joint venture mode of overseas expansion for ECMs.

An estimated 185 overseas affiliates (both joint venture and wholly-owned subsidiaries) were established by ECMs from 1979-1985 and their number jumped to 616 from 1986-1990 (Tan, 1999). These periods saw just 82 and 119 overseas affiliates being set up by EIMs correspondingly. The number of host countries to ECMs' investments rose from 23 in 1979-1983 to 40 in 1984-1985 and then to 120 in 1986-1992 (Wu and Chen, 2001). During

Table 2: Evolution of Chinese and Indian OFDI, 1980-2007

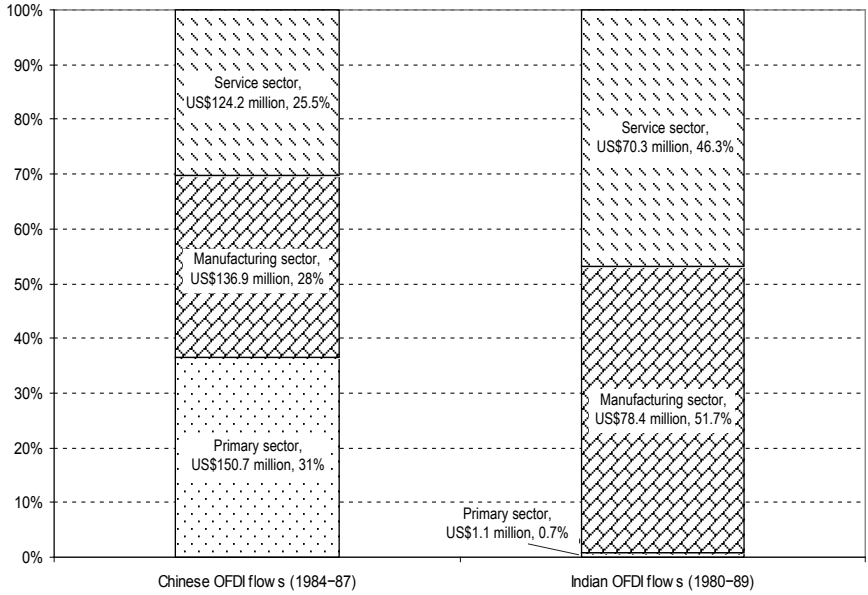
Period/ Year	OFDI (US$ billion)		As % of world OFDI flows		OFDI per capita (US$)		As % of gross fixed capital formation		As % of GDP	
	China	India	China	India	China	India	China	India	China	India
Cumulative OFDI Flows										
1980-89	3.63	0.04	0.43	0.01	0.42	0.01	0.433	0.008	0.126	0.002
1990-99	23.23	0.70	0.74	0.02	1.96	0.07	1.071	0.075	0.343	0.018
2000-07	74.56	37.11	0.84	0.39	7.22	4.06	0.929	1.678	0.405	0.544
Total	101.41	37.86	0.67	0.12	3.10	1.19	0.827	0.466	0.295	0.163
OFDI Stock										
1981	0.04	0.08	0.01	0.01	0.04	0.11	0.05	0.19	0.01	0.04
1991	5.37	0.11	0.27	0.01	4.70	0.13	4.71	0.16	1.27	0.04
2001	34.65	2.62	0.53	0.04	27.57	2.46	7.60	2.34	2.63	0.54
2007	95.80	29.41	0.61	0.19	73.37	25.16	6.41#	5.96#	2.91	2.59

Note: Chinese OFDI flows data from UNCTAD is only available since 1982; # – data is for 2006.
Source: Calculation based on UNCTAD online data on FDI.

these periods, the overseas investment by EIMs was limited to a total of 12, 13 and 51 host countries respectively. Therefore, ECMs' OFDI surged ahead than that of EIMs in the 1980s and was accompanied by a relatively larger number of outward investing firms, higher scale of overseas investment and increased geographical spread.

The 1980s also reflected distinct shifts in the sectoral profiles of firms' overseas operations from India and China. The rise of natural resource-seeking investment by ECMs was apparent with 31 per cent of Chinese OFDI flows being directed at agricultural and mining sectors of foreign countries from 1984-1987 (Figure 1). This period also witnessed a remarkable rise of manufacturing ECMs overtaking service ECMs in making investments abroad. The Chinese policy of encouraging joint venture forms of inward foreign investment with strong emphasis on export promotion and technology transfer appear to have been successful in enabling national firms from the

Figure 1: Chinese and Indian OFDI in 1980s, by Sector



Note: Chinese data was converted into US$ million using the official exchange rate.

Source: (i) Wu and Chen (2001) based on United Nations (1992) *World Investment Directory 1992*, Vol. 1, Asia and the Pacific; (ii) The Indian OFDI data is based on an in-house dataset compiled from unpublished remittance information from the Reserve Bank of India, published reports of the Indian Investment Centre, and unpublished firm-level information from the Ministry of Commerce, Government of India.

manufacturing sector to upgrade their technical, managerial and organizational knowledge to be capable of undertaking increasing overseas investments. Chinese manufacturing firms from metal, textile, leather, and electrical machinery, thus, emerged as new OFDI players from China.

There was a sectoral shift in OFDI by EIMs from manufacturing activities in the 1960s-1970s to service activities in 1980s. The growing inefficiencies and low productivity in the Indian manufacturing sector due to inward looking policies led to a considerable slowdown in OFDI from the manufacturing sector. The relatively faster growing service sector in the national economy, on the other hand, began to claim an increasing share in Indian OFDI flows. There was little investment from EIMs in the primary sector. The share of manufacturing and services in the total outward investments of EIMs was respectively 52 per cent and 43 per cent in the 1980s as compared to 28 per cent and 25.5 per cent in OFDI flows from ECMs (Figure 1). As noted earlier the share of primary sector in Chinese OFDI was above 30 per cent in this period. This shows that natural resources became central to OFDI activities of ECMs since the 1980s while the rise of service EIMs in Indian OFDI was more pronounced during the same period.

2.3 Growth and Diversifications in the 1990s

The comparative picture of OFDI undertaken by ECMs and EIMs underwent major changes in the 1990s. India reconsidered her economic policies in 1991 and adopted radical measures of reforms to improve domestic industrial productivity, technologies, inward FDI and to steadily integrate Indian economy with the dynamics and networks of the global market. Industrial reforms like dismantling of industrial licensing policy, deregulation, privatization and disinvestments; trade reforms like reforms in exchange rate regime, reduction in import tariffs, removal of quantitative restrictions on imports and full convertibility of the rupee on current account on balance of payment; and liberalization in FDI policy like national treatments to foreign firms, opening up of many sectors hitherto closed to FDI, instituting automatic approval route and other reform measures significantly changed the business environment of the domestic markets. Along with this internal and external liberalization measures pertaining to the economy, there has been rapid globalization of the world economy led by the World Trade Organization (WTO) regime, technological changes, changing consumer preferences and liberalization of FDI regime at the global level. All these changes led to increasing competition in the domestic market, which in turn started forcing Indian firms to diversify into the global market.

The liberalization of Indian OFDI policy regime in terms of putting in place an automatic approval route for OFDI projects, successive enhancement

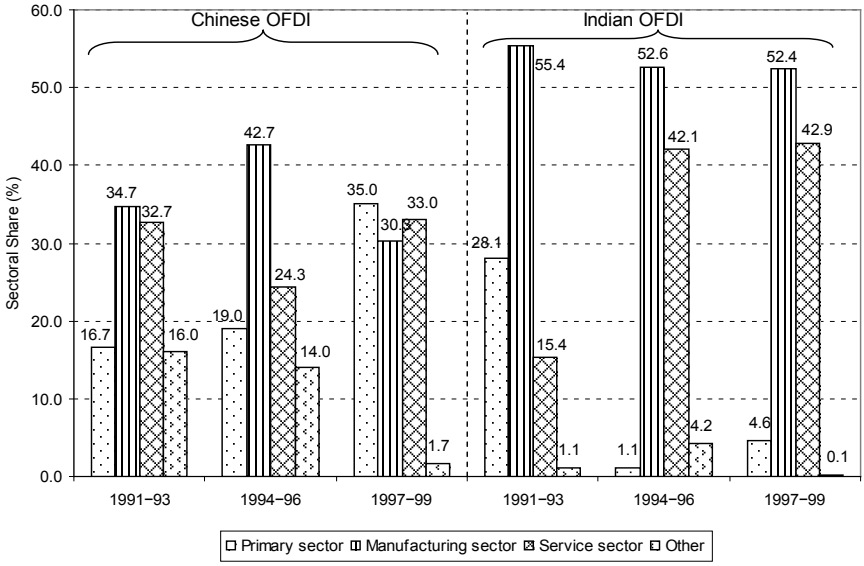
of permissible overseas investment ceiling from US$2 million in 1992 to US$15 million in 1995 and further to US$50 million in 2001 for a financial year, and allowing cash transfer for outward investment led to renewed cross-border production activities undertaken by EIMs in the 1990s (Pradhan, 2008d). The Chinese OFDI policy, in contrast, became more cautious in 1992-1998 following reports of heavy looses suffered by outward investing Chinese firms in their foreign operations (Wong and Chan, 2003). A rigid and rigorous screening and monitoring process system for approving OFDI was put in place to permit only viable and serious Chinese outward FDI projects.

This OFDI policy differential between India and China and the adoption of outward-looking economic policy by the former ensured rapid growth of OFDI by EIMs over that by ECMs in the 1990s. Indian OFDI flows and cross-border M&A purchase respectively grew at 158 per cent and 196 per cent from 1991-1999 as compared to 1.5 per cent and 96.5 per cent growth rate of Chinese FDI outflows and M&A purchase in the same period (Table 1).

The sectoral diversification of ECMs continued during the 1990s, with increasing participation of manufacturing enterprises in Chinese overseas investments. With China witnessing greater strength in the manufacturing sector caused by outward looking policies and strategic government supports in subsectors such as chemicals, pharmaceuticals, electronics, aerospace, automobiles, transport, machinery, etc. it is natural that manufacturing ECMs have assumed greater depth in outward investment, accounting for over 35 per cent of total Chinese OFDI in the 1990s (Figure 2). Measures like the provision of autonomy to state-owned manufacturing enterprises, preference in state procurement, adequate state financial support, transferring state-run R&D centres to national firms, requiring that foreign firms shall establish joint ventures with domestic partners and requiring that exporters to China shall source Chinese components have all immensely benefited China to lay the industrial foundation (Nolan, 2001). In addition to manufacturing firms, ECMs from service and primary sector continued their OFDI activities to respectively seek markets and natural resources abroad. Obviously, the Chinese OFDI path diversified from being dominantly service driven in the 1960s-1970s to be led by services and primary sector in the 1980s and finally to be significantly contributed by all the three economic sectors (i.e. service, manufacturing and primary sector) in the 1990s.

The sectoral diversification of EIMs' OFDI, unlike the Chinese story, begin largely with manufacturing firms in the 1960s-1970s towards manufacturing and service activities in the 1980s and then to become wide spread across all the three broad economic sectors in the 1990s. India's economic growth accelerated in 1990s due to the implementation of economic reforms measures. Increases in economies of scale and enterprise productivity due to a business friendly and liberalized policy regime, improved availability of

Figure 2: Sectoral Composition of Indian and Chinese OFDI in 1990s



Source: (i) Buckley *et al*. (2008), based on the State Administration of Foreign Exchange (SAFE) statistics on approved Chinese FDI projects; (ii) The Indian OFDI is from the same source as Figure 1.

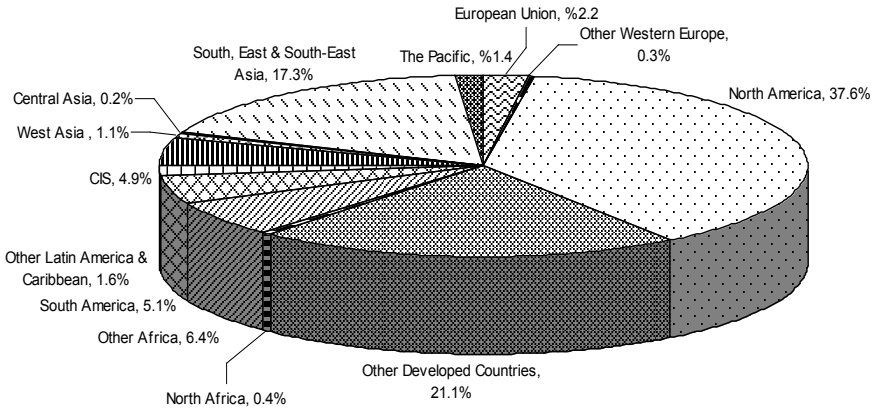
investible resources from a booming capital and financial market, highly growing exports, increasing inflows of foreign capital, etc. favourably contributed to the higher economic growth in India. The service sector that emerged as the largest contributing sector to the overall Indian economic growth during this period also turned out to be an important source for OFDI from EIMs. An upward shift in the demand for natural resources like oil, gas, and minerals due to domestic investment boom and limited domestic sources thereof called for outward investment by EIMs to secure such resources abroad.

The 1990s waves of OFDI by ECMs and EIMs were accompanied by an increasing locational preference for developed regions. During this period, developed regions accounted for three-fifths and two-fifths respectively of the total OFDI of ECMs and EIMs (Figure 3). This shows that both Chinese and Indian multinationals are turning to large markets of developed countries for objectives of new markets and accessing strategic assets. For Indian pharmaceutical, automotive and software firms, developed countries are offering a great opportunity in terms of markets for generic drugs, automotive components and software services respectively. Unlike dominantly greenfield type of OFDI from India, the motive of Chinese OFDI diversified to include

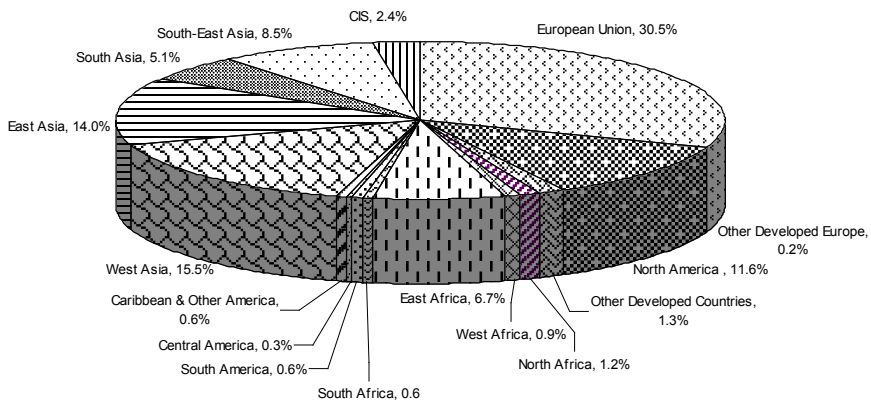
strategic asset acquisitions since the mid-1990s (Icksoo, 2009). ECMs were interested in enhancing their technological and innovative capability beyond what inflows of FDI and technology licensing can offer and have used OFDI to acquire foreign strategic assets, encouraged by the "go global policy" of the home country. However, it should be noted that most of the developed region bound Chinese OFDI was confined to North America (USA and Canada)

Figure 3: Regional Distribution of Indian and Chinese OFDI in 1990s (%)

A. Chinese OFDI in 1990-98



B. Indian OFDI in 1990-99



Source: (i) Buckley *et al*. (2008), based on Ministry of Commerce (MOFCOM), *Almanac of Foreign Relations and Trade 1991-2003* and *China Commerce Yearbook 2004*; (ii) The Indian OFDI is from the same source as Figure 1.

followed by Australia whereas the European Union was the dominant host to Indian OFDI directed at developed regions followed by North America (Figure 3).

The developing regions concerned attracted more than 56 per cent of OFDI by EIMs in the 1990s as compared to just 39 per cent of OFDI from ECMs. Though the regional preference of Indian OFDI began to increase in favour of developed regions in the 1990s, developing regions continues to be their primary destination. This is in contrast to ECMs that started stressing on developed regions over developing regions in the 1990s, ostensibly for acquiring new technologies and strengthening export supporting infrastructure abroad.

The nature of ownership participation in OFDI projects have changed significantly for both ECMs and EIMs. The number of wholly-owned subsidiaries established overseas in the 1990s surged, increasing their share from 30 per cent in 1991 to 58 per cent in 1999 for ECMs. The same increase for EIMs was from 29 per cent to 67 per cent. These points to a growing preference of Chinese and Indian outward investing companies to have full ownership over their OFDI projects unlike the past where joint ventures were the traditional mode of overseas expansion. The rise of wholly-owned subsidiaries in OFDI projects reflect growing confidence of these emerging players to go alone in their overseas operation and to reap full benefits of it. This could also be contributed by the hesitation on the part of emerging multinationals to share their growing ownership advantages with joint venture partners in host countries and relaxation of home country policy insistence on joint venture form of ownership (e.g. in the case of India).

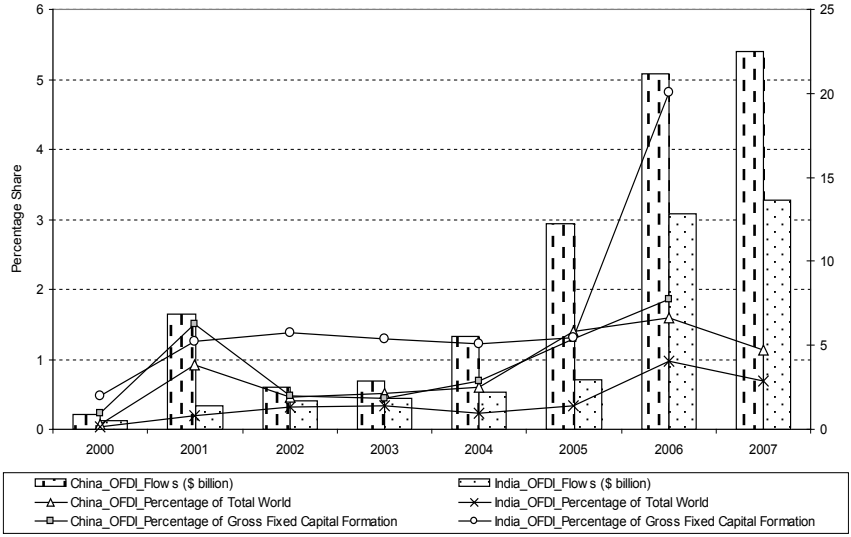
2.4 Growth and Transformations in the 2000s

The OFDI flows from ECMs and EIMs continued to grow at very high rates in 2000-2007. The WTO accession and adoption of the "go global" policy by China in 2001 led to significant growth revival for OFDI flows from ECMs in 2000-2007, which grew at a whopping rate of 150 per cent (Table 1). The value of Chinese OFDI flows went up from below US$1 billion in 2000 to US$22 billion in 2007. The growth of Chinese M&A purchase was even more spectacular at 253.5 per cent in this period. There are more than 5,000 ECMs operating across 172 countries owning nearly 10,000 overseas affiliates at the end of 2006 (OECD, 2008). Under the "go global" policy a simplified regulatory approval procedure and low-interest loans are provided to the targeted state-owned enterprises for undertaking OFDI to secure natural resources (e.g. iron ore, coal, oil and natural gas), to acquire new technology, to expand trade-supporting infrastructure to help Chinese exports and to strengthen/gain more international influence in other countries (Whalley and Xin, 2007).

The OFDI flows from EIMs increased from US$0.5 billion in 2000 to US$13.6 billion in 2007 recording a compound growth rate of 168 per cent (Table 1). In terms of gross fixed capital formation (GFCF), EIMs' OFDI flows have overtaken ECMs' OFDI flows. The share of OFDI in GFCF increased from 0.5 per cent in 2000 to 4.8 per cent in 2006 for India while the share of China increased from 0.22 per cent to 1.9 per cent (Figure 4). At the end of March 2007, the number of EIMs stood at 3,149, operating across 122 countries (Pradhan, 2008b). The fact is that India continued with a favourable OFDI policy like permission to use funds raised through ADRs/GDRs for investment abroad in 2001, removing the restriction of only horizontal expansion in 2003, automatic investment up to 100 per cent of firms' net worth (without any monetary ceiling) in 2004 and increasing the same to 200 per cent in 2005, etc. and rapid domestic growth contributed to this significant expansion of Indian OFDI in this period (Pradhan, 2008d). EIMs started seriously adopting overseas M&As in the 2000s – a favourite strategy of OFDI by Chinese firms since the 1990s.

It is interesting to note that OFDI flows from ECMs have regressed back more into developing regions in the 2000s as compared to a consistent and aggressive shift in EIMs' OFDI flows towards developed regions. Developing regions claimed over 90 per cent of Chinese OFDI flows in 2003-2007 as compared to just 42 per cent of Indian OFDI flows in 2000-2009 (Table 3). Eastern Asia with 45 per cent share is the top destination for Chinese OFDI

Figure 4: Indian and Chinese OFDI flows in 2000s



Source: Based on UNCTAD FDI database.

Table 3: Regional Distribution of OFDI Flows from China and India, 2000-2009

Region	Chinese OFDI Flows (US$ million)			Indian OFDI Flows (US$ million)		
	2003-2007	Per cent	No. of host country	April, 2000-March, 2009	Per cent	No. of host country
Developing economies	58342	90.10	107	30934	42.48	81
Africa	2878	4.44	45	8976	12.33	31
Eastern Africa	411	0.63	14	6139	8.43	11
Middle Africa	272	0.42	8	68	0.09	3
Northern Africa	795	1.23	6	2159	2.97	6
Southern Africa	582	0.90	4	111	0.15	3
Western Africa	818	1.26	13	499	0.68	8
Latin America and Caribbean	22638	34.96	20	1912	2.63	16
Caribbean	22092	34.12	6	1165	1.60	7
Central America	58	0.09	3	143	0.20	4
South America	488	0.75	11	603	0.83	5
Asia	32543	50.26	36	20029	27.51	32
Eastern Asia	29225	45.13	6	1594	2.19	5
Southern Asia	1033	1.60	7	478	0.66	8
South-Eastern Asia	1777	2.74	11	15406	21.16	10
Western Asia	508	0.78	12	2552	3.51	9
Oceania	282	0.44	6	2	0.00	1
Economies in transition	1869	2.89	12	3408	4.68	9
Asia	615	0.95	7	186	0.26	6
Europe	1254	1.94	5	3222	4.42	3
Developed economies	4543	7.02	32	38470	52.83	35
America	1889	2.92	3	7392	10.15	3
Asia	128	0.20	2	31	0.04	2
Europe	1555	2.40	25	30075	41.31	28
Oceania	971	1.50	2	971	1.33	2
Grand Total	64754	100	151	72813	100	125

Source: (i) *2008 Statistical Bulletin of China's Outward Foreign Direct Investment*, Ministry of Commerce, China; (ii) *Online Statistics on Indian Joint Ventures and Wholly-owned Subsidiaries*, 2009, Ministry of Finance, Government of India.

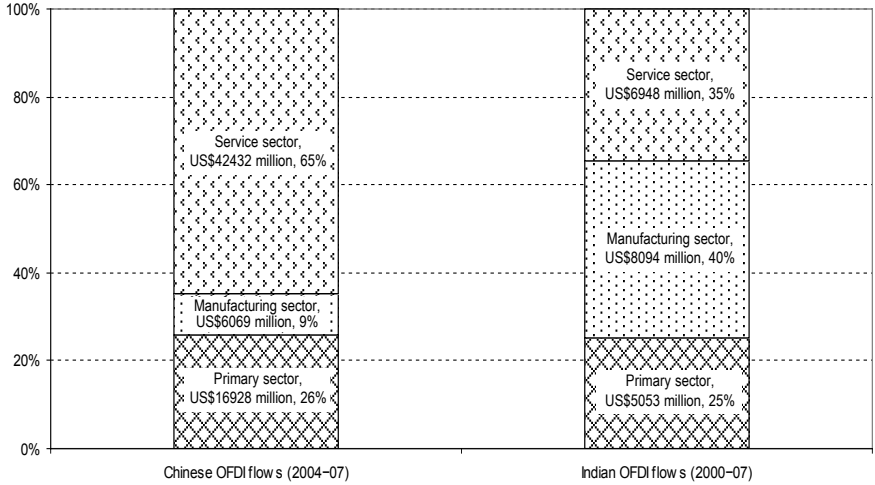
flows in this period, followed by Caribbean (34 per cent) and developed region (7 per cent). As contrast, Europe is the most attractive location for Indian OFDI flows with 41 per cent share, followed by South-Eastern Asia (21 per cent) and North America (10 per cent).

The developing regions' bias of ECMs' OFDI flows in the 2000s appear to be a result of Chinese firms directing their large share of OFDI into offshore financial centres (OFCs). Among the top 10 countries that attracted Chinese OFDI flows, the top three are OFCs such as Hong Kong, Cayman Islands and British Virgin Islands which together claimed nearly 77 per cent of total Chinese OFDI flows during 2003-2007. By locating overseas investment in OFCs and tax heavens, ECMs enjoy lower taxation of capital and income and it even makes sense for them to plug back a part of such OFDI into the home country. The story is the same for EIMs' OFDI flows with four OFCs (Singapore, Mauritius, Channel Island and Cyprus) that appeared in the list of top 10 host locations and claimed nearly 42 per cent of Indian OFDI flows in the 2000s.

In the current decade, ECMs are more and more aggressive from the service sector, accounting for more than 65 per cent of total Chinese OFDI flows in 2004-2007 (Figure 5). Leasing & business service (24 per cent), trading (16.5 per cent), transport services (10.5 per cent) and finance (8 per cent) are sources of leading service ECMs undertaking OFDI in this period. This rise of service sector as largest contributing sector in Chinese outward investment tends to resemble the early picture of Chinese OFDI in the 1960s-1970s when service ECMs dominated the picture. Natural resource-based ECMs with 26 per cent share stood as the next important source of Chinese OFDI flows and manufacturing ECMs with just 9 per cent share stood as the distant last. For EIMs, the primary sector emerged as a critical area of their operation during this period. Nearly 25 per cent of Indian investment in 2000-2007 has been claimed by the natural resource-seeking activities of EIMs (Figure 5). Manufacturing EIMs with 40 per cent share and service EIMs with 35 per cent share stood as the traditional players in OFDI from India. Overall, the role of all the three economic sectors appears to be more balanced in OFDI by EIMs than ECMs in the 2000s.

It is also interesting to note that there was a distinct contrast in the way overseas investments by ECMs and EIMs behaved in 2008, the starting year of the global economic crisis. The outward investments by EIMs followed the global trend and fell by 6.3 per cent in 2008 to US$16.7 billion from a historic level of US$17.8 billion in 2007 (Pradhan, 2009). For ECMs, the current crisis year turned out to be a year of aggressive investment made abroad. Chinese OFDI flows of US$26.5 billion in 2007 nearly doubled to US$52.2 billion in 2008 (Davies, 2009). This behaviour of ECMs to rapidly increase their OFDI during the crisis year is quite contrary to the global trend

Figure 5: Sectoral Composition of Indian and Chinese OFDI flows in 2000s



Note: Indian OFDI data for 2001 is only from January to March, 2002 is from October to December and 2007 data is from January to March; US$4,323 million OFDI undertaken by Cairn India Limited for oil exploration in Channel Island has not been included as this is a round-tripping investment made by UK-based parent company Cairn Energy Group through its Indian subsidiary.

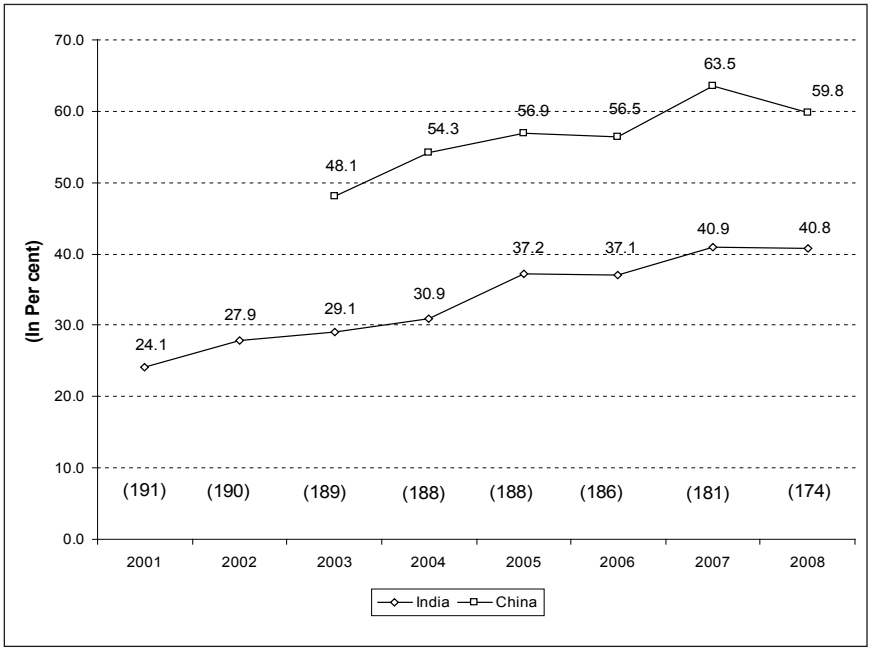
Source: (i) *2008 Statistical Bulletin of China's Outward Foreign Direct Investment*, Ministry of Commerce, China; (ii) The Indian OFDI is from the same source as Figure 1.

of declining FDI outflows. This increase in Chinese OFDI flows took place in spite of slowing down of domestic economy, declining exports and other weak economic conditions.

3. Locational Determinants of Indian and Chinese OFDI Flows

From the previous discussion, it is clear that the geographical scope of OFDI by both EIMs and ECMs have expanded greatly over time, especially in the last decade of the 2000s. EIMs and ECMs are inclined to invest in a greater number of countries across developing and developed regions. The annual proportion of countries receiving FDI from EIMs in the total number of potential host countries went up from just 24 per cent in 2001 to 41 per cent in 2008 (Figure 6). The same ratio for ECMs moved up from 48 per cent in 2003 to 60 per cent in 2008.

Figure 6: Proportion of FDI receiving Countries in the Total Number of Host Countries for Indian and Chinese OFDI flows, 2001-2008



Note: Total number of potential host countries in the sample is in parenthesis.
Source: (i) *2008 Statistical Bulletin of China's Outward Foreign Direct Investment*, Ministry of Commerce, China; (ii) *Statistics on Indian Joint Ventures and Wholly-owned Subsidiaries*, published online by the Ministry of Finance, Government of India, various years (2003, 2009).

The above fact also implies that the average share of countries actually not receiving FDI in the total number of potential host countries is as high as 67 per cent for EIMs during 2001-2008 and 42 per cent for ECMs during 2003-2008. Moreover, the amount of their OFDI varies considerably among countries that have actually received it (Table 4). This indicates that some countries turn out to be more attractive for emerging outward investing firms, claiming greater proportion of their OFDI, while some others have been left behind. Therefore, it is important to analyze why certain countries attract greater investment focus from emerging multinationals than others and to understand if EIMs and ECMs are attracted by different sets of locational factors. This section specifically looks at the above questions based on quantitative analysis of host factors affecting the spatial distribution of OFDI by EIMs and ECMs.

Table 4: Distribution of Indian and Chinese OFDI Flows among Host Countries

Percentiles	Percentiles value of OFDI flows (US$ million)			
	India		China	
	2001	2008	2003	2008
1 per cent	0.01	0.02	0.01	0.01
5 per cent	0.01	0.04	0.03	0.09
10 per cent	0.14	0.17	0.1	0.93
25 per cent	0.39	1	0.29	4.75
50 per cent	1.65	6.84	1	10.76
75 per cent	8.3	47.85	5.53	42.29
90 per cent	55.3	497.85	25.06	213.97
95 per cent	65.69	985.58	57.31	496.43
99 per cent	734.24	8360.47	1148.98	4807.86
Mean	29.55	292.08	20.30	500.69
Std. Dev.	112.91	1183.38	121.36	3813.02
Obs.	46	71	91	104

Note: Based on estimable sample of host countries.
Source: Based on estimable sample constructed from different sources as discussed in the sub-section 3.2.

3.1 Analytical Framework

The inter-country locational pattern of production, distribution and R&D facilities of multinational firms has been one of the most analyzed issues in international economies. This is true for the spatial distribution of FDI activities by multinationals from developed countries like the U.S., Japan, Germany and others (e.g. Lipsey, 1999; Yamawaki, 2006; Flores and Aguilera, 2007; Buettner and Ruf, 2007). The role of a number of host country factors like host market size, distance between home and host locations, differences in relative production efficiency, trade regime, taxation, etc., in influencing the location choice of multinationals were explored. Recently the rise of emerging multinationals is now attracting considerable academic and research interest with the revisit of the issue from the experience of emerging market FDI (e.g. Buckley *et al*., 2007; Pradhan, 2008d). The present study complements the extant literature on emerging market OFDI by analyzing the locational determinants of Chinese and Indian OFDI flows in the most recent years.

The empirical framework of the present study is built around theoretical insights drawn from the theory of industrial location, gravity model of international trade and economic theory of foreign investment. In the early

theories of industrial location, the spatial pattern of industry is explained by differences in inputs and transportation cost and demand factors at alternative locations (Launhardt, 1885; Weber, 1929). In Hotelling's (1929) location hypothesis firms are postulated to locate near to the centre of the market area attracted by the size of the market and the price buyers are willing to pay for the final product. The subsequent theoretical developments in location theories and empirical studies highlighted a range of factors critically affecting firms' industrial location decision like availability of factors of production like cheap labour, skilled manpower, raw materials, market size and growth potential, transport facilities, general utilities, public policy and taxes (Badri, 2007). Many of these demand, input supply and regulatory factors can play a role in the spatial pattern of international operation of firms.

In the gravity model, bilateral trade flows between partner countries is expressed as a positive function of their income levels and a negative function of the distance between them (Linnemann, 1966; Deardorff, 1984). The basic form of the model can be derived from imperfect competition trade theory (Helpman, 1987) or from the Heckscher-Ohlin model (Deardorff, 1995). In addition to the income and distance variables, trade analysts tend to include other explanatory factors like trade policy, exchange rate, and price levels as influencing bilateral trade volume. Following the success of gravity model in explaining trade flows, a number of studies analyzing FDI flows started adopting it as their analytical framework (e.g. Hufbauer *et al*., 1994; Bevan and Estrin, 2004; Bénassy-Quéré *et al*., 2007). As FDI is an alternative to exports for serving a foreign market, the formulated hypothesis is that incomes of host and the source country shall encourage FDI flows while the distance between them shall discourage it.

The economic theory of FDI, particularly the eclectic theory (Dunning, 1980, 1988) consider locational advantages as the third essential set of factors in explaining cross-border investment flows. Given their endowments of firm-specific resources, outward investing firms are likely to seek better locational advantages like large markets, high growth, investment friendly policies, adequate infrastructure, etc. and would choose the most appropriate country for making their overseas investments.

In the light of the above theoretical understandings, a number of possible factors can be identified to explain the locational pattern of OFDI by ECMs and EIMs. Since multinationals from India and China are often argued to be motivated to access new markets, intangible assets and natural resources (Pradhan, 2008d; Balasubramanyam and Forsans, 2009; Deng, 2004; Kaartemo, 2007) host countries possessing relatively large domestic markets, greater scale of technological and skill endowments and large sources of natural resources like oil, gas, iron ores, metals, etc., are likely to attract more OFDI by these emerging multinationals.

Gravity Related Variables

The empirical literature on the determinants of FDI inflows consistently suggested an important role for host country market characteristics such as gross domestic product/population and per capita GDP that act as pull factors for FDI inflows into host countries (UNCTAD, 1993; Hufbauer *et al*., 1994; Nunnenkamp and Spatz, 2002; Buckley *et al*., 2007; Pearce *et al*., 1992). Therefore, population (POP) and real per capita GDP (PGDP) that are used as the relevant host market characteristics in the present study are expected to be positively attracting FDI outflows from China and India. As per the gravity prediction, the distance (DIST) can play a negative role in the geographical spread of OFDI by emerging multinationals. Outward investing firms from China and India may opt for investment in geographically nearby countries as distance tends to increase transaction costs of managing overseas affiliates.

Resource Endowments Related Variables

The inter-country distribution of FDI from ECMs and EIMs is also likely to be influenced by differential resource endowments of host destinations in natural resources and knowledge assets. A number of empirical studies (Buckley *et al*., 2007; Cheung and Qian, 2008; Kolstad and Wiig, 2009) have observed that Chinese OFDI is related to host natural resource endowments, in addition to the market related variables. EIMs are not far behind in competing for securing natural resources abroad with Indian public sector firms leading large scale acquisitions in recent years. To investigate if these natural resources are in fact an important attraction for aggregate OFDI flows from India and China, host countries' exports of mineral fuels including oils (FUEL) and ore and steel (ORE) are included as additional explanatory variables in our empirical framework.

The relative strategic asset endowment of a host country is likely to have two countervailing effects on FDI inflows from emerging multinationals. Host countries with strong endowments of strategic assets may potentially decrease their attractiveness as their markets reflect high competitive barriers for entry of EIMs and ECMs. This argument may follow from the hypothesis that emerging country firms have limited scale of technological and product differentiation advantages and hence are likely to invest more in developing countries (technologically weak countries) as opposed to developed countries (Wells, 1983; Lall, 1983). This hypothesis partly flows from the product life cycle theory (Vernon, 1966) which treats developing countries as technological laggards and imitators rather than innovators. On the contrary, higher endowments of strategic assets may pull Chinese and Indian investments as a number of ECMs (Deng, 2009) and EIMs (Pradhan, 2008a) are driven

overseas to access new and complementary technological assets through acquisitions. Therefore, the net impact of the strategic resource base of host countries is not clear at the outset. The size of patent filings from residents (PAT) and gross secondary school enrolments (ERNL) are respectively used as measures of technological asset and skill base of a host country. Unlike PAT, ERNL is expected to see increase in ECMs and EIMs investments into host countries that are relatively excellent with skill, *ceteris paribus*.

Policy Related Variables

The policy attitude of a country is an important determinant for FDI inflows. A country with a liberal and proactive regime for foreign investment can be predicted to have greater attraction for Indian and Chinese investments. In this study we have used the percentage ratio of inward FDI stock to GDP (FDIS) of host countries to reflect their overall openness to foreign investment. A larger stock of inward FDI can be taken as a reflection of a stable and liberal FDI regime of a host country (Zhou and Lall, 2005), which is predicted to be a pull factor for more Chinese and Indian investments. In addition, dummies for bilateral investment agreements (BIT) and double taxation avoidance treaties (DTT) with the source country are included as other policy variables. In general BITs with their provisions of equal treatment and protection for investments is likely to promote emerging multinationals investment into host countries that have entered into BIT with India and China. Similarly, DTTs by reducing the taxation complexities and burden on income and capital may prompt ECMs and EIMs to allocate more of their OFDI into such favourable host countries. This study also included a dummy variable for offshore financial centres (OFC) for controlling the liberal tax regime of these countries in influencing the locational pattern of Indian and Chinese investments. However, it should be noted that the impact of BITs and DTTs as found in the empirical literature is a mixed one, the observed impacts on FDI inflows range from statistically positive effect to no effect and to negative effects (Sauvant and Sachs, 2009).

Other Variables

Host country import intensity (*IMP*): A host country's imports (IMP) from China (India) as a per cent of its total imports is another possible locational factor. The larger a country's import intensity from China/India, the larger is the information diffusion to and learning by Chinese/Indian firms about this export market, which may promote trade-supporting OFDI by these firms in the initial phases. In subsequent periods, Chinese/Indian firms exporting to this country may undertake direct production if the relative locational

advantages of the country are quite strong and there are also persuasive internalization advantages.

Exchange rate (*XR*): In the literature, very often exchange rate is included as another independent variable in influencing FDI inflows to a country (Blonigen, 1997; Chakrabarti, 2001; Froot and Stein, 1991; Guo and Trivedi, 2002; Klein and Rosengren, 1994). A stronger local currency may deter FDI inflows due to relative wealth and relative labour cost effects. It may at the same time improve the local currency revenues and profitability of existing foreign affiliates in a host country and may prompt the parent firms to increase the reinvested earnings component of their investments. However, the existing empirical results present a mixed evidence of the role of exchange rate on FDI inflows.

Inflation rate (*INF*): Emerging multinationals are generally expected to be apprehensive of putting large investment projects in economies characterized by high levels of inflation. A large increase in price level is likely to lower the real earnings of foreign firms in local currency and may cause uncertainty in the overall investment environment of the host countries concerned (Bajo-Rubia and Sosvilla-Rivero, 1994).

Political stability (*POL*): The role of political stability and quality of institutions in host countries' ability to attract international investments is generally observed to be positive (Busse and Hefeker, 2007). However, extending such a postulation is less straightforward for OFDI from emerging multinationals. These emerging firms are historically known to have operated in developing countries; many of these hosts had seen political instability and violence. In the case of Chinese multinationals, however, a number of scholars have found that their investments are often attracted to natural resource rich host countries with poor institutions (Buckley *et al*., 2007; Kolstad and Wiig, 2009).

Given the above discussion, the empirical model adopted in this study specifically takes the following form:

$$\begin{aligned} FDI_{it} = {} & \alpha + \beta_1 POP_{it} + \beta_2 PGDP_{it} + \beta_3 FUEL_{it} + \beta_4 ORE_{it} + \beta_5 PAT_{it} \\ & + \beta_6 ENRL_{it} + \beta_7 IMP_{it} + \beta_8 FDIS_{it} + \beta_9 BIT_{it} + \beta_{10} DTT_{it} \\ & + \beta_{11} OFC_{i} + \beta_{12} DIST_{it} + \beta_{13} XR_{it} + \beta_{14} INF_{it} + \beta_{15} POL_{it} + u_{it} \end{aligned} \quad (A)$$

where,

FDI_{it} = Natural log of per capita US$ FDI flows received by i^{th} host country from India (China) in year t (for accommodating zero values of FDI not receiving countries in the log transformation, we have added 1 to the per capita FDI series)[2];

POP_{it} = Natural log of population of i^{th} host country in year t;

$PGDP_{it}$ = Natural log of per capita GDP (constant 2000 US$) of i^{th} host country in year t;

$FUEL_{it}$ = Natural log of fuel exports by i^{th} host country as a per cent of its total merchandise or commodity exports in year t;

ORE_{it} = Natural log of ore and steel exports by i^{th} host country as a per cent of its total merchandise or commodity exports in year t;

PAT_{it} = Natural log of resident patent applications per $ millions of current GDP of i^{th} host country in year t (the resident patent intensity series is added 1 before taking log for accounting the zero patent countries);

$ENRL_{it}$ = Natural log of gross secondary school enrolment (per cent) of i^{th} host country in year t;

IMP_{it} = Natural log of i^{th} host country's imports from India (China) as a per cent of its total imports in year t;

$FDIS_{it}$ = Natural log of inward FDI stock as a per cent of GDP of i^{th} host country in year t;

BIT_{it} = Takes value of one if i^{th} host country has a bilateral investment treaty with India (China) in place in year t, zero otherwise;

DTT_{it} = Assumes value of one if i^{th} host country has a double taxation avoidance treaty with India (China) in place in year t, zero otherwise;

OFC_{it} = Assumes value of one if i^{th} host country is an offshore financial centre as identified by the IMF in its assessment programme report of July 31, 2003, zero otherwise;

$DIST_{it}$ = Natural log of distance in kilometres between India (China) and i^{th} host country.

XR_{it} = Natural log of the official exchange rate of i^{th} host country country in year t expressed as local currency per US$;

INF_{it} = Annual percentage change in GDP deflator of i^{th} host country in year t;

POL_{it} = The political stability index value of i^{th} host country in year t;

u_{it} = Random errors.

3.2 Data Sources

For estimating model A, this study relied on data collected from wider sources. The annual data on EIMs' OFDI flows by host countries during 2001-2008 has been collected from statistics on Indian joint ventures and wholly-owned subsidiaries published online by the Ministry of Finance, Government of India. This data has been supplemented in some cases with the information obtained from the bilateral FDI flows dataset of the OECD. Cross-country annual flows of FDI by ECMs during 2003-2008 have been obtained from

the *2008 Statistical Bulletin of China's Outward Foreign Direct Investment*, Ministry of Commerce, China.

The data related to population, GDP, real per capita GDP, secondary school enrolment ratios, exchange rate and GDP deflator of host countries were drawn from the online *World Development Indicators* (WDI), 2009, which has been accessed through the Global Development Networks. The WDI data on the secondary school enrolment ratio for 2008 has been augmented by the additional information collected from UNESCO's online educational statistics. The United Nations Commodity Trade Statistics Database was consulted for information on exports of fuels, ore including steel and total commodities. Data on resident patent fillings was collected from the World Intellectual Property Organization, online statistics on patents, 2009. Information on BIT and DTT by partner countries for India and China was collected from the online database of the UNCTAD. The data on inward FDI stock as per cent of GDP has also been compiled from the same source. The geographical distances (in kilometres) between India/China and host countries, calculated following the great circle formula that uses latitudes and longitudes of the most important city (in terms of population) or of official capital, has been accessed from the CEPII Distance database, 2006. The list of offshore financial centres and tax heavens used in this study is from the IMF progress report about the programme on offshore financial centres, 31 July 2003. The data on political stability indicator is drawn from the Worldwide Governance Indicators (WGI) research project available at http://info.worldbank.org/governance/wgi/index.asp. The data on political stability indicator is available for all years from 2002 to 2008. As the data for 2001 is not available in the WGI, the data for 2000 is used instead.

3.3 Estimation Issues, Methods and Results

Given that not all the countries in the sample receive FDI from EIMs and ECMs in a given year, the dependent variable in Model A assumes a special character of censoring – its multiple observations are clustered at zero representing countries that are not receiving FDI inflows from China or India but takes continuous values for FDI receiving countries. As pointed out earlier, the share of countries not receiving FDI in the total number of potential host countries is as high as 67 per cent for Indian OFDI flows during 2001-2008 and 42 per cent for Chinese OFDI flows during 2003-2008.

This evidence that the inter-country patterns of OFDI by ECMs and EIMs are seriously censored in nature and the application of ordinary least square estimation or even traditional fixed or random effects of panel data to Model A is theoretically not appropriate. Ignoring the censored nature of the dependent variable is known to produce bias coefficient estimates and invalid inferences.

However, a majority of the existing studies on host country determinants of Chinese OFDI (e.g. Buckley *et al*., 2007, Cheung and Qian, 2008 and Kolstad and Wiig, 2009) seem to be suffering from this limitation.

Tobin (1958) has suggested the use of maximum likelihood estimation for models involving non-negatively censored dependent variables and when error term satisfies the classical assumptions, estimates obtained will be unbiased and consistent. However, when errors are non-normal, heteroscedastic or asymmetric, the Tobit estimation results in inconsistent coefficient estimates. As our dependent variable is extremely censored spatially, violations of these assumptions are more likely. In fact, Skeels and Vella's (1999) conditional moment test conducted after the Tobit estimation for both Indian and Chinese OFDI flows suggest that errors in the estimated models are not normally distributed.[3]

As the Tobit estimates are unreliable in the face of these problematic errors, we have adopted Powell's (1986) censored quantile regression (CQR) estimator. This semi-parametric approach is found to provide consistent estimates when there is heteroscedastic, non-normal and asymmetric errors involving censored dependent variables (Powell, 1986; Chay and Powell, 2001; Wilhelm, 2008). Given the higher censoring levels in OFDI flows from India (more than 60 per cent of the total number of countries do not receive FDI) and China (the average ratio is about 40 per cent), the locational distribution of the OFDI in the CQR has been centred at 75 per cent quantile in the estimation. This choice of a higher quantile than the median is imperative for obtaining more informative and reliable estimates given an extremely censored dependent variable.

This study has followed the three-step CQR estimation as suggested by Chernozhukov and Hong (2002) for samples with heavy censoring and high dimensionality. Their algorithm proceeds as follows:

Step 1: A logit probability model for the full sample is estimated. From the estimated probability model, $p_i = p(\overset{\bullet}{X}_i{}' \beta) + \varepsilon_i$ (where p_i is an indicator of not censoring and $\overset{\bullet}{X}_i{}'$ is a suitable transformation of x_i), a subset of observations $S_0(c) = p(\overset{\bullet}{X}_i{}' \hat{\beta}) > 1 - \theta + c$ were selected. The trimming constant c lies strictly between 0 and θ (θ is the chosen conditional quantile level at which one want to estimate her model). As suggested by Chernozhukov and Hong (2002) c is choosen such that $\#S_0(c)/\#S_0(0) = 0.9$.

Step 2: We then estimate an ordinary quantile regression for the chosen subsample S_0 and an initial estimator $\hat{\beta}_\theta^0$ is obtained. This initial estima-

tor is consistent but inefficient. Based on this estimator the final sub-sample $S_f(k) = p(\overset{\bullet}{X}_i' \hat{\beta}_\theta^0) > 0$ is selected with the conditions that $\#S_f/\#S_0 > 0.66$ and $\#\{S_0 \not\subset S_f\}/\#S_f < 0.1$ (these conditions are meant for arriving at a good and robust size of the final sub-sample).

Step 3: In the final step, quantile regression with bootstrap standard errors with 1000 replications is fitted on S_f. The set of estimates thus obtained are consistent and efficient.

As the cross-country distribution of FDI flows from a source country, particularly from an emerging market is seriously censored, the extant literature is likely to benefit from the application of a robust method of analysis. To our best knowledge, the application of three-step CQR in the locational determinants of FDI is yet to receive attention in the literature.

3.4 Results and Inferences

Table 5 summarizes the results obtained from the Tobit and three-step CQR estimations for Chinese and Indian OFDI flows.[4] The presentation of Tobit estimations with robust standard errors is merely for comparative purposes as it is not an appropriate method for an extremely censored dependent variable characterized by problematic errors. Therefore, the inferences drawn from the three-step CQR are superior and robust compared to those from the Tobit estimation and the general conclusion drawn in this study shall be based on them.

The estimated Tobit and three-step CQR equations are overall statistically significant by F tests and their pseudo R-squares roughly indicates that included explanatory variables are explaining a reasonable proportion of cross-country variations in the Chinese and Indian OFDI flows. The explanatory power of the fitted three-step CQR is 31 per cent and 27 per cent respectively for Chinese and Indian OFDI, which are quite good in the case of limited dependent variables.

Among the host country demand factors, *POP* is statistically significant with a predicted positive sign while explaining FDI flows by EIMs and ECMs in the Tobit estimation. Though the same result holds for EIMs in the three-step CQR estimation, *POP* is found to have a negative and modestly significant effect for ECMs. The per capita GDP, *PGDP*, turn out to have positive effects for EIMs and ECMs in the three-step CQR estimation but achieved statistical significance only for EIMs. Other things being equal, these results suggest that EIMs generally invest more in larger countries represented by a large population and higher per capita income whereas ECMs' overseas investments went more into smaller countries.

Table 5: Locational Determinants of OFDI by ECMs and EIMs

Independent variables	Tobit Estimation		Three-step CQR Estimation	
	Chinese OFDI flows	Indian OFDI flows	Chinese OFDI flows	Indian OFDI flows
PGDP	0.0876640	-0.0061175	0.0021628	0.1651449***
	(1.25)	(0.09)	(0.05)	(3.87)
POP	0.0964044*	0.1789115***	-0.0604513*	0.0764560***
	(1.94)	(5.49)	(1.71)	(3.21)
FUEL	0.0695683**	0.0896072***	0.0970863***	0.0382325
	(2.12)	(2.88)	(3.47)	(1.45)
ORE	0.1325579***	-0.0594815*	0.1702879***	-0.0124857
	(3.14)	(1.76)	(4.80)	(0.57)
PAT	-3.6604974	1.9355097	-4.6530422	-0.9040284
	(1.10)	(1.01)	(1.06)	(0.89)
ENRL	-0.1014782	0.3383766*	-0.1325610	-0.0384520
	(0.57)	(1.87)	(0.91)	(0.37)
IMP	0.8693530***	0.4569275***	0.7570857***	0.2413963***
	(9.35)	(5.79)	(6.71)	(3.77)
FDIS	0.0084902***	0.0062396***	0.0092102***	0.0055197***
	(2.76)	(5.41)	(2.91)	(5.17)
BIT	0.1851262	0.2894297***	-0.2318416***	0.2568624***
	(1.60)	(2.66)	(3.12)	(2.82)
DTT	-0.0489522	0.0541392	-0.2798722**	-0.1253005
	(0.27)	(0.39)	(2.47)	(1.53)
OFC	0.4376034*	0.7344190**	0.4229706**	0.4568467*
	(1.93)	(2.42)	(2.43)	(1.69)
DIST	-0.3681248**	0.0634885	-0.7581489***	0.0393034
	(2.43)	(0.69)	(5.04)	(0.76)
XR	-0.0351470	-0.0716801***	-0.0652747***	-0.0341287***
	(1.47)	(3.10)	(3.27)	(3.12)
INF	0.0266248***	-0.0012430	0.0153152***	0.0089034**
	(3.71)	(0.17)	(2.94)	(2.07)
POL	-0.0254932	0.2569640***	0.0854598	-0.0060783
	(0.26)	(2.63)	(1.19)	(0.10)
Constant	-3.5963057***	-5.0763839***	1.9812213**	-2.6031973***
	(2.87)	(6.01)	(2.42)	(4.80)
F-value	8.21	12.94	4.20!	7.87!
Prob>F	0.0000	0.0000	0.0000	0.0000

Table 5: (continued)

Independent variables	Tobit Estimation		Three-step CQR Estimation	
	Chinese OFDI flows	Indian OFDI flows	Chinese OFDI flows	Indian OFDI flows
Pseudo R^2	0.2724	0.2309	0.3124	0.2714
Obs. with FDI receiving countries	198	202		
Obs. with non-FDI receiving countries	259	253		
Observations	457	455	330	316

Note: Absolute value of robust/bootstrap t-statistics in parentheses; * p<0.10, ** p<0.05, *** p<0.01, !F-values are obtained from independent tests conducted to check if the coefficient of all explanatory variables are simultaneously zero using the testparm command in the STATA.

Source: Author.

The natural resource endowments of host countries represented by *FUEL* and *ORE* comes up with strongly positive impacts for ECMs consistently across different estimations but their effects turn insignificant for EIMs in the three-step CQR estimation. This shows that aggregate OFDI by Chinese multinationals are strongly motivated to set up overseas bases in countries having abundant supplies of oil, gas and mineral resources. These results verify the stated long term goal of the Chinese OFDI policy where state-owned enterprises are provided with financial support and political influence in securing overseas energy and other natural resources to support the high growth of the home economy. However, the insignificant role of natural resource variables in OFDI by EIMs suggests that not all multinationals from emerging markets share the Chinese multinationals' greater enthusiasm for natural resource-seeking activities. For a number of Indian firms, especially from the public sector, accessing natural resources abroad is an empirical goal but that motivation gets overshadowed at the aggregate level where firms from services and manufacturing dominate the Indian OFDI flows.

The strategic assets of the host countries reflected by *PAT* generally turn out with a negative sign across estimations but failed to reach any acceptable level of significance. This not so significant effect of *PAT* would verify that the technological entry barriers that existed in technologically advanced countries against EIMs and ECMs in the past periods are not so important now. With their desire to acquire strategic assets, Indian and Chinese multinationals are entering into technologically advanced countries and are breaking the technological entry barriers that once characterized developing country OFDI

during 1960s-80s. Similarly, the skill variable, *ERNL*, appears to play a minor role in the locational decision of EIMs and ECMs. Its effects are not different from zero for both ECMs and EIMs in the three-step CQR estimation.

IMP has an expected positive and significant effect throughout. This would imply that countries importing more from India and China are likely to attract greater FDI from the exporting countries. EIMs and ECMs seem to be investing abroad to develop trade-supporting networks in their export markets and also their export experience might be giving way to manufacturing operations as well.

Among the variables included to capture a liberal FDI policy regime, *FDIS* has a significantly positive effect across estimations. That would confirm that host countries with liberal inward FDI policy regimes are more attractive to ECMs and EIMs. However, a liberal treatment to FDI on a bilateral basis via *BIT* and *DTT* is found to be inversely related to the locational pattern of OFDI by ECMs. *BIT* and *DTT* both had a negative sign different from zero for ECMs in the three-step CQR estimation. This suggests that entering into *BIT* and *DTT* with China may have cost the host countries some Chinese FDI inflows. While countries entering into *DTT* with India have not received any increase in Indian FDI inflows, those signing *BIT* are found to have managed larger Indian FDI inflows. The positive and significant effects of *OFC* dummy across estimations and source countries indicate that offshore financial centres possess some powerful attraction for FDI by ECMs and EIMs.

DIST turns out with a negative sign and is statistically significant for ECMs but its positive sign for EIMs failed to achieve any effect that is statistically acceptable. From this it can be inferred that emerging Chinese multinationals, like in the past, continued to be more inclined to locate their investments within the neighbouring region notwithstanding the dramatic increase in the actual number of their host countries in recent years. However, geographical proximity is no longer a locational consideration for EIMs given their rising flows of investments into developed and Latin American countries.

XR comes up with a negative coefficient that is statistically different from zero for both EIMs and ECMs in the three-step CQR estimation. This implies that weak host currencies tend to discourage emerging multinationals' OFDI. As a depreciating host currency tends to lower the returns to their investment, the market-seeking EIMs and ECMs appear to be quite reluctant in investing in host countries witnessing currency depreciations. Moreover, depreciating local currencies is likely to reduce trade-supporting OFDI from China and India as it depresses the relative purchasing power of the host consumers, reducing export demand.

On the contrary to the expectation, *INF* has a positively significant impact on OFDI from EIMs and ECMs in the three-step CQR estimation. This

implies that growing price levels adds to the attractiveness of host countries to EIMs and ECMs. The positive impact of inflation rate on Chinese OFDI was earlier indicated by Buckley *et al*. (2007). Though it is interesting to note that emerging multinationals are attracted by inflation rates, the reasons behind such preference are not so clear.

The political stability variable, *POL*, comes up with effects that are statistically not different from zero for both EIMs and ECMs. Therefore, the political stability factor has little role to play in the locational decision of EIMs and ECMs. In fact, it appears to be a minor consideration for emerging multinationals while distributing their OFDI geographically. These results do not bear any empirical support to the general belief that emerging multinationals especially those from China are attracted into countries marked by political instability.

4. Conclusion

This study has analyzed the foreign expansion of Chinese and Indian firms through overseas investments since the 1950s and the 1960s respectively. In the early period up to the 1970s, Indian outward investing firms were largely from the private sector and had greater geographical and sectoral profile than state-owned Chinese multinationals. Indian OFDI was manufacturing driven while Chinese OFDI was led by service activities. However, the number of emerging multinationals from India and China and their OFDI volumes were quite modest and mostly remained limited to neighbouring developing countries.

By the 1980s, OFDI by ECMs surpassed those activities of EIMs as a result of China choosing an outward looking development strategy while India was continuing with her inward looking economic policies. The high domestic growth, substantial improvements in the domestic endowments of created assets through promoting high quality inward FDI, and pursuance of a liberal OFDI policy saw the rise of Chinese multinationals from all the three economic sectors operating in increasing numbers of host countries. Chinese OFDI in the 1980s was led by service, manufacturing and primary sector firms. The Chinese government was quick to realize the criticality of natural resources for sustaining a high growth economy and state-owned ECMs were assigned the task of securing access to these resources globally. Indian OFDI, on the other hand, remained stagnated in this period as Indian firms were not allowed to increase their scale of operation and were strongly protected behind tariff barriers and restrictive policies towards inward foreign investments. Technologically stagnated Indian firms could hardly think beyond their protected markets in the 1980s. The existing restrictive OFDI policy further negated the capability of Indian firms to invest abroad. Sectorally, service

firms started contributing a substantial proportion of Indian OFDI standing closely behind manufacturing firms.

The decade of 1990s has seen a dramatic growth of OFDI from India starting from a low base but with striking changes in the nature of such investments. The outward looking transformation of economic policies of India and the emergence of global trade regimes have unshackled Indian entrepreneurship to survive in intensifying market competition and technological pressures. The high domestic growth, growing exports, booming capital markets, increasing foreign competition and liberalization of OFDI policy supported the revival of Indian OFDI flows during this period. In terms of OFDI growth, India started outstripping China. This is also due to the Chinese OFDI policy regime becoming relatively cautious in this period. Indian OFDI profiles now registered a marked improvement in the share of primary sector indicating the rise of natural resource-seeking OFDI from India on a sustainable basis. During this period, both EIMs and ECMs had good representation in all the three economic sectors, strongly preferred full ownership in their overseas ventures and allocated increasing share of their OFDI to the developed region.

The 2000s witnessed continuing high growth of OFDI made by ECMs and EIMs. The large foreign exchange reserve and growing needs of securing natural and knowledge resources abroad led the Chinese government to formulate the "go global" policy to infuse a greater impetus to Chinese firms' OFDI activities. However, interestingly a greater proportion of Chinese OFDI is again accounted for by the service and primary sector with manufacturing sector some what falling behind. The continuing liberalization of OFDI policy by India and growing internationalization needs of software, pharmaceuticals and automotive Indian firms to have overseas presence, new markets and new technologies are pushing larger Indian OFDI flows. The large scale overseas acquisitions in metal, oil, automotive and telecommunication sectors are contributing to the rising OFDI flows from India. As against the Chinese OFDI that is flowing more into developing regions in the 2000s, Indian OFDI went more into the developed regions. Moreover, Indian OFDI flows have a balanced representation of all the three economic sectors in such investments. The response of EIMs and ECMs to the current global economic crisis has been quite the opposite. Indian OFDI went down in the crisis year whereas Chinese OFDI doubled. This tends to reconfirm that ECMs' OFDI is crucially determined by political, security and economic interests of the Chinese state rather than by market forces.

The quantitative analysis reveals that there are a number of similarities as well as differences in the locational choices that drives OFDI by ECMs and EIMs. Emerging multinationals from China and India seem to have a special attraction for investing in a host country that imports more from China and

India, that has a stronger local currency, that possesses the character of an offshore financial centre, that follow a liberal inward FDI policy and that experiences a higher inflation rate. The locational patterns of OFDI by EIMs and ECMs are not very sensitive to any inter-country differences in strategic asset endowments or political stability. The major differences found between EIMs and ECMs are: (i) EIMs are attracted more into large countries by population and per capita GDP as compared to ECMs that prefer to operate in smaller countries; (ii) the natural resource endowments of host countries like fuels and ores are a powerful attraction for OFDI by ECMs but such an effect is not visible in the aggregate OFDI flows from EIMs; (iii) EIMs are favourably attracted if a host country enters into a *BIT* with India but ECMs react negatively to such initiatives with China; (iv) OFDI by ECMs is likely to contract when a host signs the *DTT* with China but EIMs' OFDI is not affected by the existence of a *DTT* with India; and finally, (v) ECMs still prefer to invest in locations that are geographically closer while EIMs don't show any such bias.

Notes

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1. In the present study, emerging economies are defined to include both developing countries and transition economies as classified by UNCTAD in the *World Investment Report 2008*. Available at: http://www.unctad.org/Templates/webflyer.asp?docid=10502&intItemID=2068&lang=1.
2. Host countries with negative OFDI flows means disinvestment are assumed to have received zero OFDI.
3. This test implement the Skeels and Vella's conditional moment test based on the parametric bootstrap method suggested by Drukker (2002). Estimated conditional moments for Chinese and Indian OFDI flows are 24.43 (significant at 5%) and 74.59 (significant at 1%) respectively. Therefore, the null hypothesis of normal errors in Tobit estimation is not accepted in our case.
4. All the empirical estimations reported in this study have been undertaken with the help of STATA, version 10.

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