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479

OUTWARD FDI AND CROSS-BORDER M&As BY INDIAN FIRMS: A HOST COUNTRY-LEVEL ANALYSIS

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ABSTRACT

This paper tries to understand the trends and the pattern of Outward Foreign Direct Investment (OFDI) by Indian firms and the factors that determine OFDI from India through Cross-Border Mergers and Acquisitions (CBM&As). As economic activities of those firms in the respective host countries are not accessible, the present study is restricted to analyse the push and pull factors, based on the macroeconomic indicators of the leading nineteen countries that hosted such investments between 2004 and 2015. The study employs Negative binomial and Ordinary Least Square (OLS) panel data regression. It is based on a theoretical framework, i) by drawing insights mainly from the Ownership Location Internationalisation (OLI) theory on determinants of FDI, namely, market-seeking, resource seeking and strategic asset seeking, and ii)by controlling other variables such as India's Real Effective Exchange Rate and Institutional factors.

OFDI from India largely took place in the form of CBM&As particularly in US and UK, and especially in the manufacturing and service sectors. The foreign exchange spending of the sample of 450 firms shows that they spend much more than their foreign exchange earnings, resulting in an adverse effect on India's balance of payment. Firms going for overseas-acquisitions prefer to spend more on in-house R&D and personnel to strengthen technological capability and skill formation. The study finds empirical evidence to validate the hypothesis developed by the theories on MNEs related to market seeking, strategic assets seeking and resource seeking motivations of OFDI. The study argues that Indian firms have invested abroad through CBM&As to support their export activities, with such exports doing a complementary role rather than as a substitute for exports. Increasing external transaction cost due to rupee depreciation also has motivated Indian firms to engage in overseas acquisitions. Institutional set up of India has played a significant role in facilitating such deals.

Keywords: India; OFDI; CBM&As; OLI theory; Push-Pull Factors.
JEL Classification: F6; F2; O3 and L5

Introduction

The new policy packages initiated by Government of India including 'Make in India', removal of entry barriers of foreign investment in order to tap more foreign savings and better technology are expected to transform Indian economy as a manufacturing hub. However, the most successful firms are trying to invest abroad through CBM&As for various reasons such as access to technology, markets, brands, patents and design, copyrights and trademarks.[1] According to the available Indian literature, such OFDIs are undertaken in order to increase corporate global competitiveness by pursuing related diversification and by integrating affiliates into global production networks and technology, to move up in their production value chain and secure international brand names (Sauvant and Pradhan et.al, 2010; Athreye and Godley, 2009; Athukorala, 2009; Gill and Singh, 2012; Beena, 2014). Competition from MNEs can drive Indian firms to invest abroad as a survival strategy. There have been various studies on the trends and determinants of outward FDI through Greenfield[2] (Lall,,1983; Lall, RB,1986; Morris,1991; Nagaraj 2006; Pradhan, 2008; Kumar & Chadha, 2008; Ramamurthy and Singh 2009; Pradhan & Sauvant et.al, 2010;

1 Earlier study has observed that firms investing abroad are mobilizing resources through external borrowings which have serious implications (Beena, 2011; 2014).

2 Greenfield FDI involves capital movement that helps establishing new enterprise by buying fixed assets, goods and services and hiring workers in the host country (WIR, 2009).

Khan, 2012; Mani, 2013; Kallummal *et al*, 2016), and Outward Foreign Direct Investment (OFDI) through Brownfield/CBM& As (Nayyar, 2008; Beena, 2011; Beena, 2014). But none of those studies had looked at the pull factors of the host countries that attracted such Brownfield investments[3] from India and the developmental implication of home country. This paper makes an attempt to fill this research gap. However, as economic activities of such firms in those respective host countries were not accessible to the researcher, the study restricts its analysis based on the macroeconomic indicators of host countries. The econometric exercise is employed to determine the push and pull factors of such investments based on the theoretical framework developed by drawing insights from Ownership Location Internationalisation (OLI) theory. An attempt has also been made to analyse the growth pattern of Outward Foreign Direct Investment from India through Greenfield and Brownfield/Cross-Border Mergers & Acquisitions (CBM&As) since 1990s; country-wise and sector-wise distribution of such investments from Indian Firms since mid-2000s and their economic characteristics. To what extent such OFDI has helped Indian manufacturing sector to strengthen technological capability has not been analysed in this paper. This paper could not look into the overall investment and financing pattern of such firms as it is beyond the scope of this study.

The paper i) discusses the analytical framework based on the theoretical and empirical studies carried out in the context of developed and developing countries including India; The definitions and sources of data of all the variables considered in the study are also discussed. ii) then proceeds to deals with the pattern, country-wise and sector-wise distributions of OFDI through Greenfield and Brownfield investments

3 FDI can be in the form of Brownfield if the entry of capital is in the form of merging or acquiring the assets of existing firm which would not create any further capital formation, additional capacity or employment. When a Brownfield/CBM&A takes place, it registers as both a sale in the country of a target firm and purchase in the home country of the acquiring firm (WIR, 2006).

and the economic characteristics of such firms located in India. iii) This is followed by estimation and result of econometric exercise and iv) concludes with the major findings and suggestions for further research.

Section I: Theoretical and Analytical Framework

According to the eclectic theory or Ownership Location Internationalisation (OLI) theory developed by Dunning (1976), a firm would engage in foreign expansion if it has ownership and internationalisation advantages. Moreover, the host country must have locational advantages as compared to the firm's home country. It should be kept in mind that this OLI theory was developed (Dunning, 1977; 1979 and 1988) by integrating three approaches to FDI [4], namely the Industrial Organization Theory, The Internationalisation Theory and the Location Theory.

1) The Industrial Organization Theory (Hymer, 1976) focuses on structural imperfections and argues that a foreign firm which establishes a subsidiary in another country must have some firm-specific advantages(e.g. brand name, patent-protected superior technology, marketing and managerial skills, etc.) with respect to the domestic firm in the host country;

2) the Internationalisation theory explains that FDI is the result of firms replacing external market transactions with internal transactions, as a way of avoiding imperfections in the markets for intermediate inputs (Buckley and Casson, 1976). It asserts that MNEs internalise transactions as long as the benefits outweigh the costs (Buckley et al., 2009);

3) The Location theory argues that MNE locates its value-adding activities in a specific host country only if such activities in the

4 Eclectic theory could be used as a framework for analysing the determinants of international production or sale of a firm rather than considering this theory for predicting the activities of MNEs (Dunning 2001).

host country function better than in the home country. Location advantage consists of input-side (abundant natural resources, appropriate and superior technologies and output-side (large market size)(Pedersen, 2003). However, it was postulated that these advantages are not likely to be uniformly spread among countries, industries, and firms and likely to change over time.

Vertical FDI can be made by firms that geographically fragment their production into stages, typically on the basis of factor intensities, exploiting lower factor prices abroad or reducing transaction costs by internalising upstream or downstream activities, i.e., suppliers, marketing channels (Ekholm and Markusen, 2002; Kokko, 2006). Accordingly, firms prefer to allocate stages with high labour intensity to countries with low levels of labour costs and the stages requiring much skill or capital to high-income countries. Substitution between employment levels at home and abroad may take place if an activity, previously conducted at home, is relocated abroad (Braconier and Ekholm, 1999).

Similarly, horizontal multinational enterprises (MNEs) are multiplant firms that seek to exploit their existing advantages and replicate the same activities in many locations. A substitution between home and foreign employment is expected if the produced goods are tradable. Several studies argue that substitution effect occurs between countries with comparable factor endowments. Konings and Murphy (2003) argued that labour substitution is more likely to take place when factor proportions are different in various locations, and vertical FDI prevails.

The motives of OFDI from relatively low-cost economies differ from that of high-income economies and therefore short-run job losses due to OFDI from low-cost home country could be unlikely (Masso, Urmas and Priit, 2008). It is also argued that firms investing abroad from emerging economies will have only a few firm-specific advantages, based on technologies, intellectual property and brand names that could

be exploited profitably in developed markets (Kokko, 2006; Varblane et al.2003). The rationale of outward FDI through CBM&As are to get access to natural resources and seeking strategic–assets investments especially R&D and Know-how, new technologies; to diversify markets and risks, to facilitate faster entry into foreign market and synergies (Wang and Boateng, 2007; Makino et al, 2002;Deng, 2009; Hopkins, 2008) Saturation in the home market would compel firms to invest abroad through CBM&As. Such investment can take place in order to promote exports to circumventing trade barriers by foreign countries (Wong and Chan, 2003). A firm could transform the transaction cost from an external disadvantage into internal advantage by acquiring a foreign firm. And such investments are largely influenced by institutional and political constraints, organisational capabilities and entrepreneurship (Nolan and Yeung, 2001; Hong and Sun, 2006).

Section II: Analysis / Discussion

II.1 Defining Variables / Leading Push-Pull Factors and Data sources

Based on the available theoretical and empirical literature, the following variables are found to be the leading push and pull factors that determine the OFDI through CBM&As. The study considers variables such as Market size, Endowments of natural resources, Knowledge based-asset/strategic assets, Political risk, Institutional factors of host countries, Corporate tax rate and trade-related indicators as pull factors. Similarly, FDI inflows to home country, Capital market of the home country, Currency depreciation which is reflected in terms of Real Effective Exchange Rate and Institutional quality of home country have been considered as push factors that determine OFDI through CBM&As.

Market Size

The market size of the host country is a conventional determinant of FDI flows either through greenfield or brownfield/CBM&As. GDP

and or GDP per capita of the host country are generally considered as relevant proxies for market size, and a positive association is expected between FDI and size of the host country (Buckley, P.J.et al. 2007).

For the purpose of the study, GDP and GDP per capita at the constant price of 2005 have been considered as a proxy variable to measure market size. Data has been compiled from the World Development Indicators, for the years 2004 to 2015.

Strategic Assets

Similarly, firms from emerging countries are interested in the superior technologies and skills which are available in advanced host countries (Makino et al., 2002). Innovation in the host country could be the proxy for strategic asset seeking CBM&As.

Innovation in the host country could be considered as a proxy to measure strategic assets such as R&D and technological know-how. Innovation index prepared by the Global Competitiveness report has been considered for this study. According to this report, Innovation Index is measured by considering the capacity for innovation, quality of scientific research institutions, R&D spending on company, university-industry collaboration in R&D, Government procurement of advanced tech products, availability of scientist and engineers, and PCT patents, applications per million populations.

Natural Resources

A positive association between the number or value of deals with the endowment of natural resources of the host country is expected as internationalisation theory asserts the importance of equity-based control in the exploitation of scarce natural resources (Buckley and Casson, 1991).

Variables such as the share of exports of Fuels to the total merchandise exports and the share of ores and steel to the total

merchandise exports have been considered to measure endowment of natural resources. This data is collected from the World Development Indicators.

Political Stability

Large and unexpected modifications of the legal and fiscal frameworks might adversely affect the economic outcome of a given investment (Lizondo, 1991). Therefore one can assume a positive correlation between the number and value of CBM&A deals by Indian firms with the political stability of the host country.

Rule of law index prepared by the Global Competitiveness report has been considered here to measure the political stability. This index reflects perceptions of the extent to which stakeholders/agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.

Corporate Tax Rate

MNE prefers to locate its business activities in countries with a low corporate tax rate (Grubert and Slemrod, 1998). And therefore a negative association is expected between OFDI from India with the corporate tax rate of host countries. This data has been collected from the Corporate Tax Rate table prepared by KPMG.

REER of Home Country

Theoretically speaking, depreciation of Indian currency can expand exports and hinder OFDI (Kohlhagen,1977; Logue and Willet,1977; Stevens,1993 as cited by Buckley Peter J et al. 2007, p.506). At the same time, the external transaction cost arriving from huge import bill which is denominated by the Indian currency would go up when rupee depreciates. The increased external transaction cost provides incentives for MNEs to acquire firms in other countries in

order to internalise their strategic flows (Buckley Peter J et al. 2007, p.507).

Thus the depreciation of home currency could probably increase the pace of CBM&As by Indian MNEs. Thus one can expect a positive or negative association between exchange rate of Indian currency with the number and value of CBM&A deals. Data on REER has been collected from the RBI website.

Ownership Advantage

The investment development path theory suggests that inward FDI boosts economic growth and its own location advantage which in turn increases outward FDI by domestic firms (Buckley et al., 2007). The strengthened location advantage helps the indigenous firms to upgrade their own competitive advantages by acquiring firms in the advanced countries. Moreover, the investments by indigenous firms would affect both supply and demand for the products supplied by foreign firms and their desire to internalise their markets for the competitive advantages (Dunning, 2001). Thus there could be a positive association between the number and the value of foreign acquisitions with the FDI inflows in India.

A positive association is expected between FDI inflows to India and OFDI through CBM&As. The FDI inflow is compiled from World Development Indicators.

Liquidity of the Capital

The liquidity of a stock market is expected to rise if foreign investors invest through purchasing existing equity which would, in turn, increase the value traded. Therefore it is argued that FDI is positively correlated with stock market capitalisation and value trading (Classens et al., 2001). Another study by Giovanni (2005) based on a large panel data set of CBM&As for the period of 1990-1999 found a strong positive

association between the size of the stock market (ratio of stock market capitalisation over GDP) and Outward FDI.

This study also expected a positive association between liquidity of capital market and OFDI through CBM&As. Market capitalisation to GDP has been considered to measure liquidity of the capital market. The data is collected from World Development Indicators.

Institutional Factors

Many studies on international business have shown that countries with high institutional quality can attract FDI inflows as it could shape the form of outward investment (Dunning and Lunden, 2008). It is argued that developing and undeveloped countries would prefer to invest in developed countries where the institutional framework is well developed. It is also argued in the literature that Institutional factor can either act as a barrier or a facilitator for FDI and or CBM&As. Government subsidies or certain policy initiatives such as simplifying norms of raising funds can promote outward investment by offsetting ownership and locational disadvantages abroad (Aggarwal and Agmon,1990).

Institutional framework could be characterised by the respect for rule of law, an efficiently working judicial system, high levels of transparency and accountability within public institutions (Global Competitiveness Report, 2005-06). Institutional index of the host and home countries has been collected from Global Competitiveness Report.

Trade-related Factors

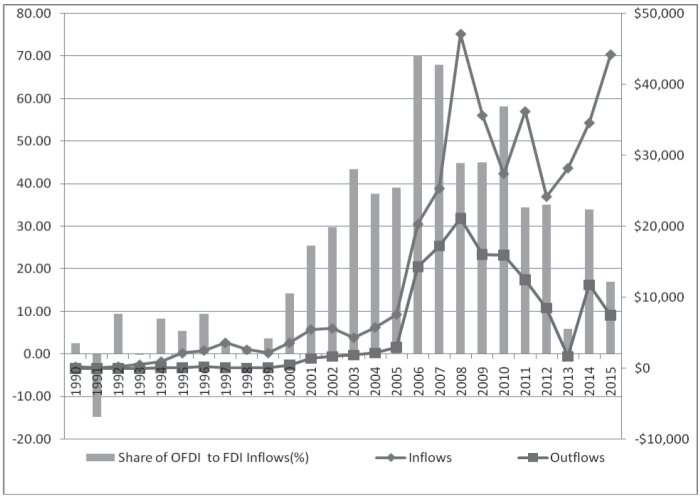
A positive association is expected between exports and OFDI through CBM&As if the firm prefers to follow their customers. Similarly, a firm might prefer to buy firms abroad in order to cut down the transaction cost and therefore a positive association is expected from imports and OFDI through CBM&As (Buckley Peter J et al. 2007, p.507).

II.2 Trends and Patterns of OFDI through Greenfield and Brownfield/CBM&As

II.2.1. OFDI from India

A preliminary analysis on India's OFDI is discussed here with reference to the FDI Inflows for the period 1990 to 2017. This is based on the data compiled from World Investment Report (WIR) and many studies have established that major chunk of FDI has come in the form of portfolio equity (PE) (Chandrasekhar and Pal, 2006; Rao and Dhar, 2011; Nagaraj, 2017).

Fig. 1: Trends of India's Outward FDI and Inward FDI



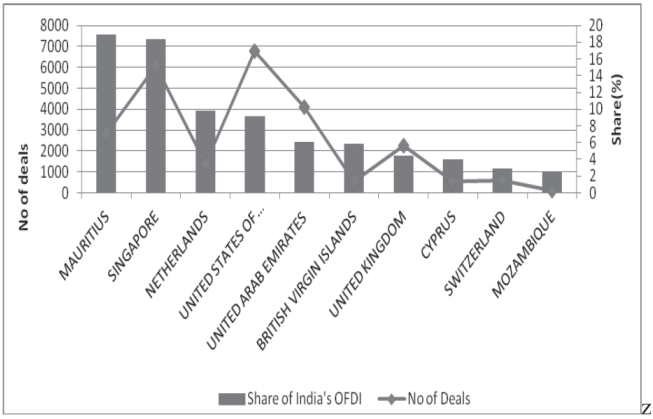
Source: World Investment Report, Various Issues, UNCTAD.

From Fig.1, it is quite clear that FDI inflows to India grew quite significantly though there was a dip in their growth since 2008 due to the financial crisis. And that trend is reversed since 2013. Surprisingly, FDI outflows have also grown significantly, especially after 2000 which showed a similar dip during 2009 to 2013. And therefore it is important to understand the nature and economic activities of those firms involved in such investment flows.

II.2.2 Country-wise and Sector-wise Distribution of OFDI from Indian firms

This sub-section tries to analyse the nature of projects and destination countries of such OFDI from India at the firm level for the period 2007 to 2017 based on the data available from RBI website. From exploratory analysis, it is observed that 8000 firms from India were investing abroad in 80,000 projects during 2007-2017. However top 250 firms account for almost 80% of the total / actual OFDI from India during 2007-2017 which is estimated at US$ 108.4 billion. The stock of such outflows till 2017 based on those top 250 firms has been estimated as Rs. 4424.8 billion (PROWESS Data Base, CMIE)[5].

Fig. 2: Top ten Country-wise Distribution of India's OFDI Projects

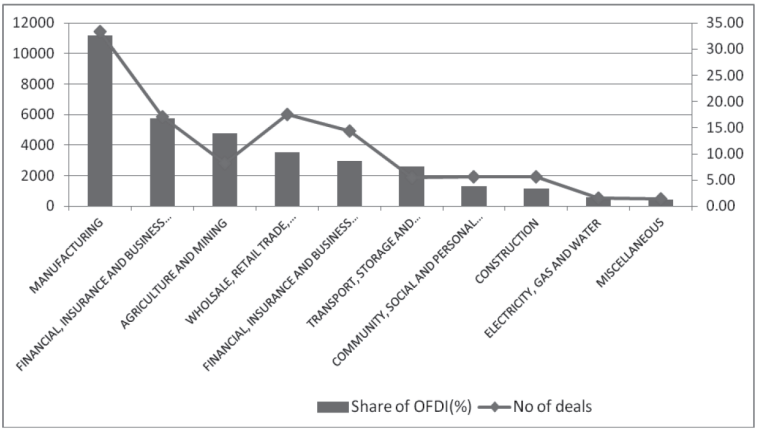


Although Indian firms were investing in many countries during 2007 to 2017, top 5 countries account for almost 80% of the total OFDI (Fig.2). Mauritius, Singapore, Netherland, USA and UAE are the leading host countries of India's OFDI (Fig.3). 76% of such outward investments were in the form of wholly-owned subsidiaries during 2007 to 2017,

5 It is further noticed that firms that are located in India and engaged in main economic activities such as Steel, Telecommunications, Computer software, Drugs and Pharmaceuticals, Banking, Crude oil and natural gases account for almost 60% of such outward investments (Beena, 2018).

while this share was only 30% in the 80s (Pradhan and Sauvant et al., 2010).

Fig. 3: Sectoral Distribution of Number of Deals and Share of India's OFDI



Source: Reserve Bank of India Website

33% of such outward investment was in the manufacturing sector while financial, insurance and business services account for 25%. Only 14% of the total outward investment that flowed from India during 2007 to 2017 was in the Agriculture sector (Fig.3).

II.2.3. Pattern of OFDI through Brownfield/CBM&As

The pattern of value of purchases/acquisitions and OFDI during 1990 to 2015 is analysed here based on the data collected from WIR.

The present study is to understand country-wise and sector-wise distribution of such outward investment through CBM&As. From the analysis, it is observed that overseas expansion by Indian firms has occurred mainly in the form of CBM&As, especially after 2000 (Fig.4).

Fig. 4: Pattern of India's OFDI and Value of Acquisitions

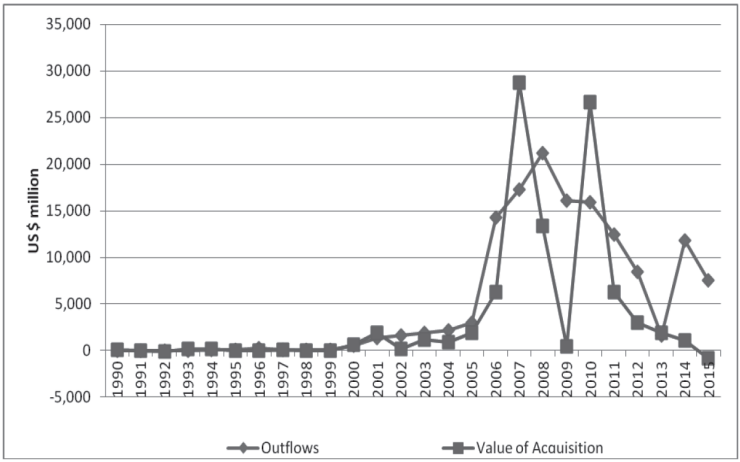
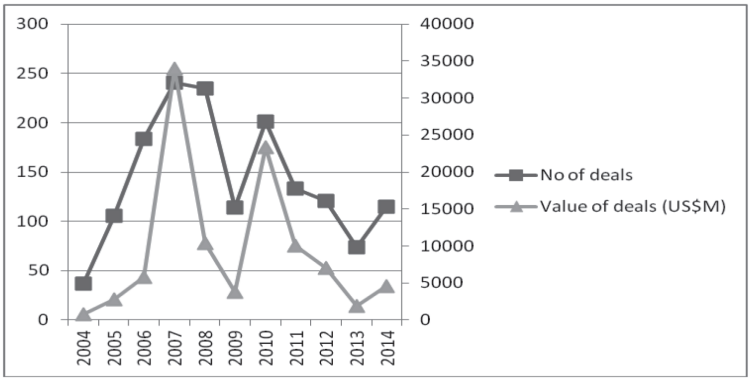


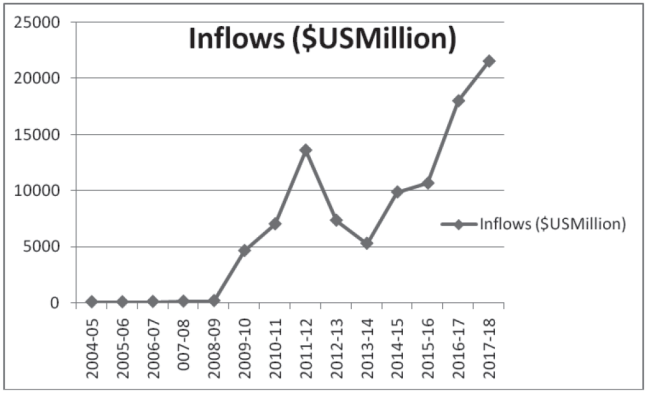
Fig.5: Trends of value of CBM&As and OFDI, 2004-2015



Data on CBM&A deals made by Indian firms has been compiled from Venture Intelligence Capital database. According to this, there were 1704 CBM&As deals completed by Indian firms during 2004 to 2015 across 46 countries. 66 out of 1704 deals do not report their deal value of CBM&As by Indian firms.

The total number of deals during 2004 was only 37 which increased to the level of 106 within a year in 2005. This number has shown a significant growth to the level of 241 during 2007. And that trend was reversed since 2009 and declined to the level of 127 during 2015 (Fig.5). A similar pattern is also observed in the case of FDI outflows as well. Further, it is observed that the repatriation/disinvestment by India has tremendously increased since 2009 and this could be attributed to the financial crisis and the crash in global demand (Fig.6).

Fig.6: Repatriation/disinvestment inflow to India (US$Million)



Source: Compiled from various issues of RBI Monthly Bulletin.

II.2.4. Country-wise and Sector-wise Distribution of OFDI through CBM&As

Table 1: Country-wise Distribution of Number and Value of CBM&As by Indian firms

Total	No. of deals	% Share	Amount (US$M)	% Share
USA	582	34.11	29818.79	27.04
UK	212	12.43	25264	22.91
Germany	92	5.39	4327.74	3.92

Singapore	71	4.16	2686.1	2.44
Australia	62	3.63	6183.14	5.61
Italy	44	2.58	575.73	0.52
Canada	46	2.70	3530.3	3.20
France	37	2.17	1111.26	1.01
UAE	36	2.11	633.29	0.57
South Africa	36	2.11	946.95	0.86
Netherlands	26	1.52	1848.15	1.68
China	20	1.17	635.2	0.58
Belgium	18	1.06	2355.8	2.14
Sri Lanka	14	0.82	13.8	0.01
Brazil	21	1.23	3393.6	3.08
Indonesia	17	1.00	1211	1.10
Malaysia	14	0.82	926.4	0.84
Mauritius	8	0.47	15.19	0.01
Israel	8	0.47	266	0.24
Japan	10	0.59	150.9	0.14
Russia	6	0.35	1372	1.24
Switzerland	17	1.00	974.98	0.88
Vietnam	9	0.53	136.66	0.12
Spain	20	1.17	671.49	0.61
Bangladesh	4	0.23	375	0.34
Kenya	8	0.47	10805	9.80
Sweden	14	0.82	653	0.59
Others	254	14.89	9409.3	8.53
Total	1706	100	110290.8	100

Source: Compiled from Venture Intelligence Capital Database

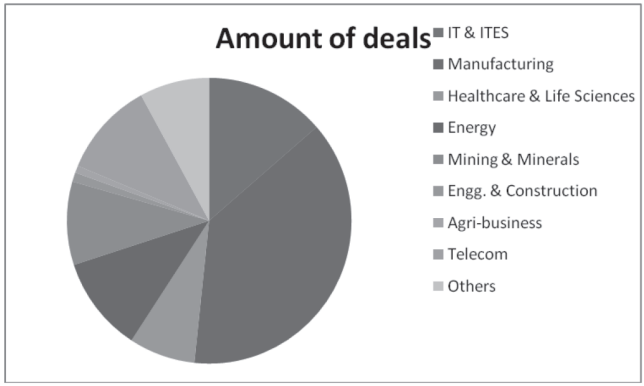
US and UK together attracted almost 50 per cent of India's investments abroad through CBM&As (Table 1).

Table 2: Sectoral Distribution of Number and Value of CBM &As by Indian Firms

Resources	No	Share to Total	Services	No	Share to Total	Manufacturing	No	Share to Total
Metal Extraction	38	2.23	BFSI	32	1.88	FMCG	24	1.41
Coal,Oil,Natural gas	47	2.76	Renewable energy	10	0.59	Pharma	147	8.63
Minerals	4	0.23	Telecom	37	2.17	Auto components	68	3.99
	89	5.22	Business service	144	8.45	Automobiles	16	0.94
			Hotels	31	1.82	Forgings	4	0.23
			IT services	401	23.53	Steel	23	1.35
			Other services	37	2.17	Chemicals	35	2.05
			Media & Entertainment	31	1.82	Hospitals	9	0.53
			IT Products	28	1.64	Building & Construction	21	1.23
			Mobile Services	10	0.59	Ceramics & Glass	6	0.35
			Mobile VAS	25	1.47	Food products	34	2.00
			Engineering Services	7	0.41	Industrial Machinery	18	1.06
				793	46.54	Garments	37	2.17
						Medical devices	11	0.65
						Tyres	3	0.18
						Cables	3	0.18
						Biotech	8	0.47
						Electricals	5	0.29
						Electronics	5	0.29
						Engineering Products	6	0.35
						Others	339	19.89
						Total MFG	822	48.24

Source: Compiled from Venture Intelligence Capital Database.

Fig.7: Sector-wise distribution of value of CBM&A deals



As for the sectors, Table 2 and Fig.6 present a clear picture of the share of each sector. The single most attractive sector is the IT sector which accounts for almost 24% of the total number of deals (Fig.6). The other three major sectors are Pharma, Business services and auto components accounting for 9 per cent, 8 per cent and 5 per cent of the total deals respectively. Coal, Oil, Natural Gas; Metal extraction; Telecom; Chemicals; Food products and Garments account almost 2 per cent each of the total 1704 CBM&A deals. BFSI, Media and entertainment, Hotels, IT products, FMCG, Steel, Industrial machinery and Building & construction accounted only 1 to 1.8 per cent share each (Table 2). The similar pattern is observed in terms of value of deals as well though IT sector accounts much smaller share in terms of value. From this trend, one can infer that Indian firms are targeting mainly small-sized IT firms. Almost 48% of such deals are in the manufacturing sector while 47% of them are in the service-oriented sectors. The rest of them are with the resource-intensive sectors (Fig. 7).

II.3 Economic Characteristics of Indian Overseas Firms

For the purpose of analysing the characteristics of the firms which are investing abroad, the analysis was done based on the data extracted

from PROWESS database. Only a sample of 450 firms was considered, although Indian corporate sector had completed 1704 deals during 2004 to 2015. This is partly because i) many of the deals were made by the same firms and ii) only those 450 firms were listed in the PROWESS database, hence only their financial details could be identified[6]. The study also analysed Foreign exchange assets and liabilities of these sample firms by measuring investment made abroad, Foreign Exchange spending, Foreign exchange earnings, and Imports and exports intensity. The production-related performance have been analysed by estimating the growth of sales and employment. R&D expenditure intensity, intensity of Foreign technology purchases and Compensation to net sales have been calculated in order to understand their innovation and skill formation strategy.

Table 3: Economic Performance of Indian Overseas Firms

Year	Investment abroad (Billion)	EE to OFD	FS/ FE	GR of Sales	GR of Employment	R&DI	Foreign Technology Import	Compensation to net sales
1990	226.63	3.82	27.2			0.00059	0.00000	0.07
1991	153.00	4.84	10.5	4.78	13.90	0.00037	0.00000	0.08
1992	158.28	6.60	19.2	36.72	9.08	0.00106	0.00000	0.06
1993	191.02	7.76	128	4.65	-0.62	0.00187	0.00130	0.06
1994	182.72	10.49	43.1	1.39	-24.97	0.00182	0.00046	0.05
1995	404.29	4.82	45.7	19.22	18.28	0.00307	0.00140	0.06
1996	370.09	5.87	26.2	13.56	28.54	0.00484	0.00065	0.08
1997	281.06	5.56	69.4	8.01	-7.87	0.00474	0.00024	0.03
1998	423.66	4.15	34.8	1.35	3.47	0.00411	0.00178	0.04
1999	579.94	3.67	11.6	6.00	7.32	0.00493	0.00138	0.07
2000	325.36	2.75	12.1	22.79	-11.25	0.00349	0.00053	0.10

6 84 firms out of 450 listed firms are engaged in computer software services, 14 firms are with IT enabled services and another 34 firms are with Drugs and Pharma etc.

2001	154.70	2.75	10.7	-7.12	16.84	0.00455	0.00103	0.11
2002	153.07	2.55	34.1	15.58	12.11	0.00531	0.00003	0.10
2003	155.56	2.70	5.74	12.82	7.75	0.00494	0.00138	0.10
2004	126.30	3.94	53.5	28.87	4.44	0.00488	0.00048	0.10
2005	140.98	5.30	13.5	22.82	18.98	0.00575	0.00025	0.10
2006	162.50	4.56	13.5	15.28	0.59	0.00593	0.00011	0.11
2007	304.83	3.01	3.43	19.42	12.97	0.00652	0.00000	0.10
2008	374.10	2.65	23.8	7.53	6.42	0.00700	0.00017	0.10
2009	681.33	1.59	31	9.65	0.22	0.00827	0.00021	0.10
2010	745.77	1.44	19.2	0.68	8.40	0.00749	0.00014	0.10
2011	728.69	2.28	21.7	16.19	24.31	0.00752	0.00006	0.10
2012	864.30	2.19	7.14	13.34	7.71	0.00774	0.00003	0.09
2013	834.33	2.48	12.2	1.00	4.92	0.00855	0.00015	0.10
2014	931.19	2.65	69.4	12.88	5.78	0.00926	0.00016	0.11
2015	1069.42	2.27	21.7	-12.87	0.81	0.00918	0.00032	0.12
Avg of 1990-2000	297.07	5.76	41.58	10.63	5.24	0.00274	0.00072	0.06
Avg of 2000-2015	473.50	2.99	22.04	11.15	7.43	0.00642	0.00034	0.10

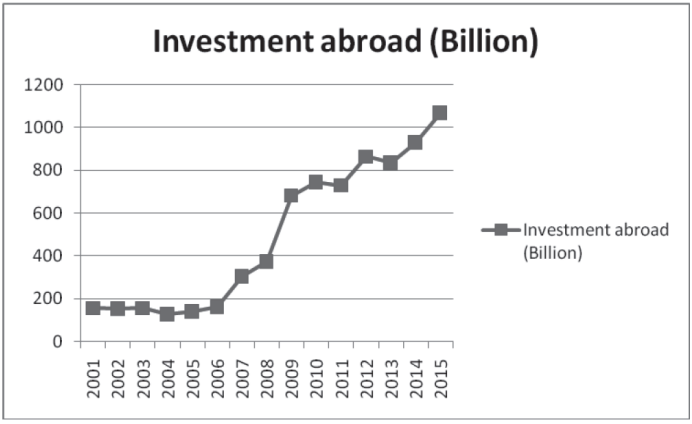
EE = Export Earnings; II=Import Intensity; EI=Export Intensity; FS= Foreign Exchange Spending; FE= Foreign Exchange Spending
(Source: PROWESS Database)

II. 3.1. Investment Made Abroad

The total investment that flowed from Indian firms as on 1990 was 226.63 billion, and that amount accelerated significantly to the level of 1069.42 billion during 2015 (Table 3). It is clear that these sample firms have invested abroad much more during 2000 to 2015 as

compared to the previous period i.e., 1990 to 2000. Further, it is observed that the stock of foreign investment made by these overseas acquiring firms grew significantly especially after 2000 (Fig. 8).

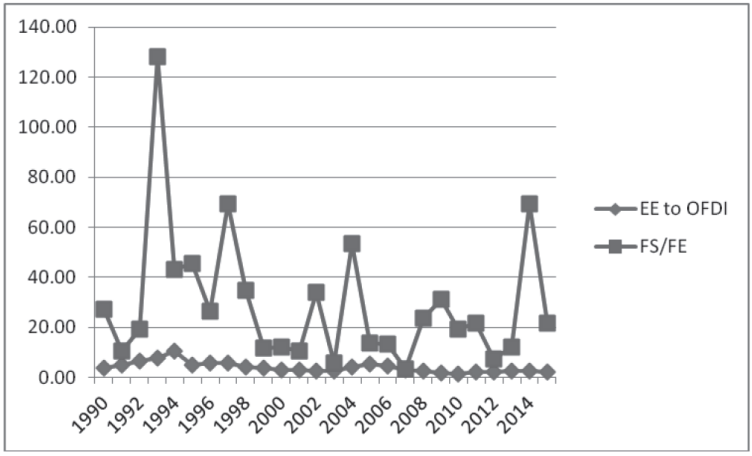
Fig.8: Stock of Investment abroad by Sample firms



Source: PROWESS Data base

II.3.2 Foreign Exchange Assets and Liabilities

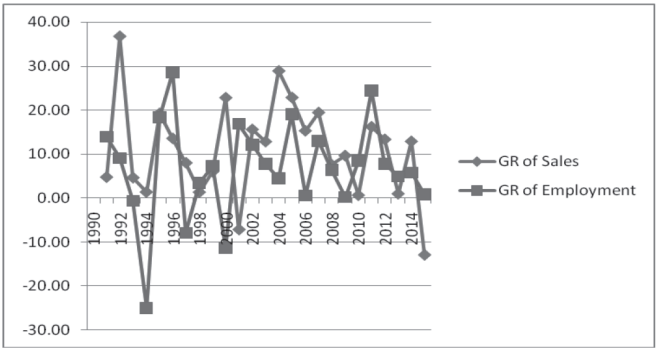
Fig.9: Trends of Foreign Exchange Assets and Liabilities



Foreign exchange earnings are not rising in proportion to OFDI from India (Fig.8)[7] . The average ratio of Foreign exchange earnings to OFDI during 1990 to 2000 was 5.76 which has sharply declined to 2.99 during 2000 to 2015. Further, the foreign exchange spending of these firms is much higher than its earnings though the average ratio for the period 1990 to 2010 was 42 which has significantly declined to 22 during 2000 to 2015. These trends indicate that Indian firms that are investing abroad are accumulating trade deficit which have larger implications as far as India's balances of payments are concerned (Fig.9).

II.3.3 Output and Employment:

Fig. 10: Sales & Employment: Trends of Annual Growth



The sales of these sample firms grew much faster which accounts for 10.63 during 2000 to 2015. However, this growth was relatively lower than the growth that took place during 1990 to 2010 (Table 3). From this, it is clear that the new form of a growth strategy that followed by Indian overseas firms especially after 2000 has not replaced the domestic production though it has not helped those firms to boost their overall output/sales growth. GDP deflator has been used here to deflate the industrial sales data.

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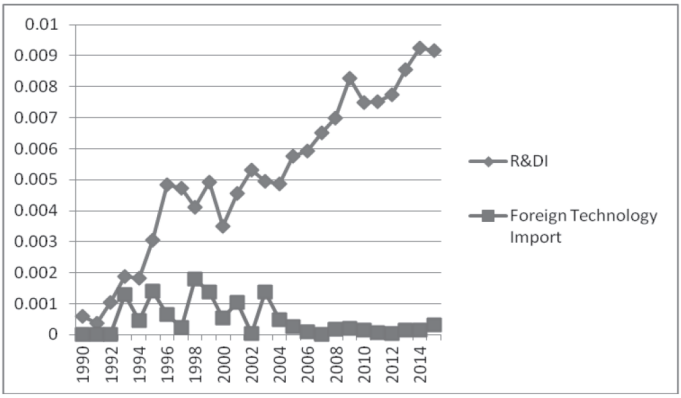
7 According to the study by Kallummal et.al (2016), the average ratio of stock of Exchange earnings to the stock of OFDI during 2011 to 2014 was more than one only for 6 out of 100 leading OFDI firms.

The total number of employees engaged by Indian overseas acquiring firms grew relatively better during 2000 - 2015 which accounts for 7.4 per cent as compared to the growth (5.2 per cent) observed during 1990 to 2000 (Table 3 and Fig.10). However, a close examination points out that many of these firms were started during the late 1980s and have not reported employment and wages for many years during 1990s and therefore one should be careful while drawing inferences[8].

II.3.4 Strategy on Innovation and Skill formation

Fig.11: Trends on R&D Intensity and Foreign Technology Import Intensity



The study noticed that the firms which are investing abroad through CBM&As is preferring to invest more on in-house R&D and that the intensity of technology purchases of those firms have reduced significantly (Fig.11). The average ratio of compensation to net sales of these firms for the period 1990 to 2000 was .06 which was increased to .10 during 2010-2015. From this, one could argue that these firms were spending on their personnel by paying proportionately more as compared to their sales growth (Table 3). From these indicators, one could infer

8 As on 2015, 50 per cent of our sample firms for which data was available (i.e, 225 firms) engaged around 23 lakhs employees.

that these sample firms are making an effort to improve their technological capability. This is quite true especially in the case of Drugs and Pharmaceutical industry in India[9]. Having given a brief overview on the pattern and characteristics of Indian overseas acquiring firms, the following section discusses the factors that determine such OFDI through CBM&As, based on the results arrived at from the models.

Section III: Estimation, Results and Inferences

Although the study observed that Indian firms are investing through CBM&As in almost 40 countries, top leading 19 countries account for almost 80 per cent of such investments from India (See Table 1). Therefore, the econometric exercise has been based on those 19 host countries. The list on a number of deals and value of deals across host countries for the period 2004 to 2015 has been compiled from the Venture Intelligence Capital.

Count data model where the variables of interest is a non-negative integer are commonly used to analyse headcounts. In this context, we model the count of number of acquisitions as a function of various firm-specific and country-specific characteristics. Quite often, in order to study the determinants of count characteristics, two kinds of regression models have been used by the literature – Poisson regression and Negative Binomial regression. The study used negative binomial regression (NBR) for analysing the factors determining the Indian acquisitions abroad across selected countries where the dependent variable is a count data (i.e.; number of CBM&A deals by Indian firms or number of deals) (Bala Ramasamy, Matthew Yeung et al., 2012,p.22). Following Hausman et al. (1984), the reason for sticking on the negative binomial model is that it can be used relaxing the assumption of

9 However, it is argued that pharmaceutical market in India is increasingly becoming monopolised and charging very high prices after the re-introduction of product patent protection in line with TRIPS (Chaudhuri Sudip, 2018).

asymptotical efficiency which means that the conditional mean (E (Y|X)) is equal to the conditional variance (Var (Y|X)). Given the nature of our panel data with variations in the number of deals, the negative binomial model is the most appropriate regression model (see Table.4). In order to study the determinants of the value of deals, we have adopted OLS estimation technique. The model specification of the negative binomial regression is given as follows.

$$\lambda_{it} = \exp(x_{it}\beta + \varepsilon_i)$$

Where β denotes vector of coefficients related with $x_{it}$and ε_i denotes unobserved effects. Drawing from equation (1) the expected number of deals per year could be shown as

$$E(y_{it}/x_{it}) = Var(y_{it}/x_{it}) = \lambda_{it} = \exp(x_{it}\beta + \varepsilon_i)$$

Here $E(y_{it}/x_{it})$ and $Var(y_{it}/x_{it})$ shows the conditional mean and variance of deals counts given x_{it}.

$$\begin{aligned} Y_{it} = \exp[&\beta_0 + \beta_1 \ln GDP_{it} + \beta_2 \ln imports_{it} + \beta_3 \ln exports_{it} + \beta_4 omexshare_t + \beta_5 fexshare_t \\ &+ \beta_6 inscore_t + \beta_7 ROL_t + \beta_8 ctaxrate_t + \beta_{10} REER_t + \beta_{10} \ln IFDI_t \\ &+ \beta_{11} DCM_t + \beta_{13} INST_{it} + \beta_{14} INST_t + e_i + u_{it}] \end{aligned}$$

The study tested the null hypothesis that the coefficient estimated by the random effects estimator are the same as the ones estimated by the fixed effects. The results of the Hausman Test in NBR Model 1 and Model 2 show that “Prob>chi-sq is positive and significant. Thus it is observed that differences of coefficients are not systematic in the two regressions which imply that Random Effect (RE) model is more preferable than the Fixed Effect (FE) model. The study has therefore reported only the result of random-effect in the case of Model 1 and Model 2. High values of Wald Chi-square statistics of estimated regressions suggest that they are statistically significant.

Table 4: Random Effect Negative Binomial and OLS Regression Models

Dependent Variables		No. of deals	Value of deals
	Independent Variables	RE NBR Model 1	RE OLS Model 2
Market size of Host country	Ln GDP	.306 (2.53)**	-.0511 (-.49)
Trade	Ln Imports	-.255 (-0.71)	-.106 (-.61)
	Ln Exports	1.55 (4.17)***	.45(3.28)***
Natural resources Endowments of Host country (Iron ore)	Ores metal export share to world	.05 (3.92)***	.003(.27)
Natural resources Endowments of Host country (Fuels)	Fuel export share to world	.009 (1.22)**	.0008(.23)
Endowments of strategic assets of Host country	Innovation score	.516(2.18)**	.218(.77)
Political stability of host country	Rule of Law	.228(0.89)	.44(1.01)
Corporate tax of host country	Corp tax rate	-.001(.15)	.0048(.73)
Exchange rate of India against US$	REER	.058(3.62)***	.04 (1.70)*
Inward FDI of home country	Ln FDI	1.71(5.8)***	.247(1.9)**
Domestic capital market	Market capitalisation to GDP	.001(0.75)	.0063 (1.06)
Institutional quality of host country	Institutional Index	.1588(0.56)	-.649(-1.97)**
Institutional Quality of Home country	Institutional Index	2.692(6.93)***	.495(1.94)**
Wald		172.24	101.06
Prob>chi-sq		.0000	.0000
Haussman test:		13.83	4.87
chi-sq Prob>chi-sq		0.38	0.997
N		209	209

Note: Z statistics in parentheses; *, ** and *** respectively indicate significant at 10%, 5% and 1% levels.

Although the study could not find any association of per capita GDP either with the number of deals or with the value of deals, a strong statistically significant correlation was observed between the numbers of overseas acquisitions by Indian firms with the GDP of host countries. This result does not hold well when we consider value of deals as dependent variable[10]. Based on NBR model, one could argue that market seeking was a key motive for CBM&As by Indian firms. Strategic-asset endowment in the host countries is found to be statistically significant with the expected sign in Model 1 in Table 4.

However, the study could not find such association between strategic assets and value of CBM&As (see Model 2 in Table 4). Similarly, significant association is observed between the natural resource endowments of host countries with number of CBM&A deals and such association is not observed with the value of the deals (Model 1 and Model 2 in Table 4). Real effective exchange rate is positively correlated with the number/value of CBM&As by Indian firms. From this, one could infer that the increasing external transaction cost due to rupee depreciation would have given enough incentives for Indian firms to buy firms abroad in order to locate production in other countries and internalise their strategic flows.

The study has also found a positive correlation between India's exports to host countries and the number and value of CBM&A deals. (NBR Model 1 and Model 2 in Table 4). Such Indian FDI through CBM&As could be defensive and must have taken the complementary role of exports rather than a substitute for exports. Therefore one could argue that ownership-specific advantages could play an important role for facilitating CBM&A by Indian firms. Institutional quality of the host country is found to be inversely related to the value of CBM&As of

10 A positive association was observed between size of the market with OFDI from China in the manufacturing sector while the association was negative in the case of service and resource based sectors (Amighini, Rabellotti and Sanfilippo, 2011). However, major share of OFDI from Chinese firms took place in Asian countries.

Indian firms while institutional quality of India is found to be positively associated with the value and number of CBM&As.

The study could further argue that ownership-specific advantages developed by firms in India through inward FDI have played an important role for facilitating such deals. From this, one could infer that host countries could attract India's investment through CBM&As in spite of the low-level score of the institutional quality. However, institutional set up of India did play a complementary role in facilitating such deals.

Section IV: Conclusion & Suggestions for Further Research

Indian economy has experienced outward FDI through CBM&As especially after the implementation of WTO. Major share of outward FDI from India is taking place in the form of CBM&As. According to the RBI database, 50 per cent of OFDI is mainly attracted by Mauritius, Singapore and Netherlands. But the exploratory analysis found that almost 50 per cent of OFDI through CBM&As is attracted by US and UK in contrast with the overall OFDI trends observed based on RBI database.

Majority of such investments are made in the manufacturing such as Pharma and service sector especially in computer software, and IT-enabled services. The study does not provide enough empirical evidence to support the argument that OFDI from India can replace home country production which is measured in terms of output, exports and employment. However, these firms were spending relatively more foreign exchange than their foreign exchange earnings. Exchange earnings are not rising in proportion to OFDI and such a trend has an adverse effect on India's balance of payment. Firms which are investing abroad through CBM&As prefer to invest more on in-house R&D in order to strengthen their technology capability. These firms are also spending relatively more on their employees especially after 2000. This indicates that successful firms that are operating in India prefer to spend on technological capability and skill formation in order to compete with the firms at the global level.

As suggested by OLI theory, the study did find empirical evidence to validate the hypothesis developed by the theories on MNEs related to market seeking, resource seeking and strategic asset seeking motivations. The study argues that Indian firms have invested abroad through CBM&As in order to support their export activities rather than as substitutes for exports. Indian currency depreciation against the dollar would have given incentives for Indian firms to engage in continuous investments through CBM&As and engage production. This paper restricted to analyse the push and pull factors of OFDI through CBM&As based on the macroeconomic indicators of leading nineteen countries for the entire sector, and this is the limitation of this study. A similar exercise could be further carried out for different sectors such as Manufacturing, Services and Resource-based sectors. Further research could be done at the firm level in order to understand the motives and developmental implications of OFDI through CBM&As across countries and industries if firm-level data from the respective host countries are made available.

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Appendix 1: Summary Statistics

Variable	No. Observation	Mean	Std. Dev.	Min	Max
Amountusm	209	445.785	1566.879	0	14301.9
Ln gdp percapita	209	4.104663	0.606775	2.71077	4.66657
No of deals	209	5.6	11.29	0	99
Ln gdp	209	27.09	1.55	23.59	30.32
Ln Imports to India	209	9.58285	0.602651	7.68701	10.7652
Ln Exports from India	209	9.558447	0.464739	8.36554	10.6303
Share of fuels to the total exports	209	15.93743	16.83142	0.008211	70.5595
Share of iron ore to the total exports	209	6.391129	8.454019	0.391456	38.2226
Innovation score	209	4.399856	0.801715	3.1	5.9
Corporate tax	209	30.65249	7.930589	17	55
REER	209	104.6545	4.150068	99.7	112.7
Inwardfdi	209	10.352	.272	9.761	10.637
Market capitalisation	209	78.02978	26.50328	52.872	146.856
Rule of law	209	0.779984	1.013257	-1.05064	1.99277
Institutional index of host country	209	4.75756	0.867216	2.97	6.19
Institutional index of India	209	4.166699	0.279923	3.84	4.55

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