Outward FDI Motives of Indian Firms: A Multi-level Examination

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Abstract

In the light of sizeable growth in outward FDI by Indian firms in recent years, we examine the motives behind such investments in different host countries during 2008-09 and 2011-12. Several standard motives (resource-seeking, technology-seeking, efficiency-seekig, market-seeking, among others) have been examined for disaggregated sample, i.e. by age, size and sector of the outward investing firm, using panel data econometric method. Apart from observing multiple motives, there exists variation in motives of overseas investment by age, size and sector of the outward investing firm. For older firms, the resource-seeking, efficiency-seeking and market seeking motives are found to be significant. Larger firms are found to look for resource, technology and efficiency while investing abroad. Similarly, the manufacturing sectors firms are attracted by availability of resource, technology and efficiency in the host countries. Overall, the older, bigger and manufacturing sector firms are found to invest abroad with standard motives. However, there these standard motives are not found to be significant determinant of outward investment in the case of younger, smaller and service sector firms. The results are robust to the use of alternative measure of outward investment.

Key words: Outward FDI, Equity and Loan, Emerging Multinationals, India

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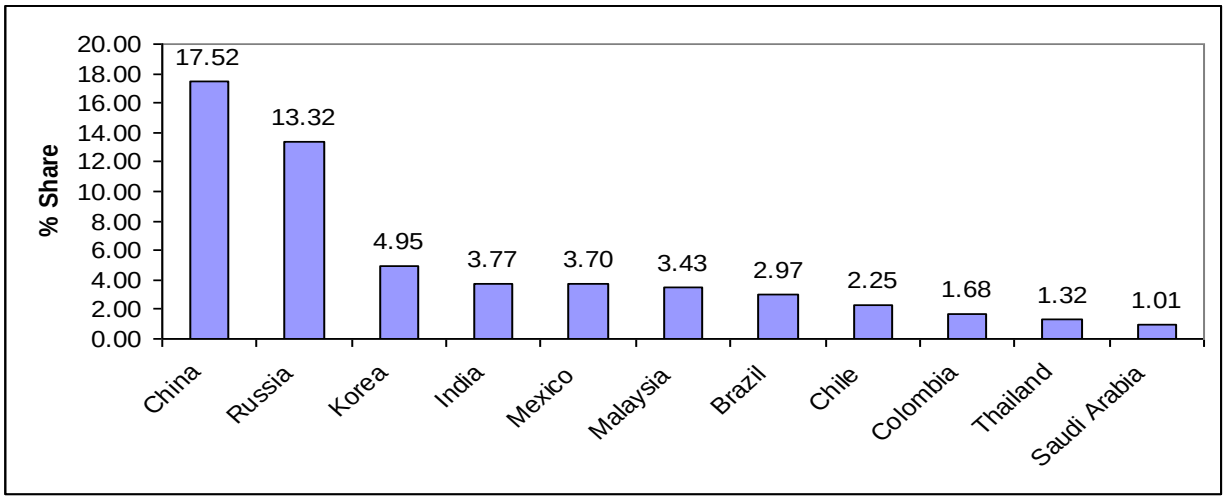
1. Introduction

India has attracted global attention in press, academia and policy circles as a result of significant growth in the volume of outward Foreign Direct Investment (FDI) since the gradual liberalization of capital account restrictions starting early 2000s. India stands fourth just behind China, Russia and Korea, amongst the developing countries in terms of outward FDI (Figure 1). Being a latecomer, in terms of investing abroad, the country continues to impress the world community with multi billion dollar investments, either greenfield or merger and acquisition.[3]

Investing abroad is not new for some of the Indian firms. However, there has been a major jump after 2004 (Figure 2). This time around further relaxation of capital account took place i.e. Reserve Bank of India (RBI) allowed firms to invest up to 100 percent of their net worth (under automatic route) in overseas joint venture / wholly owned subsidiary, replacing the earlier system that provided for automatic approval of outward FDI proposals only up to a certain limit. The limit has gradually been raised up to 400 percent of net worth (see Gopinath, 2007; Pradhan, 2008; Athukorala, 2009; RBI, 2010; Khan, 2012 for India's outward FDI policy reform). The volume of outward FDI peaked in 2007, followed by a mild decline during the global financial crisis. However, outward FDI did not decline as much as inward FDI that experienced a sharp decline following global financial crisis. The trend has reversed in the recent year, as many Indian firms turned aggressive in terms of overseas investment. Thus, the higher volume of outward FDI from India following the policy reform requires examination of factors that have motivated firms of different age, size and sector of origin to invest in different host countries.

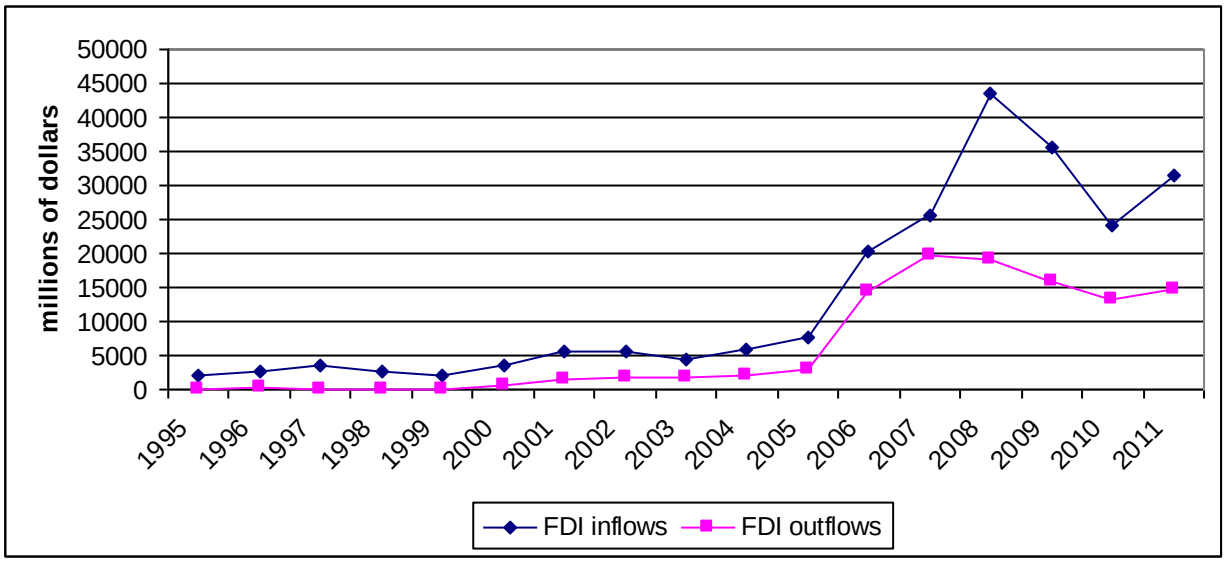
Figure 1: Share in Developing Country FDI Outflows (Year 2010)



Note: developing country (including South-East Europe and CIS, excluding Hong Kong, British Virgin Islands, Singapore, Taiwan, Cayman Islands)
Source: Author's compilation from World Investment Report, 2011, UNCTAD

[3] According to PricewaterhouseCoopers (2010) report, one of the big four global audit firms, India is projected to be the largest source of emerging market multinational enterprises by 2024, 20 % higher than China, overtaking China by 2018.

Figure 2: India's FDI, Outward and Inward (1995-2011)



Source: Author's compilation from World Investment Report, 2012, UNCTAD

Against this backdrop, this paper examines the motivation of outward investment of Indian firms disaggregated by age, size and sector, in other words, the locational determinants of outward FDI. Although there exist a few specific studies on host country determinants of India's outward FDI, they have examined aggregate FDI outflows either for the economy as a whole (Hattari and Rajan, 2010; Pradhan, 2011; Nunnenkamp et al., 2012; Buckley et al., 2012) or for a specific sector (Pradhan, 2010 for pharmaceutical sector).[4] The link between host country factors and FDI outflows of Indian firms across different age, size and sector of origin has not been studied previously, which needs an examination.[5] The relationship at the disaggregated level could provide deeper insights as compared to aggregate FDI. This is because different firms (by age, size and sector) may invest in the same host country with different motives. Similarly, firms from same sector could invest in different host country for different reasons. Therefore, we approach the issue at the firm level as it allows us to capture differential motives of firms classified by age, size and sector, which is not possible in aggregate outward FDI studies. Our study also makes use of an unique and comprehensive official dataset released by RBI on actual outward FDI made by Indian firms in the form of equity and loan (breakdown by component), which has not been used to the best of our knowledge in previous studies on India's outward FDI.[6] The analysis covers the recent years 2008-09 to 2011-12, which is mostly outside the

[4] There are a few descriptive studies on India's outward FDI e.g. Nagaraj, 2006; UNCTAD, 2007; Kumar, 2008; Nayyar, 2008; Athukorala, 2009; Balasubramanyam and Forsans, 2010, Kedron and Bagchi-Sen, 2012.

[5] While examining the choice of entry mode, i.e. between JV and WOS, of 142 Indian manufacturing firms during 1992 to 1999, Kathuria (2010) included host country index as one of the explanatory variables. The effect of host country factors on the volume of outward FDI of firms is not investigated at the firm level by age, size and sector.

[6] The sources of data in previous studies are UNCTAD FDI/TNC database and EIU's World Investment Service databases (Hattari and Rajan, 2010), Ministry of Finance, Government of India and OECD (Pradhan, 2011), Ministry of Finance, Government of India (Nunnenkamp et al., 2012), value and number of foreign acquisitions by Indian firms from Thomson One Banker (Buckley et al., 2012), in-house dataset constructed by author for the

period covered in the aggregate FDI studies. Thus, the examination motivation behind firm level outward FDI at disaggregated level is expected to provide important insights as far as the shift in Indian firms' investment abroad is concerned.

The paper contributes to the empirical literature on outward FDI from developing country by examining firm level motivation of outward FDI of Indian firms by age, size and sector of origin. This is done by examining the link between firm level outward FDI (using newly released dataset on firm level actual FDI outflows in the form of equity and loan) and host country factors for the most recent years 2008-09 to 2011-12 using firm-destination panel data analysis with appropriate adjustment for clustering. Previous empirical studies on outward FDI from India examine the relationship at the aggregate level, and do not investigate the relationship at the firm level or for that matter account for differences across age, size and sector of origin. These studies find mostly the market-seeking motive to be common explanation (Nunnenkamp et al., 2012; Hattari and Rajan, 2010; Pradhan, 2011; Buckley et al., 2012). We find presence of several standard motives, which is contrary to some of the earlier studies that emphasized on the market-seeking motive. However, there exists significant variation in investment motives by age, size and sector of outward investing Indian firm. The standard motives (such as resource, technology, efficiency, market) are found to be valid explanation of investing abroad for older, bigger and manufacturing sector firms but not so much for the younger, smaller, and service sector firms. The presence of multiple motives and variation thereof across age, size and sector of origin implies that there could be differential impact of outward FDI by Indian firms.

The rest of the paper is organized as follows. In the next section theoretical motivations of firm's internationalization and a few locational factors relating to outward investment by Indian firms are discussed. The third section elucidates the sample selection and the methodology adopted for empirical analysis. Empirical results are presented in section four. Summary of findings and conclusions are given in section five.

2. Theoretical Considerations

There are alternative theoretical frameworks that can be used to analyse locational determinants of outward FDI. These include but not limited to the eclectic theory, the theory of industrial location, gravity model, proximity-concentration tradeoff etc.[7] Nevertheless, the eclectic theory has been increasingly popular, which can be employed in flexible ways. Another advantage is that it can be applied at either the micro or macro levels (Gastanaga et al., 1998). The eclectic theory, also known as O-L-I paradigm, consists of three pillars namely ownership-advantages, location-advantages, and internalization-advantages (Dunning, 1980, 2000). Ownership advantages refer to the extent a firm possesses (or can acquire) assets which are not possessed by other firms. Locational advantages are host country specific advantages which are limited in the home country. The locational advantages can be exploited by multinational firms in conjunction with their ownership advantages by investing in countries possessing such advantages. The

pharmaceutical sector based on overseas acquisition activities of Indian pharmaceutical firms (Pradhan, 2010). The data quality on India's outward FDI has been an issue when it comes to destination-wise breakdown.

[7] See Faeth (2009), Blonigen (2005) and Agarwal (1980) for a survey of theoretical models and empirical literature on FDI determinants.

internalization advantages refer to the process by which firms can make maximum use of ownership advantages in their possession through investment abroad.

One of the crucial elements for explaining firms' outward FDI is to consider the locational advantages as suggested by the eclectic paradigm (Dunning, 1980, 1981a, 1981b, 1988; UNCTAD, 1998). Several studies in the past have employed this framework while examining the locational determinants of FDI; for instance, Gastanaga et al. (1998) to study FDI inflows to less developed host countries, Buckley et al. (2012) to study FDI outflows from developing country.

As the developing countries are becoming increasingly active in terms of cross border investments, the locational determinants of their outward FDI warrant considerable attention. In the light of the eclectic paradigm a number of host country factors can be identified that might explain developing country firms' outward FDI in different host countries. These factors include (but not limited to) natural resources, intangible assets such as endowment of technology and strategic-assets, low labour and input costs, large markets, legal and commercial environment. Each of these locational factors can be linked to a particular motive of outward investment by the firm. The locational advantages could differ significantly in different host countries. In addition, firms could have single or multiple motives for investing in different host countries, i.e. firms may integrate different possible motives while deciding to invest in different host countries. For analytical convenience, it is possible to classify the locational factors under different headings, based on taxonomy developed by UNCTAD (1998, p. 91) and Dunning (2006, p. 206). Accordingly, we have classified a few standard motives as under.

Resource-Seeking

Some of the firms could invest abroad to secure stable supply of energy and natural resources. This is also referred to resource-seeking motive of outward FDI. Such investments could also be driven by national priorities besides usual economic considerations. Empirical evidence of resource-seeking outward FDI, especially in the context of China, can be found in Buckley et al. (2007), Ramasamy et al. (2012) Kolstad and Wiig (2012), Cheung and Qian (2009). According to Pradhan (2011), the effect of natural resource endowments is not visible in the aggregate outward FDI from emerging Indian multinationals. Nevertheless, resource-seeking outward FDI can not be ruled out given that firms originating from diverse sectors have invested in several different host countries.[8] The acquisition of Pioneer Natural Resource Co. in the US by Reliance Industries Ltd. in 2010 is an example of resource-seeking FDI. Many such investments have been undertaken in developing countries.[9]

Technology-Seeking

[8] Hattari and Rajan (2010) reported significant impact of energy production in host country on India's aggregate outward FDI. Also see Gaffney et al. (2013) for a discussion on resource dependent FDI strategy by multinational enterprises from emerging countries.

[9] For instance, investments by (in) Indian Oil Corp. Ltd. (Suntera Nigeria 205 Ltd., Nigeria; Lanka IOC Pvt. Ltd., Sri Lanka; Block K, Timor Leste), Oil India Ltd. (National Oil Company, Libya), ONGC Videsh Ltd. (Sakhlin Oil Field Project in Russia; oil exploration project in Sudan, Syria, Vietnam, Iran, Libya, Cuba, Qatar, Latin America etc.), Jindal Petroleum Ltd (Jindal Petroleum (Mauritius) Ltd.), Confidence Petroleum India Ltd. (Surya GIO Gas Indonesia), Shivvani Oil and Gas Exploration (Shiv-Vani Rowell Oil & Gas Co. LLC, Oman), Indian Oil Corporation (Suntera Nigeria 205 Ltd.), Reliance Industries Ltd. (Reliance Oil & Gas Mauritius Ltd.), among others, can be classified as resource-seeking outward FDI.

Internationalization helps not only access new markets but also state-of-the-art technologies. Technology-seeking firms tend to invest in countries with greater technological infrastructure and capability. Countries having higher innovation activities due to their focus on research and development are favorite destinations for such investments (Co and List, 2004). In most cases, the developed countries have been the forerunner in production of technology. There is also consensus that developed countries are center of attraction for developing country firms from the point of view of acquiring technology (strategic-assets). The strategic-asset seeking motive has become even more important in recent years, since some of the assets in developed countries have become cheaper in the aftermath of the global financial crisis. In the empirical front, the intensity of patenting (availability of technological assets) has been found to be one of the key determinants of geographical distributions of overseas acquisition by Indian pharmaceutical firms (Pradhan, 2010).[10] Nevertheless, empirical evidence on technology-seeking motive of Indian firms across different sectors is quite limited. As the pharmaceutical industry illustrates, technology-seeking outward FDI can be useful strategy to secure firm-specific advantages and to build lasting competitive advantage (Athreye and Godley, 2009).[11] [12]

Efficiency-Seeking

One of the motives behind outward FDI is the firms' quest for lower input and production costs (UNCTAD, 1998; Braconier et al., 2005; Bellak et al., 2008). Usually, the flow of capital from high-wage industrialized countries to low-wage developing countries falls under the efficiency-seeking FDI, also loosely termed as vertical FDI. In the context of developing countries, like India, this might not always be the case. Nevertheless, investment in relatively less developed countries could be efficiency-seeking. Similarly, a part of the investment could be made in relatively low cost countries, thereby seeking efficiency. Recent investments by (in) Tata Motors Ltd. (Tata Motors (Thailand) Ltd.), Bajaj Auto Ltd. (PT Bajaj Auto Indonesia), TVS Motor Company Ltd. (PT. TVS Motor Company Indonesia), Elgi Equipments Ltd. (PT Elgi Equipments Indonesia) etc. can be counted as efficiency-seeking FDI. Similarly, IT firms such as Tata Consultancy Services (TCS) has invested across different countries of Asia, Africa and Latin America to serve different markets more efficiently.

Market-Seeking

Firms tend to invest in countries that have larger market size due to higher expected demand for its products and services. The market-seeking FDI can also materialize when the firms try to increase their global footprint by entering new market, to explore business opportunities abroad, to expand brand in the global market, and to diversifying across different overseas markets. Market-seeking FDI, which is horizontal in nature, will grow in importance in the context of higher growth potentials for the firm in the foreign market vis a vis in the domestic market. Several studies have found evidence of market-seeking FDI (Kolstad and Wiig, 2012 for China; Ramasamy et al., 2012 for Chinese private firms; Cheung and Qian, 2009 for China;

[10] See Deng (2007, 2009) for strategic-asset seeking outward FDI by China.

[11] The technology-seeking motive is further emphasized in Dasgupta (2010), Tiwari and Herstatt (2010), Kedron and Bagchi-Sen (2012). Also see Kedia et al. (2012) for a discussion on knowledge-seeking FDI by emerging multinational enterprises.

[12] Some of the recent investments by (in) Alkem Laboratories Ltd. (S&B Pharma Inc., USA), Aurobindo Pharma Ltd. (Aurobindo Pharma USA Inc. NJ), Reliance Polyolefins Ltd. (MPM Bioventures IV, USA), Godrej Industries Ltd. (Medquist Holdings Inc., USA), Ashok Layland Ltd. (ADES Holdings Inc., USA; Albonair GMBH, Germany), Larsen & Toubro Infotech Ltd. (GDA Tech Inc., USA) seem to have the flavor of technology-seeking FDI.

Nunnenkamp et al., 2012 for India; Chakrabarti, 2001 for cross section of countries; Mottaleb and Kalirajan, 2010 in developing countries; Goh and Wong, 2011 for Malaysia). There are also several recent examples of market-seeking outward FDI by emerging multinationals from India.[13]

The empirical specification, which will be discussed in the next section, will include explanatory variables for testing the above discussed standard locational factors. Other important locational factors include investment regime in the host country, availability of skilled labour, linkage with the source country (economic or otherwise). Therefore, the specification is augmented to incorporate these additional locational variables that could have an impact on outward FDI of Indian firms by age, size and sector in different host countries.

3. Methodology and Data Sources

The model

The following empirical model is specified based on the discussion in the previous section. The model is estimated to identify the motivation of outward FDI by Indian firms for different sub-sample of firms classified by age, size and sector.

$$OFDI_{ijt}^{k} = \alpha + \beta_1 R_{jt} + \beta_2 T_{jt} + \beta_3 E_{jt} + \beta_4 M_{jt} + \gamma Controls_{jt} + \varepsilon_{ijt} \quad \textbf{.....} \ \textbf{(1)}$$

In the above equation (1), OFDI is the outward investment by Indian firms in the form of equity and loan (in millions of USD); R, T, E, and M denote resource, technology, efficiency and market respectively. Subscript i represents firm, j stands for host country, t denotes time period 2008-09 to 2011-12, and k denotes the type of outward investing firm (classified by age, size and sector). Firms are categorized into younger and older based on median age of the sample; smaller and larger/bigger based on median size of the sample firms using total assets (also total sales); and manufacturing and service based on National Industrial Classification (NIC). The median age of sample firm is 22 years, median size based on total assets (total sales) is 254 (159) million US dollar.

The standard motivation related variables, e.g. resource, technology, efficiency, market are included in the empirical model. The resource availability in the host country is captured by fuel export of the host country as percentage of merchandise exports (see Cheung and Qian, 2009; Kolstad and Wiig, 2012), technology availability by resident patent application in the host country (Buckley et al., 2012; Pradhan, 2010, 2011). The GDP per capita is used as a proxy for

[13] Bharti Airtel Ltd. acquired Zain Africa BV in 2010 to enter into the African market i.e. through the acquisition route. Similar recent instances of market-seeking outward FDI by Indian firms include the following investments by (in joint venture/wholly owned subsidiary) Wipro Ltd. (EN Think Inc, USA; Wipro Chengdu Ltd., China), Infosys BPO Ltd. (Mccmish Systems LLC, USA), HCL Technologies Ltd. (HCL Technologies (Shanghai) Ltd.), Mahindra & Mahindra Financial Services Ltd. (Mahindra Finance USA LLC), Kerala Ayurveda Ltd. (Ayurvedic Academy Inc., USA), Gitanjali Gems Ltd. (Gitanjali USA Inc.) etc.

wage costs as they move in the same direction.[14] The measure has been used as a proxy for vertical FDI (Nunnenkamp et al., 2012), and it is commonly available than average wages especially in developing countries. Significantly negative coefficient of income per-capita in host country would indicate efficiency-seeking outward FDI. The market size of the host country is captured by GDP (Pradhan 2010; Nunnenkamp et al., 2012) (see appendix for details of variable description and data sources).

The control variables include inward FDI stock in the host country as percentage of GDP, secondary school enrollment ratio of the host country, bilateral exchange rate, trade with India as percentage of host country's GDP, dummy for double taxation treaty (DTT), dummy for bilateral investment treaty (BIT), dummy for offshore financial centers (OFC) (see appendix for details). A larger existing stock of inward FDI can be taken as evidence that a country has a good regime for foreign investors (Zhou and Lall, 2005). This is also a proxy for partial capital account openness. Secondary school enrollment ratio captures availability of skilled labour, which has been considered as an important FDI determinant (e.g. Noorbakhsh et al., 2001; Hattari and Rajan, 2010). Similarly, linkage variables between home and host countries such as the exchange rate can have an effect on FDI (Buckley et al., 2012; Takagi and Shi, 2012; Udomkerdmongkol et al., 2009; Goh and Wong, 2011). We use exchange rate between India and host country to verify if it has any effect on outward FDI by Indian firms. A strong home currency (i.e. Indian Rupee) may encourage FDI outflows as it can buy more assets in the host country. Trade with India as percentage of GDP captures India's trade linkage with the host country. In general, trade openness can have an effect on FDI (Buckley et al., 2012; Asiedu, 2002). DTT and BIT are dummy variables for having double taxation (avoidance) treaty and bilateral investment treaty in force between India and host country respectively, which also captures linkage between India and host country. Provisions such as avoidance of double taxation on income and capital, and equal treatment and protection of investments are likely to promote Indian firms' investment in host countries that have brought into force DTT and BIT with India.[15] OFC is a dummy variable for host countries that are classified as offshore financial centers, which have financial activity disproportional to its population.

We have used official dataset, recently released by RBI, on actual outward FDI by Indian firms in overseas joint venture/ wholly owned subsidiary.[16] The dataset contains outward FDI made by firms in the form of equity, loan and guarantee (in US dollars) during each calendar month, as reported by authorized foreign exchange dealers.[17] Availability of breakdown by component of outward FDI in the form of equity and loan is another unique feature of this database.[18] In order

[14] Proxy is used due to non-availability of wage data for all countries in the sample period. We checked the availability in ILO Yearbook of Labor Statistics at the time of analysis.

[15] The effect of BIT on FDI is mixed in empirical studies (see Chaisse and Bellak, 2011).

[16] RBI has recently put data on overseas investment in public domain via press release no 2010-2011/1855 in June 2011. Data is made available for all months starting from July 2007. Since June 2011, the data has been updated every month.

[17] The amount reported towards equity and loan represents the actual outflows. However, the data do not capture investments made through mobilization for funds from external sources e.g. external commercial borrowings.

[18] To the best of our knowledge, no study has used this firm level dataset released by RBI. Previous studies on India's outward FDI have used aggregate data at the country or sectoral level. From the RBI data, we make use of actual FDI outflows in the form of equity and loan. Aggregate outflows such as those reported by Ministry of Finance are approved amount at the country level.

to analyse destination-wise FDI outflows at the firm level with an annual frequency, we have aggregated monthly figures and arrived at annual outward FDI by each firm disaggregated by destination country for each financial year (April-March). Sample period of analysis is for four years i.e. 2008-09 to 2011-12.[19] We do not consider 2007-08 as the data do not capture the entire financial (or calendar) year. The RBI dataset is rich in coverage. The number of host countries receiving investments from Indian firms is 102 in 2008-09, 99 in 2009-10, 105 in 2010-11, and 109 in 2011-12 (Table 1).

In the empirical estimation there may be an issue of endogeneity if outward FDI by Indian firms exert an impact on the host country variables. Therefore, we have used lag of the explanatory variables. The host country explanatory variables are lagged by one quarter to account for endogeneity concern and, at the same time, minimize the loss of observations. Therefore, the dependent variable on firm level outward FDI is for financial years 2008-09 to 2011-12, whereas the independent variables are for the calendar year years 2008-2011. The host country explanatory variables are collected from a number of sources. Variable description with expected sign and data sources are given in the appendix.

We have constructed an unbalanced panel of outward investing firms for econometric analysis. Note that the panel unit is specified at the firm-destination level (for example, if firms X, Y, and Z have invested in country A, we will have firm-destination panel unit for XA, YA, and ZA; similarly for other destination countries). The panel is constructed for firms that are matched in the Prowess database (see Table 1 for an overview of the sample of matched firms).[20] The matching is carried out as it comes handy in disaggregated analysis i.e. it enables to classify firms by age, size and sector of origin using the information available in the Prowess database, which would not be possible without matching. It is possible to locate the major activity (as per National Industrial Classification, NIC) by matching the outward investing firms in Prowess database, a database of Indian companies maintained by Centre for Monitoring Indian Economy (CMIE).[21]

What is unique about firm-destination panel? Firstly, it will capture firms' differential attraction to invest in different host countries i.e. motivation of investing in different host countries. Secondly, it is necessary to construct the panel in this way for examining firm level motivations. Note that this approach differs from the usual way of constructing panel at the bilateral level with aggregate FDI outflows.[22] Moreover, the host country observations get repeated, therefore we

[19] We have outward FDI data for 2012-13 also. However, the host country explanatory variables are not available at the time of econometric analysis.

[20] See Goldberg et al. (2010) and Mukim (2011) for a brief description about Prowess database (also visit http://prowess.cmie.com/). Note that the database contains both (stock exchange) listed and non-listed firms.

[21] The RBI data on outward FDI by Indian firms also contain major activity of the joint venture / wholly owned subsidiary in the host country. However, many Indian firms have made investments in multiple JV/WOS in many destination countries i.e. the major activities in the destination country are not in the same sector. This makes it difficult to classify the investments in the destination country under one sector, when the investments are actually in multiple sectors. Note that the firm-destination panel requires total outward FDI in the destination country as dependent variable (which is total of all the JV/WOS in the destination country). Also, we are interested to study the difference in outward FDI by the sector of origin of the outward investing firm.

[22] Aggregative studies include distance as another explanatory variable. However, in the firm level analysis, for each firm, the effect of distance is expected to be captured by firm-destination effects (since each firm-destination pair forms a unique cross section in our panel) even though distance is not explicitly included in the model.

use cluster robust standard error in the estimation (adjusted for clustering at the host country level). It is necessary to use firm-destination panel for capturing firm's motivation of investing in different host countries and to test whether firm level outward FDI is affected by host country variables. This way we can also maximize the number of observations for econometric analysis (as there are missing observations for some of the variables depending on the destination country) besides checking the consistency of our finding with previous studies that have used panel analysis with aggregate FDI outflows.[23] The regression is run for outward investment in the form of sum of equity and loans (guarantees not considered). Later on, as a robustness check, the model is estimated with equity investment as the dependent variable.

Table 1: Sample of Matched Firms

Financial Year	Number of Destination Countries	Number of Firms investing Abroad	Firms Matched in PROWESS database	Match %
2008-09	102	1336	569	42.59
2009-10	99	1175	492	41.87
2010-11	105	1624	635	39.10
2011-12	109	1725	637	36.93

Source: Author's Compilation from RBI and CMIE-Prowess Database

Before moving on to the econometric results, we would like to provide a broad overview of outward FDI by Indian firms during the sample period. We present the direction and distribution of outward FDI made by Indian firms in Table 2a, Table 2b and Table 3 respectively. However, the econometric analysis has been done for the matched sample only (see Table 1).

The direction of outward FDI by Indian firms in the form of equity is given in Table 2a and loan in Table 2b. Mauritius and Singapore occupy the top position when it comes to outward FDI by Indian firms, a similar pattern as in the case of FDI received by India. The importance of OFCs as a destination of Indian firms' outward FDI is to be noted. Indian firms have also invested significantly in developed countries including in Australia, United Kingdom, United States etc. Some of the developing countries have received sizeable amount of investments from Indian firms both in the form of equity and loan (Table 2a, Table 2b). Indian firms have also invested in many developing countries although in smaller amounts.

Table 2a: Direction of India's Outward FDI (in the form of equity) in 2008-09 to 2011-12

Country	2008-09		2009-10		2010-11		2011-12	
	USD Million	% of total	USD Million	% of total	USD Million	% of total	USD Million	% of total
Mauritius	1,815.92	16.95	611.32	9.04	3,013.44	32.22	2,131.31	33.89
Singapore	2,446.87	22.84	2,128.83	31.48	1,331.49	14.24	998.98	15.89

[23] Previous studies on India's aggregate FDI outflows have used estimation methodologies such as Pooled OLS, Poisson Pseudo Maximum Likelihood, Tobit, Tobit & Censored Quantile Regression, Censored Poisson etc.

Australia	102.06	0.95	34.35	0.51	123.58	1.32	94.10	1.50
Netherlands	353.43	3.30	1,171.52	17.32	1,027.49	10.99	272.97	4.34
United Kingdom	577.63	5.39	70.25	1.04	389.38	4.16	929.32	14.78
United States	816.10	7.62	492.92	7.29	844.58	9.03	468.36	7.45
British Virgin Islands	110.59	1.03	56.68	0.84	306.31	3.28	65.75	1.05
United Arab Emirates	321.03	3.00	521.68	7.71	298.98	3.20	300.97	4.79
Switzerland	112.72	1.05	25.60	0.38	14.89	0.16	21.08	0.34
Cyprus	2,154.61	20.11	267.21	3.95	351.83	3.76	63.61	1.01
Russia	388.41	3.63	430.45	6.36	77.82	0.83	121.73	1.94
Thailand	8.72	0.08	7.76	0.11	8.15	0.09	17.42	0.28
Indonesia	19.02	0.18	261.32	3.68	25.80	0.28	30.63	0.49
Bangladesh	18.39	0.17	165.37	2.45	14.38	0.15	9.58	0.15
South Korea	0.00	0.00	0.15	0.00	378.06	4.04	0.60	0.01
Others	1,468.05	13.70	517.86	7.84	1,145.59	12.25	761.94	12.09
Total	**10,713.55**	**100**	**6,763.27**	**100**	**9,351.77**	**100**	**6,288.35**	**100**

Source: Author's compilation from RBI.

Table 2b: Direction of India's Outward FDI (in the form of loan) in 2008-09 to 2011-12

Country	2008-09		2009-10		2010-11		2011-12	
	USD Million	% of total	USD Million	% of total	USD Million	% of total	USD Million	% of total
Mauritius	469.99	14.12	713.17	19.70	2,019.51	27.49	1,277.17	15.34
Singapore	799.64	24.02	587.52	16.23	1,938.22	26.38	1,681.83	20.20
Australia	9.93	0.30	2.36	0.07	88.67	1.21	21.09	0.25
Netherlands	204.43	6.14	211.70	5.85	443.75	6.04	1,036.16	12.45
United Kingdom	98.09	2.95	152.58	4.21	147.36	2.01	288.22	3.46
United States	320.04	9.61	278.99	7.71	488.60	6.65	459.31	5.52
British Virgin Islands	259.86	7.81	391.54	10.82	172.73	2.35	469.69	5.64
United Arab Emirates	240.55	7.23	379.73	10.49	490.26	6.67	189.58	2.28
Switzerland	155.12	4.66	107.42	2.97	235.88	3.21	166.07	1.99
Cyprus	83.59	2.51	170.18	4.70	161.54	2.20	21.12	0.25
Russia	0.18	0.01	0.00	0.00	162.06	2.21	0.00	0.00
Thailand	112.81	3.39	24.83	0.69	1.48	0.02	15.91	0.19
Indonesia	14.35	0.43	4.70	0.13	3.10	0.04	43.17	0.52
Bangladesh	2.28	0.07	0.20	0.01	6.50	0.09	3.69	0.04
South Korea	0.00	0.00	0.00	0.00	84.43	1.15	0.03	0.00
Others	558.14	16.75	595.27	16.42	902.80	12.28	2,652.13	31.87
Total	**3,329.00**	**100**	**3,620.19**	**100**	**7,346.89**	**100**	**8,325.17**	**100**

Source: Author's compilation from RBI.

Sectoral breakdown of Indian firms' outward FDI (sum of equity and loan) reveals that the share of manufacturing has fallen during the study period and concomitantly an increase in the share of services. The share of primary in total outward FDI has increased over the sample period. Nevertheless, manufacturing and services have received sizable portion of total outward FDI (in the form of equity and loan) made by Indian firms during the sample period.

Table 3: Distribution of India's outward FDI (equity and loan) in 2008-09 to 2011-12 (figures in %)

Sector (of the destination country)	2008-09	2009-10	2010-11	2011-12
Primary	3.79	7.69	8.05	15.72
Manufacturing	52.34	45.68	32.31	22.88
Financial, Insurance, Real Estate and Business Services	22.60	18.65	34.74	28.82
Other Non Financial Services	15.64	15.81	20.29	28.17
Construction	2.36	3.27	2.44	2.91
Electricity, Gas and Water	0.89	7.84	0.51	0.70
Miscellaneous	2.38	1.07	1.66	0.80
Total	100	100	100	100

Note: Other Non Financial Services Include: Transport, Storage and Communication Services; Wholesale, Retail Trade, Restaurants and Hotels; and Community, Social and Personal Services.
Source: Author's compilation from RBI

In what follows is a discussion of findings of the empirical analysis (equation 1) i.e. the locational determinants of outward FDI by age, size and sector of Indian firms.

4. Results and Discussion

Descriptive statistics of the variables are presented in appendix. The regression results of equation 1, pertaining to locational determinants of outward FDI of matched firms, are presented by age, size and sector of outward investing firm in subsequent columns of Table 4. The dependent variable is the sum of equity and loan. We have used equity investment as dependent variable as part of robustness check.

In the overall sample, standard locational factors such as resource, technology and efficiency are found to be significant determinants of outward FDI by Indian firms. Nevertheless, a disaggregated analysis by age, size and sector reveals interesting insights on the source of attraction to invest abroad. The empirical results presented in subsequent columns of Table 4 point to the significance of these standard motives mainly for the older, bigger and the manufacturing firms. Resource, efficiency and market are significant factors in the case of older firms; whereas resource, technology, and efficiency are significant motivations of outward FDI for the larger, and manufacturing firms. However, younger, smaller, and service sector firms are not significantly found to follow these standard motives i.e. their investments are driven by other considerations. Such considerations could include establishment of local sales and distribution network in the host country, among others. The share of investment in other non-financial services (which has increased from 15.64 to 28.17 during the sample period, see Table 3) provides suggestive evidence to this effect, which is primarily undertaken to establish sales and distribution network in the host country. Nevertheless, the availability of skilled labour (SCHOOL) seems to be a significant host country factor for some of these firms (especially the younger and service sector firms).

The insignificance of technology-seeking motive in the case of older firms could be because of having accumulated stock of technological capacity with these older firms and thereby less technology-constrained in the process of internationalization. The market size of the host country did not have statistically significant impact on Indian firms' outward FDI except for the older firms, which provides only partial support to the market-seeking motive reported in previous studies that uses aggregate (bilateral) FDI flows (Hattari and Rajan, 2010; Nunnenkamp et al., 2012).

Nevertheless, there is evidence to support the existence of standard motives of investment abroad albeit for different sub-sample of outward investing firm. We find strong evidence of resource-seeking, technology-seeking, efficiency seeking outward FDI for bigger, and manufacturing firms. The coefficient of FUELEXP is also positive and significant for older firms suggesting that older, bigger, manufacturing firms have invested in countries having energy resources.[24] Similarly, in the case of bigger and manufacturing firms, the technology seeking motive is supported by positive and significant coefficient estimate of RPATENT.[25] The efficiency-seeking motive outward FDI is found to be significant for older, bigger, and manufacturing firms as the coefficient of GDPPC is negative and significant. The negative sign of GDPPC is not

[24] This is consistent with Hattari and Rajan (2010) but contrary to Pradhan (2011).

[25] Pradhan (2010) reports a positive impact of intensity of patenting in host country on acquisition by Indian pharmaceutical sector. However, intensity of patenting did not have any significant effect in Pradhan (2011).

contradictory, as the variable is defined in absolute terms (as in Nunnenkamp et al., 2012) and not relative to India.

Depending on the sub-sample of analysis, the control variables such as FDISTGDP, XCHANGE, SCHOOL, BIT and OFC turn out to be significant. However, trade-GDP ratio, and DTT dummy are not significant at conventional levels. FDISTGDP is significant for older and larger firms (with correct sign) implying that these firms invest in countries with established FDI trajectory. Similarly, exchange rate has right sign and significance for the older firms. However, the impact of exchange rate is at best mixed as evident from Table 4. Nevertheless, mixed impact of exchange rate on investment can also be observed in previous studies.[26]

BITs have expected positive impact on outward FDI signifying that BITs can facilitate India's outward FDI. As expected, the OFC dummy is significant in most of the models. This is in line with observed direction of India's outward FDI (Table 2a & Table 2b). The importance of OFC is also highlighted by India Brand Equity Foundation (IBEF). IBEF (2013) observes that special purpose vehicles set-up in OFCs have been majorly used as channels to mobilize funds and invest in third countries, keeping in view the business and legal consideration, taxation advantages and easier access to financial resources in those countries e.g. Mauritius, which is home to host of Indian firms and a vast Indian-origin population, positions itself as a 'tax-free gateway to Africa'. The OFCs as destination of Indian outward FDI are likely to cast doubt on the true motivation of outward FDI of some of the India firms. Nevertheless, the ultimate motive of investments made through OFCs may not be very different from the ones found in this analysis, except that the firms are routing these investments through OFCs to avail taxation and legal advantages.[27] Yet, unearthing the ultimate destination of investment made through OFCs could be attempted in future studies, which could provide better understanding of motivation and likely impacts on home and host countries.

Robustness Check

The results hold when sales is used as alternative measure of firm size. Sales is used as the alternative measure of firm size (instead of total assets) to control for the fact that service sector firms usually have lower stock of physical assets than the manufacturing ones. The results remain qualitatively similar to the case when size is defined based on total assets (see Table 4 & Table 5).

As additional robustness check, we have used an alternative measure i.e. outward FDI in the form of equity as the dependent variable. The results are reported in Table 5. The results are qualitatively similar to the case of overall outward FDI (equity plus loans) presented in Table 4. The only notable deviation is the significance of technology in the case of smaller firms (when sales is used to measure size). However, the variable is not significant for the smaller firms when size is based on total assets. Thus, the results in Table 5 are broadly similar to that of Table 4.

[26] We also included additional host country explanatory variables; e.g. ores and metals exports (combined with fuel exports), institutional quality, but none of them were found statistically significant. Data sourced from World Bank, and the Institutional Quality Database (IQD). Similarly, dummy for business group was not found significant. This could be because many standalone firms have invested abroad besides the business group affiliated ones.

[27] Gopalan and Rajan (2010) tries to unearth the ultimate destination of investment by looking at M&A data. Guesstimate suggests that about 10 per cent of FDI (inflows into India) represent round-tripped capital from India via tax heavens such as Mauritius (Nagaraj, 2013). However, outflows could be in the form of FDI or otherwise.

Table 4: Results of the Matched Sample (Random effects model) Dependent variable: Equity + loan

Variables	All firms	Younger firms (<median age)	Older firms (>= median age)	Smaller firms (based on total assets)	Bigger firms (based on total assets)	Smaller firms (based on sales)	Bigger firms (based on sales)	Manufacturing firms	Service firms
FUELEXP	1.139**	-0.0086	1.511***	-0.082	1.765***	-0.0048	1.555***	1.424***	-0.0667
	(0.443)	(0.262)	(0.372)	(0.161)	(0.578)	(0.115)	(0.585)	(0.441)	(0.4367)
RPATENT	0.00014***	0.00005	-0.0002	-0.00004	0.0003***	0.00001	0.0006**	0.0002***	0.0004
	(0.00005)	(0.00004)	(0.0002)	(0.0002)	(0.0001)	(0.00007)	(0.0003)	(0.00006)	(0.0003)
GDPPC	-0.001***	-0.0002	-0.0013***	0.0003	-0.001***	-0.0001	-0.001***	-0.001***	-1.52e-06
	(0.0002)	(0.0002)	(0.0004)	(0.0002)	(0.0004)	(0.0001)	(0.0004)	(0.0002)	(0.0003)
GDP	2.04e-07	5.96e-07	8.32e-06**	7.07e-07	-1.63e-06	-1.59e-07	-6.40e-06	-1.57e-08	-5.87e-06
	(6.62e-07)	(4.73e-07)	(3.93e-06)	(3.28e-06)	(2.11e-06)	(1.27e-06)	(4.98e-06)	(7.63e-07)	(5.50e-06)
FDISTGDP	0.250	0.111	0.374**	0.016	0.383	-0.0146	0.494*	0.209	0.150
	(0.157)	(0.132)	(0.180)	(0.065)	(0.277)	(0.0372)	(0.285)	(0.163)	(0.185)
SCHOOL	0.670	1.165**	0.618	0.270	1.127	-0.100	0.964	0.615	0.9421*
	(0.459)	(0.529)	(0.622)	(0.225)	(0.756)	(0.0749)	(0.677)	(0.469)	(0.5128)
XCHANGE	-4.698	-3.932	52.429**	5.708	-7.981*	-2.814	-10.996**	-4.535	-50.481
	(2.903)	(2.418)	(25.709)	(24.773)	(4.687)	(8.732)	(4.594)	(3.179)	(40.786)
TRADEGDP	-14.142	-10.895	-15.080	-2.022	-14.834	-0.302	-20.418	-11.509	-13.646
	(9.698)	(8.137)	(9.946)	(2.158)	(13.889)	(1.727)	(15.969)	(9.769)	(11.592)
DTT dummy	-4.138	-60.150	65.828	-16.599	49.140	-2.259	39.021	13.924	-84.336
	(38.911)	(38.573)	(40.686)	(16.668)	(50.265)	(3.935)	(73.627)	(37.185)	(57.771)
BIT dummy	23.456***	17.583**	26.161***	6.346**	29.849***	5.068**	35.847***	22.436***	18.135
	(7.369)	(8.5498)	(8.661)	(3.206)	(9.991)	(2.107)	(10.136)	(7.639)	(11.582)
OFC dummy	33.988***	3.524	71.064***	-3.573	58.618**	4.677*	39.206*	47.003***	-11.302
	(12.870)	(10.434)	(15.879)	(8.004)	(24.293)	(2.405)	(21.285)	(14.473)	(13.175)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-60.267	-53.50	-137.207*	-19.658	-161.363*	17.523*	-127.331	-72.202	-1.065
	(58.523)	(50.012)	(80.442)	(28.048)	(90.393)	(9.433)	(100.286)	(64.545)	(57.231)
Number of observations	882	464	418	440	442	438	444	554	328
Number of firm-destinations	569	317	271	327	289	316	298	361	214
R^2 overall	0.03	0.05	0.06	0.01	0.05	0.03	0.05	0.04	0.05
Wald Chi2	317.38***	2230.17***	4521.22***	20691.82***	1309.05***	1491.90***	772.64***	1424.58***	10138.01***
Hausman test (chi2)	4.94	3.02	3.72	2.46	3.41	22.00***	3.53	3.65	4.57
Hausman test (p-val)	0.552	0.807	0.715	0.930	0.756	0.0012	0.740	0.724	0.601

Figures in the parenthesis are robust standard error (adjusted for clustering). *** significant at 1%, ** significant at 5%, * significant at 10%.

Table 5: Results of the Matched Sample (Random effects model): Dependent variable: Equity

Variables	All firms	Younger firms	Older firms	Smaller firms (based on total assets)	Bigger firms (based on total assets)	Smaller firms (based on sales)	Bigger firms (based on sales)	Manufacturing firms	Service firms
FUELEXP	1.131**	-0.038	1.498***	-0.188	1.775***	-0.1155	1.565***	1.428***	-0.010
	(0.455)	(0.204)	(0.385)	(0.176)	(0.570)	(0.0737)	(0.575)	(0.460)	(0.352)
RPATENT	0.00013**	0.00003	-0.0003	-0.0002	0.0003***	-0.0001***	0.0006**	0.0001**	0.0004
	(0.00005)	(0.00003)	(0.0002)	(0.0002)	(0.0001)	(0.00004)	(0.0003)	(0.00006)	(0.0003)
GDPPC	-0.001***	-0.0001	-0.0013***	0.0003	-0.001***	-0.00003	-0.001***	-0.0009***	-0.00002
	(0.0002)	(0.0001)	(0.0004)	(0.0002)	(0.0004)	(0.00005)	(0.0003)	(0.0002)	(0.00026)
GDP	3.13e-07	5.51e-07*	8.89e-06**	3.56e-06	-1.67e-06	1.92e-06**	-6.30e-06	1.25e-07	-5.10e-06
	(6.46e-07)	(3.30e-07)	(3.86e-06)	(3.49e-06)	(1.89e-06)	(7.57e-07)	(4.63e-06)	(7.53e-07)	(5.14e-06)
FDISTGDP	0.220	0.089	0.339*	0.011	0.315	-0.012	0.421	0.175	0.156
	(0.149)	(0.099)	(0.182)	(0.062)	(0.261)	(0.028)	(0.266)	(0.161)	(0.160)
SCHOOL	0.562	0.954**	0.593	0.419*	0.917	0.004	0.776	0.527	0.800**
	(0.398)	(0.374)	(0.614)	(0.224)	(0.671)	(0.066)	(0.596)	(0.436)	(0.367)
XCHANGE	-3.529	-2.503	55.663***	24.727	-6.474	11.587**	-9.635**	-3.291	-44.384
	(2.906)	(1.767)	(24.394)	(26.358)	(4.413)	(5.123)	(4.317)	(3.281)	(38.199)
TRADEGDP	-11.258	-7.701	-12.024	-0.962	-10.998	0.486	-15.915	-8.748	-12.501
	(9.268)	(5.989)	(10.208)	(1.933)	(13.176)	(1.312)	(15.267)	(9.607)	(10.043)
DTT dummy	8.677	-44.724	82.860**	-10.197	58.080	-0.868	56.230	21.843	-60.395
	(33.829)	(28.787)	(39.198)	(13.616)	(44.580)	(3.607)	(66.668)	(32.832)	(47.325)
BIT dummy	21.933***	12.912**	26.562***	6.705**	26.905***	3.976***	33.417***	20.506***	19.133*
	(6.840)	(6.098)	(8.244)	(3.379)	(9.069)	(1.237)	(9.518)	(7.522)	(9.893)
OFC dummy	33.451***	-0.245	73.418***	1.133	56.985**	0.159	44.016**	45.414***	-6.970
	(11.732)	(7.411)	(15.663)	(8.443)	(22.317)	(1.264)	(19.882)	(13.974)	(10.884)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-65.508	-50.102	-155.386*	-46.704*	-151.993*	0.038	-127.672	-75.303	-15.790
	(53.291)	(37.761)	(79.976)	(27.952)	(83.274)	(5.591)	(92.215)	(61.547)	(47.359)
Number of observations	882	464	418	440	442	438	444	554	328
Number of firm-destinations	569	317	271	327	289	316	298	361	214
R^2 overall	0.03	0.03	0.06	0.01	0.05	0.02	0.05	0.04	0.04
Wald Chi2	453.84***	709.33***	3506.46***	31128.49***	1093.86***	889.35***	846.31***	1776.79***	1288.46***
Hausman test (chi2)	5.16	3.22	3.95	3.40	3.60	3.76	3.75	3.74	3.69
Hausman test (p-val)	0.523	0.781	0.683	0.845	0.730	0.710	0.710	0.712	0.718

Figures in the parenthesis are robust standard error (adjusted for clustering). *** significant at 1%, ** significant at 5%, * significant at 10%.

5. Summary and Conclusion

The paper examines outward FDI motives of Indian firms over the period 2008-09 to 2011-12. While doing so, we have examined the host country factors affecting outward FDI of Indian firms by age, size and sector of origin of the outward investing firm.

Our analysis finds the presence of multiple motives of outward FDI by Indian firms (especially for a few sub-samples of firms). One reason for this could be due to investment in diversified sectors in host countries, irrespective of their sector of origin in India. However, there is significant difference in outward FDI motives of firms by age, size and sector of the outward investing firm. The standard motives (resource, technology, efficiency, market) could explain the international expansion of older, larger, and manufacturing firms. However, internationalization of younger, smaller and service sector firms seems to be motivated by considerations other than these standard motives. It is likely that these firms could merely look for establishing local sales and distribution network in the host country in the initial stages of internationalization. The results are robust to use of alternative measure of outward investment. Our results also suggest that the BITs could play a role in facilitating outward FDI.

In addition, OFCs emerge as a significant destination of outward FDI by Indian firms. Since OFCs are used as intermediary to invest in third countries, it leaves us bewildered about the ultimate motivation of investment that has been undertaken through these financial centers. However, we argue that the motivations discussed in this paper will still be applicable to investment made through OFCs except for the fact that these investments have been routed through financial centers to avail taxation and legal advantages.

Firms with diverse characteristics by age, size and sector of origin have invested abroad in varied sectors in host countries during the period considered. The variation in motives across age, size and sector of origin implies that there could be differential impact of outward FDI by Indian firms on home and host countries.

Finally, we emphasize that the standard motives alone can not explain the phenomenon of outward FDI by Indian firms (especially for younger, smaller and service sector firms) in many different overseas locations. It is the collection of multiple motives leading to outward FDI by Indian firms. Nevertheless, the relative importance of host country determinants might change over time as priorities of the firm or the policies in the home and host countries undergo a change.

Firms engaging in outward FDI have increased in number over the years. This reflects an increase in the global ambition of Indian firms to explore global opportunities and seek resource, efficiency, technology and strategic-assets, markets, among others.

As more and more Indian firms invest abroad, one can expect that such outward FDI will create global production and distribution networks and benefit the firms in multiple (differential) ways.[28] In this regard, encouraging firms to enhance their participation in international

[28] Participation of Indian firms in international production network is low as evident from previous studies (Athukorala and Nasir, 2012; Athukorala, 2008, 2011; Anukoonwattaka, 2011; Sen and Srivastava, 2011).

production network has to form a part of India's outward FDI promotion policy that needs to be stable over time. Such policy also needs to be accompanied by removal of domestic bottlenecks that exist in the form of hard and soft infrastructure, among others, since international production network requires lower border costs in terms of both money and time. Nevertheless, it may also be useful for emerging multinationals (especially younger and smaller ones) to learn from other existing firms' investment experiences to be successful in their outward FDI projects.

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Appendix

Variable, Description, and Data Sources

Variable	Description	Expected sign	Source
	Dependent Variable		
Equity + Loan	Outward FDI made by firm in the form of equity and loan (US $ millions)		Reserve Bank of India
Equity	Outward FDI made by firm in the form of equity (US $ millions)		Reserve Bank of India
	Host Country Variables		
FUELEXP	Fuel exports % of merchandise exports	+/-	World Development Indicators, World Bank
RPATENT	number of resident patent application in host country	+	World Intellectual Property Organization (WIPO)
GDPPC	GDP per capita of host country (US $)	-	World Development Indicators, World Bank
GDP	GDP of host country (US $ million)	+	World Development Indicators, World Bank
FDISTGDP	FDI stock % of GDP	+	World Investment Report, 2012
SCHOOL	School enrolment, secondary (% gross)	+	World Development Indicators, World Bank
XCHANGE	Bilateral exchange rate (foreign currency per unit of Indian Rupee)	+	Calculated from International Financial Statistics (IFS), International Monetary Fund
TRADEGDP	Host country's Trade with India (% of host country's GDP)	+	Constructed using UN Comtrade & UN ServiceTrade
DTT dummy	If any Double taxation treaty (on Income and Capital) between India and host country	+	UNCTAD, Country-specific list of double taxation treaties
BIT dummy	If there is any bilateral investment treaty (BIT) in force between India and the host country (time-varying)	+	UNCTAD, Country-specific list of Bilateral Investment Treaties
OFC dummy	If the host country is classified as an Offshore financial center (OFC)	+	IMF & Financial Stability Forum (Source: Zoromé, 2007; Table 10)
	Sector		
Manufacturing	NIC code (10-32)		
Service	NIC code (55-98)		

Descriptive Statistics

Variable	Mean	Standard Deviation	N
Equity + Loan	12.78	77.56	882
Equity	9.59	76.30	882
FUELEXP	8.36	7.60	882
RPATENT	104844.30	114327.6	882
GDPPC	42136.97	9466.035	882
GDP	6596970	6433682	882
FDISTGDP	68.30	103.32	882
SCHOOL	101.47	10.37	882
XCHANGE	0.08	0.34	882
TRADEGDP	1.13	1.86	882
DTT	0.94	0.24	882
BIT	0.46	0.50	882
OFC	0.14	0.35	882

Source: Author's calculations.