



Munich Personal RePEc Archive

## **Group Affiliation and Location of Indian Firms' Foreign Acquisitions**

Pradhan, Jaya Prakash and Singh, Neelam

Sardar Patel Institute of Economic Social Research, Lady Shri Ram College, Delhi University

20 July 2010

Online at <https://mpra.ub.uni-muenchen.de/24018/>  
MPRA Paper No. 24018, posted 21 Jul 2010 12:40 UTC

## **Group Affiliation and Location of Indian Firms' Foreign Acquisitions**

Jaya Prakash Pradhan

Associate Professor  
Sardar Patel Institute of Economic & Social Research,  
Thaltej Road, Nr. Doordarshan Tower,  
Ahmedabad- 380 054.  
[pradhanjayaprakash@gmail.com](mailto:pradhanjayaprakash@gmail.com)

Neelam Singh

Associate Professor, Eco. Dept.,  
Lady Shri Ram College, Delhi University,  
Lajpat Nagar-IV,  
New Delhi- 110 024.  
[neelamsi@gmail.com](mailto:neelamsi@gmail.com)

Version: 1.0  
Date: 20.7.2010

***Acknowledgement:*** Professor Joseph Michael Hilbe has been extremely generous to us while conducting this study and we are deeply thankful to him for his kind suggestions and help related to estimation of the censored count regression.

# Group Affiliation and Location of Indian Firms' Foreign Acquisitions

*Abstract:* Notwithstanding the extensive literature on emerging markets OFDI, generally led by Business Groups (BG), there is scant evidence on the differential patterns of OFDI by BG-affiliated and standalone firms. Employing data on the Indian overseas acquisitions during 2000–2008, this study examines their host-country related locational determinants, also separately for the BG-affiliated and other firms. The BG-affiliates have a relatively wider spread of international acquisitions and greater preference for Europe over North America. The censored Poisson estimates indicate the general attraction of host country market size and double-taxation-avoidance treaty. However, unlike the standalone firms, the overseas acquisitions location for BG-affiliates is significantly favourably influenced also by the host country growth rate, liberal inward-FDI regime and bilateral investment treaty, and is getting attracted to geographically distant nations. Again, only the standalone firms' foreign acquisitions are significantly impacted by the cultural proximity and the quantitative relative importance, to the host nation, of imports from India. Thus, given their derived resources and parental networks, the BG-affiliated EMNEs (can) decide the OFDI host location in a broader and less restrained framework.

*Key words:* Cross-border M&As; OFDI Location; Business Groups; Standalone Firms; Emerging Multinationals .

*JEL classification:* G34; F21; F23; L22.

## 1. Introduction

The rise of emerging multinationals is changing the geographical profiles of the current global outflows of foreign direct investment (FDI) for new ventures and cross-border mergers and acquisitions (M&As). These emerging players have rapidly expanded their outward FDI (OFDI) activities during the last two decades and have applied international business models of quite different types from those practised by developed country multinationals in the past (Mathews, 2002; UNCTAD, 2006, 2007; Sauvant *et al.*, 2008, 2010; Ramamurti and Singh, 2009; Goldstein, 2009; Gammeltoft *et al.*, 2010).

The revisit of different aspects of firms' internationalization process from the experience of emerging market multinationals is attracting considerable academic attention in recent years, and one such issue is the analysis of the locational choice of emerging multinationals (Buckley *et al.*, 2007, 2009; Cheung and Qian, 2008; Kolstad and Wiig, 2009; Pradhan, 2008a, 2010). An obvious limitation of these extant studies is the use of aggregated outflows of FDI by all categories of firms while explaining the spatial preferences of emerging multinationals. The literature on their OFDI location is yet to duly take account of a pronounced domination of business groups (BG) in the rise of emerging markets (Khanna and Yafeh, 2007) like India (Khanna and Palepu, 2000a; Rajakumar and Henley, 2007), Turkey (Yaprak *et al.*, 2006), South Korea (Maman, 2002), China (Lee and Jin, 2009), Taiwan (Chi-Nien, 2003), Indonesia and Russia, and also in their OFDI flows. Particularly in the case of India, business groups were not just the initiator of the OFDI process but have also continued to be the key players in its OFDI growth overtime (Lall, 1983; Pradhan, 2008a, b).

In the above context, the present study makes a preliminary analysis of the locational preference of emerging market OFDI by the status of investing firms' group affiliation. The

central hypothesis of this study is that spatial factors attracting foreign acquisitions from emerging economies may differ between the two sets of acquiring firms, namely the business group (BG) affiliated firms and standalone firms (i.e. firms that are not affiliated to any business group). Foreign acquisitions by Indian firms are taken as a case of emerging market OFDI for the present purpose. As Indian multinationals are among the pioneers of OFDI from emerging markets and are leading the recent boom in such OFDI flows, their experience is likely to be useful to the existing literature on the issue.

Section 2 presents the theoretical approaches for different internationalization profiles of business group affiliated and standalone firms which may also shape their locational choice. Section 3 provides the quantitative information on the overall cross-border acquisitions by business groups from India and standalone firms separately, as well as their locational preferences. Section 4 develops, estimates and interprets an appropriate locational model to analyze the Indian overseas acquisitions. We find that several host country characteristics impact differently the location choice of overseas acquisitions by standalone and BG affiliated firms. Finally, Section 5 concludes the paper.

## **2. Theories on linkages between group affiliation and regional pattern of OFDI**

The dominant internationalization theories tend to underline the criticality of a firm's resource endowments in its decision to internationalize and the choice of specific trajectory of internationalization. Given the existence of market imperfections, different firms in a nation possess dissimilar sets of competitive assets even though they operate under the same home country policy regime and institutional setups. The competitive resources and assets of a firm include its entire range of physical, financial and intangible resources but a subset of these resources that are in limited supply, difficult and costly to imitate and non-substitutable actually generate sustained strategic advantages for the owner firms (Barney, 1991). Outward FDI occurs because some of the firms well-off in competitive assets decide to exploit their capabilities in overseas markets via direct production activities (Hymer, 1976).

The group affiliation can affect the competitive advantages enjoyed by a firm and hence its internationalization decision. The group affiliation may affect the firm's effective possession of competitive resources, as well as the speed and extent of the firm's capability to develop valuable resources. In emerging economies where market failures and asymmetric access to information are rampant in obtaining capital, labour, raw materials and technology, business groups emerge to internalize such failures to their advantages (Guillén, 2000; Khanna & Palepu, 2000b). In the absence of facilitating institutions and infrastructure, organizing production involves greater risks and uncertainty in emerging markets (Khanna and Rivkin, 2006). In such a scenario, the group ties in several visible and invisible forms tend to help the affiliate firms to reduce transaction cost by sharing of information, inputs, skills, technologies, etc. for mutual advantages (Chang and Hong 2000; Chang *et al.*, 2006). The Group membership, by reducing the search, transaction and contract costs, and the moral hazards, plays a facilitative role in the international expansion (e.g. Elango and Pattnaik, 2007). Affiliated firms are likely to gain from the prior international experience of chief

executives of their Group associates.<sup>1</sup> This is specially so for overseas M&As as these involve sensitive negotiations (e.g. Guillén and Canal, 2009).

Business group affiliated firms differ from standalone firms also in the way they utilize their bundle of valuable assets. Business groups while developing, acquiring and employing their knowledge and productive resources among affiliates seek to minimize the cost and reap benefits of technological and operational synergies that exist across different lines of business. Thus, business groups by pooling and sharing knowledge and skill resources are expected to promote greater innovation among affiliates.<sup>2</sup> By contrast, standalone firms do not have such advantages to rely on and are likely to lack the scale and scope that the business group affiliation provides to the affiliates. This difference in the technological trajectories between business groups and standalone firms may lead to a greater degree of internationalization among group affiliated firms than standalone firms.

Research on business groups shows that affiliating firms may achieve better economic performance than standalone firms, which may be partly be a result of the cohesive strategy adopted by business groups to utilize group resources at individual affiliate level (Khanna and Palepu, 2000a). However, such superior performance of business groups in the utilization of valuable resources than of standalone firms is generally inferred to be dependent upon the extent of institutional and policy voids in the emerging home country. Apparently the existing literature on Business Groups in emerging economies has over-emphasized their role as ‘fillers of institutional voids’ vis-à-vis other strategic advantages of Group affiliation. In any case this role is likely to wane over time. Instead the product-relatedness and developed capabilities of the Group have gained prominence as determinants of the overall performance of the Group (see e.g. Yiu et al., 2005; Kedia et al., 2006). These factors also influence the extent of internationalization by the affiliated firms.

Overall, it is expected that business groups possess different and often superior bundles of valuable assets as compared to standalone firms and might have greater scope of utilizing such assets more efficiently for affiliated firms. As a result, one can argue that compared to standalone firms, *ceteris paribus*, the affiliated firms may have a wider spatial distribution of OFDI, in particular a greater proportion of OFDI in developed and non-home regions. With their limited set of assets, standalone firms may prefer neighbouring developing countries for internationalization to innovation-intensive developed region. Business groups with their superior asset bundles and better utilization capability can enter into developed country markets with relative ease than standalone firms. The Group’s reputation and competencies assist its affiliates in overcoming what Rugman and Verbeke (2007) term as the liability of inter-regional expansion or foreignness, and for entry into relatively high-income host countries having stiffer quality and safety norms for products sold there. Pradhan and Singh (2009) find that the OFDI by a firm increases its in-house domestic R&D intensity; the effect

---

<sup>1</sup> Tan and Meyer (2010) find that a larger group size and the international work experience of key managers in the business group favourably affect the degree of internationalization of the group.

<sup>2</sup> For a large dataset of European firms, controlling for firm characteristics, Belenzon and Berkovitz (2010) find that the group affiliation fosters innovation (patents). This effect is stronger in more R&D intensive industries, in industries having high external financing dependence, and for affiliation with Groups with larger number of affiliates and greater multinationality (spread of the Group sales across countries). Moreover, the group affiliated firms have better quality of innovation (average number of citations per patent) and their innovation is more important for their subsequent performance (productivity and profitability).

is stronger for OFDI in developed country locations. Again there are possible technological spillovers and synergies generated for the group associates. Hence, compared to a standalone firm, a Business Group affiliate is likely to have a stronger preference for developed host countries for OFDI. An affiliated firm derives its strength in terms of technology, skill, finance, and economies of scale and scope partly from its Group associates. Empirically, in general, a larger size, higher productivity, R&D intensity, technological advantages and skill have been found to be favourable to the OFDI proclivity, more so to the probability of developed country location choice for OFDI (e.g. Aw and Lee, 2008; Carvalho et al., 2010; Makino et al., 2002).<sup>3</sup>

Moreover, the Uppsala model predicts that firms get internationalized along a path dependent and gradual process of deeper involvement in foreign markets (Johanson and Vahlne, 1977, 1990). The business groups in India are likely to possess more accumulated learnings in managing cross-border businesses and better knowledge about foreign markets than the recently internationalizing standalone Indian firms. In fact the former have been the initiator of OFDI process from India dating back to the 1960s–70s (Lall, 1983; Pradhan, 2008a). This implies that standalone companies shall have a relatively small OFDI commitment because of their limited experiential knowledge on internationalization than the business groups. Given their accumulated learning, business groups are likely to show stronger OFDI commitments (probability and propensity) and possibly greater inter-regional spread than their standalone counterparts.

The nature of OFDI undertaken by standalone and BG-affiliated firms could also differ according to their firm-specific objectives and may further contribute to their differential OFDI-location pattern. OFDI may be undertaken for overseas production/ research or merely as a trade-supporting activity. Compared to standalone firms, BG affiliated firms are more likely to engage in overseas production and research/ innovation activities, while many standalone firms may adopt OFDI essentially as a strategy to support their exports from the home country. Some of the affiliated firms might have already established trade-supporting activities abroad in the past. This factor is also likely to cause differential location pattern of foreign acquisitions by the two categories of firms.

### **3. Trends and Patterns of Indian Overseas Acquisitions by Affiliation**

The trends in the overseas acquisition activities of Indian firms over different affiliations are presented in Table-1. A total of four categories of firms' affiliations can be distinguished—(i) domestic private-owned standalone firms are those promoted by standalone domestic investor; (ii) domestic private-owned business group affiliated firms are those possessing ownership participation from investing domestic business groups; (iii) foreign-owned firms are those having foreign investors as promoters or controlling shareholders; and (iv) public-owned are those having central government, state government, local bodies, joint or cooperative entities as their primary shareholders.

---

<sup>3</sup> However, for the Indian automotive and pharmaceutical firms Bhaumik et al. (2010) find an insignificant negative effect of the Group affiliation on the assets internationalization, along with a small positive coefficient on the 'affiliation and foreign ownership dummies' interaction term.

It is clear from Table-1 that the number of overseas acquisitions conducted by Indian firms, especially those by business group affiliated and standalone firms have multiplied in the last decade. The number of overseas acquisitions by business group affiliated Indian firms increased from 24 in 2000 to 127 in 2008 and for the standalone the number increased from 8 to 93. As propounded by the existing theories that business group affiliation endows some special advantages in internationalization, it can be seen that group affiliating firms accounted for more than half of the total number of foreign acquisitions by all Indian firms and three fourths of the reported value of such acquisitions during 2000–2008. The share of standalone firms stood at 34 per cent of the number of acquisitions by Indian firms and about 8.5 per cent of the value of acquisitions.

In line of our expectation, business group affiliated firms are found to possess a wider geographical spread of their acquisition activities as compared to their standalone counterparts. Comparing these two types of firms, a total of 193 group affiliated Indian firms are found to have targeted 62 host countries whereas a total of 196 standalone firms have acquired foreign entities in only 45 host locations during the period 2000–2008 (Table-2). Though the overseas acquisitions of both standalone and group affiliated firms are highly concentrated in developed region, significant differences in their regional choice within the developed markets can also be noticed. For instance, Europe remains by far the major host region for foreign acquisitions by group affiliated firms while Northern America is the most attractive destination for foreign acquisitions by standalone firms. Europe dominated the geography of foreign acquisitions by Indian business groups accounting for 55 per cent share in their total value of acquisitions. Northern America had claimed about 49 per cent share in the value of foreign acquisitions done by standalone companies. Moreover, the developed Oceania turns out to have relatively greater attraction for acquisitions by Indian standalone companies, while in the case of business groups the role of this developed sub-region is much smaller. Within host developing region, overseas acquisitions by business group affiliated firms span all the three sub-regions, namely Asia, Africa and Latin America but the last developing sub-region is missing in the regional profile of foreign acquisitions by standalone companies, though it is a negligible proportion even for the group affiliates.

The locational dissimilarities, e.g. with regard to the ‘North America versus Europe’ preference, may be partly due to differences in the stringency and complexity of acquisition and labour recruitment & retrenchment laws in these regions.<sup>4</sup> As argued above, standalone firms have relatively limited negotiation capabilities for concluding overseas negotiations. Moreover, for their trade-supporting activities abroad they might be inclined post-acquisition to cut down production and employment partly or totally through transfer of manufacturing facilities to home sites.<sup>5</sup> Again the existence of informal networks of the acquirer in the host country may influence its overseas acquisitions location.

---

<sup>4</sup> Further it may be pertinent to note: “Whereas European firms can liberally choose the corporate form that is most conducive to their R&D effort, tax and regulatory hurdles in the United States essentially eliminate potential gains of maintaining a business group.” (Belenzon and Berkovitz, 2010, p. 531).

<sup>5</sup> Chari et al. (2009) show that post-acquisition by emerging market firms in the USA, there is significant restructuring of the target firms; generally the sales and employment decline while the profitability rises.

**Table-1**  
**Overseas acquisitions by different categories of firms, 2000–08**

<b>A. Number of overseas acquisitions</b>					
Year	Private Domestic Sector		Public sector	Foreign-owned	Total
	Standalone	Group Affiliated			
2000	8 (20.5)	24 (61.5)		7 (17.9)	39 (100)
2001	5 (22.7)	15 (68.2)		2 (9.1)	22 (100)
2002	5 (18.5)	14 (51.9)	4 (14.8)	4 (14.8)	27 (100)
2003	9 (22.0)	26 (63.4)		6 (14.6)	41 (100)
2004	12 (20.0)	33 (55.0)	8 (13.3)	7 (11.7)	60 (100)
2005	46 (32.4)	72 (50.7)	8 (5.6)	16 (11.3)	142 (100)
2006	64 (33.9)	96 (50.8)	3 (1.6)	26 (13.8)	189 (100)
2007	78 (40.8)	91 (47.6)	5 (2.6)	17 (8.9)	191 (100)
2008	93 (39.6)	127 (54.0)	1 (0.4)	14 (6.0)	235 (100)
All years	320 (33.8)	498 (52.6)	29 (3.1)	99 (10.5)	946 (100)

  

<b>B. Value of overseas acquisitions (US\$ million)</b>					
Year	Private Domestic Sector		Public sector	Foreign-owned	Total
	Standalone	Group Affiliated			
2000	11 (1.2)	569 (62.7)			
2001	2 (1.0)	168 (86.6)		24 (12.4)	194 (100)
2002	9 (0.3)	110 (4.2)	2473 (95.0)	10 (0.4)	2602 (100)
2003	43 (7.0)	546 (88.6)		27 (4.4)	616 (100)
2004	275 (9.1)	928 (30.8)	1746 (58.0)	62 (2.1)	3011 (100)
2005	397 (11.1)	2346 (65.7)	54 (1.5)	772 (21.6)	3569 (100)
2006	815 (10.6)	5915 (76.7)	595 (7.7)	387 (5.0)	7712 (100)
2007	1781 (5.2)	31696 (91.8)	190 (0.6)	860 (2.5)	34527 (100)
2008	2290 (17.7)	8505 (65.7)	1900 (14.7)	259 (2.0)	12954 (100)
All years	5623 (8.5)	50783 (76.8)	6958 (10.5)	2729 (4.1)	66093 (100)

**Note:** Firms classification into standalone, BG affiliated, foreign owned and public owned is as per the Prowess information, Centre for Monitoring Indian Economy.

**Source:** Based on a dataset constructed from reports from newspapers, magazines and financial consulting firms like Hindu Business Line, Economic Times, Financial Express, Business World, Grant Thornton India, and ISI Emerging Markets

The list of top 10 host countries for acquisitions by standalone and business group affiliated Indian firms as presented in Table-3 is also relevant for indicating how these two sets of firms follow different preferences in locating their overseas acquisitions. The U.S., for instance, is the top recipient country for acquisitions by standalone firms whereas the UK turns out to be the largest host country for business group affiliated firms. Australia, Italy, Switzerland and Spain emerge as important hosts for acquiring standalone Indian firms but are not so for group affiliated firms. The latter set of firms is more inclined to seek acquisitions in Norway, Indonesia, South Korea and Belgium.

**Table-2**  
**Regional direction of Indian overseas acquisitions by standalone and group affiliated firms, 2000–08**

Host region	Value of overseas acquisitions in US\$ million	
	(%)	
	Standalone firms	Group affiliated firms
	2000–08	2000–08
<b>Developing economies</b>	638(11.3)	5308(10.5)
Africa	88(1.6)	715(1.4)
Eastern Africa	33(0.6)	236(0.5)
Middle Africa		
Northern Africa	35(0.6)	243(0.5)
Southern Africa	20(0.4)	233(0.5)
Western Africa		3(0.0)
Latin America & Caribbean		248(0.5)
Central America		127(0.3)
South America		121(0.2)
Asia	550(9.8)	4344(8.6)
Eastern Asia	18(0.3)	1000(2.0)
Southern Asia	1(0.0)	
South-Eastern Asia	478(8.5)	3283(6.5)
Western Asia	53(0.9)	61(0.1)
Oceania		1(0.0)
<b>Economies in transition</b>	20(0.4)	122(0.2)
Asia		81(0.2)
Europe	20(0.4)	41(0.1)
<b>Developed economies</b>	4965(88.3)	45353(89.3)
Northern America	2754(49.0)	16718(32.9)
Asia	13(0.2)	479(0.9)
Europe	1606(28.6)	27740(54.6)
Oceania	592(10.5)	416(0.8)
<b>Grand Total</b>	5623(100)	50783(100)
	<i>Memo</i>	
No. of Indian acquirers	196	193
No. of host countries	45	62

*Source:* Same as Table-1.

**Table-3**  
**Top 10 host countries to Indian overseas acquisitions by standalone and group affiliated firms, 2000–08**

Standalone firms 2000–08 (US\$ million)	Group affiliated firms 2000–08 (US\$ million)
USA(\$2,461)	UK(\$19,704)
UK(\$636)	USA(\$14,629)
Australia(\$579)	Germany(\$2,570)
Singapore(\$420)	Canada(\$2,062)
Netherlands(\$300)	Norway(\$1,648)
Canada(\$293)	Indonesia(\$1,383)
Italy(\$187)	Netherlands(\$1,133)
Switzerland(\$101)	Singapore(\$1,038)
Germany(\$97)	South Korea(\$854)
Spain(\$62)	Belgium(\$660)
<i>Memo</i> : Percentage share of top 10 hosts to total value of acquisitions by groups	
91.3	90.0

*Source*: Same as Table-1.

#### 4. Determinants of location of Indian overseas acquisitions

The foregoing discussion indicates that there are sizeable variations in the cross-country distribution of overseas acquisitions by Indian firms affiliated to business groups and those by standalone companies. Are overseas acquisitions by business group affiliated firms determined by different sets of locational factors than those undertaken by standalone firms? This issue is examined in this Section by formulating and estimating an appropriate locational framework for analyzing the Indian overseas acquisitions.

##### 4.1. The Analytical Framework

The locational distribution of overseas acquisitions by Indian firms can be explained by complementary theoretical insights drawn from the general theory of industrial location, gravity model of international trade and economic theory of foreign investment. Laundhardt (1885), Weber (1929) and Hotelling (1929) have provided early explanations for the spatial pattern of industry and highlighted a range of factors critically affecting firms' industrial location decision like differences in inputs and transportation cost and size of demand at alternative locations. Following their theory of location, one can postulate that the firms' desire to access critical productive inputs like new technology, skills, and raw materials and to serve large size host market are likely drivers of the Indian overseas acquisitions. Newer theoretical developments in the location theory have incorporated the role of transport infrastructure, general utilities, public policy and taxes in explaining the regional patterns of industries (Badri, 2007) and many of these factors may have some role in the observed geography of Indian overseas acquisitions.

The gravity model that relates the bilateral trade flows to the trading countries' income levels in a positive fashion and negatively to their physical distance (Linnemann, 1966; Deardorff, 1984) is known to possess a number of cues to the locational patterns of FDI. A number of studies analyzing FDI flows have used gravity variables in their analytical framework (e.g.

Hufbauer *et al.*, 1994; Bevan and Estrin, 2004; Bénassy-Quéré *et al.*, 2007) hypothesizing that the FDI flow is positively affected by incomes of host and the source country and it is discouraged by the distance between them.

The eclectic theory of FDI (Dunning, 1980, 1988) suggests a connection between the level of FDI attracted by a host country and its endowment of locational advantages. Host countries with better locational advantages like large markets, high growth, investment friendly policies, adequate infrastructure, etc. are likely to receive greater proportion of global FDI flows.

In the backdrop of the above theoretical postulations and drawing upon the analysis of earlier empirical studies on the locational determinant of emerging country FDI (Buckley *et al.*, 2007, 2009; Cheung and Qian, 2008; Pradhan, 2008a, 2010; Kolstad and Wiig, 2009), this Section formulates an analytical framework consisting of a number of possible factors for explaining the location of Indian overseas acquisitions. In what follows, the hypotheses on these variables are discussed below.

#### *Host market characteristics*

As per the gravity model and location theory reviewed above, the size of the demand in a location plays an important role in industrial location and international trade. The empirical literature investigating the role of host country market characteristics such as gross domestic product (GDP), GDP growth (GDPG) and per capita GDP (PGDP) have consistently indicated a positive role of market size in pulling FDI inflows to host countries (Pearce *et al.*, 1992; UNCTAD, 1993; Hufbauer *et al.*, 1994; Nunnenkamp and Spatz, 2002; Buckley *et al.*, 2007). Given that the overseas acquisitions of both group affiliated and standalone firms might be motivated to seek markets, i.e. to enter into large and new markets, the present study expects GDP, GDPG and PGDP to play a positive role in the spatial distribution of such acquisitions.

#### *Abundant natural resources*

The literature on emerging multinationals also recognizes the increasing importance of natural resource acquisitions in the internationalization of firms from India and China (Buckley *et al.*, 2007; Cheung and Qian, 2008; Kolstad and Wiig, 2009; Pradhan, 2010). In the case of India, natural resource seekers initially came as state-owned enterprises in oil and gas sectors but recently a number of private firms like Reliance Power, Ispat Industries, Hindalco Industries, Gujarat NRE Coke, Sterlite Industries, Tata Steel, etc., have joined the process with operations in mining and minerals involving coal, copper and iron ore. In this light, the natural resource base might help host countries to attract greater share of Indian resource seeking acquisitions. Therefore, host countries' exports of mineral fuels including oils (FUEL) and ore and steel (ORE) are included as natural resource factors attracting Indian overseas acquisitions.

#### *Strategic resource endowments*

A number of recent studies on emerging markets like China and India have found that internationalization of their firms is importantly driven by the consideration to access new

technologies, skills and competencies overseas (Deng, 2004; Kaartemo, 2007; Pradhan, 2008a; Balasubramanyam and Forsans, 2009). Emerging country firms under the intense globalization pressures are urgently seeking to upgrade their knowledge base and thus using acquisition as a means of acquiring innovative resources abroad. Dunning (1998) expects that developed countries that are relatively more endowed with the location-specific strategic assets are more likely to receive these tactical asset seeking FDI from emerging markets. As the acquisition and integration of foreign technologies, learning experiences and management competencies call for a critical technological base on the part of acquiring firms with supporting resources, group affiliating firms might have some advantage in incurring such activities than standalone firms. If that is so, the acquisitions of group affiliated firms are likely to be biased towards developed countries for strategic asset seeking as compared to the standalone companies acquisitions. In this study the strategic asset base of host countries is proxied by the size of patent filings by residents (PAT) and gross secondary school enrolment ratio (ENRL). Both these measures are postulated to attract greater Indian acquisitions.

#### *Host country import dependence*

The cross-country distributions of Indian exports may prompt a closely similar spatial pattern of Indian acquisitions because the past export experience is crucial for access to information on target countries. A host country that imports more from India provides greater practical experience and learning scope to the Indian exporting firms (Pradhan, 2008a, 2010) and as per the Uppsala model these exporting firms may consider moving into such markets through FDI activities. Exporting activities also require enhancing trade-supporting infrastructure by Indian exporters in the targeted countries and acquiring established trading and support networks may serve that purpose. Therefore, the larger a country's imports from India (IMP), the greater is the scope of its hosting the Indian overseas acquisitions.

#### *Policy environments*

The attractiveness of a host country to FDI inflows may also depend on its liberal and supportive policy attitude. As majority of emerging firms are internationalizing recently, the cordial attitude on the part of host countries may reduce their apprehension and may act a positive pull factor. The percentage ratio of inward FDI stock to GDP (FDIS) of the host country is used as a measure of its overall openness to foreign investment and a larger stock of inward FDI can be taken as a reflection of a stable and liberal FDI regime of a host country (Zhou and Lall, 2005). Dummies for bilateral investment agreement (BIT) and double taxation avoidance treaty (DTT) with India are included as additional indicators of preferential policy regime for Indian acquiring firms. Investment protection and reduced taxation complexities and lower tax burden could be relevant location factors attracting Indian acquisitions. While the existing empirical results on the impact of BITs and DTTs on FDI flows are mixed ones in the literature (UNCTAD, 2009; Sauvart and Sachs, 2009), the evidence on their impact on overseas acquisitions done by emerging multinationals is scarce.

#### *Physical and cultural distance*

The geographic proximity is another possible factor that can affect the direction of Indian overseas acquisitions. The cost of information acquisition, technology transfer to establish

overseas entities and their management is likely to increase with the remoteness of a host country from the home country (Leamer and Storper, 2001). Therefore, distance (DIST) is expected to be inversely related to the cross-country distribution of acquisitions by Indian firms. Moreover, the FDI location is likely to be favourably related to the language and cultural proximities between a host and home country (Shenkar, 2001). A common language (LAN) that reflects cultural closeness and greater ability in direct communication tends to reduce the transaction costs involved in cross-border business operations.

#### *Exchange rates*

A number of studies have hypothesized that FDI inflows are sensitive to host country exchange rates (Froot and Stein, 1991; Klein and Rosengren, 1994; Blonigen, 1997; Chakrabarti, 2001; Guo and Trivedi, 2002). However, the existing empirical results present mixed findings in this regard. A stronger local currency in the host country relative to the home country currency is likely to discourage acquisitions by increasing the targeted assets values to the acquiring firms and later by raising the relative costs of foreign production. On the other hand, a weak host country currency renders it difficult to export to that country from the home operations, and therefore lessens the need to have trade-supporting OFDI. Though these arguments hold with respect to the exchange rate movement over time, it will be interesting to examine if cross-country variations in the ‘domestic currency to dollar’ exchange rate play any role in the locational pattern of acquisitions by emerging multinationals.

#### *Inflation*

The risk of inflation is likely to influence the location decision of Indian acquirers. High inflation in host countries - and the consequent expected depreciation of the host currency - not only lowers the expected real earnings of Indian acquiring firms in terms of home country currency but it also might lead to uncertainty in the overall investment environment of the concerned host country. Therefore, we hypothesize that *ceteris paribus*, Indian acquirers will be apprehensive of acquiring large assets in host countries characterized by high rates of inflation (INF).

Having described the possible major factors affecting the locational pattern of Indian overseas acquisitions, the empirical model estimated in the present study is expressed as follows:

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

Where,

$ACQ_{it}$  = Number of acquisitions done by Indian firms in  $i^{th}$  host country in year  $t$ ;

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

$GDPG_{it}$  = Annual percentage change in GDP (constant 2000 US\$) of  $i^{th}$  host country in year  $t$ ;

- PGDP<sub>it</sub> = Natural log of per capita GDP (constant 2000 US\$) of  $i^{\text{th}}$  host country in year t;
- FUEL<sub>it</sub> = Natural log of fuel exports by  $i^{\text{th}}$  host country as a per cent of its total merchandise or commodity exports in year t;
- ORE<sub>it</sub> = Natural log of ore and steel exports by  $i^{\text{th}}$  host country as a per cent of its total merchandise or commodity exports in year t;
- PAT<sub>it</sub> = Natural log of resident patent applications per \$ billions of current GDP of  $i^{\text{th}}$  host country in year t;
- ENRL<sub>it</sub> = Natural log of gross secondary school enrolment (per cent) of  $i^{\text{th}}$  host country in year t;
- IMP<sub>it</sub> = Natural log of  $i^{\text{th}}$  host country's imports from India as a per cent of its total imports in year t;
- FDIS<sub>it</sub> = Natural log of inward FDI stock as a per cent of GDP of  $i^{\text{th}}$  host country in year t;
- BIT<sub>it</sub> = Takes value of one if  $i^{\text{th}}$  host country has a bilateral investment treaty with India in place in year t, zero otherwise;
- DTT<sub>it</sub> = Takes value of one if  $i^{\text{th}}$  host country has a double taxation avoidance treaty with India in place in year t, zero otherwise;
- DIST<sub>i</sub> = Natural log of distance in kilometres between India and  $i^{\text{th}}$  host country.
- LAN<sub>i</sub> = Takes value of one if a common language is spoken by at least 9% of the population of both  $i^{\text{th}}$  host country and India, zero otherwise;
- XR<sub>it</sub> = Natural log of the official exchange rate of  $i^{\text{th}}$  host country in year t expressed as local currency per US\$;
- INF<sub>it</sub> = Annual percentage change in GDP deflator of  $i^{\text{th}}$  host country in year t;
- $u_{it}$  = Random errors.

It is clear from the variables description above that the dependent variable in the study is measured by the number of acquisitions done by Indian firms rather than the value of such acquisitions. This is because a large proportion of Indian acquisition deals go without reporting the value of consideration involved. For instance, more than 35 per cent of the total number of acquisition deals during 2001–2008 did not disclose the value of consideration paid. As a result a number of host countries that attract non-zero number of acquisitions are very likely to be assigned with a zero value of acquisitions if the data on consideration is not revealed. Therefore, the use of acquisition value to characterize the locational profile of Indian acquisition will provide a misleading picture.

Model A is estimated for cross-border acquisitions by all firms in India, as well as for sub-samples of standalone and business group affiliated firms. Since the foreign acquisitions by these two sub-samples constitute over 85% of the total overseas acquisitions from India during the study period (to be precise, 86.47% as seen from Table 1), the results for all firm' sample (including also foreign-owned and public sector units) are expected to largely reflect the locational choices of sub-samples of standalone and BG-affiliated acquiring firms.

## **4.2. Data Sources**

The estimation of model A, as stated above, is based primarily on the information collected from a number of secondary sources. The annual data on the number of Indian acquisitions by host countries during 2001–2008 has been estimated based on an in-house dataset constructed from different Indian merger and acquisitions (M&As) reports in newspapers and magazines like the Hindu Business Line, the Economic Times, the Financial Express and the Business World with supplementary information from consulting firms like Grant Thornton India and ISI Emerging Market.

The data on GDP, GDP growth rate, real per capita GDP, secondary school enrolment ratio, exchange rate and GDP deflator of host countries were drawn from the online World Investment Indicators (WDI) 2009. The WDI data on the secondary school enrolment ratio for 2008 has been augmented by the extra information collected from the UNESCO's online educational statistics. The United Nations Commodity Trade Statistics Database (COMTRADE) is the source for data on exports of fuels, ore including steel and total commodities. Resident patent filings statistics have been collected from the World Intellectual Property Organization, online statistics on patents, 2009.

The data on BIT and DTT by partner countries for India and inward FDI stock as per cent of GDP were obtained from the online database of the UNCTAD. The data on geographical distances (in kilometers) between India and host countries, calculated following the great circle formula that uses latitudes and longitudes of the most important city (in terms of population) or of official capital, have been accessed from the CEPII Distance database, 2006. This data set also provides the information on host countries for India if they share a common ethnic language with India.

## **4.3. Estimation Issues, Methods and Results**

For models where the response variable represents the non-negative counts of the number of events that occur, the application of the standard ordinary least square (OLS) method is likely to produce biased, inconsistent and inefficient coefficient estimates (Long, 1997). The use of the Poisson regression model is more appropriate if the count dependent variable is characterized by the equality between the sample mean and the sample variance (Cameron and Trivedi 1998; Hilbe, 2007).

A preliminary analysis of the dependent variable in our case shows that it tends to violate the mean-variance equality assumption of the Poisson distribution. The cross-country distribution of the counts of foreign acquisitions by Indian firms is characterized by a substantial diversion between the sample mean and the sample variance. In particular, the estimated sample variance is nearly 26 times larger than the sample mean for acquisitions by all Indian firms, the same ratio is 16 times and 10 times respectively for foreign acquisitions by standalone Indian companies and group affiliated firms (Table-4). In addition to the overdispersion, the dependent variable is also observed to have excessive number of outcome zeros. The estimated value of the 75<sup>th</sup> percentile of the distribution of the number of foreign acquisitions by Indian firms is zero.

**Table-4 Summary of the dependent variable**

Percentiles	Number of foreign acquisitions		
	All firms	Standalone	Group Affiliated
75%	0	0	0
90%	1	0	1
95%	3	1	1
99%	12	4	8
Mean	0.60649	0.20825	0.31913
Variance	16.0345	3.27595	3.31216
Obs.	1479	1479	1479

Note: Calculation is based on estimable sample of host countries only.

This suggests that our data is characterized by both overdispersion and extreme censoring and the estimation of the Model A through the standard Poisson regression is inappropriate. Following Hardin and Hilbe (2007), we have used the censored Poisson approach with robust standard errors for taking into account the censoring and extra variability in the Poisson data. Their approach is to parameterize the Poisson data as censoring occurs in traditional survival models. The *cpoisson* command written by Hilbe (2005) for the STATA software has been used to estimate the results presented in this paper.<sup>6</sup>

Table-5 summarizes the estimations for location of overseas acquisitions by all Indian firms and for each of the subsamples of standalone firms and business group affiliated companies. The estimated censored Poisson equations are all statistically significant in terms of the Wald Chi-square test at one per cent level. This indicates that the explanatory variables included are jointly explaining a meaningful proportion of the cross-country variations in the number of Indian acquisitions aboard.

The findings pertaining to the role of host country market characteristics suggests that emerging Indian multinationals tend to use acquisitions more in those host countries that possess relatively growing and large size of domestic markets. *GDP* and *GDPG* both have a positive significant coefficient while explaining cross-country distribution of acquisitions by Indian firms. The positive effect of *GDP* is found to be significant for both the sub-samples of standalone and BG affiliated firms but *GDPG* is significant only for the latter set of firms. From this it appears standalone Indian acquirers are mostly attracted by the large size of the host markets than their growth while both the market size and growth are important attractions for acquisitions by BG affiliated firms. The remaining market related variable, *PGDP*, comes up with expected positives signs in the full sample and sub-sample estimations but could not reach any acceptable level of significance.

<sup>6</sup> This STATA programme is available at <http://ideas.repec.org/c/boc/bocode/s456411.html>

**Table-5 Censored Poisson estimation of locational determinants of Indian foreign acquisitions**

Independent variables	Dependent variable: No. of foreign acquisitions		
	All firms	Standalone firms	Group affiliated firms
GDP	0.859061*** (7.59)	1.008255*** (3.36)	0.841614*** (6.00)
GDPG	0.122637** (2.30)	0.122558 (1.47)	0.160634*** (2.64)
PGDP	0.131987 (0.68)	0.303119 (0.73)	0.159204 (0.74)
FUEL	0.310213*** (3.38)	0.018548 (0.12)	0.254932** (2.19)
ORE	0.128667 (0.97)	0.775019** (2.25)	0.045535 (0.30)
PAT	0.074590 (0.56)	-0.202193 (0.62)	0.159901 (0.94)
ENRL	-1.404992** (2.43)	-0.912001 (0.78)	-2.007351*** (2.66)
IMP	0.502647** (1.97)	0.968680** (2.14)	0.190331 (0.62)
BIT	0.755876** (2.53)	-0.058575 (0.09)	0.967978*** (2.73)
DTT	1.391762*** (2.64)	4.034450** (2.26)	1.979708** (2.52)
FDIS	0.000016*** (2.69)	0.000019 (1.45)	0.000015** (1.99)
DIST	0.734329* (1.87)	-0.239793 (0.25)	1.052801** (2.24)
LAN	0.572601** (2.19)	1.205479** (2.22)	0.461907 (1.60)
XR	-0.274848*** (3.43)	-0.432287** (2.07)	-0.270248*** (2.68)
INF	-0.055756** (2.15)	-0.183478** (2.07)	-0.046106 (1.59)
Constant	-26.390406*** (5.59)	-28.827771*** (2.84)	-27.832478*** (4.92)
Wald chi2(15)	838.47	316.20	518.70
Prob > chi2	0.0000	0.0000	0.0000
Log pseudolikelihood	-256.00687	-135.01089	-187.94365
Observations	461	461	461

Note: Robust z-statistics in parentheses; \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

Among two of the natural resource variables *FUEL* and *ORE*, the former has a predicted positive and significant sign in the full sample of Indian firms as well as the sub-sample of BG affiliated firms. *ORE* has a positive sign throughout but is significant only for the sub-sample of standalone firms. These findings suggest that BG affiliated Indian firms are more likely to have their acquisitions in countries with large fuel sources while acquisitions of standalone firms is significantly affected by the host endowments of iron ores and steel, ceteris paribus. This is an interesting result as the locational pattern of overseas acquisitions by standalone and BG affiliated firms are found to have biases for distinct type of natural resources. We venture the following explanations. India herself is rich in iron ore & steel

resources. The standalone Indian firms producing items, such as engineering goods, using these resources while investing abroad for production are likely to seek assured supply of these materials in the host country, as well seek for home country production those varieties/qualities of these materials in which India is deficient. The BG-affiliated firms may invest in fuel exporting nations to develop bases for fuel exports to the neighbouring regions from there and to India.

*PAT* reflecting the technological assets of the host countries comes up with a positive sign for the full sample and the subset of BG affiliated firms but a negative sign for the subsample of standalone firms. As none of the coefficients of *PAT* achieve any acceptable levels of statistical significance, the location of Indian overseas acquisitions generally does not appear to be affected by the technological assets in host countries, as indicated by the *PAT* variable. This result goes against the general perception that emerging country firms are using acquisitions as a strategy for obtaining new strategic assets abroad. Though there are a number of instances of Indian firms acquiring foreign targets with good technological asset bundles (Pradhan, 2008a) but it seems that overseas acquisitions of majority of Indian firms are motivated by other considerations like accessing new and large market, natural resources or providing trade-supporting services through the acquired entities than acquiring foreign technologies. The performance of the skill variable, *ENRL*, with a significantly negative effect in the full sample and sub-sample of BG affiliated firms again contradicts our formulated hypothesis. Holding other factors the same, host countries with higher levels of skills are likely to attract a smaller number of acquisitions by BG affiliated Indian firms. Perhaps these firms in their acquisition activities are less inclined to accessing the host country semi-skilled skills reflected by *ENRL* as the home country (i.e. India) itself possesses an endowment of relatively cheap and skilled labour resources. The BG affiliated firms might be seeking more advanced skills like engineers, scientists and technologists which are not truly captured by the skill variable used in the study.

*IMP* has a positive sign throughout and is statistically different from zero for all firms and the subsample of standalone firms. It has a positive sign for BG affiliated firms but couldn't attain the level of statistical significance. Thus, foreign acquisitions of standalone Indian firms closely follow the location of Indian exports, being favourably influenced by the importance of India in the host country's overall imports. It may signify these firms desire to access the marketing and distribution networks of the foreign targets as a strategy of supporting exports from the home country. Location of foreign acquisitions by BG affiliated firms, on the other hand, seems insensitive to the quantitative importance of imports from India to the host country.

The performance of policy variables in the full sample estimation are in accordance with the expectation. *BIT*, *DTT* and *FDIS* all came out with significantly positive coefficients. This suggests that the cross-country pattern of overseas acquisitions by Indian firms is heavily influenced by the existence of bilateral investment and double tax avoidance treaties that a host country has concluded with India and the host's liberal investment environment. These full sample findings hold true also for the subsample of BG affiliated firms. However, the subsample estimation for standalone firms shows that only *DTT* is statistically significant with a positive sign. This implies that BG affiliated Indian firms take a comprehensive view of investment policy regime of a host country in deciding the location of their acquisitions but standalone firms are just concerned with the tax incentives offered by the double taxation

avoidance treaty, *DTT* of a host country with India. In fact, the *DTT* coefficient is far bigger for standalone firms' sub-sample than for the BG-affiliated firms' category.

On the contrary to its hypothesized role, *DIST* turns up significant with a positive effect in the case of full sample and subset of BG affiliated firms, while its negative coefficient for standalone firms is statistically insignificant. Indian firms particularly with the affiliation to business groups, therefore, have acquired foreign entities in more distance markets in the 2000s. This is completely a reversal of the early picture of 1960s–80s when large business groups from India started with investments in geographically and culturally closer countries (Pradhan, 2008c). This tends to corroborate that emerging Indian multinationals with links to business groups are no longer a group of regional players and are generally expanding their profiles worldwide. The BG-affiliated firms may have a globally wide parental network of OFDI and trade, assisting them in this process. However, the cultural proximity of potential host countries is still an important factor for locational distribution of acquisitions by standalone firms. *LAN* is significant with a predicted positive sign in the full sample and subset of standalone firms. In contrast, the BG-affiliated firms are in general little concerned about the cultural proximity of the host country (*LAN*).

*XR* has consistently a negative and significant sign across estimations suggesting that Indian acquiring firms, more so the standalone firms, do not prefer locations with weak currencies. It seems that market-seeking Indian firms are wary of acquiring assets in a host country whose depreciating currency might depress the returns to their investments and also reduce the host country demand for the Indian exports, as a result the need to have trade-supporting Indian OFDI. *INF* comes out with a predicted negative sign across estimations and is different from zero in the full sample and subsample of standalone firms. It would suggest that high levels of price rise in potential host countries tend to reduce their attractiveness to overseas acquisitions of standalone Indian firms. However, BG affiliated firms are not so sensitive to host country inflation while locating their foreign acquisitions. The parental international network of investments and trade assists the BG-affiliated firms to leverage price and inflation differentials across locations.

## **5. Conclusions and implications**

Outward FDI from emerging economies is rapidly expanding since the last decade and the influence of emerging multinationals is getting bigger in various segments of the global market. Among many issues, the topic of how these emerging multinationals choose their host location is receiving growing attention in the current literature. However, to our knowledge, the existing research is yet to investigate if the business group affiliation of emerging country firms causes any differences in the locational profile of their OFDI.

The present study has examined the locational patterns of overseas acquisitions of standalone and BG affiliated Indian firms and analyzed their host country determinants. The analysis brought out a number of differences in the geography of overseas acquisitions done by BG affiliated and non-affiliated Indian firms. BG affiliated acquirers are observed to have a wider spatial distribution of their acquisitions than standalone acquirers. The overseas acquisitions of BG affiliated firms involve relatively more number of host countries than acquisitions by standalone firms. A large majority of cross-border acquisitions by both sets of

firms take place in developed economies. However, these foreign acquisitions of BG affiliated firms tend to be located more in the EU region whereas those by standalone firms are largely attracted to the North America. Besides, the intersection between the two sets of major 10 host countries for foreign acquisitions related to BG affiliated and non-affiliated firms reflected in 40 per cent dissimilarity. Clearly, the cross-country distributions of foreign acquisitions by these two categories of firms differ significantly.

The empirical analysis applying the censored Poisson estimation reveals that both the standalone and BG affiliated firms while locating their international acquisitions are attracted by the size of host countries and the existence of preferential tax regime with India, but get discouraged by weak currency of the host country. Unlike their standalone counterparts, the overseas acquisitions of BG affiliated firms are positively sensitive to a number of specific characteristics of potential host countries like their growth rate, endowments of fuel resources, existence of bilateral investment treaty with India, liberal foreign investment regime and remoteness of location but are negatively affected by the host country's level of semi-skills. Standalone firms, on the other hand and unlike their group affiliated counterparts, are strongly inclined to acquire business units in host locations that import more from India, possess good sources of iron ores & steel, enjoy cultural proximity with the home and that experience low inflation.

Overall the results indicate that given their derived resources and access to parental networks, the OFDI-location by BG-affiliated firms seems to be guided by a wider and broader set of considerations. They (can) undertake their OFDI-location decisions in a more mature manner as compared to the safety sought by standalone firms in terms of the 'avoidance of double taxation, foreign currency strength, home exports importance and cultural proximity' factors.

This study can be improved upon by considering alternative locational indicators relating to strategic assets seeking motive, and additionally other modes and existing history of OFDI by the firm. In terms of the implications for future research this paper suggests that the studies referring to the strength of firm-specific assets of emerging multinational enterprises (EMNEs) need to look beyond the 'firm', namely also at the derived/ indirect resources of the Group-affiliated units. We believe that these resources widen the options, and can explain the so-called 'early internationalization' by EMNEs. Case study and econometric evidence in these regards is expected to validate our arguments.

This paper also adds to the literature on the influence of BG-affiliation on various aspects of firm behavior and performance. Micro-level studies e.g. on growth and profitability of the firm can be enriched by considering the role of not only OFDI by the business unit in question but also by the Group affiliates. In terms of the home country policy implications, the results suggest conclusion of bilateral and double taxation avoidance treaties with more nations in order to encourage the OFDI from India.

## References

- Aw, B.Y. and Y. Lee (2008), 'Firm Heterogeneity and Location Choice of Taiwanese Multinationals', *Journal of International Economics*, 76(2), pp. 403-415.
- Badri, M.A. (2007), 'Dimensions of Industrial Location Factors: Review and Exploration', *Journal of Business and Public Affairs*, 1(2), pp. 1-26.
- Balasubramanyam, V.N. and N. Forsans (2009), 'Science, Technology and Development: The Case of India's Investments Abroad', Paper Presented at the International Conference on *Science, Technology and Economy: Emerging and Developed Countries*, Forum for Global Knowledge Sharing, (Knowledge Forum) and Tata Institute of Social Sciences, October 9-10, Mumbai.
- Barney, J.B. (1991), 'Firm resources and sustained competitive advantage', *Journal of Management*, 17(1), pp. 99-120.
- Bénassy-Quéré, A., M. Coupet and T. Mayer (2007), 'Institutional determinants of foreign direct investment', *The World Economy*, 30(5), pp. 764-782.
- Belenzon, S. and T. Berkovitz (2010), 'Innovation in Business Groups', *Management Science*, 56(3), pp. 519-535.
- Bevan, A. A. and S. Estrin (2004) 'The determinants of foreign direct investment into European transition economies', *Journal of Comparative Economics*, 32(4), pp. 775-787.
- Bhaumik, S.K., Driffield, N. and S. Pal (2010), 'Does Ownership Structure of Emerging-Market Firms Affect their Outward FDI? The Case of the Indian Automotive and Pharmaceutical Sectors', *Journal of International Business Studies*, 41(3), pp. 437-450.
- Blonigen, B. (1997), 'Firm-Specific Assets and the Link Between Exchange Rates and Foreign Direct Investment', *American Economic Review*, 87(3), pp. 447-465.
- Buckley, P.J., L.J. Clegg, A.R. Cross, X. Liu, H. Voss and P. Zheng (2007), 'The determinants of Chinese outward foreign direct investment', *Journal of International Business Studies*, 38(4), pp. 499-518.
- Buckley, P.J., N. Forsans and S. Munjal (2009), "Foreign acquisitions by Indian multinational enterprises: a test of the eclectic paradigm," Paper presented at the 2009 Cambridge Symposium on International Manufacturing, 24-25 September, Møller Centre, Cambridge.
- Cameron, A.C. and P.K. Trivedi (1998), *Regression Analysis of Count Data*, Cambridge University Press, New York.
- Carvalho, F., Duysters, G. and I. Costa (2010), 'Drivers of Brazilian Foreign Investments – Technology Seeking and Technology Exploiting as Determinants of Emerging FDI', UNU-MERIT working paper #2010-017.
- Chakrabarti, A. (2001), 'The Determinants of Foreign Direct investment: Sensitivity Analysis of Cross – Country Regressions', *Kyklos*, 54(1), pp. 89-113.
- Chang, S. and J. Hong (2000), 'Economic performance of group-affiliated companies in Korea: Intragroup resource sharing and internal business transactions', *Academy of Management Journal*, 43(3), pp. 429-448.
- Chang, S.J, C.N. Chung, and I.P. Mahmood (2006), 'When and how does business group affiliation promote firm innovation: A tale of two emerging economies', *Organization Science*, 17(5), pp. 637-656.

- Chari, A., Chen, W. and K.M.E. Dominguez (2009), 'Foreign Ownership and Firm Performance: Emerging-Market Acquisitions in the United States', NBER Working Paper No. 14786, March.
- Cheung, Y-W and Qian, X.W. (2009), 'The empirics of China's outward direct investment', Mimeo, University of California, Santa Cruz, USA.
- Chi-Nien, C. (2003) 'Managerial Structure of Business Groups in Taiwan: The Inner Circle System and its Social Organization', *Developing Economies*, 41(1), pp. 37–64.
- Deardorff, A.V. (1984), 'Testing trade theories and predicting trade flows', in R.W. Kenen and P.B. Jones (eds.) *Handbook of international economics*, 1., pp. 467–517, North-Holland, Amsterdam.
- Deng, P. (2004), 'Outward investment by Chinese MNCs: Motivations and implications', *Business Horizons*, 47(3), pp. 8–16.
- Dunning, J.H. (1988), 'The eclectic paradigm of international production: A restatement and some possible extensions', *Journal of International Business Studies*, 19(1), pp. 1–31.
- Dunning, J.H. (1998) 'Location and the Multinational Enterprise: A Neglected Factor?', *Journal of International Business Studies*, 29(1), pp. 45–66.
- Elango, B. and C. Pattnaik (2007), 'Building Capabilities for International Operations through Networks: A Study of Indian Firms', *Journal of International Business Studies*, 38(4), pp. 541–555.
- Froot, K., and J. Stein (1991), 'Exchange Rates and Foreign Direct Investment: An Imperfect Capital Markets Approach', *Quarterly Journal of Economics*, 106(4), pp. 1191–1217.
- Gammeltoft, P., J.P. Pradhan and A. Goldstein (2010), 'Emerging Multinationals: Home and Host Country Determinants and Outcomes', introduction to the guest edited special issue on emerging multinationals, *International Journal of Emerging Markets*, 5(3/4), pp. 254–265, (forthcoming).
- Goldstein, A. (2009). *Multinational Companies from Emerging Economies: Composition, Conceptualization and Direction in the Global Economy*. New York: Palgrave MacMillan.
- Guillén, M.F. (2000) 'Business Groups in Emerging Economies: A Resource-Based View', *The Academy of Management Journal*, 43(3), pp. 362–380.
- Guillén, M.F. and E. García-Canal (2009), 'The American Model of the Multinational Firm and the "New" Multinationals from Emerging Economies', *Academy of Management Perspectives*, 23(2), pp. 23-35.
- Guo, J., and P. Trivedi (2002), 'Firm-Specific Assets and the Link between Exchange Rates and Japanese Foreign Direct Investment in the United States: A Re-Examination', *Japanese Economic Review*, 53(3), pp. 337–349.
- Hardin, J.W. and J.M. Hilbe (2007) *Generalized linear models and extensions*, 2nd Edition, Stata Press books, StataCorp LP, Texas.
- Hilbe, J.M. (2005), 'CPOISSON: Stata module to estimate censored Poisson regression', available at <http://ideas.repec.org/c/boc/bocode/s456411.html>
- Hilbe, J.M. (2007), *Negative Binomial Regression*, Cambridge University, Cambridge, UK.
- Hottelting, H. (1929), 'Stability in competition', *Economic Journal*, 39(153), pp. 41–57.
- Hymer, S. (1976). *The international operations of national firms: A study of direct foreign investment*. Cambridge, MA: MIT Press (1960 PhD Thesis).
- Hufbauer, G., D. Lakdawalla and A. Malani (1994), 'Determinants of Direct Investment and its Connection to Trade', *UNCTAD Review*, pp. 39–51.

- Johanson, J. and J-E Vahlne (1977), 'The Internationalization process of the firm – a model of knowledge development and increasing foreign market commitments', *Journal of International Business Studies*, 8(1), pp. 23–31.
- Johanson, J. and J-E Vahlne (1990), 'The Mechanism of Internationalization', *International Marketing Review*, 7(4), pp.11–24.
- Kaartemo, V. (2007), 'The Motives of Chinese Foreign Investments in the Baltic Sea Region', *PEI Electronic Publications*, No. 7/2007, Pan-European Institute.
- Kedia, B.D., Mukherjee, D. and S. Lahiri (2006), 'Indian Business Groups: Evolution and Transformation', *Asia Pacific Journal of Management*, 23(4), pp. 559-577.
- Khanna, T. and J.W. Rivkin (2006), 'Interorganizational Ties and Business Group Boundaries: Evidence from an Emerging Economy', *Organization Science*, 17(3), pp. 333–352.
- Khanna, T. and K. Palepu (2000a), 'Is Group Affiliation Profitable in Emerging Markets? An Analysis of Diversified Indian Business Groups', *The Journal of Finance*, 55(2), pp. 867–891.
- Khanna, T. and K. Palepu (2000b), 'The Future of Business Groups in Emerging Markets: Long Run Evidence from Chile', *Academy of Management Journal*. 43(3), pp. 268–285.
- Khanna, T. and Y. Yafeh (2007), 'Business Groups in Emerging Markets: Paragons or Parasites?', *Journal of Economic Literature*, 45(2), pp. 331–372.
- Klein, M., and E. Rosengren (1994), 'The Real Exchange Rate and Foreign Direct Investment in the United States: Relative Wealth vs. Relative Wage Effects', *Journal of International Economics*, 36(3/4), pp. 373–389.
- Kolstad, I. and A. Wiig (2009), 'What Determines Chinese Outward FDI?', *CMI Working Paper*, No. 2009: 3, Chr. Michelsen Institute, Norway.
- Lall, S. (1983) (ed.) *The New Multinationals: The Spread of Third World Enterprises*, John Wiley & Sons New York.
- Launhardt, W. (1885), *Mathematische Begründung der Volkswirtschaftslehre*, Leipzig.
- Leamer, E. E. and M. Storper (2001), 'The economic geography of the Internet age', *Journal of International Business Studies*, 32(4), pp. 641–665.
- Lee, K. and X. Jin (2009) 'The origins of business groups in China: An empirical testing of the three paths and the three theories', *Business History*, 51 (1), pp. 77–99.
- Linnemann, H. (1966), *An Econometric Study of International Trade Flows*, North Holland Publishing Company, Amsterdam.
- Long, J.S. (1997), *Regression Models for Categorical and Limited Dependent Variables*, Sage Publications, Thousand Oaks, CA.
- Maman, D. (2002), 'The emergence of business groups: Israel and South Korea compared', *Organization Studies*, 23(5), pp. 737–758.
- Makino, S., Lau, C.M. and R.S. Yeh (2002), 'Asset-Exploitation versus Asset-Seeking: Implications for Location Choice of Foreign Direct Investment from Newly Industrialized Economies', *Journal of International Business Studies*, 33(3), pp. 403-421.
- Mathews, J. A. (2002), *Dragon Multinational: A New Model for Global Growth*, Oxford University Press, New York.
- Nunnenkamp, P. and J. Spatz (2002), 'Determinants of FDI in developing countries: Has globalization changed the rules of the game?', *Transnational Corporations*, 11(2), pp. 1–34.

- Pearce, R., A. Islam, and K. Sauvant (1992), 'The Determinants of Foreign Direct Investment, A Survey of Empirical Evidence', *United Nations Centre on Transnational Corporations*, United Nations, New York.
- Pradhan, J.P. (2008a), *Indian Multinationals in the World Economy: Implications for Development*, Bookwell Publisher, New Delhi.
- Pradhan, J.P. (2008b), 'India's Emerging Multinationals in Developed Region', *MPRA Paper*, No. 12361, University Library of Munich.
- Pradhan, J.P. (2008c) 'The Evolution of Indian Outward Foreign Direct Investment: Changing Trends and Patterns', *International Journal of Technology and Globalisation*, 4(1), pp.70–86.
- Pradhan, J.P. (2010) 'Emerging Multinationals from India and China: Origin, Impetus and Growth', in H. Esho and P. Xu (eds.) *International Competitiveness, Globalization and Multinationalization of Firms: A Comparison of China and India*, ICES 2009 International Conference Proceedings, Institute of Comparative Economic Studies, Hosei University, Tokyo, Japan, pp. 95–135.
- Pradhan, J.P. and Neelam Singh (2009) 'Outward FDI and Knowledge Flows: A Study of the Indian Automotive Sector', *International Journal of Institutions and Economies*, 1(1), pp. 155–186
- Rajakumar, J.D. and J.S. Henley (2007), 'Growth and Persistence of Large Business Groups in India', *Journal of Comparative International Management*, 10(1), pp. 3–22.
- Ramamurti, R. and J.V. Singh (2009) (eds.), *Emerging Multinationals in Emerging Markets*, Cambridge, UK: Cambridge University Press.
- Rugman, A.M. and A. Verbeke (2007), 'Liabilities of regional foreignness and the use of firm-level versus country-level data: a response to Dunning *et al.* (2007)', *Journal of International Business Studies*, 38 (1), pp. 200–205.
- Sauvant, K.P. with K. Mendoza and I. Ince (2008) (eds.), *The Rise of Transnational Corporations from Emerging Markets*, Cheltenham: Edward Elgar.
- Sauvant, K.P. and J.P. Pradhan with A. Chatterjee and B. Harley (2010) (eds.), *The Rise of Indian Multinationals: Perspectives on Indian Outward Foreign Direct Investment*, New York: Palgrave Macmillan (forthcoming).
- Sauvant, K.P. and L.E. Sachs (2009) (eds.), *The Effect of Treaties on Foreign Direct Investment: Bilateral Investment Treaties, Double Taxation Treaties, and Investment Flows*. Oxford: Oxford University Press.
- Shenkar, O. (2001), 'Cultural distance revisited: Towards a more rigorous conceptualisation and measurement of cultural differences', *Journal of International Business Studies*, 32(3), pp. 519–535.
- Tan, D. and K.E. Meyer (2010), 'Business Groups' Outward FDI: A Managerial Resources Perspective', *Journal of International Management*, 16(2), pp. 154-164.
- UNCTAD (1993), *Explaining and Forecasting Regional Flows of Foreign Direct Investment*, United Nations, New York.
- UNCTAD (2006), *World Investment Report 2006: FDI from Developing and Transition Economies. Implications for Development*, Geneva: United Nations.
- UNCTAD (2007), *Global Players from Emerging Markets: Strengthening Enterprise Competitiveness through Outward Investment*, New York and Geneva: United Nations.
- UNCTAD (2009), *The Role of International Investment Agreements in Attracting Foreign Direct Investment to Developing Countries*, United Nations, New York and Geneva.

- Weber, A. (1929), *Theory of the location of industries*, translated by C. J. Friedrich, Chicago: University of Chicago.
- Yaprak, A., B. Karademir and R.N. Osborn (2006) 'How do Business Groups Function and Evolve in Emerging Markets? The Case of Turkish Business Groups', in S. Zou (ed.) *International Marketing Research*, 17, Emerald Group Publishing Limited, pp.275–294.
- Yiu, D., Bruton, G. D. and Y. Lu (2005), 'Understanding Business Group Performance in an Emerging Economy: Acquiring Resources and Capabilities in Order to Prosper', *Journal of Management Studies*, 42(1), pp. 183–206.
- Zhou, Y. and S. Lall (2005), 'The impact of China's FDI surge on FDI in South-East Asia: panel data analysis for 1986-2001', *Transnational Corporations*, 14(1), pp. 41–65.