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South-South FDI vs North-South FDI: A Comparative Analysis in the Context of India

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Foreword

An unexpected outcome of the globalization process has been the increase in FDI flows across emerging economies. These have emerged in contrast to standard understanding as put forward by Dunning and others. It is also claimed, often without necessary evidence that these "intra-south" flows are characterized by features that are different from "North – South" FDI flows. This paper by Subhasis Bera and Shikha Gupta examines differences in the behavior of FDI flows, where they occur across emerging economies or from advanced economies to emerging economies. In doing so, it tries to fill the existing empirical gap in the literature. I am sure the study which is part of a large inter country project, supported by IDRC will merit the attention of researchers working in this area.

(Rajiv Kumar)
Director & Chief Executive

July 13, 2009

Abstract

Over the years FDI activities from developing countries have grown very rapidly and most of these investments end up in other developing countries. Such FDI flows are formally known as *South-South FDI*. This paper attempts to compare the characteristics of South-South FDI versus North-South FDI in the context of India.

The analysis is carried at two levels. First we look at the overall trends of FDI flows (both inward & outward) region wise (North versus South), country wise and sector wise. Our results confirm that India's FDI activities have broadly been consistent with the well known concept of *Investment Development Path* (Dunning, 1981). We also find that while country profiles have undergone changes, there has been no significant shift in the sectoral profile.

Next we carry out econometric analysis at the sectoral /industry level for inward FDI from the North and from the South to examine the difference in the characters (if any) of FDI from the two sources. Our broad conclusion is that although there is not much difference between FDI from the north and from the south (both being concentrated in sectors with larger markets, higher export orientation & lower import intensity) southern FDIs appear to flow more into growing sectors while FDI from north do not have such indication.

Ultimately however, it is at the firm level where one needs to identify the factors inhibit/attract FDI. The qualitative findings from a limited survey of 93 firms are presented in the appendix.

Key Words*: FDI inflows and outflows, North-South FDI, South-South FDI,*

JEL Classification: *F21 F23 G11 L25*

South-South FDI vs North-South FDI: A Comparative Analysis in the Context of India[1]

Subhasis Bera and Shikha Gupta

1. Introduction

International capital movements, especially cross-border direct investment inflows popularly known as *foreign direct investment* (FDI), were seen increasing rapidly in the years following the end of World War II. FDI plays a major role in globalization, impacting both the growth of an economy as well as the profitability of investing companies. This requires countries to have a better understanding of FDI so that they can take initiatives to attract FDI.

Different government initiatives have resulted in a significant increase in the number of FDI activities around the world, especially in developing countries. According to UNCTAD's World Investment Reports (2004, 2005, 2006, 2008), FDI inflows from developing and transition economies reached record levels in the year 2007 and most of these investments ended up in other developing countries, formally known as South-South FDI, contributing to their economic growth. Appropriate policy responses in both source and recipient countries could increase the development gains from this trend. Anne Miroux, Head of UNCTAD's world investment report team, describes this rise of developing country transnational corporations as part of a burgeoning shift in the structure of the world economy.

India is also a part of this burgeoning shift. While FDI inflows into India are increasing, as recorded by the Reserve Bank of India (RBI), Indian FDI outflows also increased from US$1495.18 million in the year 2003-04. to US$8973.34 million in the year 2006-07. This indicates that Indian companies are investing abroad to access key resources of host country and to enter into the bigger market and urge to operate globally.

Highlighting the role of the South as a source of FDI is useful for several reasons. First, the growing importance of South-South FDI flows in the 1990s indicates that developing countries are more financially integrated with one another than previously believed. Second, South-South FDI may follow cycles different from the ones followed by North-South FDI. For example, South-South FDI flows may be more resilient to a crisis in a developing country. Transnational Corporations (TNCs) from the South often employ local managers and have lower overhead costs; therefore, they possess more expertise in dealing with the economic and political conditions of a host developing country than TNCs from developed countries (Wells, 1983). Third, the growing importance of South-South FDI indicates that investment promotion policies and agencies (in the South as well as the North) should target not only companies from the North, but also those from the South. This is particularly important for small economies, as TNCs from the South, because of the nature of their comparative advantages, tend to invest in

[1] We are grateful to Dr. Rajiv Kumar & Dr. Stephan Gelb for their guidance especially during the initial phase of this research that pertains to the firm level survey analysis. Subsequently Prof. Amit Shovon Ray has given his academic input to carry out the econometric analysis and to structure the final paper.

countries that are at a similar or lower level of development than their home countries (Wells, 1983).

The rise of Southern countries as a source of FDI from preferable destination of FDI has drawn the attention of researchers to verify Dunning's investment path theory. According to Dunning (1988a, 1988b, 1990) the pattern of foreign investment should vary by its country of origin. A direct empirical test of Dunning's country-of-origin effect is difficult to conduct especially for developing countries; in addition, researchers have not focused on the difference in the nature of FDI from the North and the South from the perspective of a particular country or attempted to understand the factors responsible for this difference. In this paper we analyze how South-South FDI differs from North-South FDI in relation to India. The analysis is divided into two parts; the first part deals with overall FDI trend, while the second part entails to the sectoral analysis.

2. Definition of "South"

The terms "North" and "South" have been used loosely in the literature to denote, respectively, the developed countries and the developing economies. However, we need a clearer definition for these terms.

In this paper, "South" is defined as the developing and less developed countries for which reasonably detailed FDI data are available. These countries account for almost 90% of the total flows to developing countries. The "North" comprises 30 OECD member countries and high income non-OECD countries. As a part of the overseas territory of the UK, the British Isles, British Virginia and Scotland are also treated as OECD countries. The high-income non-OECD group comprises the 22 high-income economies that are not members of the OECD.

This research study follows the categorization established by the World Bank, but it does not necessarily follow those established by the United Nations or UNCTAD. For example, the definition of South used in this paper excludes new and small economics, such as Muscat, Syria, Tatarstan, FII and Bhutan, as well as other high-income countries outside the OECD (e.g., Kuwait); at the same time we have included British Virginia, Gibraltar and Scotland in the group of OECD countries as overseas territories of the UK. Thus, the definition of South in this study is narrower than, for example, in UNCTAD's World Investment Report 2008 (UNCTAD, 2008)

3. Overall trends in India's FDI: Inward and Outward

3.1. FDI Experience of India

In India, as in most developing countries, inward and outward FDI are not easy to analyze because of their national definition and interpretation. Prior to the year 2003-04, Indian FDI reporting was not in line with international standards. The Reserve Bank of India (RBI) and the Secretariat for Industrial Assistance (SIA) which publish official statistics have, since 1991, only reported the equity component of FDI. So, re-invested earnings were not considered as part of FDI, whereas IMF guidelines estimate that they are part of FDI inflows. Indian data neither included the proceeds of foreign equity listings nor foreign subordinated loans to domestic subsidiaries. Overseas commercial borrowings were also disregarded, as well as some depository

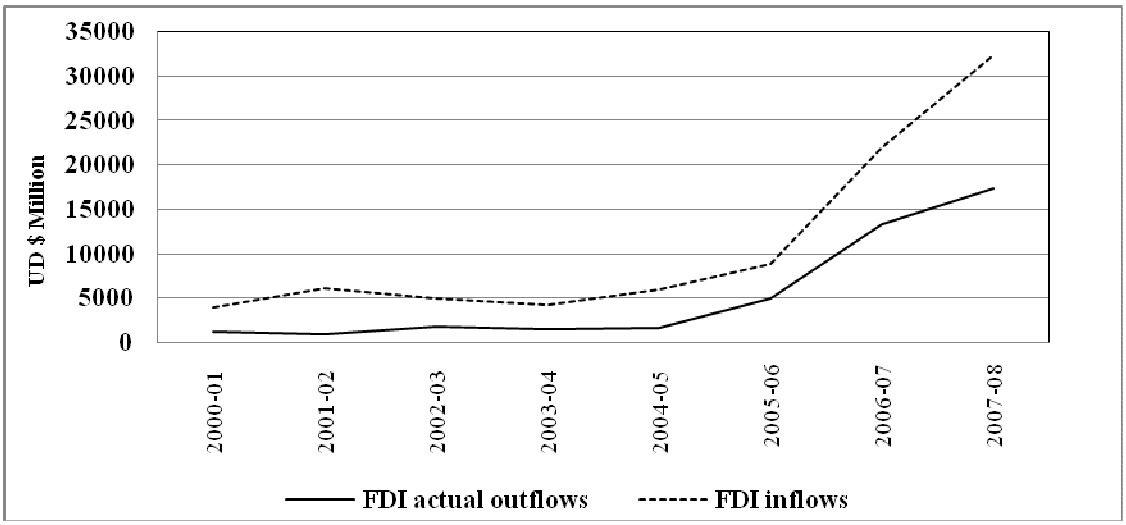
receipts over 10 per cent of the equity coming from foreign institutional investors (Srivastava, 2003). Although there was a difference and scope for improving India's FDI statistics in order to put them in line with international standards, India's share in total volume of FDI inflows in the world is very small. It is also true that the opening of the country is relatively new and the FDI experience rather short.

As in the case of other developing countries, Indian policy makers were initially suspicious about the impact of FDI in India. Political motives and mass movements also took time to realize the importance of FDI in the development of an economy. The year 1991 has acquired a revolutionary status as a time of change in the planning of India's future through liberalization despite the fact that there was unevenness in policy implementation. Suspicion was replaced by a pro-FDI policy in 1995-96 following the debate of 1991-93 and, by 2007, there was a general consciousness across the political spectrum in favor of attracting FDI.

By the year 2002 FDI changed completely for India and by the year 2003-04 the non-comparability of Indian FDI statistics was addressed by a committee in May by the Department of Industrial Policy & Promotion (DIPP), in order to bring the reporting system of FDI data in India into alignment with international best practices.

According to this new definition of FDI, over the years India's total capital inflow increased from US$4089 million in the year 1995-96 to US$45779 million (provisional) in the year 2006-07, of which 48% comes through FDI.

Figure 1: Trend of FDI Inflows & Outflows



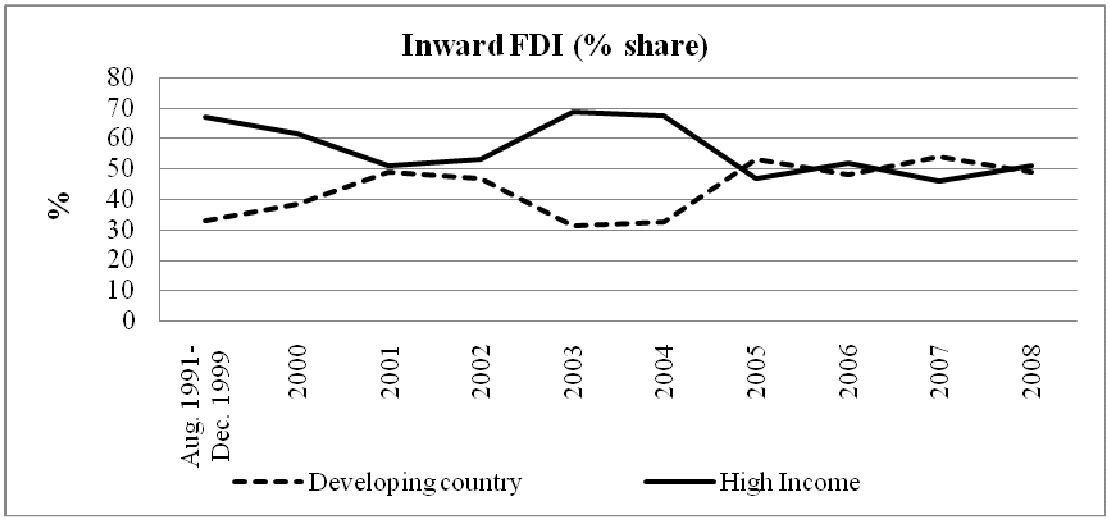
Source: DIPP, Ministry of Finance.

Figure 1 shows that over time, actual outward FDI from India also increased significantly along with the increase of FDI inflows into India. Prior to the year 2004-05 both inward and outward FDI were increasing at a slow rate, but both types of FDI started increasing at a higher rate from the year 2004-05. Despite the fact that Indian firms started investing abroad only recently, the volume of outward FDI is increasing significantly to catch up with inward FDI into India. This

proves that India is not only considered as a destination for FDI but is also identified as a source of FDI for other countries.

India receives FDI from a number of countries. Developed countries with their comparative advantages in technology and possession of huge capital stocks are expected to be a bigger source of FDI, but developing countries are slowly beginning to invest more in India. From Figure 2 below it is observed that the share of FDI from north and from the South converged in the year 2001 and then diverged during the period 2001-2003. From the year 2003 the gap between the shares of FDI from these two regions again started declining and finally from the year 2005 they are converging. This clearly indicates that, in case of India, FDI from the South is as important as that from the North.

Figure 2: Share of Total FDI Inflows from Regions

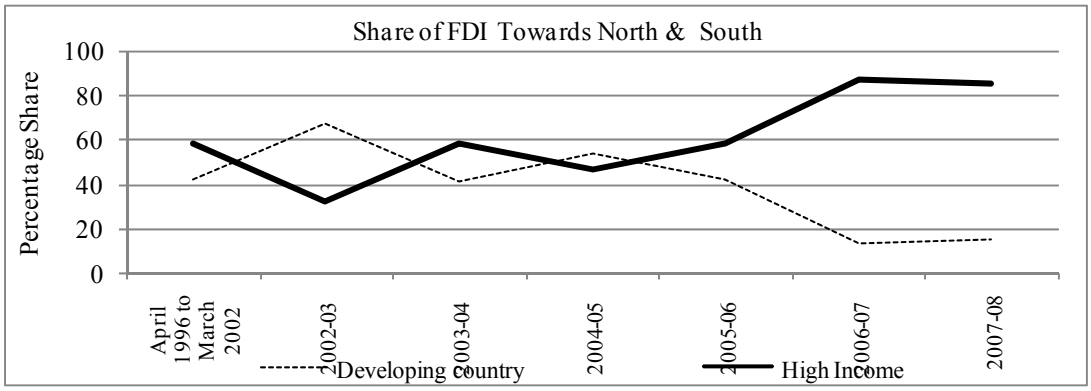


Source: SIA Newsletter

The increasing share of FDI sourced from the South indicates that emerging multinationals from developing countries have became more engaged in cross-border activities, reflecting the impact of globalization. As many developing country governments have eased their policies toward capital outflows, their companies have expanded their operations abroad. This increased inflow from developing countries is partially explained by the well-known investment development path (IDP) theory by Dunning which says outward FDI is undertaken when the country reaches a certain minimum development. As countries move along the IDP from the initial stage of only receiving inward FDI, domestic firms acquire ownership and other advantages to go abroad and the country reaches the final stage and becomes an important outward investor.

Indian outward investors are investing in a number of Northern and Southern countries. While shares of FDI inflows are showing convergence, the share of outward FDI to the North and the South shows that the gap between two is diverging. Figure 3 below shows the trend of outward FDI (OFDI) approvals from India to other developing countries and to high-income countries.

Figure 3: Share of Total FDI Outflows to the Regions



Source: Ministry of Finance.

As predicted by IDP theory, initially Indian OFDI was concentrated towards other developing countries. However after the year 2004-05 overwhelming proportions of these investments are directed to developed countries and the gap between the two has diverged considerably. Initially, the outflows to high income and developing countries were in the ratio of 60:40, but it has now become 85:15.

Indian industrial houses like the Tata group, Bharat Forge, Ranbaxy, ONGC, and Infosys are now more interested in cross-border acquisitions. The driving forces for these firms to invest abroad are their huge supply of funds, globally competitive business practices, volumes and growth prospects. The Tata-Corus deal (Netherlands-based) of over US$12 billion is the largest-ever acquisition by an Indian company; this came just over a year after it acquired Singapore's NatSteel. The Aditya Birla Group acquired Canada-based Novelis. The inclination for cross-border acquisitions by Indian corporates suggests that they have started bidding for much larger businesses than their own and for those that are based in high-income countries.

Expansion of overseas activities and so the FDI activities of Indian companies in Southern and Northern countries are gaining importance. Although Indian investors are finding the North a more favorable destination for FDI, India still receives a significant amount of FDI from both the South and the North.

3.2. Country-wise inward FDI

We have already mentioned that India receives inward FDI sourced from a number of developed and developing countries. The shares of FDI sourced from the North and the South are shown in Tables 1 and 2, respectively.[2] Table 1 shows that over the years investment from none of the countries crossed 20% of the total FDI during the period 1991-2008. The US tops the figure with 19.48% share followed by Singapore, the UK, the Netherlands and Japan which indicates the dominance of the US in inward FDI activities into India.

[2] Although 45.16% of total FDI into India comes from Mauritius, researchers argue that most of these FDI are sourced from other countries and routed through Mauritius to get the benefits of a double-tax treaty. Since identification of FDI activities from Mauritius which are not by Mauritius nationals but sourced from other countries is difficult and whether investment decisions are made by entity in Mauritius or by its parent firm is not known, we are not including Mauritius as a part of the South.

Table 1: Cumulative Inward FDI from Northern Countries[3]

Country	Total FDI during (1991-2008)	% share of total FDI
U.S.A.	337346.58	19.48
Singapore	266048.33	15.36
U.K.	233992.94	13.51
Netherlands	166601.54	9.62
Japan	134297.35	7.75
Germany	113086.99	6.53
Cyprus	61554.04	3.55
France	55381.66	3.20
Switzerland	41867.31	2.42
Korea (South)	40188.82	2.32
Italy	38296.7	2.21
U.A.E.	36321.35	2.10
Cayman Islands	26877.12	1.55
Sweden	25281.08	1.46
Hong Kong	23971.83	1.38
Bermuda	22677.33	1.31
Spain	18689.69	1.08
Total	**1731989**	**100.00**

In contrast, Table 2 shows that only FDI from Malaysia could cross 20% of total FDI from the Southern countries during the period 1991-2008, followed by Russia and Thailand.

Table 2: Cumulative Inward FDI from Southern Countries

Country	Total (1991-2008)	% share of total FDI
Malaysia	8403	22.20
Russia	6206.63	16.40
Thailand	3536.84	9.34
South Africa	3417.19	9.03
West Indies	2275.15	6.01
Philippines	1894.41	5.00
Indonesia	1794.87	4.74
Nevis	1256.74	3.32
Taiwan	1150.36	3.04
Panama	865	2.28
Morocco	699.77	1.85
Iran	626.29	1.65
Sri Lanka	578.51	1.53
Liberia	578.43	1.53
Kenya	522.39	1.38
Belorussia	497.85	1.32
Korea (North)	381.33	1.01
Total	**37856.2**	**100.00**

Source: Ministry of Commerce

[3] Countries having share more than 1% are listed in Tables 1 and 2.

Since the share of FDI from the North and the South have become almost equal in recent years, it is important to know whether the FDI from each region is concentrated in a few countries. We have calculated Herfindahl-Hirschman Index (HHI) to measure this concentration. Herfindahl-Hirschman Index (HHI) is commonly accepted measure of market concentration. An industry with a few competitors has a high level of concentration n the index, whereas the presence of several competitors results in a low concentration.

In our analysis Herfindahl-Hirschman Index $H_F = \sum_{i=1}^{N} s^2{}_i$

where s_i is the share of FDI inflows into India from a particular country, and N is the number of countries.

After the normal Herfindahl-Herschman Index (HHI) was calculated, it was normalized and in our analysis normalized Herfindahl Index is:

$$H^* = \frac{(H_F - (1/N)}{1 - (1/N)}$$

The normalized Herfindahl index calculated for the Southern countries and for northern countries are 0.049581and 0.048623, respectively. As a general rule, a Herfindahl Index below 0.10 signals low concentration, while above 0.18 signals high concentration, whereas an index between 0.10 and 0.18 shows that the industry is moderately concentrated. Therefore, from the result above we can say that inward FDI inflows from both the Northern and the Southern countries are less concentrated.[4]

3.3. Country-wise outward FDI Approvals

In the case of outward FDI, we have already observed that approvals of Indian investment abroad increased significantly. The volume of FDI and share of cumulative outward FDI towards the North and the South are shown in Tables 3 and 4, respectively. Table 3 shows that Mauritius and Russia are at the top of the figure of cumulative share of FDI towards the Southern countries for the period 1996-2008, followed by Sudan, China, Egypt and Brazil.

[4] If we include Mauritius in our analysis, the HHI index will change as follows:

Region	With Mauritius	Without Mauritius
South	0.947142	0.049581
North	0.176008	0.048623

This indicates that inclusion of Mauritius as a part of Southern countries makes it highly concentrated, whereas inclusion of Mauritius as a part of North makes it moderately concentrate; hence, FDI from the south excluding Mauritius is more dispersed than that from the countries from North excluding Mauritius.

Table 3: Cumulative share of outward FDI towards Southern Countries

Outward FDI to Developing Countries			
Country	**Total FDI (1996-2008) in Rs Million)**	**Share of Total FDI**	**Cumulative share**
Mauritius	175132.52	31.25	
Russia	122381.55	21.84	53.09
Sudan	54528.93	9.73	62.83
China	37185.79	6.64	69.46
Egypt	32293.95	5.76	75.23
Brazil	21946.94	3.92	79.14
Vietnam	13180.46	2.35	81.49
Liberia	7584.66	1.35	82.85
Indonesia	7413.39	1.32	84.17
Thailand	7168.90	1.28	85.45
Sri Lanka	6817.43	1.22	86.67
Kazakhstan	6490.48	1.16	87.83
Kenya	6033.78	1.08	88.90
Libya	5772.95	1.03	89.93
Total	**560343.6349**	100	

Source: Ministry of Finance

In contrast, Table 4 shows that Singapore tops the figure of the cumulative share of outward FDI towards northern countries followed by the US, Netherlands, Channel Islands and the UK.

Table 4: Cumulative share of outward FDI towards Northern countries

Country	**Total FDI during 1996-2008 (Rs million)**	**Share of Total FDI**	**Cumulative share**
Singapore	414610.17	21.83	
USA	322786.51	16.99	38.82
Netherlands	296867.78	15.63	54.45
Channel Island	245066.64	12.90	67.35
U.K	143055.04	7.53	74.88
Cyprus	88791.58	4.67	79.56
British Virgin Island	60751.75	3.20	82.76
UAE	53846.09	2.83	85.59
Hong Kong	33589.08	1.77	87.36
Switzerland	29629.31	1.56	88.92
Australia	29466.85	1.55	90.47
Bermuda	27752.45	1.46	91.93
Denmark	21176.42	1.11	93.05
Canada	21131.46	1.11	94.16
Italy	20064.11	1.06	95.22
Total	**1899440.247**	100	

Source: Ministry of Finance

Table 5: Inward FDI trends into India from top five countries

Inward FDI (% share) from Developing countries										
	Aug. 1991-Dec. 1999	**2000 (Jan-Dec)**	**2001 (Jan-Dec)**	**2002 (Jan-Dec)**	**2003 (Jan-Dec)**	**2004 (Jan-Dec)**	**2005 (Jan-Dec)**	**2006 (Jan-Dec)**	**2007 (Jan-Dec)**	**2008 (Jan-Aug)**
Malaysia	17.54	14.7	14.05	30.18	66.32	31.06	5.24	6.29	8.16	35.99
Russia	20.2	57.06	75.08	0.08	0.05	1.02	0.09	25.16	1.74	0.32
Thailand	19.63	23.85	0.32	0.21	1.6	7.74	5.73	2.72	20.44	1.3
South Africa	0.24	0.01	0	3.09	3.54	17.33	23.91	35	2.2	5.31
West Indies	0.54	0.06	0.01	0.59	0	0.89	32.18	1.95	14.43	7.62
Inward FDI (% share) from High-income countries										
U.S.A.	30.54	28.99	20.67	15.86	29.65	30.47	24.02	13.69	13.32	14.26
Singapore	4.53	8.08	2.01	2.64	2.62	2.92	16.44	11.76	21.35	29.82
U.K.	8.14	4.54	16.04	19.85	13.44	6.73	11.11	32.26	7.2	12.07
Netherlands	7.95	8.81	12.89	8.74	18.09	23.3	6.12	9.26	10.21	6.76
Japan	10.85	15.88	12.45	23.15	6.76	5.46	8.64	2.16	10.16	3.18

We also calculated the Herfindahl Herschman index to measure the concentration of Indian outward FDI towards the South and the North. The index is 0.101484 and 0.066396, respectively, for the South and the North, indicating that outward FDI from India towards the South is slightly concentrated, whereas the same towards the North is less concentrated.

Despite the fact that inward and outward FDI is less concentrated for north and moderately concentrated for the South, countries may follow different trends. To understand the trends, we analyzed the inward and outward FDI trends of the top five countries from the South and from north separately in the table 5 and table 6. Table 5 shows that countries other than the US do not follow any continuous trend, and that inward FDI from the US is declining over time.

Table 6 shows that the most important destination of outward Indian FDI is Mauritius in the South and Singapore in the North. The predominance of the US has fallen over the years, whereas the Netherlands, UK, Channel Islands and the US are identified as preferable destinations for outward FDI. Indian corporate houses are making overseas investments through countries that either have low tax rates or allow tax-free remittance of income.

Table 6: Indian outward FDI trends for top five countries

Share of Outward FDI towards Countries							
South Country	**April 1996 to March 2002**	**2002-03**	**2003-04**	**2004-05**	**2005-06**	**2006-07**	**2007-08**
Mauritius	19.48	13.40	29.17	9.94	27.88	60.22	42.17
Russia	55.09	0.02	0.24	71.58	0.10	0.62	0.06
Sudan	0.00	75.35	26.91	3.43	5.28	6.12	0.23
China	1.21	2.97	4.42	1.01	4.37	2.83	19.11
Egypt	0.27	0.00	0.00	0.20	0.01	0.00	22.12
North Country							
Singapore	3.50	9.81	1.87	18.40	12.03	8.12	36.69
USA	35.27	38.86	24.40	19.33	16.22	7.37	18.74
Netherlands	3.61	3.34	3.56	2.36	17.08	9.62	23.55
Channel Islands	0.31	0.10	0.00	0.28	2.25	40.09	0.00
U.K	9.40	7.24	16.31	5.52	9.50	13.99	2.50

From the above it is clear that while inward and outward FDI are increasing as source and destination both from the North and the South, both types of FDI activities in relation to the US are becoming less dominant. India is finding more willing allies in Malaysia, Thailand, and the West Indies in the South and Singapore in the North as sources of FDI, and at the same time with Mauritius, Russia and Sudan in the South and Singapore in the North while investing abroad.

3.4. Sector-wise Breakup of Inward and Outward FDI

Investors from a particular region can have comparative advantages over others. Therefore, changes in the source and destination of FDI can change the sectoral preference of these FDI activities. Here we consider the top 10 sectors receiving higher FDI to understand the sectoral preferences (shown in Table 7). The total share of FDI

Table 7: Share of sector-wise inward FDI into India[5]

Inward FDI Sector-wise (Rs Million)											
Sector	**1991-1999 Aug-Dec**	**2000 Jan-Dec**	**2001 Jan-Dec**	**2002 Jan-Dec**	**2003 Jan-Dec**	**2004 Jan-Dec**	**2005 Jan-Dec**	**2006 Jan-Dec**	**2007 Jan-Dec**	**2008 Jan-Aug**	**Total**
Service sector	40443.49 (9.71)	1861.5 (1.84)	8202.24 (5.18)	15431.39 (9.57)	13903.59 (14.54)	11455.83 (7.75)	28961.35 (15.03)	175019.53 (34.76)	143776.22 (21.95)	261392.36 (24.02)	700567.83
Electrical equipment (including software and hardware)	46424.75 (11.14)	12008.32 (11.90)	20566.93 (12.98)	31908.64 (19.79)	13550.09 (14.17)	39666.61 (26.84)	43142.31 (22.39)	91239.22 (18.12)	127021.23 (19.39)	76189.81 (7.00)	501717.91
Miscellaneous industries	55027.4 (13.21)	39886.31 (39.52)	22948.8 (14.49)	12148.1 (7.53)	14568.58 (15.23)	13400.28 (9.07)	10011.13 (5.19)	12061.93 (2.40)	17295.3 (2.64)	60287.21 (5.54)	257744.32
Telecommunications	40376.82 (9.69)	6855.41 (6.79)	42671.49 (26.94)	9090.7 (5.64)	7272.59 (7.60)	6087.84 (4.12)	7061.99 (3.66)	41702.15 (8.28)	43541.5 (6.65)	23272.49 (2.14)	228012.36
Construction activities						6419.88 (4.34)	5118.03 (2.66)	36613.91 (7.27)	51924.4 (7.93)	96601.11 (8.88)	190275.3
Housing and real estate						0 (0.00)	879.61 (0.46)	21166.32 (4.20)	60621.07 (9.26)	95630.82 (8.79)	178311.74
Fuels (power and oil refinery)	36433.77 (8.75)	4840.17 (4.80)	17411.75 (10.99)	31076.68 (19.27)	7418.51 (7.76)	7159.79 (4.84)	1513.45 (0.79)	8931.46 (1.77)	10207.64 (1.56)	52043.68 (4.78)	177036.9
Transportation industry	51520.67 (12.37)	12180.28 (12.07)	13820.05 (8.72)	21242.48 (13.17)	15133.84 (15.82)	8063.68 (5.46)	9659.22 (5.01)	18304.4 (3.63)			122028.61
Chemicals (other than fertilizers)	39861.28 (9.57)	5380.66 (5.33)	2952.1 (1.86)	5799.58 (3.60)	2849.05 (2.98)	8677.14 (5.87)	6562.53 (3.41)	17944.83 (3.56)	10170.23 (1.55)	16804.08 (1.54)	117039.21
Metallurgical industries	6333.34 (1.52)	655.95 (0.65)	1505.8 (0.95)	2095.59 (1.30)	1454.52 (1.52)	8583.79 (5.81)	6046.5 (3.14)	7846.58 (1.56)	20298.6 (3.10)	60798.51 (5.59)	115638.72
Grand Total	416595.26	100923.46	158418.96	161233.52	95640.04	147813.71	192707.23	503572.67	654949.8	1088336.8	3520191.4

Source: SIA newsletter.

[5] The SIA did not publish separate data for construction activities and housing and real estate sectors for the period prior to the year 2004-05. Similarly, separate data for the transportation sector is not available from the year 2007 onwards.

Table 8: Sector-Wise Overseas Investment Approvals

Sector-Wise Overseas Investment Approvals (in Rs. million)						
Year	**Manufacturing**	**Financial services**	**Non-financial services**	**Trading**	**Others**	**Total**
1999-00	23782.72 (31.23)	184.6 (0.24)	49551.81 (65.08)	2526.73 (3.32)	99.67 (0.13)	76145.52(100)
2000-01	16937.03 (26.82)	758.82 (1.20)	40043.75 (63.42)	4073.68 (6.45)	1331.24 (2.11)	63144.52(100)
2001-02	105238.84 (73.07)	2314.31 (1.61)	26917.32 (18.69)	6624.97 (4.60)	2919.78 (2.03)	144015.23(100)
2002-03	51135.65 (71.87)	88.07 (0.12)	13557.43 (19.06)	3381.49 (4.75)	2985.18 (4.20)	71147.82(100)
2003-04	35181.16 (52.78)	1613.3 (2.42)	20162.4 (30.25)	3535.39 (5.30)	6160.98 (9.24)	66653.23(100)
2004-05	91047.5 (72.26)	413.81 (0.33)	24632.42 (19.55)	3105.56 (2.46)	6799.26 (5.40)	125998.55(100)
2005-06	75749.51 (59.94)	7424.52 (5.87)	31318.37 (24.78)	5947.23 (4.71)	5945.02 (4.70)	126384.65(100)
2006-07	169709.89 (24.89)	1131.54 (0.17)	372709.18 (54.66)	56492.68 (8.28)	81873.48 (12.01)	681916.8(100)
2007-08	405945.14 (43.72)	2250.22 (0.24)	112179.86 (12.08)	29877.39 (3.22)	378165.46 (40.73)	928418.08(100)
Total	507869.38	13057.97	308061.69	46890.98	70868.5	946748.52(100)

Source: Ministry of Finance.

received by each sector is given in parentheses. From the table it is observed that over the years only the service sector has been receiving a continuously increasing share of total FDI into the sectors; the remaining sectors do not follow any specific trend.

Like the inward FDI into the sector, Table 8 shows the sector-wise break up of overseas investment approvals. It is observed that most OFDI approvals go to the manufacturing sector, although non-financial services increased until the year 2006-07, but dropped in the year 2007-08. The values in parentheses show that none of the sectors follow any specific trends.

From the above analysis it is observed that although the country profile has undergone some changes, the sector profile of inward FDI remains unchanged.

4. Inward FDI from North and South – An Econometric Analysis

Despite the fact that sector-wise FDI inflows and outflows do not follow any systematic pattern in our overall FDI trend analysis for India, there may be differences in the nature of these FDI activities depending on their source country. To understand the nature of these investment flows, it is important to know the main sources of FDI into these sectors. Unfortunately sector-wise FDI outflows towards the North and the South are not available and the analysis has been limited to inward FDI only.

4.1. Collection of Data

For the sectoral analysis, data was collected from multiple sources. Although data on country-wise FDI inflows and FDI inflows into the sectors are available separately, data on sector-wise FDI inflows from different countries are not directly available. To create this dataset, we collected firm-level data on FDI inflows from SIA newsletters and classified them on the basis of their products. Since the home country information of a large number of firms is missing in these newsletters, we traced the missing information and classified those firms on the basis of their home country. This provided data only for the period 2005-2007. After classifying data we divided the countries into two groups: *Northern countries* and *Southern countries.* This grouping is loosely based on the World Bank country classification on the basis of income.

For the econometric analysis we selected variables on the assumption that they reflected the nature of the sector and had an impact on FDI inflows to those particular sectors. Data for these variables were collected from the CMIE database.

4.2 Sector-wise FDI inflows from North & South

To analyze the nature of FDI inflows from the regions, we clubbed sectors into groups. Table 9 shows the sector-wise share of FDI inflows from the North and from the South for the period 2005-07. It can be seen that chemical & chemical products, services, and the industrial machinery & machine tools sectors attract a greater share of FDI from the South, whereas paper & paper products, non-metallic products, and gems & jewelry sectors receive approximately equal shares of FDI from the North and the South. The remaining sectors are more attractive to Northern investors.

This indicates that investors from the South are more inclined towards heavy industries, perhaps due to their similarity with the economic infrastructure of India and the requirements of Southern investors. FDI from the North is more versatile and dispersed across the sectors. Most of these

sectors either use technology as an input or offer services as one of their products. Comparative advantage over the years in technology could be one of the reasons for these northern firms to invest in India.

Table 9: Sector-Wise Share of Total FDI from North & from South

Sector	Type	FDI(South)	FDI(North)	FDI(Total)
Automobiles	Total	778.2	36697.1	44478.6
	Share region-wise (horizontal)	17.5	82.5	100.0
	Share sector-wise (vertical)	1.5	7.0	4.2
Chemical & Chemical Products	Total	204858.6	112729.7	317588.3
	Share region-wise (horizontal)	64.5	35.5	100.0
	Share sector-wise (vertical)	38.9	21.5	**30.2**
Services	Total	112066.7	30842.3	142909.0
	Share region-wise (horizontal)	78.4	21.6	100.0
	Share sector-wise (vertical)	21.3	5.9	**13.6**
Textiles	Total	4509.1	12336.6	16845.7
	Share region-wise (horizontal)	26.8	73.2	100.0
	Share sector-wise (vertical)	0.9	2.3	1.6
Paper & paper products	Total	5237.6	6482.2	11719.8
	Share region-wise (horizontal)	44.7	55.3	100.0
	Share sector-wise (vertical)	1.0	1.2	1.1
Non-Metallic	Total	4086.8	2951.2	7038.0
	Share region-wise (horizontal)	58.1	41.9	100.0
	Share sector-wise (vertical)	0.8	0.6	0.7
Industrial Machinery & Machine Tools	Total	38714.2	17346.7	56060.9
	Share region-wise (horizontal)	69.1	30.9	100.0
	Share sector-wise (vertical)	7.3	3.3	5.3
Media & Recreational Services	Total	979.0	2288.6	3267.6
	Share region-wise (horizontal)	30.0	70.0	100.0
	Share sector-wise (vertical)	0.2	0.4	0.3
Electricity/ Power	Total	4472.5	1737.3	62097.2
	Share region-wise (horizontal)	72.0	28.0	100.0
	Share sector-wise (vertical)	0.8	0.3	0.6
Mining	Total	2602.7	7665.1	10267.8
	Share region-wise (horizontal)	25.3	74.7	100.0
	Share sector-wise (vertical)	0.5	1.5	1.0
Electronic Equipment	Total	1514.2	2467.4	3981.6
	Share region-wise (horizontal)	38.0	62.0	100.0
	Share sector-wise (vertical)	0.3	0.5	0.4
Metals & Metal Products	Total	2854.6	7993.4	10847.9
	Share region-wise (horizontal)	26.3	73.7	100.0
	Share sector-wise (vertical)	0.5	1.5	1.0
Trading	Total	878.7	16195.7	17074.4
	Share region-wise (horizontal)	5.1	94.9	100.0
	Share sector-wise (vertical)	0.2	3.1	1.6
Transport	Total	126334.8	247813.3	374148.1
	Share region-wise (horizontal)	33.8	66.2	100.0
	Share sector-wise (vertical)	24.0	47.2	**35.6**
Food & Beverages	Total	1765.6	10466.5	12232.1
	Share region-wise (horizontal)	14.4	85.6	100.0
	Share sector-wise (vertical)	0.3	2.0	1.2
Leather Products	Total	2268.5	4617.8	6886.3
	Share region-wise (horizontal)	32.9	67.1	100.0
	Share sector-wise (vertical)	0.4	0.9	0.7
Gems & Jewelry	Total	5860.1	4903.3	10763.4
	Share region-wise (horizontal)	54.4	45.6	100.0
	Share sector-wise (vertical)	1.1	0.9	1.0

Source: Ministry of Commerce.

Table 9 also shows the share of sector-wise FDI inflows from the North and from the South. During this period the transport sector attracted the highest share of total FDI, whereas 30% of the total FDI entered the chemical and chemical products sector (including drugs & petroleum). The services sector, which is growing rapidly in India, was able to attract greater numbers of FDI, but the share of total FDI into this sector is much lower than in either the transport or chemical sectors. Despite the fact that FDI was flowing into a variety of sectors during 2005-07, these three sectors were able to attract 80 % of total FDI inflows into India and thus we can say that during this period FDI inflows were concentrated in a few sectors. Among these three sectors, the chemical and service sectors received a higher share of FDI from the South, whereas the transport sector attracted a higher share of FDI from the North.

Among the other sectors, the automobiles and industrial machinery & machine tools sectors also received a significant share (4% and 5%, respectively) of the total FDI. While the automobile sector received a larger share of FDI from the North, the industrial machinery & machine tools sector received a larger share from the South.

From the above, it is clear that the nature of FDI from the South is not the same as that from the North, at least during the period 2005-07. To understand the difference in the nature of FDI from the North and from the South in greater detail, we performed separate analyses of the sensitivity of FDI from the North and from the South.

4.3. Methodology

For the sensitivity analysis, we selected 30 sectors based the availability of data, where FDI inflows are comparatively higher than in other sectors.

We used simple panel regression for the sectoral analysis. For sector-wise analysis we selected following seven variables: size of the sector, growth of the sector, labour intensity (wage share), export orientation, import intensity & import of technology, profitability, and advertisement intensity.

i) Size of the sector

Larger sectors have bigger markets for their final products in the host country along with established input suppliers and skilled labour. This creates several external economies of scale (or industry size). One can assume that these industries also belong to sectors in which the host country enjoys a comparative advantage. Accordingly, we may expect more FDI to flow into these sectors. This indicates that among various industry-level characteristics, size of the industry is a crucial factor for FDI inflow.

Industry size as a determinant of FDI has played a relatively limited role in empirical research, because the focus of the empirical literature on determinants of FDI has been largely on country-specific determinants (e.g., size of the host country market). Industry-specific studies, however, have found evidence that industry size is a significant and positive determinant of FDI [e.g., Morgan and Wakelin (1999), in an empirical study of the determinants of FDI in different categories of the UK food industry].

Since the sectors are of various sizes and so are their volume of sales compared to the volume of other income and expenditure of those particular sectors, we rescaled the size of the sector by taking log. Therefore, in our analysis size of the sector = log (total sales of the sector) and denoted as *SALES*.

ii) Growth of the Sector

Investment is made to receive future returns, and thus it is always expected that investors will invest into a sector where the possibility of doing business is much better than in the other sectors. A growing sector can provide better scope and hence can attract investors. Accordingly, we assume that FDI will be more inclined to a growing sector.

In our analysis we used growth of sales as a measure of the growth of the sector and denoted it as *GRSALES*.

iii) Labour intensity (Wage Share)

Intrinsic features of FDI indicate that FDI inflows are expected to be directed towards relatively capital-intensive industries for better exploitation of the specific ownership attributes (e.g., money capital, advanced know-how, managerial expertise, marketing skills etc.). However, both the theoretical and empirical literature has pointed out that industries using skilled labour can also attract more FDI and, hence, a clear distinction between skilled and unskilled components of labour is also needed.

There is little empirical research on the role of relative labour-intensity as an industry-specific characteristic in determining FDI. However, a few empirical studies on India have focused on factors that are responsible for entry-mode choices for foreign firms in the pre-economic reforms period. These studies have pointed to greater concentration of FDI in skill-intensive industries (Kumar, 1987).

In our analysis labor intensity is measured by the share of wages and salaries of an industry, where the total wage bill in industrial GVA

$$= \frac{\text{Wages \& Salaries for i}^{\text{th}}\text{ Industry in the year t}}{\text{Total GVA for i}^{\text{th}}\text{industry in the year t}}$$

and we have denoted this as *WGSHARE*

iv) Export orientation

Empirical studies on the causality between FDI and exports have tried to determine whether FDI inflows are biased towards export-oriented sectors. Studies on developing countries identify manufacturing exports as significant and positive determinants of FDI (Narula and Wakelin, 1995; Singh and Jun, 1995). For India, however, FDI has been found to be more biased towards the domestic market, rather than exports, compared to developing economies, like China, that attract high FDI (Guha and Ray, 2001).

The export-orientation of industries as a determinant of FDI should be analyzed to understand the nature of FDI flows, namely, whether they are more "domestic market-oriented", or they use the host country to reduce their cost of production in order to remain competitive in the world market.

We measured export orientation by measuring the volume of exports from a particular industry as a proportion of total industrial sales and denoted as *EXPINT*.

v) Import intensity & Import of Technology

Industries with higher import-intensities indicate greater dependence on imported inputs like raw materials, stores, capital goods, know-how etc. One can assume that more import-intensive industries are likely to attract more FDI because foreign firms have better access to imports through global production and marketing networks. In many LDCs, industries using advanced production techniques rely heavily on technological imports due to non-availability of quality indigenous import substitutes. FDI is expected to respond favourably to these industries due to the oligopolistic advantages enjoyed by foreign firms who possess advanced technology. However, empirical evidence on the effect of import-intensity of industries on FDI in India is limited.

We assume import intensity to have a positive impact on FDI. It is also true that if a firm's investment is biased towards export-oriented sectors, it is unlikely to assume a positive impact of import intensity on FDI as import of raw material or technological know-how increases the cost of production and thus makes its output as less competitive in the world market.

In our model, Import Intensity = (Total imports of raw materials, stores, capital goods, know-how, royalties)/ Total Sales

And we have denoted this as *IMPINT*.

vi) Profitability

Industries earning higher profits retain larger surpluses for future investment; these industries are also likely to offer greater scope to foreign firms for higher remittances to home countries. Accordingly, we expect FDI to flow into more profitable industries.

Here, we measured profitability by measuring the share of profit after tax (PAT)(net of non-recurring transactions) in the total sales of an industry

$$= \frac{\text{Total Profits after tax for the } i^{th} \text{ industry in the year t}}{\text{total sales for } i^{th} \text{ industry in year t}}$$

and denoted as *PFTY*.

vii) Advertisement Intensity

Advertisement intensity is a common feature for industries, where development of brand loyalties through market promotion assumes considerable significance. Product differentiations through innovations and their successful applications are typical attributes of multinational firms. To acquire meaningful ownership advantages of FDI, advertisement plays a significant role. FDI in India has been found to have a greater concentration in advertising-intensive industries (Kumar, 1987). We hypothesize FDI flows to be positively related to advertisement intensity.

Advertisement intensity is measured by the share of advertising and marketing expenses, as a proportion of total sales and denoted as *ADVINT*.

Since our dependent variable, the volume of FDI inflows into the sector, is much higher than the volume of income and other expenditure of the sectors we have rescaled our dependent variable by taking log the volume of FDI into the sectors.

4.4. Econometric Model Specification

For the sector-wise analysis, we posit the following panel regression model:

$$InFDI_{it} = \alpha_i + \beta_{1t} InSALES + \beta_{2t} IMPTECHY + \beta_{3t} ADVINT + \beta_{4t} PFTY + \beta_{5t} EXPINT + \beta_{6t} IMPINT + \beta_{7t} WGSHARE + \beta_{8t} GRSALES + \varepsilon_{it}$$

(1) i=1,2, …….N; t=1,2,……T; where

α_i: the individual effect for the i^{th}industry (or state) assumed to be constant over time.
$\in_{it}$: the stochastic error term

For our analysis we have selected 30 sectors such as air transport, automobiles, chemicals, construction, drugs & pharmaceuticals, electronics equipment, food & beverage, hotel, ICT, gems & jewelry, leather, machinery & machine tools, media, mining, non-metallic, paper & pulp, power, real estate, recreational & cultural, rubber & plastic, shipping, telecommunications, textiles, transport, tour & travel, industrial machinery, financial and non-financial services. The period chosen for our analysis is 2005-2007.

4.5. FDI from Northern Countries

After selecting the sectors and variables, we checked the multicollinearity to avoid estimation error and found that the independent variables are not correlated. Therefore, we can use all the variables for our regression analysis.

In our analysis we use the same regression model separately for Northern countries and for Southern countries.

To decide the panel model, i.e., whether the model is a Fixed Effects model or a Random Effects model, the Hausman Test was used; the results for the Northern countries are shown below.

Coefficients				
	(b)	**(B)**	**(b-B)**	**sqrt(diag(V_b-V_B))**
	fe	**re**	**Difference**	**S.E.**
InSales	1.15149	0.65095	0.5005402	1.748957
grsales	-0.0164488	-0.00727	-0.0091823	0.0086731
wgshare	0.139905	-0.43783	0.5777371	0.8319551
advint	21.15674	3.55383	17.60291	14.43498
pfty	-0.0180406	-0.03746	0.0194202	0.0396958
expint	0.1269308	1.391804	-1.264873	4.080188
impint	-4.838898	-2.50031	-2.33859	5.735938

b = consistent under Ho and Ha;
B = inconsistent under Ha, efficient under Ho;

Test: Ho: difference in coefficients not systematic

$chi^2(7)$ = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 5.29
Prob>chi^2 = 0.6244

Based on the above results we reject the null hypothesis and accept it as a random effects model.

After deciding the model to avoid heteroscedasticity, we took the robust estimation of the standard error and obtained the results below:

R-sq: within = 0.0292
between = 0.3218
overall = 0.1914
Random effects u_i ~ Gaussian Wald chi^2 (8) = 7311.41
corr(u_i, X) = 0 (assumed) Prob > chi^2 = 0.0000

Robust						
InFDI	**Coef.**	**Std. Err.**	**z**	**P>|z|**	**[95% Conf. Interval]**	
InSales	0.65095	0.238045	2.73	0.006	0.18439	1.117509
grsales	-0.00727	0.008512	-0.85	0.393	-0.02395	0.009417
wgshare	-0.43783	0.655926	-0.67	0.504	-1.72342	0.847758
advint	3.55383	4.9103	0.72	0.469	-6.07018	13.17784
pfty	-0.03746	0.022986	-1.63	0.103	-0.08251	0.007591
expint	1.391804	0.638609	2.18	0.029	0.140153	2.643455
impint	-2.50031	0.783302	-3.19	0.001	-4.03555	-0.96506
cons	6.37225	1.347217	4.73	0	3.731753	9.012747

sigma_u = 0.4872547
sigma_e = 0.85442281
rho = 0.24540369 (fraction of variance due to u_i)

From the above analysis it is observed that the coefficients of *size of the sector* and *export intensity* are positive and strongly significant, whereas the coefficient of *profitability* is negative and weakly significant. This indicates that while firms are more inclined to invest in the larger sector, higher profitability is considered a negative force for FDI inflows into the sector. One possible reason for the negative impact of profitability could be that investors think the sector has matured enough.

At the same time, from the results above, we observed that *import intensity* is negatively related with FDI inflows into the sector, i.e., a sector that needs to import raw material and other factors of production to run the unit de-motivates foreign investors. One reason why import intensity has a negative coefficient may be that the period of our FDI analysis (2005-2007) represents a period when FDI had stabilized; this was a period when customs duties had come down to reasonable levels, reducing the advantage of domestic production because of tax peaks.

From the above results we can conclude that foreign investors want to invest in a larger sector and one that has greater scope for export, but are not interested in investing in a sector where the operations are dependent largely on the import of factors of production. The positive impact of export orientation and the negative impact of import intensity show that investors are not biased towards the domestic market.

4.6. FDI from Southern Countries

Selection of the panel model for the Southern countries followed the same procedure as the one used for the Northern countries, i.e., a Hausman test was used that produced the following results:

Coefficients				
	(b)	**(B)**	**(b-B)**	**sqrt(diag(V_b-V_B))**
	fe	**re**	**Difference**	**S.E.**
InSales	0.4114673	0.430768	-0.0193007	1.371828
grsales	0.0049666	0.0105013	-0.0055347	0.0059208
wgshare	0.0085555	-0.6959141	0.7044695	0.5995826
advint	6.491434	6.476248	0.0151861	13.57066
pfty	0.0256415	-0.0111768	0.0368183	0.0285125
expint	-0.0413288	1.211494	-1.252823	3.71462
impint	-0.5897262	-1.980762	1.391035	4.576288

b = consistent under Ho and Ha;
B = inconsistent under Ha, efficient under Ho;

Test: Ho: difference in coefficients not systematic

$chi^2(7) = (b-B)'[(V\_b-V\_B)^{(-1)}](b-B)$
$= 7.94$
$Prob > chi^2 = 0.3383$

Based on the above results, we reject the null hypothesis and accept it as a random effects model.

After deciding the model to avoid heteroscedasticity, we took the robust estimation of the standard error and obtained the results below:

R-sq: within = 0.0266
between = 0.3359
overall = 0.2197
Random effects u_i ~ Gaussian Wald $chi^2(8)$ = 8970.69
corr(u_i, X) = 0 (assumed) Prob > chi^2 = 0.0000

Robust						
InFDI	**Coef.**	**Std. Err.**	**z**	**P>|z|**	**[95% Conf. Interval]**	
InSales	0.430768	0.2139693	2.01	0.044	0.0113959	0.8501401
grsales	0.0105013	0.0063711	1.65	0.099	-0.0019858	0.0229883
wgshare	-0.6959141	0.9003507	-0.77	0.440	-2.460569	1.068741
advint	6.476248	5.181633	1.25	0.211	-3.679567	16.63206
pfty	-0.0111768	0.0145521	-0.77	0.442	-0.0396984	0.0173448
expint	1.211494	0.6299099	1.92	0.054	-0.0231063	2.446095
impint	-1.980762	0.9465726	-2.09	0.036	-3.83601	-0.1255134
_cons	7.007972	1.166922	6.01	0.000	4.720847	9.295097

sigma_u | .46522371
sigma_e | .62600888
rho | .35578811 (fraction of variance due to u_i)

In the above analysis, the coefficients of *size of the sector, growth of the sector* and *export orientation* are positively related, i.e, greater the size of the sector and the greater the scope for export, the higher the volume of FDI inflows into that sector, whereas, coefficient of *import intensity* is negatively related, i.e., the need for imported raw material reduces the volume of FDI inflows into the sector. The positive impact of *export orientation* and the negative impact of *import intensity* indicate that, like investors from the North, investors from the South are also not biased towards the domestic market and their investment is not exclusively driven by domestic demand.

The positive coefficient of *growth of the sector* indicates that FDI from the South is more inclined towards a growing sector. Investors from the South assume that future returns are more secure in the growing sector. Therefore, larger sectors and sectors that are expanding along with greater scope for export attract greater volumes of FDI from the South. At the same time, sectors that require imported raw material for production are less attractive to investors from the South.

From the above two sectoral analyses we can conclude that investors from both Northern and Southern countries are interested in investing in sectors that are larger and offer scope for export. While Southern firms are also interested in considering growing sectors for investment, Northern firms do not consider the growth of a sector as an important determinant of FDI. Despite the general consensus about the positive impact of profitability, our analysis shows that higher *profitability*[6] reduces the volume of FDI from the North, whereas investors from the South do not

[6] Profitability shows a weak relation.

consider profit as a factor for investment in India. This also indicates that investors from the South are willing to take more risk than their counterparts from the North.

5. Conclusion

Over the years both inward and outward FDI from the South is increasing significantly and catching up with inward FDI sourced from the North. Although inward and outward FDI activities with Northern countries are less concentrated, outward FDI towards the South is more concentrated than that towards the North. While FDI sourced from the South is increasing along with the increase of FDI inflows from the North, the predominance of the US is declining both in inward and outward FDI activities in relation to India. Indian investors are finding more willing allies in Singapore, the Netherlands and other countries. But we have not observed any such changes in dominance in the Southern region.

Although country profile has undergone a change, the sector profile remained unchanged with some sectors able to attract more FDI than other sectors. From our econometric analysis we found that FDI from both the South and the North are export-oriented sectors.

We also find that sectors with lower import intensity attract greater FDI from both the North and the South. Moreover, we found that larger sectors attracted higher FDI from the North and the South. But interestingly FDI from the South is seen to flow into more dynamic/ growing sectors, whereas FDI from the North does not show such indications. This is the major difference we observed between FDI from the North and from the South.

Our broad conclusion is that although there is not much difference between FDI from the North and from the South (both being concentrated in sectors with larger markets, higher export orientation and lower import intensity), Southern FDIs appear to flow more into growing sectors while FDI from the North do not show such indications.

Ultimately, however, it is at the firm level where one needs to identify the factors that inhibit/attract FDI. As a part of this study, we attempted a firm-level analysis based on a detailed survey commissioned by a market research agency. However, the quality and quantity of information obtained from this commissioned survey was far from satisfactory and did not permit any rigorous statistical analysis to arrive at robust conclusions. Some of the indicative descriptive findings are reported in the Appendix. Broadly, we have found that *excessive government bureaucracy, corruption and competition policy* are cited to be the most damaging factors that hinder inward FDI.

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Appendix

Firm-Level Analysis

Our firm-level analysis is based on survey data and divided into two parts– one part deals with the inward FDI firm and the other part with outward FDI. We have used descriptive analysis to analyze the performance and the problems of FDI and O-FDI firms.

A. Data Collection

Since there is no secondary source of information regarding FDI activities of firms and companies, IMRB International surveyed a total 93 FDI firms operating in India and abroad based on a questionnaire prepared by Edge Institutions. Since our goal was to capture all the factors that influence or hinder FDI activities in India, the questionnaire became very long and the incorporation of all those made questionnaire large enough. Despite the fact that questionnaire was made with great caution and care, still there was a scope to reduce the number of questions. The target interviewees were CEOs and Directors of firms/companies so that we could gather authentic information; however, it was extremely difficult to get appointments with senior management. Another problem was the high staff attrition rate due to the pressures and demands in the industry; many CEOs and Directors had been with the organization for only a short period, and could not provide information. Short time associations of CEOs and Directors with their firms/ companies always force them to think forward and thus it is improper to ask them to provide information prior to his date of joining the organization.

Despite these limitations, we were able to collect data for **58** inward FDI firms and **35** outward FDI firms.

B. Firm Level Analysis: Inward Firms

B.1. Entity in India

Of the 58 inward FDI firms we interviewed, most of the entities' ownership is with a parent firm; for a few firms ownership is distributed between the parent and Indian private sector partner(s). For 33 entities more than 50% ownership is with the parent firm and, among those, for 28 entities parent firms have 100% ownership, whereas for 6 entities more than 50% ownership is with Indian private sector among which 4 have 100% ownership with the Indian private sector.

Before investing in India 14 parent companies used to export their products through sales/ representative offices in India, whereas 29 were not conducting such activities in India and 13 firms remained silent on this point. Therefore, a large number of firms did not have any prior experience of doing business in India.

Inward FDI firms have certain purposes like selling the finished products, producing components/semi-processed items which it sells to the parent or another entity in the group, assembling inputs to produce a product, and distribution via the parent's distribution network. Of the **58** companies, **12** firms said that their main purpose within the group was to sell products most of which were supplied by the parent; **3** firms produce components/semi-processed items which it sells to the parent or another entity in the group to use in production activities; **4** firms

produce products by assembling inputs (components or semi-processed items) supplied by the parent or another affiliate; **2** firms distribute their output via the parent's distribution network outside India and the parent's home economy; **10** firms produce and sell some or all of the same products/services to the parent; **4** firms produce products/services different to those of the parent; **8** firms say they are part of a network of companies which share functions such as finance, marketing, technology or R&D (but are not linked by franchises); and **1** firm holds a franchise issued by the parent.

After finalizing their purpose in investing abroad, firms try to meet their pre-defined goal and objectives. When we considered the productivity level, we found that 80% of the firms were able to meet or exceed the parent firm's pre-defined goal. This indicates that the productivity of FDI firms operating in India is as expected by their parent firms. However, productivity is not the sole factor that a firm needs to consider; revenue generation is also important. In this regard 79% firms were able to meet the target pre-defined by parent firms and only 2% are falling short of the target. Sometimes firms invest abroad to increase their profits. Regarding profitability, 77% of the firms were able to either meet or exceed the target. Again 70% firms were able to meet the targeted market share and only 7% are yet to meet the target. Some of the entities are operating in India to export their products to other countries with a target volume. In this case 14% firms are falling short of their pre-defined targets, whereas 46% of the firms were either exceeding or far exceeding the target.

One of the important targets is to introduce new products in India in order to expand the parent company's market share. 75% of the firms were able to meet their parent firm's pre-defined targets in this regard. The introduction of a new product may not indicate that the product is new to the market or that it does not have a substitute; hence, there may be price competitiveness. 72% of the firms were able to meet the price competitiveness target pre-defined by parent firms.

The above discussion shows that entities have different pre-defined targets set by the parent firm and most of the firms were able to meet that target.

B.2. Entity's Performance: Comparison with the Parent Firm

From the above analysis it seems that the majority of the entities are performing well and meeting the pre-defined target set by the parent firm. There are a number of factors responsible for the performance and capability of entities. These factors may have a different degree of impact on the entity and on the parent firm. A comparison will help us understand the factors that have a greater impact on the entity than the parent firm. Since performance of an entity depends on a numbers of factors we will analyze those which are more directly related to the performance of entities.

The table below shows the percentage distribution of total entities' performance rank on the basis of their parent firm. In almost all aspects, a high percentage of entities are performing on par or better than their parent firm. But there is a comparatively higher percentage of entities performing below their parent firm in the case of *revenue or turnover growth* and earning *profitability*.

Table B1: Performance of Entities in Comparison with Parent Firm (in Percentage form)

Performance Ranked by Entities	Production	Innovation	Skilled	Semi-Skilled	Profitability	Export Performance	Price Competitiveness	Revenue
Below	7	9	7	2	21	10	10	17
On par	26	24	26	36	16	21	33	16
Above	33	41	41	36	38	17	22	43
Can't say	34	26	26	26	26	52	34	24
Total Percentage	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Since most of the firms are able to meet the goal pre-defined by their parent firms but their performance remains below that of their parent company, we can conclude that in the initial stages parent firms set lower targets for their entities, but expect them to grow in future.

B.3. The Parent Company and Its Relations with the Entity in India

Better performance of an entity increases its turnover and thus its share in the group's global turnover. The table below shows the percentage distribution of interviewed entities that have a different percentage share of the group's global turnover. The table shows that 53% of the entities have 0-25% share of the group's global turnover, whereas 7% of the entities are 76-100% share in the group's global turnover.

Table B2: Distribution of Staff Turnover

Percentage of Total Turnover	Distribution of Entities (%)
0-25%	53
26-50%	7
51-75%	2
76-100%	7
Did not answer	31

The global turnover of a group can be increased if its money is spent on R&D, advertising and marketing, and employee training. The table below shows the percentages of global turnover spend on these activities. More than 50% of the entities were not able to provide information in this regard and, among the rest, a higher percentage of total entities spend 0-25% of their global turnover on R&D, advertising and marketing, and employee training.

Table B3: Distribution of Global Turnover Spend by Entities

Percentage of Global Turnover Spend	R&D	Advertisement	Employee Training
0-25%	38	38	40
26-50%	7	5	3
51-100%	3	0	2
Did not answer	52	57	55

B.4. Impact of the Entity on the Parent

An entity spends on R&D, advertising and marketing, and employee training to increase its efficiency which will have an impact on the parent as a group member. The table below shows that 36% of total entities contribute to group profitability through profit and dividend, 28% contribute by enhancing competitiveness via lower input costs, and 33% contribute by gaining experience of operating in India which in turn improves the group's production/operational capabilities.

Table B4: Most Important Impact of the Entity on the Parent

Statement of Impact of Entity on the Parent	% of Total Entities
Profit & Dividend	36
Lower Input Cost	28
Experience of operation in India	33
Access to developed countries	14
Access to developing countries	19
Improved management capabilities	24
Increased production capabilities	16
Lowered overheads per unit output within the group	14
Increased awareness	40
New technology	9
Improved quality	2
Others	3

B.5. Operating Environment for Business in India

Apart from the entity's own capability, other factors are responsible for the entity's performance in India. These factors can be grouped as socio-political factors and economic factors.

B.5.1. Socio-Political Factors

Socio-political factors include corruption, government corruption, hostility and bureaucracy. Our survey showed that a high percentage of entities identified *Corruption of Business People, Corruption of Government Officials, Government Bureaucracy* and *Inconsistent Enforcement of Policy, Rules and Regulation* as factors that cause difficulties in their activities.

Table B5: Percentage distribution of total Entities Interviewed considering most damaging factors for their performance

	Corruption	Govt Corruption	HIV/ TB etc	Public Hostility to Foreign firm	Public Hostility to Business Sector	Political Uncertainty
Causes no Difficulty at all	16	14	53	48	52	29
Causes Difficulty	67	67	28	33	29	53

	Govt Bureaucracy	Industrial Relation	Policy Enforcement	Crime Level	Public Disorder	Natural Factors
Causes no Difficulty at all	12	38	22	38	31	40
Causes Difficulty	71	45	62	47	52	43

B.5.2. Economic Factors

Economic factors can also impact the performance of entities. While entities were asked to rank the top three damaging factors, 21%, 41% and 22% of the entities identified *Competition Policies, Procedure for Operational Licenses* and *Import Restrictions* as the most damaging factors that hinder their performance as shown in the table below.

Table B6: Most Damaging Factors that Hinder Entity's Performance

	Competition Policy	**Procedures for Operational Licenses**	**Import Restrictions**
% of Total Entities	**21**	**41**	**22**

These economic factors also have an impact on Indian-owned entities. If Indian entities are treated differently, they have a comparative advantage over others. Our survey shows that a significant number of entities surveyed believe that Indian entities are treated better in the provision of operational licenses and in dealing with competition policies.

Table B7: Entity's Perception Regarding Treatment Received by Indian-Owned Firms

Rank	**Competition Policy**	**Procedures for Operational Licenses**	**Import Restrictions**
Worse	1	1	0
Same	5	12	10
Better	6	10	3
Total	**12**	**23**	**13**

B.5.3. Labor Issues

Since an entity's performance depends on the supply of labor, it is important to know whether the entity is able to hire local staff at acceptable quality and salary levels. The table below shows the availability of different categories of staff.

Most entities said that all types of staff are available, but a few entities revealed that appropriate staff for the category of *executive manager* and *skilled /technical labor* is rarely or never available. This shows that in India, even when there is no problem of manpower supply in general, a few entities found it difficult to employ appropriate staff.

Table B8: Number of Entities Ranked Staff Availability

Availability	Executive Managers	Professionals	Operational Managers	Skilled/ Technical Labor
Never	1	0	0	1
Rarely	8	2	3	5
Sometimes	5	12	12	12
Mostly	17	15	16	15
Readily	20	22	20	11
Did not answer	7	7	7	14
Total	**58**	**58**	**58**	**58**

Although different categories of staff are mostly available to entities, there is the possibility of high staff turnover due to competition in the industry. The table below shows the number of entities with different average annual rate of staff turnover during the past three years, i.e., percent of normal staff complement who left the entity. From the table it is clear that the annual rate of staff turnover is moderate for all categories of staff for a large number of entities.

Table B9: Average Annual Rate of Labor Turnover

Average Annual Rate of Staff Turnover	Executive Managers	Professionals	Operational Managers	Skilled/ Technical Labor
0-25%	34	33	32	25
26-50%	2	6	3	6
51-75%	0	0	1	1
76-100%	0	1	0	0
Did not answer	22	18	22	26
Total Number of Firms	**58**	**58**	**58**	**58**

It is also true that while different entities have different rates of staff turnover, it may be problematic for some firms to retain their staff. 41% of the entities confirmed that they have a problem retaining staff, whereas 43% of the entities do not consider it a problem.

Since a significant proportion of total entities find it difficult to retain staff, they have means to try to retain their staff. The table below shows the number of entities using means to retain staff. The most popular means among the firms is to *increase remuneration & benefits of existing employees,* whereas *recruitment of managers or specialist in Indian labor market*, *Transferring expatriate to India* or *Recruitment of managers from third Country* are not popular solutions.

Table B10: Number of Entities Using Means to Retain Staff

Rank	Increased Remuneration	Promotion & Training	Aggressive pursuit of employees of other firms	Recruitment of managers/specialists in the Indian labor market	Transferring expatriate to India	Recruitment of Managers from 3rd country
1	14	4	2	0	0	0
2	4	7	2	3	1	0
3	1	5	5	0	2	0
Can't Say	39	42	49	55	55	58
Total	**58**	**58**	**58**	**58**	**58**	**58**

Other than staff turnover, industrial and labor factors may be important to an entity's effective performance in India.

Since increased remuneration is a popular method of retaining appropriate staff, it is important to know whether or not they have an explicit policy. The survey results show that 50% of the total entities surveyed do not have any such policy and 15% of the entities remained silent in this regard, whereas 35% of the affiliates have an explicit policy of paying a premium above the wages of its competitor firms in the industry so as to secure appropriate staff.

The entities provide different premium for different categories of staff as a percentage of the Indian-owned competitor's wages in India. The table below shows that the percentage mostly varies from 0-50%, but one entity provides a premium of more than 100% of the wages offered by Indian-owned competitors.

Table B11: Number of Entities Providing Premium to Retain Staff

Percentage of Premium	Executive Managers	Professionals	Operational Managers	High skilled	Semi-Skilled Labor
0-25%	11	10	9	7	6
26-50%	2	2	2	4	0
51-75%	0	0	1	1	0
76-100%	0	0	0	0	0
Above 100%	0	0	0	1	0
Did not answer	45	46	46	45	52

Entities have mixed perceptions about industrial and labor issues. The table below shows that while greater percentages of total entities believe *legislation regulating hiring and firing conditions*, *legislation on working conditions*, *trade unions right to organize and strike* and *preferential hiring for specific group* have either a neutral effect or are somewhat conducive for the performance of entities, a significant proportion of entities prefer to remain silent on these issues.

Table B12: Percentage of total Entities Considering Industrial & Labor Factors

Ranking	Hiring & firing Conditions	Working Conditions	Trade Unions	Affirmative Actions/ Preferential Hiring	Other Issues
Negative Effect	12	7	9	5	0
Neutral Effect	16	19	19	21	7
Conducive	28	28	21	26	9
Did not answer	45	47	52	48	84
Total Percentage	100	100	100	100	100

C. Firm Level Analysis: Outward Firm

To analyze the performance of outflows of Indian FDI, we surveyed 35 FDI firms most of which are operating in multiple sectors. Among these, the largest number of companies operate in the financial and software sectors. Other than these sectors, firms in the industrial instruments and chemical sectors also invest abroad. This implies that even when firms are operating in a variety of sectors, the inclination is towards the service sector.

Other than India, parent firms also operate in a number of countries. 13 firms out of 35 firms operate only in Northern countries, 5 firms operate only in Southern countries, and 17 firms operate in both Southern and Northern countries (of which 6 firms have a larger number of affiliates in Northern countries, 5 have a greater number of affiliates in Southern countries, and 6 firms have an equal number of affiliates in Southern and Northern countries). Our survey also shows that the US, Dubai and UK head the list of countries. This implies that Indian firms offering services or producing high-end products or services find customers more easily in the rich countries.

Firms/companies which have invested abroad can expand their operations by investing in the home country. Although a large number of firms did not disclose their investment decisions, our survey reveals that 69% of the total firms interviewed invested by establishing a new plant and 17% of the firms acquired at least 10% of another India-based company.

There are some constraints that prevent parent firms from investing in India. Our survey results show that 29% of the firms recognized slow economic growth as one of the most important factors that prevents them from investing in India. Most interestingly when 23% firms pointed out that *intensified competition* in the product markets in India is a major constraint in investing; other 20% firms believe that *market size* is a major constraint for investment in India. This group contains firms from the health, financial and engineering sectors. Despite the fact that these sectors have a big market as a whole in India, firms are targeting a specific segment of the market which can be small enough to influence firms to invest further in India. Again, 20% of the firms pointed to insufficient presence of key suppliers of input as another factor constraining their parent firm's investment in India.

Despite these problems only 4 firms out of the total firms interviewed started operating in other countries either after reducing or closing production in India. Our survey shows that 37% of the total firms interviewed believe that they have a comparative advantage over others because of their superior technology, whereas 34% and 31% believe in the same when they invest in other developing countries and developed countries, respectively. It is also interesting that while 31% of the firms believe that skilled personnel is their important asset when investing in Asia, only 14% of the firms believe in the same when investing in other developing countries or developed countries.

Investments made by these firms are mainly greenfield investments. 46% of the total parent firms interviewed have newly established operations that are fully owned by the parent, whereas 23% of the firms are in a joint venture and 14% are franchises (where firms use the parent's brand/technology but is not owned by the parent).

Before investing in other countries 46% of the total parent firms used to buy, sell or license products/technology/brands/other assets in the host countries. Most of the firms in this group used to sell licenses for production /distribution of technology and for product brands, whereas another 46% of the firms were not involved in such activities. Regarding the sources of information about the host economy, most firms remained silent, while 46% of the firms revealed that they have acquired information through the research done by the parent itself.

C.1. Performance of Outward FDI firm

Firms enter into the host country with a variety of motives and it is important to know the outcome of those of motives for further investment. 60% of the total parent firms entered the host country with an intention to access the local market out of which 37% were able to perform above the expected level. Only 11% of the total firms believe access to natural resources is above the expected level.

At the time of entry 57% of total affiliates interviewed were able to meet the productivity level targets pre-defined by the parent whereas 71% were able to meet their revenue targets and 72% of the total affiliates interviewed were able to meet their profitability targets. At present, 65% of the affiliates are able to meet the productivity level targets pre-defined by the parent and 80% of the affiliates were able to meet the revenue target set by the parent. This indicates that initially affiliates focused on increasing productivity levels rather than revenue generation.

C.2. *Factors Responsible for Affiliate's Performance: Comparison with the Parent Company*

A number of factors are responsible for the affiliate's performance in comparison with the parent firm. The table below shows that today most of the affiliates are performing either on par or better than their parent firms. The better performance of the affiliates could be due to their research for the host country market.

Table C1: Affiliate's Performance in Comparison with Parent Firm (percentage Distribution of Total Affiliates Interviewed)

	Production	Distribution of Product	Marketing	Management	Skilled labor	Semi-skilled labor	Revenue	Profitability	Export Performance	Price competitiveness
Below	3	0	0	0	0	0	3	9	6	0
On Par	17	14	29	20	20	17	29	23	17	17
above	43	54	40	54	49	43	43	43	34	51
Can't Say	37	31	31	26	31	40	26	26	43	31
Total	100	100	100	100	100	100	100	100	100	100

C.3. Problems that Affiliates Face While Operating in the Host Country

Despite the fact that most affiliates are performing better than the parent company, various social, political and economic factors hinder their performance. The following two tables show the percentage distribution of total affiliates interviewed who faced difficulties at the time of entry and encounter them at present.

C.3.1. Socio Political Factors

Table C2: Socio-Political Factors Responsible for Affiliate's Activities During Entry

	Corruption of Business People	Corruption in the Govt	HIV/AIDS	Public Hostility to Foreign Firms	Hostility to Business
Difficulty	60	54	43	49	49
No Difficulty	17	20	31	26	29
Can't Say	23	26	26	26	23
Total	**100**	**100**	**100**	**100**	**100**
	Political Uncertainty	**Govt Bureaucracy**	**Labor Relation**	**Policy Enforcement**	**Crime Levels**
Difficulty	57	66	51	57	57
No Difficulty	17	11	23	20	20
Can't Say	26	23	26	23	23
Total	**100**	**100**	**100**	**100**	**100**

Table C3: Socio-Political Factors Responsible for Affiliate's Activities Now

	Corruption of Business People	Corruption in the Govt	HIV/AIDS	Public Hostility to Foreign Firms	Hostility to Business
Difficulty	60	51	46	49	54
No Difficulty	20	31	34	31	29
Can't Say	20	17	20	20	17
Total	**100**	**100**	**100**	**100**	**100**
	Political Uncertainty	**Govt Bureaucracy**	**Labor Relations**	**Policy Enforcement**	**Crime Levels**
Difficulty	54	63	54	46	57
No Difficulty	26	17	26	37	26
Can't Say	20	20	20	17	17
Total	**100**	**100**	**100**	**100**	**100**

A comparison of the two tables shows that during entry 66% of total affiliates considered excessive government bureaucracy as a difficulty and now that has been reduced to 63%. Corruption of government officials is seen as a difficulty by 54% of the total affiliates interviewed at the time of entry and now the percentage has been reduced to 51%, whereas the

percentage of total affiliates interviewed who considered corruption of business people as a difficulty remained the same at 60%.

C.3.2. Economic Factors

Availability of human resources is considered as conducive to activities by 49% of the total affiliates interviewed at the time of entry which has increased to 60% at present; at the same time, the percentage of total firms who consider human resources as problematic increased to 11% from 9% at the time of entry. One important factor that enhances affiliate's activities is communication infrastructure; 51% of the affiliates considered it conducive to their activities at the time of entry and now the percentage has increased to 57%. During entry the financial and banking system infrastructure was considered as conducive by 40% of total affiliates interviewed; now 60% of the affiliates find it conducive.

Table C4: Factors Responsible for Affiliate's Activities (at Entry)

	Professional Service	Human Resources	Communication Infrastructure	Financial & Banking System
Problematic	6	9	3	6
No Difficulty	49	20	23	31
Conducive	23	49	51	40
Can't Say	23	23	23	23
Total	100	100	100	100

Table C5: Factors Responsible for Affiliate's Activities (Now)

	Professional Service	Human Resources	Finance Availability	Communication Infrastructure	Financial & Banking System
Problematic	6	11	0	3	3
No Difficulty	31	14	34	26	23
Conducive	46	60	49	57	60
Can't Say	17	14	17	14	14
Total	**100**	**100**	**100**	**100**	**100**

From the above analysis it is clear that the factors which usually hinder affiliate's performance are conducive for most of the affiliates operating in host countries. Presence of these conducive factors coupled with the improvement of the socio-political environment created a favorable situation for Indian investors in the host countries.

C.4. Working and Living Condition in the Host Country

One important factor responsible for affiliate's activities is a skilled labor force. To employ skilled staff it is important to have a good working and living conditions in the host country. However, a good production environment or the presence of other conducive factors may not

help if the firm fails to employ skilled staff because of poor working and living conditions. The table below shows that a high percentage of the total affiliates interviewed identified availability of appropriate housing, crime levels, availability of education, healthcare facilities and general quality of life as difficult factors to deal with.

Table C6: Standard of Working and Living Condition Ranked by Affiliates

Degree of Difficulty	Availability of Appropriate Housing	Crime Level	Availability of Education	Availability of Healthcare	General Quality of Life
Difficulty	57	51	49	57	60
Not a Difficulty	11	17	23	14	11
Did Not Answer	31	31	29	29	29
Total	100	100	100	100	100

C.5. Regulatory Process by the Host Country Government

The regulatory process by the host country government is another important factor that a firm considers while operating in foreign countries. The regulatory process can damage the effectiveness of affiliates. There are a number of regulatory processes and we consider those that are directly related to affiliates' activities.

The table below shows the most damaging factors identified by affiliates. A high percentages of the total firms interviewed confirmed that competition policy/price regulation, banking and accounting standards and local content requirements are the most damaging factors in the host countries. When asked whether the host-owned firms are treated differently, most of the firms did not respond.

Table C7: Most Hindering Factors for FDI Activities

	Competition Policy	Banking	Operational License	Safety Standards	Environmental Standards	Import Restriction
% of Total Firms Interviewed	23	29	17	14	20	9
	Profit Repatriation	**Work Permits**	**Export restrictions**	**Foreign Currency Restrictions**	**IPR**	**Real estate**
% of Total Firms Interviewed	9	20	11	9	11	11

C.6. Innovation and Technology Transfer

One of the main reasons of expanding operations in other country is to get the maximum benefit from the technology owned by the parent firm. A parent firm usually transfers its innovation and R&D output to the affiliates to enjoy the comparative advantage in the host country. This indicates that scope for greater activities and hence the performance of affiliates in the host country also depends on the technology owned by the parent company.

Our survey shows that 46% of the parent companies introduced new products or processes, whereas 54% of the companies did not answer in this regard. Here we are considering that the product or process is new to the companies although it may not be new to the market or to other firms.

Since the acquisition of products or processes can happen from different sources, it is important to know from where parent companies receive these product or process technology. Our survey shows that 37% of the total parent firms interviewed obtained technology internally through its own R&D, 14% got it jointly with another company not associated with the group, and 3% purchased it via patent/license from the Indian company; the rest of the companies did not respond. This indicates that one of the main sources of product or process technology is the parent firm's own R&D unit or from the group.

After obtaining the product or process technology, the parent firm transfers it to its affiliates. It is important to know whether this technology is the best technology available globally. The survey shows that for 63% of the total parent companies interviewed have superior technology, whereas 20% of the parent companies have technology that is comparable to the best technology available globally.

C.7. Mode of Transferring Technology

After spending on R&D, the parent firm has to transfer this technology to its affiliates. It can be done in different ways. The table below shows that companies mainly prefer to transfer technology through formal documentation of technology and temporary staff placement for mentorship or training. Companies also transfer technology through the permanent transfer of staff from the parent or group to the affiliate and through regular short visits by parent/group staff to the affiliate.

Table C8: Mode of Transfer of Technology

	Permanent staff transfer	Temporary staff transfer	Classroom-based training	Workshop	Ad hoc transfer	Regular short term	Formal documentation
Total	11	12	3	7	3	11	13

C.8. State of Technology in Affiliates

When parent firms spend to acquire new technology for new products and transfer it to its affiliates, over time the level of technology used by affiliates may vary from that of parent

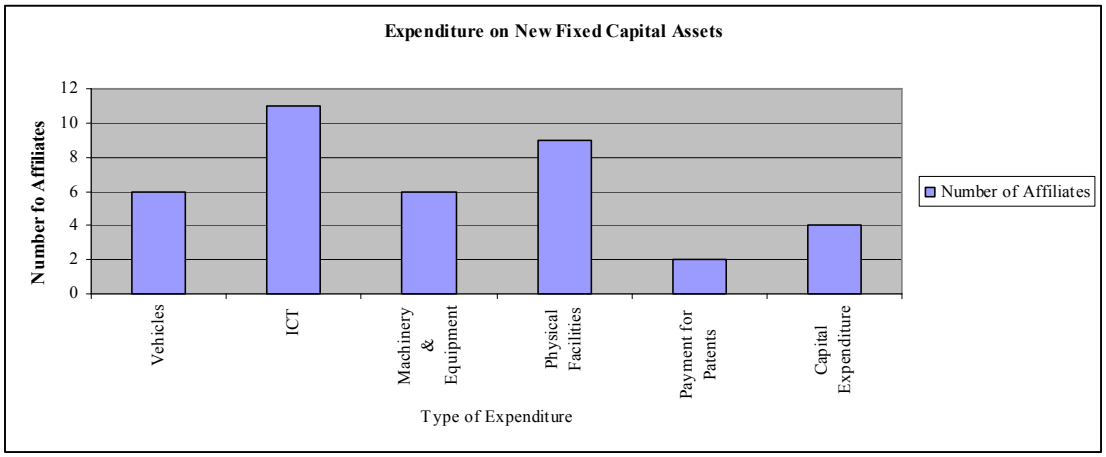
companies. It is important to know the level of technology available to affiliates compared to its parent and the best technology available globally. Our survey shows that 46% of the affiliates have technology that is at par or superior to their parent firm's and the best technology available globally.

At the time of entry, 52% of the affiliates either had production technology that was at par or superior to their parent; now, this percentage is 51%. In the case of superior new products or services, the percentage of affiliates remained constant at 49% from the time of entry. This indicates that despite the fact that at the time of entry almost all affiliates had technology on par or better than that of their parent companies, over time the percentage of affiliates that have better technology remained unchanged.

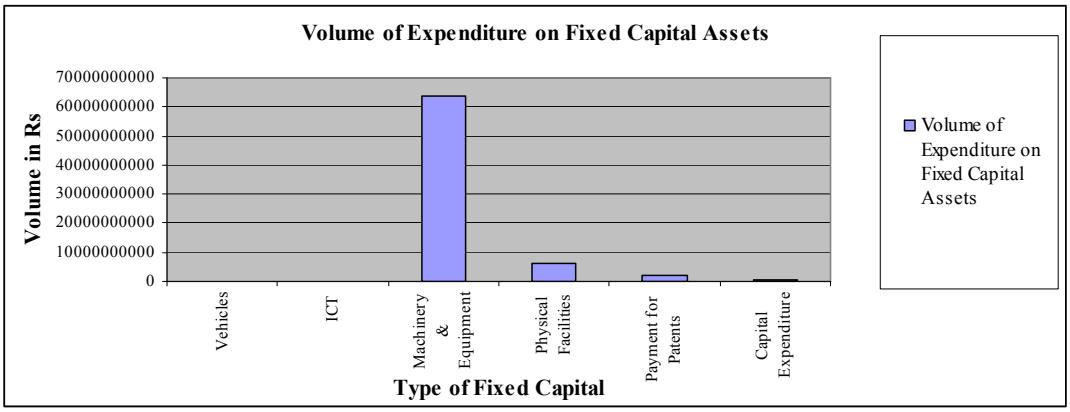
C.9. Financial Performance of Affiliates

This is one area where firm-level analysis is difficult because of non-availability of data. Despite this difficulty our survey shows that affiliates have number of sources to be financed. Since it is difficult to get financial data at the firm level, we have taken information only for the past three years. It shows that 23% of the affiliates are financed by parent companies. When finance is provided by the parent, it is raised mainly by using instruments of equity or venture capital and bank loans from the Indian market or from the host market.

After obtaining finance from different sources, parent firms spend for different capital assets. Most companies spend on ICT development, physical facilities, vehicles, and machinery and equipment. Therefore, it is expected that a large share will go to these categories.

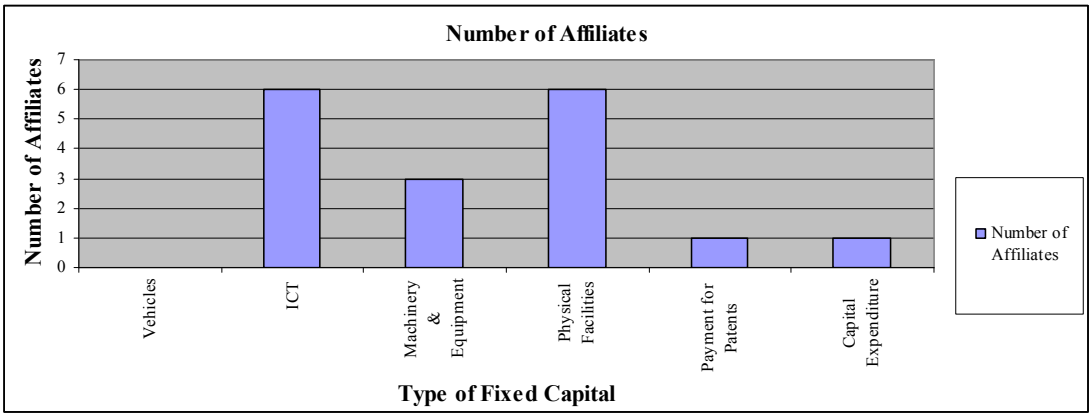


Surprisingly, when the total amount was calculated we found that parent firms' expenditure for new fixed capital assets mainly goes towards machinery & equipment (except for vehicles and computers) compared to which expenditure for other fixed capital assets is very small. The second major share goes to physical facilities. Expenditure on ICT development and vehicles is comparatively small.

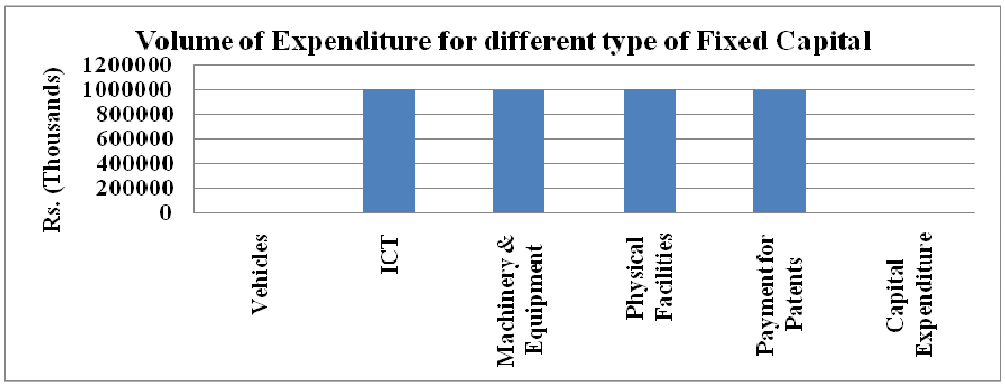


C.10. Expenditure by Affiliates

While a large share of the total expenditure for fixed capital by parent firms goes on machinery and equipment, the maximum number of affiliates spends on building road drainage system (physical facilities) and ICT infrastructure development.



The volume of expenditure on fixed capital assets by affiliates is not much different from the way the parent firm spends on fixed capital assets. While the maximum number of affiliates spend on ICT, physical facilities, and machinery and machine tools, the volume of expenditure remains almost equal for each of these categories and also for the payment for patents.



C.11. Labor Force Working

Affiliates operating in a host country hire their staff from the host country and thus it is important to know whether affiliates can employ quality staff from the host country. 63% of the affiliates confirmed that quality executive managers are readily available in the host country, whereas according to 23% of the affiliates it is either available sometimes or rarely available.

Regarding professionals, 63% of the affiliates confirmed that they are readily available in the host country, whereas regarding operational managers 54% said that they are readily available and 29% confirmed that sometimes they are available. Regarding skilled or technical staff 57% of the affiliates confirmed that they are readily available in the host country, whereas 20% confirmed they are available sometimes or rarely available.

Despite the fact that different categories of staff are more or less available in the host country, 31% of the affiliates confirmed that they have a policy of paying a premium above the wages of their competitors in the host country so as to secure appropriate staff.

Aaffiliates who have confirmed that they have a premium policy for recruiting staff are providing different premium size to different staff category. There are 29% of the affiliates who offer different percentage of premium for different category of staff and none of the category gets more than 50% of competitors' wage.

D. Conclusion

To understand the performance and especially the problems of FDI and OFDI firms, we have done separate firm-level analyses for inward and outward FDI firms. From the firm-level analysis we found that inward FDI firms identify excessive government bureaucracy, corruption and competition policy as the most damaging factor that hinder FDI activities. This indicates that a simpler procedure may help to increase the FDI activities of inward firms and thus attract more FDI. Therefore, we can say that one of the major problems in attracting FDI is the delay in processing due to excessive bureaucracy.

In the case of outward FDI, we found that Indian firms are also investing abroad for a comparative advantage. While operating in the host countries, Indian firms also face certain problems. Affiliates operating in the various host countries pointed out that corruption, government bureaucracy and the standard of the financial and banking system cause problems in their activities. Alongside, we observed that information regarding host countries is supplied mainly by the sales representative of the parent firm in that country. In addition to the host country government, if the home country government also provides information and promotes firms to invest in other countries, it may serve the purpose.

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