Internationalization and performance: A contextual analysis of Indian firms

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A B S T R A C T

This paper explores the nature of the relationship between a firm’s internationalization and performance (I–P) and provides interesting evidence on the moderating role of the firm’s characteristics on this relationship. First, the paper investigates two modes of internationalization by firms: exports and foreign direct investment (FDI). The study anticipates the I–P relationship to be different for these two modes owing to the differences associated with market-seeking and strategic asset/resource-seeking motivations among internationalizing Indian firms. Drawing on these differing motivations, the study theorizes a positive linear I–P relationship with export intensity and a negative linear I–P relationship with FDI activity and finds strong support for the latter. Second, the study argues for the contextual nature of the I–P relationship and attempts to integrate the role of organizational characteristics such as business group affiliation, firm size, and firm age in influencing the I–P relationship. The study finds that business group affiliation and firm age positively moderate the I–P relationships, which signifies deeper institutional, resource-based, and legitimizing effects. These results are indicative of the need for greater mid-range theorizing to forge a more robust understanding of the role various organizational characteristics play in influencing the I–P relationship.

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1. Introduction

The extent of the international involvement of firms has increasingly become a focus of research in management (Hitt, Tihanyi, Miller, & Connelly, 2006) because growth by internationalization is an important strategic option for small as well as large firms (Lu & Beamish, 2001). Various researchers have examined the impact of a firm’s internationalization (I) on its performance (P) (Hitt, Hoskisson, & Kim, 1997). The extant literature suggests that the I–P relationship has multiple stages (Contractor, 2007) and is context dependent (e.g., Ruigrok, Amann, & Wagner, 2007). Ruigrok et al. (2007) also indicate that the research in this field needs to focus on the role of some promising moderating variables, which may add to knowledge that has academic as well as managerial relevance. Continuing along similar lines, this paper strives to advance the literature pertaining to international business in three directions.

Firstly, taking a cue from the general three-stage theory of multinationality-performance (Contractor, 2007) and the work by Verbeke, Li, and Goerzen (2009), who emphasize the need for subsample analysis to examine the I–P relationship for firms to account for the fact that differing entry modes and associated differences in motivations could induce heterogeneity in the firms’ performance, the study explores two modes of internationalization—Exports and Foreign Direct Investment (FDI). The theoretical rationale for looking at these two modes of internationalization centers on the fact that the two broadly coalesce around exports being primarily oriented towards a market-seeking strategic rationale and FDI, especially in the Indian context, largely proxies for the elements associated with strategic resource/asset-seeking motivations (Gubbi, Aulakh, Ray, Sarkar, & Chittoor, 2010). Utilizing these theoretical building blocks, the study argues for a positive linear relationship between export intensity (I) and performance (P) and a negative linear relationship between FDI activity (I) and performance (P). In addition, this study employs a comprehensive multidimensional construct to operationalize FDI activity in Indian firms.

Secondly, this paper explores the moderating role of organizational characteristics in influencing the I–P relationship because certain organizational characteristics can reduce some of the costs of internationalization for firms. In particular, firms in emerging markets face unique challenges associated with doing business because of labor, capital, and technological voids (Khanna & Palepu, 2000). These emerging-market firms, therefore, need to use social, reputational, and political capital to bridge such institutional voids to succeed in such an environment. In addition, as the competitive environment becomes more intense owing to the liberalization of emerging markets, the nature of resources and capabilities that are required to effectively compete in these markets evolves from “contact capabilities” to “organizational

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and technological capabilities” (Kock & Guillén, 2001). When these “organizational and technological capabilities” are not available in the home market (emerging market), they need to be procured from international markets. Firms affiliated to business groups are often able to meet institutional challenges associated with doing business in these emerging markets and procuring necessary resources and capabilities from foreign markets more effectively compared to non-group firms. Other organizational attributes such as size and age of the firm also play a role in enhancing the legitimacy of emerging-market firms and reducing their “liabilities of foreignness” (Zaheer, 1995) in foreign markets.

Thirdly, unlike most other contributions to this stream of literature that have focused on the internationalizing behavior of developed economy firms, this study focuses on internationalizing firms from a vibrant emerging economy, that is, India. The focus on India provides a natural setting to test these conjectures about the internationalization process of firms within a unique institutional context. (a) With the liberalization of the Indian economy in 1991, many government regulations related to inward and outward FDIs promote internationalization of Indian firms, leading to an increase in outward FDIs from India, from 0.91 billion USD in 2001 to 16.80 billion USD in 2008 (Prasad, 2009); (b) institutional factors such as political and regulatory environment, culture, and economic development are different in India compared to those in developed countries; (c) as a country, India is endowed with various comparative advantages like low cost base, seasoned high quality managerial class, and capabilities in skill-intensive products and services (Ramamurti & Singh, 2009); and (d) intense competition from foreign multinational corporations (MNCs) in India has led to the development of certain firm-level capabilities like greater competitive ability, faster learning, and adaptive skills (Kumar & Singh, 2008) in Indian firms. The convergence of all these factors, along with the dearth of studies on emerging economies (Rausch & Krist, 2007), makes India a unique setting to examine the study's conjectures pertaining to the I–P relationship and the moderating effects of organizational characteristics.

In brief, this study examines how the strategic outcomes of firms are affected by firm-specific factors (organizational characteristics), a firm’s industry environment (by controlling for industry effects), and the general environment (by carrying out this study in an emerging economy).

2. Hypothesis development

2.1. Internationalization and performance

For the last three decades, international business (IB) literature has focused on how internationalization and performance are related. Different researchers argue for different kinds of relationships, ranging from no relationship (e.g., Tallman & Li, 1996), positive linear (e.g., Nachum, 2004), negative linear (Siddharthan & Lall, 1982), U-shaped (e.g., Ruigrok & Wagner, 2003), inverted U-shaped (e.g., Hitt et al., 1997), to a sigmoid-shaped relationship (e.g., Lu & Beamish, 2004) between internationalization and performance. The sigmoid shape is an attempt to reconcile the last three decades' research into a three-stage model—considered the general theory of the I–P relationship (Contractor, 2007; Ruigrok et al., 2007). The earlier proposals—linear, U-shaped, inverted U-shaped relationships between I–P—are not ambiguous results; rather, these relationships depict the different stages of the three-stage model (Contractor, 2007). If the firms in a sample are at low and moderate levels of FDI, researchers are likely to obtain a negative relationship and/or a U-shaped relationship; the cubic term in the equation will be non-significant. The limited number of studies examining I–P relationships in emerging economies indicates the need to address the question of whether the conventional notions of internationalization—based on developed economies—are generalizable to firms that diversify internationally from emerging-market contexts or from other areas with high institutional distance between home and host countries (Hitt et al., 2006). In this context, examining whether firms in emerging economies will go through all three stages of the model or if they develop certain capabilities to skip some stages would be particularly interesting. The study addresses this gap in the literature by examining the I–P relationship in an emerging economy context.

Firms use export and FDI as common strategies for foreign expansion (Lu & Beamish, 2001). In the analysis of the I–P relationship, this study examines both exports and FDI activities by the firms. The extant literature regards exports as the first step to entering foreign markets, which serve as a platform for future foreign expansions (Kogut & Chang, 1996). Exports are primarily oriented towards a market-seeking strategic rationale. Indian firms that export products, therefore, tend to enter foreign markets as a market seeker and then exploit location-specific advantages inherent in India—such as a low cost base and capabilities associated with labor-intensive products and services—to gain an edge over the firms in the importing countries. Exporting has certain advantages. For example, exporting is a less capital-intensive path that provides firms with fast access to foreign markets and the opportunity to gain valuable international experience (Lu & Beamish, 2001). Further, firms achieve economies of scale and scope by selling large volumes of products and services and by increasing production (using the increased revenues due to internationalization). Additionally, presence in multiple international markets leads to an increase in market power (Kim, Hwang, & Burgers, 1993). In the initial phase of exporting, firms may not be in a position to build strong brands and, hence, may prefer to market their products through some other foreign brands, which would result in fewer “liabilities of foreignness” at this early stage. Therefore, this study expects an increase in performance with increasing levels of exporting by the firm.

Hypothesis 1. The level of a firm’s export intensity and its performance depicts a positive linear relationship.

For Indian firms, the principal motivation for FDI activity is strategic resource/asset seeking as compared to market seeking in the case of exports. An example of such strategic asset seeking would be the acquisition of Corus Steel by Tata Steel. Tata Steel was keen to tap into Corus Steel’s superior product finishing facilities and capabilities in order to augment its own competencies in steel manufacturing (see Gubbi et al., 2010). This change in motivation is largely due to the liberalization of the Indian economy since 1991, which has facilitated some of this FDI activity. Post liberalization, foreign multinational enterprises (MNEs) have started entering the Indian market. These MNEs tend to be equipped with resources such as advanced technology, strong brand names, better quality products, and seasoned marketing and management skills (Dawar & Frost, 1999; Gubbi et al., 2010) and, consequently, pose a considerable competitive threat to Indian firms. As a result, the competitive landscape has changed, as the set of resources required to compete is different in post-liberalization India as compared to the resources required in pre-liberalization India. Given the difficulties associated with acquiring this new set of resources and capabilities within emerging markets like India where these factor markets/institutions are less developed (Khanna & Palepu, 2000), Indian firms may have no other option but to enter foreign markets to seek these resources and capabilities to be competitive locally as well as globally. Therefore, institutional transitions (e.g., liberalization) and institutional voids have put pressure on Indian firms to explore resources and capabilities such as technology, organizational practices, and knowledge bases that are not readily available in the home market (Gubbi et al., 2010). Therefore, the motivation behind internationalization/FDI activity among Indian firms has changed over time, from mere market seeking to resources and strategic asset seeking (Gubbi et al., 2010).

Nevertheless, FDI is a risky and expensive option. FDI demands high resource commitment to foreign markets, especially when the
purpose of the FDI is to seek strategic resources and assets. According to the three-stage model, in the initial phase of FDI, a firm faces additional costs of learning about foreign culture and markets as well as the costs of seeking legitimacy and acceptance in different institutional environments (Kostova & Zaheer, 1999). Emerging-market firms potentially incur more of these costs as these firms suffer from poor product image (Aulakh, Kotabe, & Teegen, 2000). However, firms can overcome some of these costs/liabilities with learning and experience (Barkema & Vermeulen, 1998) and improvements in legitimacy (Lu & Beamish, 2004). A recent study by Hope, Thomas, and Vyas (2011) documents that firms from emerging markets bid higher for developed country targets—as the bid projects national pride—compared to firms from developed markets acquiring other developed country targets, which potentially raises the costs associated with acquiring these strategic assets and resources. Other costs include those of manufacturing and selling abroad due to modifications in the production process and marketing mix to adapt the products to local conditions.

Further, a firm incurs costs associated with staffing, and setting up an internal management system and an external business network. However, the firm bears such additional fixed and overhead costs—which are often duplicative, at least initially—only in one or a few foreign markets (Contractor, 2007). As the initial scale of global operations is small, the firm is unable to internalize the costs of creating an international operation from the relatively few countries in which the firm operates (Hitt et al., 1997), which in turn results in very high incremental costs of internationalization per unit sale or per country added. These costs outweigh the ownership and location advantages as well as the benefits of internationalization that a firm has. Consequently, the performance declines during this stage. Since FDI activity in India has picked up only relatively recently, most Indian firms undertaking FDI are in this initial stage of the three-stage model and have not yet progressed sufficiently to the other two stages of the model. During this phase of low FDI in the internationalization continuum, the study expects that Indian firms face a decline in performance.

**Hypothesis 2.** The level of a firm's FDI activity and its performance depicts a negative linear relationship.

### 2.2. Organizational characteristics

As mentioned earlier, international expansion through outward FDI involves high risks and uncertainties; therefore, firms having the organizational and resource endowments required to deal with these risks are likely to be more proactive in international expansion, as these resources and capabilities are the key success factors for innovation.

#### 2.2.1. Business group affiliation

Indian firms face certain cost disadvantages—liability of foreignness and newness—and hence, a decrease in profitability because these firms are from an emerging market; emerging-market firms face more legitimacy issues as compared to firms from developed economies (Aulakh et al., 2000). Governance structures in emerging economies such as business groups can potentially mitigate these differences in performance. (More details on Indian business groups are available on request.) Group-affiliated firms are embedded in a network mode of governance (Elango & Pattnaik, 2007); these networks are not only channels of resources but also mechanisms to search and monitor the firms' strategies and actions (Lin, Peng, Yang, & Sun, 2009). Group-affiliated firms get opportunities to learn from other firms in the network; in this way, these firms try to overcome their late-mover disadvantage in foreign markets. For example, group firms can learn from the internationalization experiences of the other affiliates. These affiliates can provide other member firms with important connections that facilitate the internationalization of operations. These network effects could result in group-affiliated firms facing relatively less “liabilities of foreignness” related to the image of poor product quality associated with emerging-market firms. Further, group-affiliated firms have better and faster access to information, knowledge, resources, markets, and technology. Additionally, the expectation often is that successful firms within a business group will support the poorly performing firms. Therefore, if a group-affiliated firm faces a decrease in profitability in the initial phase/stage of an outward FDI, the firm would get sufficient help from the other firms in the group. The poorly performing group-affiliated firm can gain preferential access to the group’s valuable resources such as reputation, managerial talent, and capital (e.g., Khanna & Palepu, 2000) that could enable a speedy recovery from poor performance (Chacar & Vissa, 2005).

Since FDI activity is often prohibitively expensive—in terms of capital requirements, deployment of human resources in foreign subsidiaries, and markets, and so on—business group-affiliated firms are generally better placed to make such investments and have the necessary scope and scale to internalize the benefits across a large number of affiliated firms. Additionally, resource sharing among member firms of a group is prevalent. These resources help in dealing with certain risks while expanding in foreign markets. A business group with political-economic clout, reputation, and a diversified portfolio will be able to raise capital through its internal markets as well as through domestic and international equity and debt markets. The firm can then leverage these advantages to overcome some of the challenges and costs faced in stage one of the three-stage model.

**Hypothesis 3a.** The group affiliation of the firm positively moderates the negative relationship between FDI activity and firm performance.

#### 2.2.2. Age and size

Firm age and size are important markers of a firm's resources; however, each marker captures different dimensions of a firm's resources (Bausch & Krist, 2007). A firm's age is representative of the resources that firms accumulate over time and the difficulties associated with compressing the time required; hence, firm age depicts the path dependency of these resources. On the other hand, firm size relates to the fact that larger firms usually have access to a larger quantum of resources. Size is also a marker of the availability of managerial resources (Dhanaraj & Beamish, 2003).

With time and, hence, age, firms add on to their resources and capabilities. Typically, some of the resources that are critical for the international expansion of a firm might not be tradable resources or assets. Therefore, the firm cannot acquire these resources easily and has to accumulate these resources over time (Dierickx & Cool, 1989). For example, brand, reputation, and legitimacy are some strategic resources/assets that firms build with time. These resources can reduce some of the costs associated with “liabilities of foreignness.” Further, established (i.e., old) firms are more likely to be able to garner the requisite resources for international operations and build the infrastructure needed for internationalization than new firms. Older firms could also be better equipped to learn from their experiences in the past and would possess more skills to implement their learning in new undertakings. Therefore, the expectation is that age positively moderates the I–P relationship.

Shuman and Seeger (1986) point out a difference in the organization structure, processes, management systems, and resources—such as financial, informational, and managerial resources—of small firms and those of large firms. Firm size being an indicator of the firm’s resources (Dhanaraj & Beamish, 2003), a large firm may have excess resources that it can use for international expansion, which is in line with Penrose’s (1959) view of growth. Based on these arguments, Bloodgood, Sapienza, and Almeida (1996) show that resource availability—operationalized as size of the firm—positively correlates to the extent of internationalization. The possession of greater resources
and competencies by larger firms enables them to compete effectively in foreign markets; consequently, these firms are in a better position to make the investments necessary to take advantage of these resources (Agarwal & Ramaswami, 1992). Small firms lack resources such as heterogeneity in the top management team that is one of the key factors which has a positive impact on the decision to internationalize (Tihanyi, Ellstrand, Daily, & Dalton, 2000). Consequently, small firms face managerial constraints, which may limit the international involvement of these firms. Prior work finds firm size to be associated with international diversification (Tallman & Li, 1996).

In addition, prior studies on small and medium enterprises (SMEs)—characterized as small in size and young in age—show that firms face a shortage of resources needed to sustain a competitive advantage that can be exploited through internationalization in SMEs (Fernandez & Nieto, 2006). The lack of resources leads to high perceived risk about foreign expansion, indicating that small size and low age of the firm positively correlate to risk perception. In contrast, the assumption is that larger and older firms can better absorb risks associated with operating in foreign markets, in addition to possessing greater resources. Claver, Rienda, and Quer (2008) find that size and risk perception about foreign markets are negatively correlated, which supports the earlier assumption. Since large companies often own more resources, they can enter foreign markets in a more aggressive manner, which allows them to absorb the increased risks associated with internationalization (Shrader, Oviatt, & McDougall, 2000). On similar lines, this study assumes that older firms that potentially have more resources can reduce aversion to risk. Additionally, large firms are better able to enforce patents and contracts in international expansion (Hood & Young, 1979).

**Hypothesis 3b.** The age of the firm positively moderates the negative relationship between FDI activity and firm performance.

**Hypothesis 3c.** The size of the firm positively moderates the negative relationship between FDI activity and firm performance.

### 3. Data and variables

To examine the hypotheses, the study constructs two different datasets. The balanced panel set comprises 237 firms that have undertaken exports in the period 2002–2008. Of these 237 firms, only 101 have undertaken FDI activity. Therefore, the second dataset is a balanced panel set comprising the 101 firms that have undertaken FDI activity as well as exports during the same period (2002–2008). The study uses the second dataset to test FDI and performance relationship. The study restricts the sample to listed firms because of the need to study the impact of internationalization on market-based performance measures; another reason is better availability and reliability of this data.

The dependent variable is *firm performance*, measured using accounting as well as stock market based measures. The accounting measure is *return on assets* (ROA), computed as net profit as a percentage of total assets (Lu & Beamish, 2001). The market-based financial performance measure is *Q ratio* (a widely used proxy for Tobin’s Q), computed as the ratio of the sum of market capitalization and total debt to the total assets of the firm (Douma, George, & Kabir, 2006). The study operationalizes the main explanatory variable *internationalization* in two ways to capture the two modes of entry: 1) export intensity (Bausch & Krist, 2007: 332), which is the ratio of total exports to total sales; and 2) a variation of Sullivan’s (1994) composite measure, used in the study to measure a firm’s level of FDI activity. The study uses four dimensions of FDI. Sullivan (1994) proposes three of these dimensions: foreign sales to total sales (FSTS), foreign assets to total assets (FATA), and the number of overseas subsidiaries to total number of subsidiaries (OSTS). This study adds a fourth dimension, Scope, which captures geographic dispersion—expressed as a proportion of the highest number of countries with subsidiaries represented in the sample in a given year. The sum of these four dimensions forms the composite measure of FDI activity or degree of internationalization (DOI), therefore called the DOI Index. The DOI Index has a theoretical range of 0 to 4. The DOI Index captures the level of outward FDI by a firm. The four dimensions—FSTS, FATA, OSTS, and Scope—demonstrate good inter-item reliability (Cronbach alpha of 0.733) and load on one factor with a high Eigen-value (2.57) and high explained variance (64.24%). Further, the composite measure is normally distributed. The natural logarithm of total sales yields *firm size*. The natural logarithm of the number of years of operation since the firm’s inception yields the *age of the firm*. The value of *group dummy* equals 1 for a firm affiliated to a business group; else, the value equals 0. The study uses *leverage*—measured as the ratio of total debt to total assets—as a control variable to take into account the capital structure differences influencing the performance of firms. The value of the MNC *associate dummy* equals 1 for MNC associates; else, the value equals 0. The study also controls for time effects (year dummies), R&D intensity, and industry, constructing dummy variables corresponding to 11 broad industry dummies (SIC code in brackets): agriculture (1); metal and mining (10); food products (20); textile (22 and 23); paper and allied products (26); chemical and pharmaceuticals (28); petroleum refining (29); cement (32); electric and electronic (36); auto (55); and business services (73).

### 4. Methods, results, and analysis

The unit of analysis in the study is firm-year observations. The study uses the random effects panel data estimation technique. The study also checks and controls for biases, if any, related to heteroskedasticity, outliers, and multicollinearity. Tables 1a and 1b present the results corresponding to all the hypotheses. ROA percentage and *Q ratio* are the dependent variables for the results in Tables 1a and 1b, respectively. Model 1 in Table 1a presents the results corresponding to the control variables for the export intensity sample (237 firms/1659 firm-year observations). Model 2 tests Hypothesis 1; the results do not lend support for this hypothesis as the coefficient is not significant. Model 3 shows the results corresponding to the control variables for the DOI Index sample (101 firms/707 firm-year observations). Model 4 tests Hypothesis 2; the results indicate strong support for this hypothesis, as the coefficient is negative and significant with an increase in *adjusted R*² from 0.235 in Model 3 to 0.264 in Model 4. This result indicates that a change of one unit in the DOI Index will decrease the performance of the firm (ROA) by — 1.04%.

Model 5 tests Hypothesis 3a. The positive value of the interaction coefficient implies the flattening of the negative slope of the I–P relationship for group-affiliated firms. This result indicates support for Hypothesis 3a. Model 6 tests Hypothesis 3b; the positive coefficient corresponding to interaction indicates that the firm age moderates the negative I–P relationship positively. Model 7 tests Hypothesis 3c; the results do not lend support for this hypothesis. Model 8 represents the full model with all the interactions taken together; this model tests the robustness of the results. The results in most of the models consistently show a negative and significant impact of leverage and R&D intensity, and a positive and significant impact of MNC dummy on a firm’s performance. Table 1b presents the entire analysis using *Q ratio* as a measure of performance. In general, the results associated with *Q ratio* as the performance measure are stronger than the ROA results for all the hypotheses. In addition, unlike the ROA results for firm size, the *Q ratio* results provide support for the positive moderating effect of a firm’s size as well as for the positive impact on the I–P relationship.

Figs. 1 and 2 present the graphical plots of how the *group dummy* and firm’s age positively influence the I–P relationship by changing the negative slope of the I–P relationship to either a relatively less negative slope or a positive slope. A supplementary note to this paper includes more details on the datasets, descriptive statistics, and variables, as
Table 1a
Results of random effect panel data regression analyses for the moderating effect of variables on the I–P relationship with ROA as dependent variable.a

<table>
<thead>
<tr>
<th>Variables</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
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<td>Export intensity</td>
<td>1.67</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DOI Index</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
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<tr>
<td>Group</td>
<td>0.66</td>
<td>0.91</td>
<td>0.78</td>
<td>0.90</td>
<td>1.20</td>
<td>0.83</td>
<td>0.76</td>
<td>0.67</td>
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<td>Ageb</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
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<tr>
<td>Sizec</td>
<td>1.47</td>
<td>1.46</td>
<td>1.52</td>
<td>1.40</td>
<td>1.52</td>
<td>1.74</td>
<td></td>
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<tr>
<td>DOI Index × group dummy</td>
<td>1.61</td>
<td>(0.88)</td>
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<tr>
<td>DOI Index × age</td>
<td>1.23</td>
<td>(0.28)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>R&amp;D intensity</td>
<td>–32.86</td>
<td>–35.34</td>
<td>–49.03</td>
<td>–46.97</td>
<td>–47.13</td>
<td>–46.65</td>
<td>–66.33</td>
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<td>MNC dummy</td>
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<td>2.43</td>
<td>2.54</td>
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<td>1.58</td>
<td>2.38</td>
<td>1.73</td>
<td>2.15</td>
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<td>Constant</td>
<td>9.26</td>
<td>6.62</td>
<td>8.98</td>
<td>7.64</td>
<td>7.96</td>
<td>9.06</td>
<td>7.29</td>
<td>8.60</td>
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<tr>
<td>Adjusted R²</td>
<td>0.241</td>
<td>0.282</td>
<td>0.235</td>
<td>0.264</td>
<td>0.268</td>
<td>0.279</td>
<td>0.263</td>
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<td>F-statistic</td>
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<td>12.39c</td>
<td>11.99b</td>
<td>11.75b</td>
<td>12.37c</td>
<td>11.59c</td>
<td>11.54c</td>
</tr>
<tr>
<td>N</td>
<td>1659</td>
<td>1659</td>
<td>707</td>
<td>707</td>
<td>707</td>
<td>707</td>
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</table>

a Unstandardized regression coefficients are shown, with standard errors in parentheses. Key significant variables are highlighted in bold.
b Logarithm of age.
c Logarithm of total sales.

Table 1b
Results of random effect panel data regression analyses for the moderating effect of variables on the I–P relationship with Q Ratio as dependent variable.a

<table>
<thead>
<tr>
<th>Variables</th>
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<th>(8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export intensity</td>
<td>–0.17</td>
<td>(0.34)</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOI Index</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Group</td>
<td>0.05</td>
<td>0.19</td>
<td>0.25+</td>
<td>0.19</td>
<td>0.72+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ageb</td>
<td>–0.18+</td>
<td>–0.28+</td>
<td>–0.25+</td>
<td>–0.69+</td>
<td>–0.24+</td>
<td>–0.38b</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sizec</td>
<td>–0.06</td>
<td>–0.27</td>
<td>–0.26</td>
<td>–0.27+</td>
<td>–0.52+</td>
<td>–0.41+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOI Index × group dummy</td>
<td>1.37</td>
<td>(0.21)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOI Index × age</td>
<td>0.67</td>
<td>(0.07)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R&amp;D intensity</td>
<td>8.35</td>
<td>8.13b</td>
<td>7.83</td>
<td>6.20</td>
<td>5.47</td>
<td>6.13</td>
<td>5.17</td>
<td>4.98</td>
</tr>
<tr>
<td>MNC dummy</td>
<td>0.50</td>
<td>0.59</td>
<td>–0.15</td>
<td>0.17</td>
<td>0.06</td>
<td>0.55b</td>
<td>0.24</td>
<td>0.26</td>
</tr>
<tr>
<td>Leverage</td>
<td>–2.11+++</td>
<td>–2.14+++</td>
<td>–2.41+++</td>
<td>–2.79+++</td>
<td>–2.39+++</td>
<td>–2.48+++</td>
<td>–2.58+++</td>
<td>–2.23+++</td>
</tr>
<tr>
<td>Constant</td>
<td>2.33+++</td>
<td>3.28+++</td>
<td>3.05+++</td>
<td>2.94+++</td>
<td>6.26+++</td>
<td>7.21+++</td>
<td>7.32+++</td>
<td>7.56+++</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.150</td>
<td>0.150</td>
<td>0.184</td>
<td>0.213</td>
<td>0.255</td>
<td>0.231</td>
<td>0.238</td>
<td>0.266</td>
</tr>
<tr>
<td>N</td>
<td>1659</td>
<td>1659</td>
<td>707</td>
<td>707</td>
<td>707</td>
<td>707</td>
<td>707</td>
<td>707</td>
</tr>
</tbody>
</table>

a Unstandardized regression coefficients are shown, with standard errors in parentheses. Key significant variables are highlighted in bold.
b Logarithm of age.
c Logarithm of total sales.

p ≤ 0.10.
* p ≤ 0.05.
** p ≤ 0.01.
*** p ≤ 0.001. All two-tailed tests.
well as additional graphical plots, and post-hoc test results and is available from the authors on request. These post-hoc tests include robustness tests associated with (a) differential export intensity cutoffs; (b) sectoral/industry differences and non-linearity underlying the relationship; (c) endogeneity of the underlying I–P relationship; and (d) an analysis using alternative constructs of internationalization. All of these tests indicate that the results remain consistent. This study also tests the moderating effects of a firm’s characteristics on the export intensity–performance relationship but these results are not significant; hence, this paper does not present these results for reasons of brevity.

5. Discussion and conclusion

Hypothesis 1, which postulates a positive impact of export intensity on a firm’s performance, does not receive support in the results of this study. A plausible explanation for the lack of support could be that the study may have underestimated the impact of the “liability of foreignness” (Zaheer, 1995) in theorizing a positive linkage between export intensity and firm performance. Another possibility centers on the trade-off associated with the large domestic market in India vis-à-vis the international market in certain sectors. The large domestic market might also dampen the benefits associated with exports, given the possibility of higher costs associated with servicing international markets compared to domestic markets. The average GDP growth rate of India during 2002–2008 is 7.54%² and the purchasing power parity has increased from 2500 USD to 3600 USD during the study period, which indicates the existence of a potentially munificent environment for Indian firms to grow. In such cases, foreign expansion for seeking new markets may be relatively less attractive than pursuing market expansion domestically. Therefore, Indian firms in certain sectors are probably not exporting aggressively, as their local market is providing adequate opportunities for growth.

The support for Hypothesis 2 reinforces the argument that FDI activity has a negative impact on the performance of Indian firms, as FDI is a recent phenomenon in India and the level of FDIs among Indian firms is too small to reap the benefits of scale and scope. The results also support the argument that the nature of FDI activity in recent years has moved to strategic asset seeking, wherein the benefits probably get realized only at a higher scale of internationalization owing to significant acquisition and operational costs that need to be internalized. This analysis also partly addresses some of the issues raised by Verbeke et al. (2009), who emphasize the need for a subsample analysis to examine the I–P relationship for firms to account for the fact that different motivations and entry modes may affect the firms’ performance in differing ways. In India, the motivation for firms to enter foreign countries seems to have changed from market seeking through exports to strategic resource/asset seeking through FDIs over time; the I–P relationship also seems to have changed with this change in entry mode/motivation.

Further, the results supporting the positive moderating effect of group affiliation and firm age on the I–P relationship indicate that with group affiliation and increased maturity, firms are able to capitalize on their enhanced capabilities to facilitate their internationalization efforts. These results also indicate the importance of networks, which can help firms in gaining access to resources that would otherwise not be easily available to the firms. Especially in the Indian context, where institutional voids are widely prevalent as compared to advanced economies (Khanna & Palepu, 2000), business group firms often mitigate their resource constraints (related to capital, labor, and managerial resources) through these internal networks. Additionally, emerging-market firms face considerably greater legitimacy concerns—in the form of “liabilities of foreignness”—when they undertake outward FDIs (Zaheer, 1995). Typically, an affiliation to a well-known business group with a longer history of operation would help these emerging-market MNCs to gain the requisite credibility in foreign markets. Since FDI activity is often prohibitively expensive, business group-affiliated firms are usually better off to make such investments, with the necessary scope and scale to internalize the benefits across a large number of affiliated firms. Therefore, at high levels of DOI (wherein the complexity associated with internationalization is highest), business group firms are the firms that seem to be in a position to maximally leverage high levels of internationalization. Fig. 1 illustrates this effect—at high levels of DOI Index, the Q ratio of a group-affiliated firm is higher than that of a non-group firm.

Finally, the Indian institutional context is different from that in developed economies such as the U.S., in terms of parameters such as institutional development (Khanna & Palepu, 2000; Peng & Heath, 1996); further, countries differ with regard to the rate at which institutional transitions take place. These factors result in important implications with regard to the pace and the mode of internationalization pursued by the firms in these markets. Therefore, the context in which Indian firms are internationalizing is different from the context in which developed-market firms have internationalized; most of the extant research attention focuses on the latter context. Therefore, studies need to combine the elements of the institutional context with some of the conventional theoretical lenses to develop more relevant perspectives on the internationalization–performance aspects of emerging-economy firms. The results of the paper, particularly those relating to the moderating effects of business group-affiliated firms on the I–P relationship, are an indicator of this need.

In brief, the study highlights the need to develop suitable mid-range theories (Ruigrok et al., 2007) that can better characterize emerging-market phenomena, since the theories developed and tested in developed economies cannot fully explain emerging-market phenomena. This paper represents a small step forward in this direction. Future work could build on these findings by delving deeper into the heterogeneity among business groups and factoring in issues pertaining to managerial perceptions and their cognitive limitations with regard to internationalization.
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References


