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Location Determinants of Indian Outward Foreign Direct Investment: How Multinationals Choose their Investment Destinations?

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Abstract

This paper seeks to examine the location determinants of foreign direct investment (OFDI) considering the case of Indian Multinational Enterprises (MNEs.) using disaggregates country level data for the year 1970- 1990. A rich body of literature and empirical studies exists on specific ownership advantages of Indian MNEs and their reasons of internationalization. Nevertheless, still there exists a knowledge Gap in the literature on the question of choice of investment destination and motives behind investment, especially in the case of Indian MNEs. This paper explains the motives behind the investment of multinationals with a focus on Indian firms. Based on the insights from the theory, six important variables are considered in the analysis on the data set during 1970- 1990 and an Ordinary Least Square (OLS) regression and censored Tobit model are employed to empirically analyze the host country specific characteristics that give an incentive to Indian Multinationals to choose their investment destinations in the world. Our empirical results have indicated that real GDP, real GDP per capita income, geographic distance and real GDP deflator of the host country are the significant determinants in the case of Indian outward foreign direct investment. The theoretical part shows that over time a shift has occurred in Indian multinationals investment-from developing to developed economies. As a policy guideline, countries ambitious of attracting foreign direct investment need to prioritize these factors while formulating policies and programs as the trend in the investment of the Indian MNEs would leave a big impact on the growth of the both the host country and Indian economy as well. The successful emergence of third world multinational enterprises (TWMNEs) like Indian firms sets an example for other developing countries in the world and therefore be incorporated into the policy paradigm.

1. Introduction:

The role of foreign direct investment (FDI) in the economic development is very crucial as it creates new jobs, provides skilled technical and managerial labor and transfers the technology. FDI transfers the technology at international level (Caves, 1971) while multinational enterprises (MNEs) have been working as development agents in the world (Ozawa, 1992). Over the last three decades, industrialization has been much faster as compared to 1950s and 1960s due to active participation of MNEs at international level. Multinationals are vehicles for providing new technology, productive capacity, knowledge transfer, natural resources and managerial skills (UNCTAD, 2005b). They generate spillover effects that help the domestic enterprises to increase their ownership advantages. Such spillover effects could be in the form of allocative efficiency, technical efficiency and technology transfer (Caves, 1974).Although, much of the FDI has been taking place through MNEs of the developed countries that possess advance technology, abundance of capital, strong production, advertisement and distribution networks but emergence of the third world multinational enterprises (TWMNEs) at international level is a relatively new and captivating phenomenon. Indian firms are also amongst those that have been investing since many years but their immense growth at international level occurred especially after late 1990s (UNCTAD, 2004, 2005, 2006; Pradhan 2005, 2007b; Sauvant 2005). Indian outward foreign direct investment (OFDI) has accounted on average $ 1.1 billion annually during 2001-2003 (UNCTAD 2004; Kumar 2006).

Table 1: Growth of OFDI Stocks of Selected Countries (Amount in $ Million) during 1990-2006.

Country	1990	2006	% change	Rank
Austria	4746,90	77310,00	1528,64	*7th*
Greece	2881,60	17521,00	508,03	*12 th*
Ireland	14941,57	124966,62	736,37	*11 th*
Argentina	6057,27	24047,23	297,00	*13 th*
Brazil	41044,14	87049,00	112,09	*14 th*
Chile	1148,72	26787,40	2231,94	*5 th*
China	4455,00	73330,00	1546,02	*6 th*
Hong Kong, China	11920,35	688974,00	5679,81	*3 rd*
India	***124,07***	***12964,00***	***10348,87***	***2nd***
Indonesia	***86,00***	***17350,44***	***20074,93***	***1st***
Malaysia	753,29	27830,49	3594,55	*4th*
Philippines	155,00	2104,00	1257,42	*9th*
Singapore	7808,37	117579,75	1405,82	*8th*
Thailand	417,57	5608,16	1243,04	*10th*

Source: UNCTAD online statistics (2007).

Indian multinationals have been investing vigorously at international level and their growth in the world economy can be rationalized from total numbers of Indian firms, outward stocks &

flows. During 1991-2003, the percentage growth of Indian MNEs was 809 percent which was the highest amongst the TWMNEs (UNCTAD, 2006; Pradhan 2007b). The growth of the other TWMNEs like Hong Kong's firms was observed 90%, Brazilian firms 116%, South Korean firms 611% and Chinese 805%. Total number of host countries in the case of Indian OFDI that was 37 before 1990s has increased to 128 in 2006 (Pradhan 2007b: 10). The stocks of Indian OFDI have also increased by 10348 % from just $ 124 million in 1990 to $ 12964 million in 2006. The percentage increase of Indian OFDI stocks is standing at 2nd highest position among selected countries and this increase is even more than that of developed countries, like Austria, Greece, Ireland and some other developing countries (for detail see Table: 1).

During the restricted phase [1](pre-1990), home as well as many of the host countries with regard to Indian MNEs imposed restrictions that gave these firms less chances to grow at international level. Although, Indian firms investing abroad during the restricted phase were mostly conglomerates (Lall, 1982) competing into those sectors that required simple technology[2], low product differentiation and more labor intensive techniques (Lall, 1983; Pradhan 2004) but they have worked in the developing countries more efficiently than the developed countries MNEs (for detail see: Kumar, 1982; Lall, 1986).

During the liberalized phase (after 1990s), continual industrialization in the domestic market, experience attained from home and abroad, financial relaxation and local government supports[3] paved the way for Indian MNEs to invest globally. They not only invested into developing countries but their OFDI share into developed countries also increased after 1990s. India has ranked herself 7th in UK during 2003-04 in terms of creation of job vacancies and number of project initiated through FDI and similarly Indian OFDI is ranked 13th in France in terms of commencing projects into the country (UNCTAD 2004).

Extensive empirical literature throws light on Indian OFDI which is in line with Dunning eclectic paradigm (1977, 1979, 1980, 1993), which explains that internalization of the firms is the result of three factors; ownership advantages, location advantages and internalization advantages; all commonly known as OLI. Firm specific ownership advantages (FSA) are prerequisite while location advantages provided by host country are sufficient condition for overseas expansion. MNEs want to internalize in order to protect the property rights, to ensure the product quality and enhance the efficiency of after sale services. The decision of the firm to

[1] Some authors have used pre-1990s as ***first wave*** while after 1990s as ***second wave*** e.g. (Dunning et al. 1996; Pradhan, 2004, 2007b). In the current study, first wave, restricted phase or during pre-1990s while after 1990s, second phase or liberalized phase are interchangeably used.

[2] Technology transfers through the process of innovation and imitation in which some firms innovate while others imitate (Posner, 1961). Mostly, Indian firms like the other TWMNEs have also attained the technological capabilities through the same process. Ozawa (1992) has observed that advanced countries are sources of technology, information and experience that are taped by the developing countries firms.

[3] Indian government has provided some financial facilities (including financial support for export and import, overseas investment, managerial assistance and insurance schemes) to Indian firms (for detail see: Pradhan, 2007b).

cover the market through FDI, licensing or export largely depends upon firm specific advantages and location advantages of the host country (Dunning, 1980). The existing literature only covers the push factors which drive out Indian firms to invest abroad and largely ignores the location determinants of Indian OFDI. The current study will fill the gap after focusing on those country specific advantages (CSA) like market size, macro economic indicators of the host country, business policies and environment which have attracted Indian MNEs to invest abroad (Pull factors). The composition of the paper is as follows: section 2 explains those variables from theoretical background, which is important to analyze the current study. Section 3 will focus on the locational determinants of Indian OFDI. Methodology of the study is presented in section 4. Results and discussion of the findings will be addressed in section 5 while policy implications are presented in section 6. Conclusions are set in the last section of the paper.

2. Theoretical Background and Indian OFDI

A number of previous theories and studies have been developed to explain the pattern, prerequisites and motives of foreign direct investment. Hymer (1960), Kindleberger (1969), Caves (1971), Aliber (1970), Buckley and Casson (1976) accentuate that foreign direct investment is due to market imperfections and foreign firms must possess some sort of firm specific advantages (FSA) in order to compete in an alien market. The local firms have an edge over the foreign rivals due to better understanding and handling measures for country' s economic, social, legal and business conditions (Caves, 1971). To overcome such advantages, foreign firms must have firm specific advantages in the form of lower cost, efficient management, production facilities, product differentiation and distribution network. MNEs have gathered these FSA operating in the domestic market and want to exploit these advantages at abroad (Hymer, 1960).

The eclectic theory of foreign direct investment presented by Dunning (1977, 1979, 1980, 1993), has linked the firms specific advantages and country specific advantages. Internationalization of Indian firms is also due to accumulated ownership advantages, government liberalized policies and locational advantages of the host countries. These locational advantages are categorized into macro economic indicators (e.g. market size, GDP growth, inflation, exchange rate etc.); Ricardian-type factors (e.g. natural resources, cultural and physical proximity, labor etc.); environmental variables (e.g. political stability, market openness, infrastructure, legal etc.) and firm specific advantages of host countries. The motives of the Indian MNEs also influenced accordingly to the above mentioned factors. These motives are classified into (1) market seeking FDI (2) asset seeking FDI (3) natural resource seeking FDI and (4) efficiency seeking FDI. These motives are interconnected with each other and it is difficult to notify the exact motive behind an operation. Firms' overseas expansion may be motivated for asset seeking FDI but at the same time they are also acquiring host country market, utilizing natural resources and labor facilities and exploiting their existing firm's specific advantages.

3. Locational determinants of Indian OFDI (Pull factors)

The sub-theme of the current study deals with those locational factors of the host country that have also affected the pattern of Indian OFDI. Along with others, some of the important pull

factors are market size, growth rate, inflation, physical distance, taxes and investment treaties of the host country. It should be noted that besides these mentioned variables, some other variables and the host country previous record is also very much important. Besides government current policies, the business history of the host country makes the decision easy for foreign MNEs to make investment (Lall, 1996). The section below throws light on the importance and influence of those variables which have attracted Indian OFDI.

3.1 Market Size

A vast literature enlightens that there exists a positive relationship between market size and FDI i.e. larger the market size, higher the chances of FDI into that country (Buckley et al., 2007; Chakrabarti, 2001; UNCTAD, 2006; Artige and Nicolini, 2005; Chandprapalert, 2000; Mosa and Cardak, 2006; Wheeler and Mody, 1992; Svetlicic, 2004; Loree and Guisinger, 1995; Gopinath and Echeverria, 2004; Root and Ahmad, 1979). Market size is important not only for sale of the product; bigger markets also provide efficient utilization of the resources and exploitation of economies of scale (Chakrabarti, 2001). Some of the researchers, like (Kokko, 2002) have expressed that significance of large market as a locational determinant has diminished and now even small countries can also compete by providing investment incentives. However, he has not confirmed his stance with the help of empirical analysis. The reason behind the successful story of small countries like Hong Kong, Singapore and Switzerland may be that they have improved their human capital and provided better infrastructure (Dunning and Narula, 1996). Several studies indicate that MNEs have invested into India and China with the primary motive to cover their larger markets. UNCTAD (1998) has pointed out that the decision of MNEs to enter or expand their operations is based on expectations and where most of their production would be sold out. On *Ceteris paribus*, commodities produced in lager markets efficiently utilize firm's internal resources and would be on average low-priced. MNEs want to utilize their resources into those locations where market opportunities are better and production cost is low (Kravis and Lipsey, 1982).

Regional integration agreements like European Union (EU) and North American Free Trade Agreement (NAFTA) have also made the most attractive regions for TWMNEs due to their larger size, high per capita income and agglomeration economies (UNCTAD, 2006:155; Geppert et al., 2005). Such regions generate positive externalities and ultimately attract FDI inflows (Barrell and Pain, 1998). After investing into one country, firms also enjoy privilege to cover other member countries through exports. Besides the motive to invest into most populated and agglomerated economies, Indian MNEs have also invested into those markets that paved their way for augmenting assets, learning new technology and management, getting brand name and local network. Just like Chinese MNEs that have invested into European and US markets and their targeting firms are ailing or insolvent (Buckley et al., 2007); same is the case with Indian MNEs. They have exploited their FSA into larger markets providing them enough chances to establish.

3.2 Real GDP Growth

Both, theory and empirical research have explained that there exists a positive relationship between foreign direct investment and GDP growth. GDP growth is an indicator that market is progressing and it has potential to absorb FDI for rising demands. More growing markets

provide relatively more opportunities for generating profits as compared to those which are growing slowly or not at all (Lim, 1983; Cassou, 1997).

Billington (1999) has explained that when MNEs perceive that the existing market is saturated for the products they are producing then their next expansions are not only focused on the current market size of the host countries but also potential in the development of those economies.

Gastanaga et al., (1998) have studied by collecting the pooled cross-section and time series data for 49 less developed countries over the period 1970-1995 and concluded that GDP growth rate is a highly significant determinant in attracting FDI into the host countries. Similar results are provided by Chakrabarti, (2001) that the relationship between growth rate and FDI is significant and positively correlated. Buckley et al., (2007) has recently found that the growth rate of the host country has played an insignificant role in the decision of Chinese OFDI. The studies conducted by (Chakrabarti, 2001; Noorbakhsh et al., 2001; Root and Ahmad, 1979; Ning and Reed, 1995 etc.) show that there exist a positive and significant relationship between growth rate and FDI. An interesting explanation and surprising results are provided by (Filippaios et al., 2003) that market growth is significant but negatively related in a study on US FDI into pacific region of OECD (Australia, New Zealand and Korea). Explanations for such a negative relationships is justified on the basis that growing markets provide equal microeconomic environment which discourage FDI entry in to the countries. Kumar, (1982) confirms that Hong Kong and Taiwanese firms have set up their subsidiaries and joint ventures in the growing Asian markets. Indian MNEs have also established their subsidiaries and joint ventures in growing markets and the current study expects that real GDP growth of the host country is positively associated with Indian OFDI.

3.3 Real Exchange Rate

To determine the exact relationship between exchange rate and FDI is a diverse phenomenon but generally, stable exchange rate attracts more FDI into a country. However, the situation is not always ideal, some times; exchange rate is overvalued or undervalued. Depreciation or appreciation of the currency affects not only FDI but also influences exports and imports. Levinsohn (1996) has concluded that Japanese exports were increased while the imports from US were costly and decreased due to devaluation of yen. Theoretically, overvaluation in the currency of home country encourages FDI outflows and undervaluation attracts FDI inflows i.e. when the currency of home country depreciates vis-à-vis currency of the host country appreciates; it makes production less expensive in terms of foreign currencies and increases FDI inflow. Devaluation in the home currency also enhances exports due low prices of domestic products in terms of foreign currencies and stimulates FDI. Ning and Reed (1995) conclude that less outward FDI but more inward FDI is expected when the home currency depreciates. Aliber (1971) points out that stronger the currency of the host country, less attractive is the location for foreign direct investment.

Empirically, mostly studies have shown that the relationship between exchange rate and FDI inflows is significant and negatively correlated (Chakrabarti, 2001; Swenson, 1994; Cassou, 1997; Froot and Stein, 1991; Barrell and Pain, 1998) i.e. when the exchange rate of the host country is high; it makes the foreign capital relatively more expensive resulting low FDI inflow into the country. Only a few studies (e.g. Scaperlanda, 1974; Aqeel and Nishat, 2005) have shown that depreciation in the currency of host country discourages FDI inflows. Gastanaga et al., (1998) have concluded that exchange rate distortions in the host country do not significantly impact on the decision of FDI inflows into the country. Buckley et al. (2007) have found that exchange rate of the host country has played an insignificant role in overall Chinese OFDI but significant and positive effect when the destinations are developed countries. The current study

expects that real exchange rate of the host country against US dollar is negatively associated with Indian OFDI.

3.4 Distance from the host country's capital

The Distance from the home country is another important variable that affects the decisions of OFDI, because firms would prefer to invest into those countries which are closer to their parent firm and existing network. Theoretically, Johanson and Vahlne (1977) have explained different stages of internationalization of a firm: as the domestic market grows, local firms tend to invest into their neighboring countries closer to the home market having social, economic and political atmosphere similar to their home. Later on, when these firms have developed more ownership advantages, they try to locate into advance countries. The geographical pattern of the Indian OFDI is also inline with the above theory as it changes during the two periods (Before 1990 and after 1990). During the restricted phase, mostly Indian OFDI (in terms of amount and projects) was observed in neighboring and less developing countries where the social, economic and political scenario was less or more equal as that of India while , during the post 1990s, Indian firms have invested largely into developed countries. Mostly, TWMNEs have invested into neighboring market during the earlier stages, after getting experience and improvement in the ownership advantages they have invested into developed countries which are far away from the location of their parent firms. Svetlicic (2004) has found that it was a priority of TWMNEs from central European transition economies to invest into neighboring countries and especially into those with which they have cultural and historical ties. Similarly, during the earlier stage of their development, Hong Kong garments MNEs have invested into those countries which are less developed than Hong Kong and are neighboring countries but when they set up their second and third offshore factories, the location was diversified (Lau, 2003). Buckley et al., (2007) have indicated that during 1984-1991, geographic distance has a significant but negative influence on Chinese OFDI. However, after 1991-2001; it is positively associated with Chinese OFDI but insignificant. Similarly, Pradhan (2005) has explained that geographic proximity, cultural and ethnic relationships have played an important role in Indian OFDI.

Less physical distance is one of the main factors that attract huge FDI inflows in the EU and NAFTA because such conglomerated regions reduce information and transportation costs. The choice of locations by TWMNEs is also near by their existing network and parent firm in order to reduce costs and better FDI integrations (forward and backward vertical FDI). In addition to above, mostly, south- south FDI is into neighboring countries is also due to less differences (political, cultural, business atmosphere etc.) and similar problems or opportunities (UNCTAD, 2006).

However, Cheng and Kwan (2000) have explained that EU and Japanese MNEs are the main sources of FDI in United States, but neither of them is physically closer to American States. Similarly, Stone and Jeon (2000) have found that distance between the home and the host country plays a significant role in deterring trade but not FDI. The different point of views explained earlier make discussion more interesting and know the variability in geographic

investment decision, physical distance is being introduced into the model. It is expected to be negatively correlated with Indian OFDI.

3.5 GDP Deflators

An unpredictable and volatile inflation creates problems for MNEs in assessing the profit and future planning about the market (Buckley et al., 2007). MNEs feel secure to invest into those countries where there are less fluctuation in the prices of goods and services. High inflation rate may devalue the local currency and in turn the real value of earning in the local currency. However, Buckley et al., (2007) have empirically found that there exists a positive and significant relationship between inflation and the Chinese OFDI. This finding was contrary to the theory and expectations of the authors and might be due to the reason that most number of Chinese projects have been initiated into developing countries where there are more chances of inflation. Similar results are provided by Asiedu (2006) on an empirical analysis by taking the data on 22 sub Saharan African countries during 1984-2000 and confirm that low inflation attracts FDI inflows into the region. In the current study, it is expected that there prevails negative relationship between inflation and Indian OFDI.

3.6 Political Stability

Internalization theory explains that MNEs would prefer to invest arm's length servicing modes (exporting or licensing) into those countries where the political risk is high (Buckley and Casson, 1981). A highly political instable country reduces the number of chances of FDI inflow (Chakrabarti, 2001; Svetlicic, 2004; Basi, 1963; Aharoni, 1966; Levis, 1979; Schneider and Frey, 1985). However, TWMNES are more used to face the political and economic crisis because most of the developing countries are characterized with political and economic instability (Zhang and Bulcke, 1996). Buckley (1989) indicates that smaller firms have competitive advantage because they are more flexible in the response of political, technological and institutional changes in the market. Political stability has played a statistically significant role in Chinese OFDI but increase in the political stability risk (decrease in the host country risk index) is associated with increase in Chinese OFDI, i.e. higher the political instability risk, higher the Chinese OFDI which was contrary with the expectations of the authors ; the possible explanation in the positive association between Chinese OFDI and political instability is that mostly investment is being observed into developing countries which are struggling with political stability and secondly, if there are higher risk but higher returns then FDI flows will continue into those host countries. Political and economic stability develops financial institutions (Pradhan, 2007a) and has been a key parameter for the foreign investors (Kumar, 1982) and generally, political stability is positively related with OFDI.

3.7 Natural Resources

The natural resource base country plays an important and crucial role in the decision of multinationals to invest in. A vast literature explains that MNEs have been motivated due to the availability of natural resources. Natural resources may be in the form of minerals, petroleum, timber, fishery and agricultural products. MNEs try to secure the cheaper inputs (raw material,

minerals, petroleum etc.) for their parent firms through backward vertical FDI. Dunning (1979) has explained that firms may engage FDI to exploit the abundant domestic natural resources or to sell the products of the home country firm as their inputs in the production process in overseas markets (forward vertical FDI). He further concludes that in some cases, it could be backward vertical FDI when the foreign firms are managing for the input of domestic production process. Although, rate of growth of OFDI from natural resources abundant countries is low but these countries have more rapid rate of growth of FDI inflows (Dunning and Narula, 1996).

MNEs from emerging markets and mostly state owned enterprises are rapidly participating in resource seeking FDI due to rising demands at home and increased prices of natural resources. Governments have realized that for continual FDI inflows, stable prices and sustained supply of inputs are necessary conditions. Korean government has encouraged its MNEs to invest in natural resource based FDI in order to provide and sustain cheaper inputs (Han & Brewer, 1987). Similarly, Chinese (mainly state owned) MNEs have invested in resources seeking FDI in order to provide cheaper input to home country's firm (UNCTAD, 2005b). Many TWMNEs investing into natural resources are state-owned enterprises[4]. It is proved empirically that natural resources attract FDI in to the country. A recent study by Buckley et al., (2007) has indicated that natural resources played a positive and significant role in Chinese OFDI. Generally, countries abundant with natural resources attract more FDI inflows.

3.8 Trade intensity and Host country

Multinational enterprises prefer to invest in those countries where they already have network of sale or purchase because they know the culture, taste, law, business environment and above all the network with the business community. MNEs set up their overseas projects into those countries that are nearby and firms have already attained knowledge through trade (Johanson and Vahlne, 1977). Some of studies (e.g. Buckley et al., 2007) emphasize on the conventional route i.e. 'trade follows investment'. However, it is difficult to determine whether trade follows investment or investment chases trade. Although, it is true that firms prefer to invest into those locations they have already covered through exports even then the results provided by some of other studies (e.g. Pradhan, 2007c; Lipsey and Weiss; 1981; Lipsey and Weiss, 1984; Yamawaki, 1991) indicate that OFDI by MNEs again enhances exports from home countries.

On the similar pattern, TWMNEs have not only invested to boost their home country s exports but also establish subsidiaries and joint ventures abroad to secure their exports and protect their markets (Kumar, 1982; Svetlicic, 2004). Korean MNEs have invested abroad in order to support their local exports (machinery and raw material) such as in Philippines and Singapore (Han & Brewer, 1987). During 1980s-1990s, Chinese MNEs have invested overseas to support

[4] like China National Petroleum, China National Offshore Oil Corporation, Indian Oil Corporation Limited (public sector undertaking), Bharat Petroleum Corporation Limited (public sector undertaking), Hindustan Petroleum (public sector undertaking), Korea National Oil Corporation (KNOC), PTT (a Thai State Owned Enterprise in Oil and Gas), Petrobras (is a semi-public Brazilian energy company), Gazprom (it is a public sector Russian leading firm and the largest extractor of natural gas in the world), LUKOIL (it is also a public sector Russian firm second largest public company from which Exxon Mobil is only ahead in terms of proven oil and gas reserves) and Oil and Natural Gas Corporation

the exports of the local firms (Wu and Sia, 2002; Buckley et al., 2007). A similar pattern has been observed for the developed MNEs. Grubert and Mutti, (1991) have concluded that US foreign direct investment is positively influenced from US exports and imports and mostly US MNEs tend to invest into those countries with whom they have traded already. Generally, MNEs invest into those countries where they have been previously exporting or importing.

3.9 Market Openness and FDI

An open economy has higher chances to receive FDI inflows as compared to close ones. Chinese and Indian markets were less attractive for foreign investors until and unless both have not liberalized their markets. India has vigorously reduced its import duties and increased foreign ownership participation in FDI projects that attracted huge FDI inflows into the country and such investment projects have created jobs, trained thousands of workers, improved labor productivity, caused reduction in poverty and increased domestic competition (Diana and Adil, 2004). Same is the case with China, Chinese government has opened the market for MNEs by initiating special economic zones and allowing the FDI into most coastal cities which has boosted the economic development in the country (Rugman and Li, 2007; Buckley et al., 2007). Kumar (2001) has concluded by taking data of US & Japanese MNEs that invested into 74 host countries during 1982-1994. He found that OFDI is positively associated with market openness in all the modern as well as traditional industries but more liberal business environment discourages a deeper integration of MNEs with host countries local firms. The study further concludes that the restrictions like export commitments, transfer of technology and local content requirements which are imposed by the host countries discourage FDI inflow. When there are fewer restrictions on international trade then there prevail higher chances to import cheaper raw material and improve technology and management. There exists a positive relationship between market openness and FDI (Chakrabarti, 2001; Gastanaga et al., 1998; Lall, 1996). However, number of the studies have explained that tariff or non-tariff barriers discourage trade but encourage MNEs to invest abroad (e.g. Caves, 1996; Barber, 1955; Vernon, 1966; Moran, 1998; Wallis, 1968; Schmitz, 1970), as MNEs are left with no other option to cover a market.

3.10 Investment treaties and FDI

Countries have bilateral trade relations not only in the form of export and import but they also sign investment treaties (bilateral investment treaties and double taxation treaties), which play an equivalent role in encouraging the OFDI. If exports and imports are taken into consideration to measure the trade intensity, we may be misleading because we are not considering those investment treaties that officials of both countries made to encourage investment. Generally, bilateral investment treaties & double taxation treaties are used to measure the role of investment treaties with OFDI. These treaties are also distinguishable from trade because they entirely depend upon governments and firms can just follow. A single market plan of the EU has provided enough opportunities to attract the FDI not only from EU countries but also from USA and Japan (Kumar, 1994). Free trade with United States has provided a stronger location advantage to Canadian exporters and manufacturers (Rugman and Verbeke, 2001). Bilateral

investment treaties, double taxation treaties and free trade agreements have also played an important role in enhancing OFDI from TWMNEs (UNCTAD, 2005a). This report further concludes that regional agreements among the ASEAN countries have encouraged FDI in the region. Some times, MNEs have also used host countries as a vehicle to cover the developed countries markets because these host countries have signed investment treaties with the developed countries or regions. Korean MNEs have invested in Asian markets like Philippines, Sri Lanka, and Bangladesh in order to produce into those countries and then sell in North America and Europe (Han & Brewer, 1987). These treaties may also pave the way to evade tax and thus harm both countries if they are misused. DTT (Double Taxation Treaties) between India and Mauritius have encouraged Indian firms to round trip through Mauritius and other tax havens to enjoy the tax benefits (UNCTAD 2004).

In order to boost OFDI, Indian government has signed a number of regional and bilateral agreements[5] that provided Indian MNEs enough chances to become global player.

3.11 Tax Incentives and FDI

Developing as well as developed countries offer some incentives in order to attract foreign direct investment. These can be categorized mainly in to tax incentives (i.e. tax rates, tax depreciation, tax credits, tax holidays) and non-tax government incentives (i.e. government grants). (Kumar, 2001) has concluded that investment incentives are positively related with the inflows of FDI. A number of other studies also indicate that the give and take policy[6] among host countries and MNEs accelerate the development process in the nations. Tax rates are negatively and linearly correlated with FDI (Gastanaga et al., 1998; Grubert and Mutti, 1991; Cassou, 1997). However, surprisingly, some of the studies have shown that increased taxes encourage FDI inflow into the country (e.g. Swenson, 1994). Indian MNEs have also invested into tax heavens like Bermuda, British Virgin Islands and Mauritius for round tripping investment and tax concealment (Hay, 2006).

4. Data and Method:

4.1 Data:

One of biggest hurdle in empirical research is data availability. The current study has also not escaped from this problem. Data on the dependent variable is being collected from ministry of commerce and some published sources. Present study empirically analyzes location determinants of Indian OFDI during 1970-1990. During 1970-1990, a very small number of projects as well as total amount of OFDI are observed. The data on dependent variable is not available on yearly basis but is over the interval of 5 years from 1970-1990. Ministry of commerce provides the data on Indian OFDI in millions of rupees (Indian Currency) that is converted into million of $ US by taking the average value of exchange rate of a US dollar against rupee. Currency conversion is taken from 'World Development Indicators 2007 CD-

5 India has signed some of the regional agreements like BIMSTEC, SAARC, SAFTA, Gulf Cooperation Council, Indian Ocean Rim association for regional cooperation, Indo-Lanka free trade agreement etc.

6 Incentives are offered from the host countries and MNEs provide human and financial capital, technology and management and above all boost the economic development of the country.

Rom'. E.g. the original data provides the information on total Indian OFDI during 1970-1975 in Kenya is 186.196 million of rupees and the average value of one US dollar against Indian rupee during 1970-1975 is 7.8010 so each of the value is divided by 7.8010 and Indian OFDI in Kenya during 1970-1975 is 23.868 million of US dollars. Average exchange rate of one US dollar against Indian rupee during 1976-1980, 1981-1985 and 1986-1990 are observed as 8.376, 10.3888 and 14.6437 respectively.

4.2 Data on Independent variables and expected signs

In the present work, real GDP and real GDP per capita income of the host country are used as proxy variables to measure market size. In some studies, GNP or per capita GNP is also used as a proxy of market size but it is either overestimated or underestimated (for detail see: Chakrabarti, 2001). We expect that real GDP and real GDP per capita of the host country are positively associated with Indian OFDI. Real GDP growth rate is used to measure the growth rate of the host country and is expected to be positively related with FDI inflows. To know the fluctuation in the currency of the host country; real exchange rate (local currency of the host country with US dollar) is included into the model and is expected to be negatively associated with FDI inflows. Real GDP deflator is taken to measure inflation rate in the host country. For physical distance, it is calculated the distance (in KM) from the capital of the host country to New Delhi. The data on our explanatory variables such as real GDP, real GDP per capita income, real growth rate, real exchange rate and real GDP deflator is obtained from World Development Indicators (WDI) estimated and projected values developed by the Economic Research Service. Geographic distance is taken from www.geobytes.com. Due to non-availability of data on some of independent variables during 1970-1990, present study statistically estimates those variables on which mostly data is available.

4.3. The Model

In the light of above discussion, the relationship among Indian OFDI and its determinants that are likely to influence the flow of FDI in the host country, the following equation is specified to show the relationship between OFDI and other explanatory variables.

$$Log Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \mu_i$$

Where $= \log Y_i$ is the log of the volume of foreign direct investment (OFDI) in year i

X_1 = Real GDP in **(Billions of US $)** X_2 = Real GDP Per capita **(Units of US $)**, X_3 = Real GDP growth of the host country (**% change)**

X_4=Real Exchange rate US Dollar (**in Units**) X_5=Distance of the host country Capital from New Delhi (in KM) X_6= Real GDP Deflator of the Host countries (% change) β_0 = is the intercept terms

β_1 ..... β_6 = are the coefficients to be estimated μ_i = is the error term in the model, which accounts for all the omitted variables that may affect the OFDI.

Table 2 OLS estimate of the Determinants of Indian OFDI during 1970-1990

Explanatory variables	**Notation**	**Coefficient**	**t**	**P value**
Constant	βo	-.670* (.367)	-1.826	.074
Log of Real GDP of the Host countries **(Billions of US $)**	X1	.000* (.000)	2.190	.034
Real GDP Per Capita of the Host countries **(Units of US $)**	X2	-3.00e-05** (.000)	-2.667	.009
Real GDP Growth of the Host countries **(% change)**	X3	.013 (.032)	.422	.675
Real Exchange Rate of the Host countries with US Dollar **(in Units)**	X4	.005** (.002)	2.539	.014
Distance of the host country Capital from New Delhi (in KM)	X5	.000* (.000)	-2.459	.018
Real GDP Deflator of the Host countries (% change)	X6	.009* (.005)	1.898	.064

Note: Figures in Parentheses are standard errors
R= 0.5575 R-square=.311 Adjusted R-square = 0.223
Durbin-Watson=1.589 F= 3.533 Significance=0.0057
*****, **,*, significant at 1 %, 5% and 10 % respectively**

An ordinary least square (OLS) as well as Tobit are used to analyze the factors that affect the flow of Indian Multinational volume of foreign direct investment. However due to the zero observation on the dependent variables (Indian OFD), the ordinary least square (OLS) will give inconsistent and biased estimates (Gujarati, 2003) and the appropriate techniques is Tobit (Tobin 1958) using maximum likelihood estimation and hence a Tobit regression was employed to analyze the influencing factors affecting the decision of the Indian Multinationals to invest in the host country. For estimation we write The Tobit Model as;

$$y_i^* = \begin{cases} y_i^* = \beta X_i + \mu_i & if \quad y_i^* > 0 \\ 0 & if \quad y_i^* \leq 0 \end{cases}$$

μ_i ~IN (0,σ^2) (MADDALA, 2001)

Where Y_i is the Indian OFDI in million \$. β is the coefficient associated with a particular explanatory variable X_i.

Table3. Tobit estimates of the determinants of Indian OFDI Based on the date 1970-1990.

Explanatory variables	**Notation**	**Coefficient**	**t**	**P value**
Constant	βo	.6735 (1.2153)	0.55	0.583
Log Real GDP of the Host countries **(Billions of US \$)**	X1	.4369* (.2467)	1.77	0.084
Log GDP Per Capita of the Host countries **Units of US \$)**	X2	-1.0166*** (.2873)	-3.54	0.001
Log of GDP Growth of the Host countries **(% change)**	X3	1.126* (.5226)	2.15	0.037
Log Real Exchange Rate of the Host countries with US Dollar (in Units)	X4	.02164 (.313)	0.07	0.945
Log Distance of the host country Capital from New Delhi (in KM)	X5	-.2418* (.1517)	-1.59	0. 099
Log Real GDP Deflator of the Host countries (% change)	X6	.9056* (.4333)	2.09	0.043

Note: Figures in parenthesis are standard errors.
***, **, * Indicates significance at 1 %, 5% and 10 % probability level
Dependent Variable is Indian OFDI (millions of US\$).
No of observation = 46 Log Likelihood = 51.184428
LR chi square (6) = 21.61 Prob>Chi square = 0.0014
Pseudo R-square = 0.1743

5. Model Results and Discussion

The results of OLS regression are indicated in Table 2 while the results the Tobit model is given in table 3. Here only the results of the Tobit will be discussed as we have already explained that our data is censored and Tobit model is the appropriate techniques in our case.

Dependent variable is the volume of Indian OFDI in million \$, while independent variables are real GDP of the host country in billion \$, per capita GDP of the host country in units, GDP growth of the host country %, real exchange of the host country in units, distance in KM of the host country from the capital of India (New Delhi) and real GDP deflator in %.

Table 3 shows that the OFDI of the Indian multinationals is positively and significantly affected by the value of the real GDP of the host country. The relationship is significant at 5%. An increase of 1% in the real GDP of the host country will increase FDI inflows from India by 0.43 %. Our results are consistent with previous findings (e.g. UNCTAD, 2006; Artige and Nicolini, 2005; Chandprapalert, 2000; Mosa and Cardak, 2006; Wheeler and Mody, 1992; Svetlicic, 2004; Loree and Guisinger, 1995; Cassou, 1997; Chakrabarti, 2001 and Buckley et al., 2007)

that host country GDP is a significant factor that affects the flow of OFDI. The plausible explanation for such positive relationship is the growth associated as a result of the GDP of the country which is an indication of the growing opportunities that motivate the multinational to invest their funds in such rapidly growing economics and hence to reap the benefits of such growth. From our results we conclude that during the period 1970-1990, one of the major determinants of the Indian multinationals in the host destination is real GDP growth rate of these countries that pulled the investment of these multinational towards the host countries. An increase in real GDP of the host country by 1% will enhance Indian FDI inflows by 1.126 %.

A significant but negative relationship is observed between real GDP per capita of the host country and Indian OFDI. This is inconsistent with the theory; however the reason behind such an inverse relationship is that most of Indian OFDI during the period (1970-1990) is in developing countries where real per capita income is generally tended to decrease rather than increase. Real exchange rate of the host country is positively associated with Indian FDI but not significant i.e. Indian firms invested into those countries with stronger currencies. Such results are surprising and contrary with the theoretical background but similar as observed in some studies (e.g. Scaperlanda, 1974; Aqeel and Nishat, 2005). The coefficient of the distance of the host country capital is negative and significant which is consistent with the theory. Indian firms during the period mostly invested into neighboring countries. Our results further show that, real GDP deflator of the host country has positively influenced the volume of the Indian OFDI. An increase in the GDP deflator of the host country by 1 % is likely to increase Indian OFDI by 0.90 %. This is similar to the study of Buckley et al., (2007) that shows a positive and significant relationship between inflation and the Chinese OFDI. The contrary outcome with the theory and expectation is due to lack of sufficient data (limited observations) and as mostly Indian projects have been initiated into developing countries where there are more chances of real GDP inflation.

6. Policy implication

In the light of present study, it is recommended that developing country's governments should provide investment friendly incentives in order to attract FDI. Local authorities should focus to bring structural adjustments like improvement in infrastructure, to enhance human capital and provide skilled labor force and ensure political and economic stability to attract FDI. Such FDI from developed and developing countries will help in augmenting FSA of the local firms. However the spillover effects of foreign direct investment are not transferred automatically and it is up to local firms to reap benefits through integration and learning from foreign firms. Government should support rather than discourage their firms in overseas expansion because such expansions will increase home country exports and provide parents firms' cheaper raw material through backward FDI.

7. Conclusion

Over the last three decades, there is an increasing trend in the outward investment of multinationals of the third world- growing and emerging economies and their destinations are mostly the developed countries. The growth of OFDI of TWMNEs such as India is much greater than the corresponding OFDI of some of the developed countries MNEs like Austria, Belgium and Ireland. Mostly the increase in the Indian OFDI is attributed to the merger and acquisition (M&A) in host countries in different sectors such as primary sector, services and the manufacturing sector. These M&A also enhance the bargaining power of TWMNEs to get loans, customer credit insurances and financial supports on easy terms and conditions because financial institutes measure their strength and capabilities from M&A in advanced countries. In addition to firm specific characteristics, which have played an important role for OFDI from TWMNEs, the host country related factors (pull factors) are not easy to ignore. The most important pull factors are the market size, real GDP growth, real exchange rate, GDP deflator, and distance from the host country, political stability, natural resource, market openness, investment treaties and tax incentives provided by the host country. Taking the case of the Indian multinationals, it is concluded that liberalization of home as well as host country has shifted the direction and location of investment. Indian firms are investing more in the developed economies as compared to developing ones. The choice of investment destinations of the Indian multinationals is influenced by a number of host country characteristics. It is concluded from our empirical analysis that real GDP, real GDP growth, and real GDP deflator of the host country are the influencing factors determining the flow of Indian multinationals' OFDI in the country of destination. The negative relationship between the real GDP per capita and OFDI in our study requires further analysis. Similarly the impact of the natural resource stock, political stability, investment treaties and market openness need to be tested empirically across countries. Due to data limitations during the study period, we are unable to perform such statistical analysis. As a policy guideline our results have important implications for multinationals and policy makers working with government in the developed and in developing countries to take into consideration these factors while formulating policies in relation to overseas foreign direct investment.

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