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Diaspora ownership and homeland firms' internationalization

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Abstract

Although the contribution of diaspora to international business is becoming more evident, little is known about the channels used by individual firms to benefit from diaspora. In this paper, we propose equity ownership as a form of connection between the homeland firms and diasporans (i.e. diaspora members). Specifically, we draw on the literature on diaspora combined with an owners-as-resources perspective to theorize about how diaspora owners can affect the homeland firm's internationalization. We suggest that the anticipated entry costs deriving from the liability of foreignness faced by homeland firms explain how the impact of diaspora owners varies depending on entry mode. Finally, we compare diaspora owners to other types of foreign owner which we argue have lower levels of motivation and ability to help homeland firms to internationalize, and contribute relatively less to their internationalization than diaspora owners. We test and confirm our predictions using data on 2,608 domestically controlled Indian firms and their internationalization in 2006–2012.

Keyword: Diaspora, Immigrants, Firm internationalization, Cross-border acquisition, Export, Foreign ownership

1. Introduction

> Politicians and officials have since [the World Bank began to publish estimates of remittance flows in 2003] concluded that diaspora can help cure an extraordinarily wide range of national ills, from poor global reputations to weak infrastructure to a shortage of scientist talent. But can they? (*The Economist*, June 27th 2015, p. 51)

Diasporas—ethnic groups living outside their countries of origin—have been found to be valuable drivers of development and economic growth in both their origin country (homeland) and their country of

residence. A body of work at the country level shows that diasporas promote international trade (Rauch and Trindade, 2002), global allocation of capital (Leblang, 2010), cross-country technology transfer (Kerr, 2008), and country-level foreign direct investments (FDI) (Javorcik et al., 2011). Some more recent studies explore how firms can tap into and benefit directly from diasporas (Hernandez, 2014, Prashantham et al., 2015, Rana and Elo, 2017, Schotter and Abdelzaher, 2013, Shukla and Cantwell, 2018, Sonderegger and Täube, 2010). Employment of diaspora members or diasporans has proven an important channel to access diaspora knowledge and networks (Choudhury, 2016, Chung and Tung, 2013) that are advantageous for their international business. For instance, employment of diaspora scientists and engineers facilitates the expansion of firms from these professionals' countries of residence to their origin countries (Foley and Kerr, 2013). Similarly, recruitment of diasporans to managerial positions increases the likelihood of firms in the country of residence investing – and committing more resources – in the country of origin (Tung and Chung, 2010). In sum, by providing access to resources and expertise in their homelands, diasporans help to reduce the liability of foreignness for foreign investing firms, i.e. the costs of overcoming the differences between the home and foreign country culture, language, politics, law, and other societal institutions (Hymer, 1960, Zaheer, 1995).

However, not all firms considering internationalization will find recruitment of diasporans feasible or economically viable. For highly educated and skilled diasporans, the firms in the home country might be less attractive compared to the firms in their current country of residence. Diaspora homelands are often less developed countries with less sophisticated working conditions and career opportunities than those available in the diasporans' countries of residence. Also, homeland firms' financial and organizational resource constraints may restrain their ability to scout for and employ diasporans.

Despite the potential barriers faced by homeland firms in relation to hiring international experts among diasporans, other ways to connect homeland firms and diasporans remain unexplored. This paper attempts to fill this gap by highlighting a form of diaspora engagement that does not require the diasporans to return to working in their homelands either temporarily or permanently. We investigate whether homeland firms could benefit from representation of diaspora members within non-employee stakeholder

groups. Specifically, we investigate the potential contribution of diaspora members in the role of equity owners (i.e. homeland firms' shareholders).

One explanation that has been proposed in the literature for why owners might benefit firms' international activities relates to the role of owners as resources providers. This theoretical approach to corporate ownership suggests that rather than contributing to governance and financial resources, firm owners can contribute to their firms' internationalization by providing advice and access to networks and other non-financial resources (Douma et al., 2006, Filatotchev et al., 2008, Hu and Cui, 2014, Lungeanu and Zajac, 2016). Firm owners' abilities to provide resources might vary depending on owner type, e.g. institutional, foreign (Douma et al., 2006), and how well owners' abilities match the firms' strategic needs (Lungeanu and Zajac, 2016).

While extant work provides evidence that both foreign corporate and institutional owners can help firms to internationalize (Bhaumik et al., 2010, Ferreira et al., 2010), the potential contribution of diaspora owners has been largely overlooked. Given that diasporans are often the main foreign investors in their homelands (Gillespie et al., 1999, Nielsen and Riddle, 2010), we consider this an important gap in the literature. Our arguments about the relationship between diaspora ownership and firm internationalization draw theoretically on an owners-as-resources perspective and the concept of transnationalism (Schiller et al., 1992). We suggest that diaspora owners reduce their homeland firms' liability of foreignness when approaching foreign markets via non-equity- or equity-based entry modes. We posit also that the diaspora owner effect on these firms' internationalization will vary depending on entry mode since some forms of entry are affected more by perceptions of the liability of foreignness. Accordingly, we conjecture that the contribution of diaspora owners to internationalization will likely be greater in high risk and high commitment entry modes, such as cross-border acquisitions, compared to less risky types of entry such as exports. We contrast the contribution of diasporans to the impact of other foreign owner categories (i.e. foreign institutional investors, foreign corporate owners) thereby recognizing that different types of foreign owners may have different motivations and ability to provide their resources to (potential) internationalizing firms.

We test our theoretical propositions using the case of the Indian diaspora and a sample of 2,608 Indian firms during 2006-2012 involved in internationalization via exporting and cross-border acquisitions. Specifically, we study domestically controlled Indian firms; we exclude from the empirical analysis firms with a foreign (including diaspora) controlling ownership stake. We implement several tests to rule out alternative explanations.

Our findings contribute to the literature on the relationship between diaspora and firm internationalization. Several studies highlight employment of diaspora members as a way for diaspora to support firms' international activities (Cui et al., 2015, Foley and Kerr, 2013, Tung and Chung, 2010). We point to a novel form of diaspora engagement which does not require an employment relationship, i.e. involvement of diasporans in the ownership of homeland firms. We add to work on the role of owners as providers of resources and advice to their firms (e.g., Bhaumik et al., 2010, Douma et al., 2006, Filatotchev et al., 2008, Lungeanu and Zajac, 2016). Previous work shows that foreign owners provide important expertise, networks, and experience which reduce the information asymmetries associated to foreign investments (Bhaumik et al., 2010, Ferreira et al., 2010). However, the nature of the relationship between owners and firms can differ across owner and firm types (Douma et al., 2006, Lungeanu and Zajac, 2016). We contribute by revealing the influence of diaspora owners (and their relative importance compared to other categories of foreign owners) on different forms of firm internationalization.

2. Diaspora owners and firm internationalization: theory and hypotheses

Internationalization is one of the main options for firms keen to pursue an upgrading strategy. However, despite the benefits provided by access to new markets and/or technology, the firm's ability and incentives to enter foreign markets can be hampered by the so-called liability of foreignness, i.e. asymmetric information, cultural barriers, and other obstacles to accessing foreign markets (e.g., Zaheer, 1995). Previous research shows that firms can overcome the costs associated to the liability of foreignness by developing "internationalization knowledge", i.e. expertise, experience, information on foreign markets and operations, and access to foreign networks (Eriksson et al., 1997, p. 343). This knowledge may be acquired from experience of operations in different national (and product) markets, and the sourcing of knowledge

from internationally experienced and skilled individuals or organizations with which the firm has links (e.g., Benito and Gripsrud, 1992, Johanson and Vahlne, 2009, 1977, Kotabe and Kothari, 2016, Laursen et al., 2012).

We propose that the *transnational identity* of diaspora owners helps the homeland firms to overcome the challenges related to their internationalization (Schiller et al., 1992). On the one hand, there is evidence that the establishment, survival, and sales performance of subsidiaries of homeland firms are higher if the receiving country has a large diaspora (Hernandez, 2014, Rangan and Sengul, 2009). Beyond simple co-location with the diaspora community, Cui et al. (2015) show that recruitment of returnee managers compensates for the homeland firms' lack of foreign experience, and favors FDI. The theory behind these effects is transnational identity of diaspora members. Diasporans reside abroad and consequently, are exposed to different education, training, work experience, and work practices from those in their homelands. At the same time, they maintain existing and forge new social ties with their origin societies. This dual belonging and sensitivity to the values, practices, and cultures of more than one place of residence favors the creation of transnational networks (Vertovec, 2004). In turn, these transnational networks can facilitate the exchange of knowledge across borders, increase trust and reciprocity, act as referral mechanisms (e.g., Saxenian, 2002, 2005, 2006), and reduce the costs of the homeland firms' international operations in other ways.

Management scholars underline that owners can be important sources of advice and other non-financial resources for the firm (e.g., Bhaumik et al., 2010, Douma et al., 2006, Lungeanu and Zajac, 2016). However, owners' abilities to provide resources such as market knowledge, external contacts, and strategic and managerial advice differ across owner types; different types of owners are likely to have different market experience, knowledge, and networks (Douma et al., 2006, Lungeanu and Zajac, 2016). To be of value to the firm, owners should be able to provide resource endowments including competencies, experience, and skills that match the firm's strategic needs (Lungeanu and Zajac, 2016). Specifically, a firm that lacks knowledge about foreign markets will likely benefit more from owners that operate or reside abroad compared to domestic owners with no internationalization experience (e.g. family owners).

As already suggested, diaspora investors could constitute such matches. Also, diaspora owners/investors in homeland firms are likely to have strong incentives to help these firms manage their liability of foreignness since better informed decision-making undoubtedly implies greater profitability from operations abroad (e.g., Luo and Peng, 1999). It would seem fair to assume that diaspora owners—as investors—are probably successful economic actors (e.g., entrepreneurs) and highly educated individuals (e.g., scientists, engineers) as are returnees (Biondo et al., 2012, Zucker and Darby, 2007). It is likely that many diaspora owners will have been exposed in the past to the challenges involved in entering foreign environments and will have handled them successfully since they have evidently acquired sufficient wealth to invest in a homeland firm. Moreover, according to Saxenian's (2002) portrayal of diasporans, diaspora owners are likely to have forged social and professional ties with other migrants of the same nationality during their education, training and work experience, and become entrenched in diaspora networks. These conditions give diaspora owners familiarity with the foreign country(ies) of residence in which they operate, and insights into foreign markets through their diaspora network connections. Anecdotal evidence from personal interviews with diaspora owners supports these claims:[1]

> [Sometimes] the experience I provide is much more vision and technology [related]. … In other cases my contribution is much more business [related]. As a professor of MIT, I can guide them on which customers to go after, what sort of sale to make … For example, they would call and say 'listen, we are trying to strike a deal with a large American company', for example Alpha [name disguised], and they would want some advice. (Indian diaspora owner living in the USA).

In line with an owners-as-resources perspective, we suggest that diaspora owners increase the availability of in-house internationalization knowledge, by transferring their experience and combining it to form a new collective knowledge structure in the investing firm (Walsh, 1995). Therefore, we propose that internationalization in the form of either exporting or cross-border acquisition by a homeland firm is

[1] Through the Overseas Indian Facilitation Centre (OIFC), a non-profit government venture facilitating the investment needs of non-resident Indians (NRIs), we contacted and interviewed a few Indian diaspora owners to familiarize ourselves with the phenomenon under study.

associated positively to the share of diasporan ownership in the firm. Specifically, we hypothesize that:

H1a: A homeland firm's export intensity is associated positively to its diasporan ownership share.

H1b: A homeland firm's propensity for cross-border acquisition is associated positively to its diasporan ownership share.

We have linked the contribution of diaspora owners primarily to the ability to reduce the costs associated to the homeland firm's liability of foreignness. Consequently, the higher the anticipated costs of investing abroad the higher will be the relevance of diaspora owners. Work on foreign entry via exporting shows that this mode generally requires a smaller resources commitment (Johanson and Vahlne, 1977) but does require some understanding of the potential foreign customers and direct (or indirect) access to sales agents able to operate in the foreign context. However, it is the simplest and easiest to reverse form of internationalization and has been facilitated by the Internet (Yamin and Sinkovics, 2006). At the other end of the entry mode spectrum are equity-based forms of internationalization such as cross-border acquisitions (Welch et al., 2008). These modes of entry are more complex, and require more information and commitment of resources on the part of the homeland firms (Basuil and Datta, 2018, De Beule et al., 2014). For example, acquisition of a foreign firm involves specific information on target firm quality, its access to resources and networks, and its position in the local environment, and knowledge about pricing the acquisition, and structuring the deal and negotiations, etc. This information may be difficult to access from abroad and might impose significant information disadvantages on potential foreign acquirers who lack international networks, internationalization experience and expertise, and an understanding of the formal and informal conditions in the targeted country (i.e. liabilities of foreignness).

These information asymmetries increase firms' perceptions of the uncertainties and, consequently, the costs associated to different internationalization modes (De Beule et al., 2014), and can render their internationalization decisions dependent on external support to assess risky foreign investments. In this regard, decision makers often rely on the information they can gather from others to support their decision-making process. Galbraith (1977) suggests that the level of uncertainty faced by decision makers is related to the information available to them to support their decision making which is related in turn to their

information-processing capacity. We would argue that homeland firms and their managers are more likely to rely on knowledge and resources provided by diaspora owners when making more risky decisions involving greater information asymmetry. Consequently, the contribution of diaspora owners to firms' internationalization should be higher in the case of cross-border acquisitions compared to exporting.

We propose that:

H2: The positive relationship between the homeland firm's internationalization and its diasporan ownership share is stronger for cross-border acquisition compared to foreign market entry by exporting.

So far, we have discussed the role of diaspora owners as providers of internationalization knowledge. However, other foreign investors than diaspora owners may possess specialized knowledge, expertise, and resources different from those possessed by the domestic owners. First, the literature shows that foreign institutional investors which include various types of foreign financial institutions with investment portfolios diversified across several countries contribute to the globalization of financial markets and local firms' integration in these markets (Aggarwal et al., 2011, Ferreira et al., 2010). Second, equity investment by foreign corporate owners has been linked to the firm's better ability to enter new markets (e.g., Johanson and Vahlne, 1977, Meyer et al., 2009). Therefore, these distinct foreign investor types, similar to diaspora owners might help to reduce the liability of foreignness for homeland firms. However, despite their valuable internationalization knowledge, we argue that their ability and motivation to transfer this knowledge might differ.

We propose that compared to diaspora owners other types of foreign owners might be less efficient at sharing their knowledge and resources with the homeland firm because of cultural, language-related, and cognitive barriers. In contrast, diasporans' language, cultural background, and cognitive codes are likely to match those of the homeland firm's decision makers. This facilitates the building of trust-based relationships and eases communication. Additionally, the incentives to share knowledge might differ between diaspora and other foreign owners. Work on knowledge transfer suggests that individual knowledge-sharing is more likely when aligned to individual preferences, and linked to financial or increased power or recognition benefits (e.g., Björkman et al., 2004, Gupta and Govindarajan, 2000,

Minbaeva et al., 2012). The preferences, needs, and consequent behaviors of owners can vary also across investor types as suggested in the corporate governance literature (e.g., Cronqvist and Fahlenbrach, 2009). For example, financial institutions will be motivated primarily by financial returns on their investments in other corporations, while for other owners, such as family or diaspora members, both pecuniary and non-pecuniary benefits from their investments will be relevant (e.g., Bertrand and Schoar, 2006). In particular, diaspora members' personal histories and sentimental links with the homeland influence their willingness to share knowledge as well their financial decisions (Barnard and Pendock, 2013, Rana and Elo, 2017). On the other hand, we assume that other foreign owners generally lack the double belonging which provides diaspora owners with an emotional incentive to help the homeland firm. Specifically, foreign corporate and foreign institutional owners may be willing to support the homeland firm's internationalization only if this strategy is aligned to its overall investment objectives (i.e. financial returns, geographical presence). This is in line with the international business literature which shows that (minority-share) investments by non-financial corporations abroad tend to be motivated by "search" for local knowledge and networks, meaning that these owners might be more concerned with gaining rather than providing advice and resources (Beamish, 1994, Hitt et al., 2000, Meyer, 2001, Meyer et al., 2009). This applies especially to multinationals' entries to less developed countries which may require distinct knowledge and resource endowments.

In contrast, diaspora members' investments often are driven by a desire for local recognition and legitimacy in the homeland, and participation in investment decisions considered socially desirable (Nielsen and Riddle, 2010, Vaaler, 2011). For diaspora owners contributing to the future economic development of their origin countries, maintaining social bonds with locals, and retaining a sense of belonging all matter (e.g., Gillespie et al., 1999). In this context, internationalization knowledge valuable to the local company is a key resource which allows diaspora owners to build or reinforce recognition and commitment in the country of origin. The following extract from an interview with a diaspora owner is illustrative:

> I once invested in a small cooperative company, and that investment was an especially emotional one, encouraged by a friend. Sometimes, I have also invested because the company was situated in

an area in India where we thought companies needed help. I have also seen that it is normally a very good economic investment, so sometimes I have invested for exclusively economic reasons. (Indian diaspora owner living in the USA).

In sum, given their readiness to help their homeland (Jain, 2008), diaspora owners have a strong motivation to share their internationalization knowledge with the homeland firm. Based on their familiarity with the home country, diaspora owners are better able to make their overseas experience accessible to the homeland firm's decision makers resulting in a larger relative contribution to the firm's internationalization compared to other foreign owner categories (foreign corporate owners, foreign financial institutions). Based on this, we expect:

H3a: A homeland firm's internationalization (i.e. export intensity and propensity for cross-border acquisition) is positively associated to its foreign corporate and foreign institutional ownership share.

H3b: The positive relation between the homeland firm's internationalization and its diasporan ownership share is stronger than the positive relationship between the homeland firm's internationalization and foreign institution or foreign corporate ownership share.

3. Method

3.1 Data and sample

Our empirical study is based on a population of public and private firms operating in India (homeland) between 2006 and 2012. India is an appropriate context for this study. First, unique Indian regulation of foreign investments allows us to identify the shareholdings of Indian diasporans, reported under the ownership category non-resident Indians (NRI). A NRI was defined formally in 1973 as a person residing outside India who is either a citizen of India or a person of Indian origin" in the Indian Foreign Exchange Regulation Act (IFERA) which was updated in 2000. NRI is a legally constituted category used by the Indian government "to regulate the financial and governmental relationship between the Indian nation-state and population of Indians abroad" (Amrute, 2010: 127), and by institutions such as the Ministry for Overseas Indians among others. The International Organization for Migration (IOM) defines diaspora members as "emigrants and their descendants, who live outside the country of their birth or ancestry, either

on a temporary or permanent basis, yet still maintain affective and material ties to their countries of origin" (Agunias and Newland, 2012: 15). Based on the correspondence between this and NRI as defined in the IFERA, it is reasonable to assume that NRIs belong to the Indian diaspora. Second, general economic reforms and improvements to the institutional framework in India over the years have increased the possibilities for foreigners to invest in Indian firms, and consequently to contribute to firms' internationalization. Building on the common-law legal tradition, new corporate governance rules have emerged that reflect developed Western countries' regulation. These rules aim to improve investors' access to company information, and participation in and voting at general meetings. There are specific rules that enable shareholders with at least 10% of voting capital to request extraordinary general meetings. Also, there are no legal restrictions on foreign participation in firm governance. Both foreigners and Indians residing abroad can be appointed as board members, and if necessary board meetings can be held outside India (e.g., Khanna and Mathew, 2010). Third, although India's FDI experience is comparatively recent (UNCTAD, 2011), its significant growth has increased the presence of global competitors in India's domestic market and created opportunities for homeland companies to improve their capabilities and expand their activities abroad.

For the empirical analysis, we rely on the *Prowess* database (2013 release) maintained by the Center for Monitoring of the Indian Economy (CMIE). Since 2006, the Prowess database has been a source of annual information on the ownership structures of public and private firms operating in India based on a total of 26,554 observations up to 2012. Prowess data have been used to investigate strategy and international management issues (e.g., Chittoor et al., 2009, Elango and Pattnaik, 2007, Gubbi et al., 2010). To identify the internationalization of Indian firms, we rely on Prowess data on export activities and information from the *Zephyr* database maintained by Bureau van Dijk which provides information on cross-border acquisitions.

The sample was constructed in several stages. From the Zephyr database, we identified 311 cross-border acquisitions that resulted in a homeland acquirer's majority control (over 50% final stake) of a foreign firm. That is, we consider foreign investments that imply incorporation (merger) of the acquired

foreign target and the homeland firm. As already discussed, we consider this type of investment the most risky form of foreign entry given that it generally involves significant financial investment and important changes to the acquirer's organizational structure. The numbers refer to acquisitions undertaken during the period 2006-2012 (including the extreme years) by a total of 195 Indian acquiring firms. Next, we matched Zephyr acquisition data to Prowess data. Among the 195 acquiring firms, we found information for 190 firms in the Prowess database (see appendix for descriptive statistics of the acquisitions). Again using Prowess, we excluded "micro" firms whose small size made cross-border acquisitions unlikely. Following European Commission Recommendation 2003/361/EC[2], we limited our sample to firms reporting sales of over €2 million (equivalent to about 14.8 crore Rupees). This left a sample of 18,459 observations.

Finally, since our research question is about how diaspora (and other foreign) non-controlling owners can facilitate the internationalization of domestic firms we needed to separate domestic firms (not-controlled by foreigners) from foreigner-controlled firms. In the case of homeland firms with controlling foreign owners, it is not possible to establish whether the internationalization decision was made by the domestic firm with the assistance of the foreign owners—which is what we want to test in this study—or whether the decision was 'imposed' by the foreign controlling owners. In line with the corporate governance literature (e.g., Faccio and Lang, 2002), we use a 20% ownership stake as the threshold defining control over a corporation. This excludes firms with a direct foreign ownership (any categories) that exceeds 20% which left a sample of 16,164 observations. Since other criteria can be used to distinguish domestic from foreign controlled firms we conducted some robustness checks for this possibility.

Missing financial data and seeming errors in reported values (e.g. negative values for export intensity) for the variables included in our regressions reduced the sample size to 12,208 observations (2,608 firms). From a total of 2,608 firms in the database, the respective final numbers of acquiring and exporting firms are 142 and 1,802.

[2] *The new SME definition. User guide and model declaration.* Enterprise and industry publications, European Commission, 2005.

3.2 Measures

We define two dependent variables to measure firm internationalization: e*xport intensity* representing export sales as a fraction of total sales, and *cross-border acquisitions* representing the total number of international acquisitions undertaken at time t by each Indian firm in our sample, in the period 2006–2012.

To test our hypotheses we define *diaspora ownership* as the total ownership share held by Indian diasporans, *foreign corporate ownership* as the share owned by foreign non-financial corporations, and *foreign institutional ownership* as the ownership share held by foreign institutional investors.

We control for several factors likely to influence Indian firms' internationalization. We contend that internationalization is correlated to diaspora (and other foreign) ownership. However, other ownership categories may influence homeland firms' internationalization. Since family owners are generally more risk-averse and have a strong preference for control, family-controlled firms might be less likely to embark on internationalization activities (e.g., Miller et al., 2010). Therefore, we define the variable *family ownership* as the ownership share of local individuals belonging to Hindu Undivided Families, a legal entity defined by Indian law. Among domestic owners, we control also for *domestic institutional ownership*, measured as the share of the domestic firm's capital owned by an Indian financial institutions, Indian mutual funds, Indian banks and insurance companies, or other Indian institutions. We expect domestic financial institutions to have a strong focus on firm value and a strong incentive to promote risky strategic activities (Wright et al., 1996) such as internationalization. State ownership also can affect firms' internationalization (e.g., Sun et al., 2012). Thus, we control for the ownership share held by the Indian government (*state ownership*).

We expect the firm's ability and motivation, and consequent propensity to invest in international activities to depend on the firm's previous direct experience of foreign markets (Basuil and Datta, 2018). To control for more diverse country-related knowledge accumulated over time, we define the variable *foreign acquisition experience* as the total number of foreign acquisitions made by the firm up to t-1.

We control for the firm's level of technological and marketing competencies and resources. These represent specific tangible and/or intangible advantages and can be exploited by the investing firm to

overcome its liability of foreignness in the internationalization process (e.g., Dunning, 1992, Hymer, 1960). The variable *technological intensity* is annual R&D expenses divided by total sales normalized by the average technological intensity of the industry. This captures each firm's R&D spending compared to the industry average which in an emerging market (e.g. India) might be relatively low (Hennart and Park, 1994). Firms can improve their technological capabilities by importing state-of-the-art capital manufacturing and R&D equipment. Therefore, following Chittor et al. (2009), we define *international technological resources* as the sum of royalties, technical know-how, license fees, and imports of raw materials and capital goods. Finally, *advertising intensity* measures the firm's annual expenditure on advertising, sales, and distribution divided by total sales, normalized by the average advertising intensity of the industry[3]. Firms can build strategic competencies and resources as a result of domestic acquisitions; *domestic acquisitions* is the number of domestic acquisitions made by the firm at time t-1[4].

International activities also require significant financial resources (Hitt et al., 2000) so we define the variable *borrowing intensity* as the ratio of total financing received by the focal firm from its business group, associated business enterprises, or a government agency to the firm's total liabilities. Also, firms involved in the capital market can more easily attract additional funds from shareholders, i.e. through new equity issues. Due to higher transparency and stricter stock market regulation, these firms might also be better able to attract bank capital. We include the dummy variable *listed firm* which takes the value 1 if the firm is listed on the stock exchange and 0 otherwise. We also include the dummy variable *group affiliation* which takes the value 1 if the firm is affiliated to a business group and 0 otherwise. Direct access to the business group's resources can favor firm internationalization (Elango and Pattnaik, 2007), and FDI in particular (Gaur et al., 2014).

Finally, we control for other firm[5], industry, and location-level characteristics considered important

[3] To mitigate the influence of extreme values, *technological intensity*, *advertising intensity*, and *exporting intensity* are winsorized at the 99th percentile.
[4] Acquisition-related control variables take account of the full acquisition history of the sample firms based on information in the Zephyr database.
[5] All firm-level financial data are measured in crore Rupees.

for firm internationalization. We control for *firm age* as the number of years since the firm's establishment, and *firm size* as the firm's three-year average of total income plus total assets. We control for firm performance by including the variable *firm profitability* which measures return on capital employed (ROCE). Since the firms in the sample span several industries, we group our industry dummies into *high-tech*, *medium-high tech*, *medium-low tech*, *low-tech*, *services*, and *diversified industries*. Prowess provides information on the manufacturing, services, and diversified industry categories; we differentiate manufacturing based on R&D intensity in line with the OECD classification[6] (Hatzichronoglou, 1997). Since state characteristics can affect Indian domestic firms' internationalization, we control for *per-capita GDP* in the state where the sample firm is located.

We include some additional control variables in the *cross-border acquisition* model. First, to account for the firm's exporting experience we include the variable e*xporting intensity*. Second, since previous FDI in a country leads to country-specific knowledge, we set the dummy variable *country experience* equal to 1 if the acquiring firm entered the focal foreign country via an acquisition at time t-1. Evidence shows that distance increases the costs of doing international business. Hence, firms perceive a lower liability of foreignness in the case of culturally and institutionally close target markets. Given India's colonial history, Commonwealth of Nations membership captures whether the host and home (India) countries have similar administrative institutions and previous shared culture[7]. The dummy variable *commonwealth* equals 1 if at time t the focal firm had acquired a firm in a Commonwealth country. Finally, since firms operating in emerging markets are usually considered better equipped to cope with institutional weaknesses common to other emerging markets, we include *emerging market host country* which equals 1 if at time t the focal firm

[6] The industry classes are: high-technology—computers and office machinery, electronics, communication, pharmaceuticals; medium-high technology—industrial machinery, electrical machinery, transport equipment; medium-low technology—plastics, cement and glass, metal, manufacturing articles, construction, minerals; low-technology—agricultural products, irrigation, vegetable oils and products, food products, textiles, leather products, wood, paper products.

[7] The Commonwealth of Nations is an inter-governmental organization of independent countries previously part of the British Empire that cooperate and have common values and goals. The organization promotes democracy, good governance, and free trade; it encourages policy development, facilitates investment and communication among members, and has English as its official language. Commonwealth members share many characteristics such as political, educational, and legal practices.

had an acquisition in an emerging (or developing) market[8].

All time-variant independent and control variables are lagged one year with respect to our dependent variables which comes at the expense of 1,528 observations and 33 acquiring firms in year 2006. Our final dataset consists of 10,680 observations during the period 2006–2012 for a total of 2,608 firms.

3.3 Results

The first dependent variable, *export intensity*, is a positive and continuous variable which equals zero for a non-trivial fraction of the sample: about 800 out of 2,608 Indian firms have no exporting activities in the period under study. A Tobit model is appropriate for this type of dependent variable (Greene, 2000). Our second dependent variable *cross-border acquisitions*, is a count-based measure of the total number of cross-border acquisitions undertaken at time t. This variable has a predominance of zero values: Indian firms investing abroad represent only around 5% of the firms in our sample (in 2006–2012 only 142 out of 2,608 firms invested abroad). We handle this so-called "zero inflation" condition by estimating a zero-inflated negative binomial model (Greene, 2000). Our expectation that there will be firms in our sample that will always have zeros (thereby generating the phenomenon of zero inflation) is based on the assumption that there are likely to be firms that never develop the competencies required to internationalize. We explain the probability of the count-based dependent variable being equal to zero by the focal firm's previous export intensity.

Table 1 summarizes the descriptive statistics and correlations for the variables used in our analysis. None of them exhibits distribution or correlation problems. The low average value of the variable capturing diaspora ownership is due to the high incidence in our sample of firms with zero diaspora ownership. If we consider only those firms with no zeros, the average rises to 4.41%. Thus, on average, if present diaspora owners hold a relatively small percentage of homeland firms' shares.

Insert Table 1 about here

Table 2 reports the results of the Tobit regression for *export intensity* and the zero-inflated negative

[8] The Prowess database does not provide information on destination countries of firms' exports; therefore, we cannot control for distance measures in the export model.

binomial models for *cross-border acquisitions*. In the latter, the "inflate" section specifies the equation which determines whether the observed count is likely always to be zero. Implementing Stata's cluster option, all models are estimated adjusting standard errors to account for the fact that we have more than one observation for each firm. Models 1 and 3 are the baseline estimations including only the control variables. Hypothesis testing is based on Models 2 and 4. First, as predicted by H1a and H1b we find evidence that diaspora ownership is positively correlated to the homeland firm's internationalization. Specifically, the coefficient of *diaspora ownership* is positive and significant at $p<0.004$ and $p<0.025$ in the respective export and the cross-border acquisition models. We find support also for H2 that diaspora ownership is more important for cross-border acquisitions than for exporting. In order to formally test whether the coefficient of *diaspora ownership* in the cross-border acquisition model is significantly higher than the coefficient of *diaspora ownership* in the exporting model, we apply a T-test after a seemingly unrelated estimation (suest). This estimation is normally used to test cross-model hypotheses[9]. The coefficient in the cross-border acquisition model (8.63) is higher than in the exporting model (1.25), and the difference is statistically significant at $p<0.06$ ($chi2(1) = 3.64$). Thus, although generally important for any type of foreign entry, diaspora ownership appears to play an even stronger role in the case of cross-border acquisition compared to exporting. As argued above, we consider cross-border acquisition to be the most risky entry mode, with potential pre-contractual information asymmetries likely having a major influence on post-acquisition success. Thus, homeland firms' ability to rely on diaspora owners in order to reduce the liability of foreignness and limit information asymmetries in the pre-acquisition phase, seems to significantly reduce the anticipated acquisition costs and increase the firms' initial propensity to invest. Finally, in the case of H3a and H3b the findings are mixed. First, H3a is supported in the case of exporting but not cross-border acquisitions. Specifically, both *foreign institutional ownership* and *foreign corporate ownership* have a positive and significant ($p<0.01$) impact on exporting (Model 2) but no statistically

[9] Suest combines the parameter estimates and associated (co)variance matrices of the exporting and cross-border acquisition models into one parameter vector and a simultaneous robust (co)variance matrix. This (co)variance matrix is appropriate even if the estimates are obtained from different estimators (as in our case given we estimate a Tobit for the exporting equation and a negative binomial for the cross-border acquisition equation).

significant impact on cross-border acquisitions (Model 4). In the case of H3b, in line with our expectations we find that diaspora owners contribute more than other types of foreign owners to the homeland firm's propensity for cross-border acquisitions (Model 4). While the coefficient of diaspora ownership is positive and statistically significant, the coefficients of *foreign institutional ownership* and *foreign corporate ownership* are not statistically significant. However, we found that the relative advantage of diaspora owners is less clear-cut in the case of exporting. The effect on exporting is greater than that of foreign institutional owners but is the same as the effect of foreign corporate owners. Specifically, the T-test of difference in the coefficients of the variables *diaspora ownership* and *foreign institution ownership* is significant at $p<0.07$ ($F = 3.38$) but we found no statistical difference between the coefficients of *diaspora ownership* and *foreign corporate ownership* ($F = 0.83$). Therefore, our empirical evidence suggests that the size of the difference between the effect of diaspora owners on homeland firms' internationalization and the effect of other foreign owners—i.e. foreign institutional ownership and foreign corporate ownership—depends on the complexity of the entry mode, with diaspora ownership contributing significantly more than other foreign owners in the case of cross-border acquisition by the homeland firm.

The coefficients of the control variables are in line with previous empirical findings on firm internationalization. For instance, we find that *state ownership* is negatively associated to firm internationalization. Governments often have employment and social welfare goals, and pressure from local interest groups may induce promotion of local rather than foreign investment (Cuervo-Cazurra and Dau, 2009, Thomsen and Pedersen, 2000). Firm size and firm age, which partially reflect the firm's accumulated knowledge and capabilities, are important for explaining internationalization through exporting. However, being older and bigger seem to be less important in the case of more risky foreign investments such as cross-border acquisitions. On the other hand, firms with past export experience and country-specific knowledge from previous acquisitions in the focal foreign country are more likely to undertake cross-border acquisitions (e.g., Johanson and Vahlne, 1977).

3.4 Alternative explanations and robustness checks

We conducted a number of robustness checks and additional analyses to confirm our findings (results

available upon request).

In our specifications, we treat diaspora ownership and other types of foreign ownership as randomly assigned to the sample firms. However, it could be argued that an owner's decision to invest in a firm may depend on some firm characteristics which may also influence its ability to internationalize i.e. both foreign ownership and internationalization may be endogenously determined. We conducted several robustness checks to alleviate endogeneity concerns. First, in relation to cross-border acquisitions, we acknowledge that a foreign owner could cherry-pick among companies already contemplating cross-border acquisitions, or which exhibit certain characteristics that make them more likely to invest abroad (i.e. the selection effect). To investigate this we look at the variation in diaspora and other categories of foreign ownership in the years immediately preceding and following the firm's decision to acquire a foreign firm[10]. We found no significant changes in any of the foreign owner categories before or immediately after the cross-border acquisition. Second, we re-estimated the regression models on a reduced sample which excludes all firms whose diasporan or other non-controlling foreign owner shareholding is increased from 0 to a positive share in the year before the cross-border acquisition[11]. The results are robust to excluding these firms. Unfortunately, replicating similar robustness checks for the export dependent variable is less straightforward and requires a subjective distinction between a significant and a non-significant increase in the homeland firm's foreign sales. Additionally, the cross-border acquisition process is generally lengthy with the result that information on firms' intentions to invest abroad might be ex-ante available to foreign investors and might be driving their investment choices. However, this is less likely in the case of exporting since sales contracts are negotiated more quickly. Thus, simple analysis of ownership changes in the years before exporting might not be sufficient to exclude selectivity issues. Third, it could be argued that the

[10] We examined changes in the shares of the various foreign investor categories in the period (t-1) to (t) for all the firms that made a cross-border acquisition in year t, and tested whether the average change in foreign ownership (for each category separately) was significantly larger for the acquirer than for other firms. We repeated this for each of the years in our period. The results of the t-tests generally show no significant differences between foreign ownership changes in acquirers and other firms. We also compared changes in foreign ownership in the year after the acquisition and found no significant differences between acquirer and other firms.

[11] We chose 1 year since it is unlikely that potential investors would foresee an acquisition several years in advance.

firm's export potential and propensity for cross-border acquisitions depend on the quality and type of its products and services which likely are industry and location specific, and on the size of the firm. Firm size is particularly important in the case of exporting since it is the most accessible internationalization means for smaller firms. We address this by applying a coarsened exact matching procedure (CEM) to create a "treated group" (i.e. with positive values for foreign ownership) and a "control group" (i.e. with zero values for foreign ownership) of firms. Specifically, we match data on firm industry, firm location (Indian state), and firm size (sales) which leaves a reduced sample of 7,630 and 1,847 firms in the exporting model and 8,005 observations and 2,017 firms in the cross-border acquisition model. We re-estimated our regressions (Models 2 and 4 in table 2) on the matched sample by employing CEM weights to compensate for the differential strata size. The results are mostly the same as the previous findings with the exception of the effects of foreign corporate owners and foreign institutional owners on export intensity. That is, for the matched sample, we found no significant relationship between foreign corporate ownership, foreign institutional ownership, and homeland firm's exports. This evidence suggests that foreign corporate owners and foreign institutional investors may be more inclined to invest in bigger firms which have higher export ability. Consequently, for foreign corporate owners and foreign institutional owners we cannot draw conclusions about whether the observed positive association between this type of ownership and firm internationalization (table 2, Model 2) captures these owners' contribution to the homeland firm's ability to export or indicates that such owners tend to avoid investing in smaller firms (i.e., selection effect).

Based on our interest in foreign owners as providers of knowledge and expertise to homeland firms' decision-makers, we estimated the above regression models for a sample of Indian firms with no foreign ownership control. We excluded all firms with a foreign ownership share of less than 20%, in line with the threshold applied in work on corporate governance to define ownership control (Faccio and Lang, 2002). For robustness, we re-estimated our main models based on a 50% threshold for all categories of foreign owners. By increasing this threshold to define control, we increase the risk of our sample including homeland firms that are de facto controlled by foreign firms, and whose decisions are directed by their foreign owners. The results of these additional estimations are mostly qualitatively similar to those reported

above with the exception of foreign corporate ownership; its coefficient turns positive and statistically significant for cross-border acquisitions. That is, for a 50% threshold for foreign ownership control, the impact of foreign corporate owners on firms' internationalization increases. This is likely due to the sample now including homeland (subsidiary) firms controlled by foreign corporations, which have a higher probability of cross-border acquisition activity. The (headquarters) foreign owners can be expected to have more experience of dealing with foreign acquisitions, to face a lower liability of foreignness, and to control and enforce their decisions, thus directing the acquisition behavior of the Indian firms they control. Next, we re-estimated Models 2 and 4 (table 2) applying the 10% threshold considered by the International Monetary Fund (IMF) as the limit above which foreign investments are categorized as FDI. In this case, we exclude all Indian firms with a foreign ownership share greater than 10%. The results are consistent with those reported in table 2.

Finally, it could be argued that even as non-controlling owners, diasporans may be able to gain the support of other owners, or exploit other (unobserved) means of imposing their influence on the companies they own. That is, there might be a possibility that a positive coefficient of diaspora (or other non-controlling foreign categories) ownership reflects a stronger preference of these owners for internationalization rather than an ability to provide resources to support the homeland firm's decision. To address this we re-estimated Models 2 and 4 (table 2) for a different reduced sample which excludes companies where diasporans as well as foreign corporate owners and foreign institutional investors hold more than a 5% share. The idea is to restrict the analysis to firms with very small foreign investor ownership shares, which reduces their ability to enforce their preferences on the homeland firms' decisions-makers. The results are robust to excluding these firms. The fact that a positive and significant effect of diaspora ownership is observed also for firms where these investors hold very small ownership shares is in line with the hypothesis of diaspora owners as a contingent resource for the homeland firm.

4. Discussion

The study aimed to investigate the relationship between diasporan ownership and their homeland firms' internationalization, and to compare their contribution with the contributions of other categories of foreign

owners. From an organizational learning perspective, we assume that the firm's strategic decision to engage in internationalization implies demand for specific internationalization knowledge (e.g., Eriksson et al., 1997, Johanson and Vahlne, 1977), which can be accumulated through trial-and-error (e.g., Levitt and March, 1988) and experience of knowledge transfer from diaspora owners. Thus, we derived our hypotheses from the notion of owners as resources and the theoretical concept of transnationalism. Our empirical analysis shows that shareholding by diasporans has a positive and significant effect on the homeland firm's exporting activity and propensity for cross-border acquisitions. Theoretically, we attribute the positive relationship between diaspora ownership and homeland firms' internationalization to diaspora owners' roles as providers of resources to homeland firms. That is, we postulated that diaspora owners can facilitate firm internationalization by contributing knowledge, expertise, network connections and other types of non-financial resources that reduce the liability of foreignness. However, we showed that the contribution of diaspora owners varies in line with the firm's demand (need) for internationalization knowledge, i.e. the impact of diaspora ownership is weaker on less committing and risky entry modes (exporting vs. cross-border acquisitions) for which, the homeland firm's perceived complexity of the foreign investment is limited, and consequently, the demand for resources and expertise to overcome this complexity is lower. This finding reflects Lungeanu and Zajac's (2016) expectation that the effect of owners' resource provision should be contingent on the firm's strategic needs. Finally, our results show differences in the effects of the diaspora owners category and the categories of foreign institutional owners and foreign corporate owners. Specifically, our results and additional analyses show that these other categories of foreign owners have, on average, a weaker effect on homeland firms' internationalization. This is consistent with theoretical arguments that exchanges of knowledge and resources are conditional on the existence of opportunities for senders and receivers to interact, their motivation, and the cognitive capacity to share (Nahapiet and Ghoshal, 1998).

This paper contributes to the emerging literature on the role of diaspora in international business (Hernandez, 2014, Shukla and Cantwell, 2018). It has been shown that firm-diaspora relations based on the employment of highly skilled diasporans have a positive effect on firms' foreign expansion (Chung and

Tung, 2013, Cui and Jiang, 2009, Foley and Kerr, 2013, Schotter and Abdelzaher, 2013, Tung and Chung, 2010). We contribute to this strand of work by proposing an additional important means by which diasporans can facilitate internationalization: diaspora ownership. Diaspora owners can foster the internationalization of firms in their countries of origin while continuing to reside elsewhere. To our knowledge, this is the first investigation of the role of diasporans as owners of homeland firms. We contribute also to work on the relationship between foreign owners and firm internationalization. Several scholars note that foreign owners are sources of both financial capital and knowledge and advice for internationalizing firms (Bhaumik et al., 2010, Ferreira et al., 2010). We contribute by theorizing about the comparative effects of different foreign owner categories. Our theoretical reasoning and empirical findings highlight that there are different types of firm owners located "abroad". To understand their relative importance for different forms of firm internationalization, it is important to account for the variation in their familiarity with the foreign culture, language, and institutions, and the motivation and ability of such foreign owners to transfer knowledge. We complement this strand of research by studying the category of diaspora owners whose characteristics differ from those of other (foreign) owners. Specifically, diaspora owners have cultural bonds with their origin and resident countries, and their investments in the homeland are motivated by both pecuniary and non-pecuniary motives (Barnard and Pendock, 2013, Nielsen and Riddle, 2010, Rana and Elo, 2017, Vertovec, 2004). These aspects make diaspora owners more effective providers of internationalization knowledge especially if the homeland firm's perceived need for resources and expertise to overcome the liability of foreignness is high. Finally, from an owners-as-resources perspective and in the context of a distinct owner category (diasporans) we provide additional evidence about the importance of a match between the owners' expertise and the firm's strategic needs (Lungeanu and Zajac, 2016), and the relevance of foreign ownership for firm internationalization (Bhaumik et al., 2010).

5. Limitations, future research and conclusions

This study has some limitations which represent opportunities for future research. While we provide substantial evidence on the role of ownership as a mechanism connecting homeland firms and the pool of

resources held by diaspora, we were unable empirically to disentangle the different types of resources that diaspora owners can provide to homeland firms, and their relative importance for the homeland firm's internationalization. These resources include general advice, network access, expertise and experience, better access to financial resources, and credibility crucial for entry to international markets. A more detailed investigation of the types of resources that diasporans provide to internationalizing homeland firms is needed. Also, we were unable to identify the diaspora owners' countries of residence. Identifying differences in the relationship between diaspora shareholdings and firm's internationalization depending on the country of residence of the diaspora owners would be an interesting topic for future research. Finally, our data allow us to observe only aggregate ownership shares held by all diasporans, not individual diaspora investments. More detailed information on the ownership stakes of individual diaspora owners would allow examination of several related questions such as whether the strength of the relationship between diaspora ownership and firm internationalization depends on the size of the ownership shares of individual diaspora owners.

Despite these limitations, our work sheds new light on the importance of diasporas in the context of globalization and their potential benefits for emerging market firms. Emerging countries are seeking policies and marketing programs to promote and attract diaspora investments (Nielsen and Riddle, 2010, Saxenian, 2005, United Nations, 2006) and diasporans are recognized as economic agents able to connect their homelands to international markets, and vice versa. Our finding that diasporan ownership has a positive impact on firms' export intensity and propensity for cross-border acquisitions is relevant in a context where several developing and emerging markets are exploiting liberalization of FDI regimes, governance reforms, deregulation, and general market-oriented policies. These economic and institutional reforms are creating pools of foreign-invested firms with a broad spectrum of ownership and control structures ranging from local firms with minority foreign investors, to wholly foreign-owned subsidiaries (Claessens and Djankov, 1998, Filatotchev et al., 2008). This recent and rich empirical context offers several opportunities to study how the strategic choices and outcomes of diaspora homeland firms depend on the specific roles played by diasporans (and other foreigners) in their ownership and governance.

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Tables

Table 1

Descriptive Statistics and Correlation Matrix

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	Cross border acquisitions																												
2	Exporting intensity	0.08																											
3	Diaspora ownership	0.03	0.08																										
4	Foreign institutional ownership	0.09	0.05	-0.02																									
5	Foreign corporate ownership	0.02	0.06	0.06	0.04																								
6	Family ownership	-0.03	0.04	-0.01	-0.12	-0.11																							
7	Domestic institutional ownership	0.06	0.00	-0.04	0.29	0.07	-0.24																						
8	State ownership	-0.01	-0.06	-0.02	0.03	-0.02	-0.16	0.08																					
9	Acquisition in Commonwealth	0.45	0.03	0.01	0.05	0.01	-0.02	0.01	0.00																				
10	Acquisition in developing country	0.39	0.00	-0.01	0.08	-0.01	-0.02	0.02	-0.01	0.17																			
11	Country experience	0.32	0.04	0.03	0.05	0.03	-0.01	0.03	-0.01	0.16	0.07																		
12	Foreign acquisition experience	0.16	0.18	0.04	0.18	0.06	-0.07	0.12	-0.02	0.06	0.08	0.16																	
13	Domestic acquisition experience	0.13	0.02	0.01	0.15	-0.01	-0.03	0.09	-0.01	0.02	0.09	0.13	0.38																
14	Technological intensity	0.08	0.08	-0.01	0.11	0.02	-0.07	0.11	0.03	0.02	0.02	0.06	0.11	0.07															
15	International technological resources	0.00	0.01	0.00	0.01	0.01	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00														
16	Advertising intensity	0.01	0.11	0.02	0.04	0.03	-0.01	0.08	-0.02	0.00	0.02	0.00	-0.01	0.00	0.14	-0.01													
17	Borrowing intensity	0.01	-0.01	-0.01	0.01	0.03	-0.08	0.05	0.13	0.00	0.00	0.00	0.02	-0.01	0.03	0.00	0.00												
18	Listed firm	0.01	0.00	-0.02	0.00	0.02	-0.02	0.03	-0.02	0.01	0.01	-0.01	0.01	-0.01	0.00	0.01	0.04	-0.03											
19	Group affiliation	0.03	-0.02	-0.02	0.15	0.07	-0.35	0.24	-0.09	0.00	0.02	0.01	0.09	0.07	0.12	0.00	0.13	0.04	0.01										
20	Firm age	-0.01	-0.08	-0.02	0.06	0.03	-0.16	0.25	0.11	0.00	-0.01	-0.02	-0.01	0.02	0.06	-0.01	0.11	0.06	-0.01	0.26									
21	Firm size	0.01	0.00	-0.02	0.17	0.01	-0.11	0.14	0.32	0.01	0.00	0.00	0.06	0.04	0.02	0.02	-0.02	0.04	-0.01	0.03	0.10								
22	Profitability	0.06	0.04	0.00	0.15	0.00	0.07	0.06	0.01	0.04	0.04	0.02	0.06	0.06	0.03	-0.01	0.02	-0.08	0.01	-0.01	0.03	0.04							
23	Pro-capita GDP	-0.01	0.00	-0.01	0.05	-0.05	0.01	0.00	-0.06	0.00	0.01	0.01	0.04	0.07	-0.06	0.00	-0.08	-0.05	0.04	0.02	0.05	0.02	0.00						
24	Medium-high tech	0.00	-0.08	-0.02	0.02	-0.01	-0.05	0.05	-0.01	0.01	-0.01	0.00	-0.01	-0.01	0.09	-0.01	0.06	-0.01	0.00	0.09	0.12	-0.02	0.08	0.01					
25	Medium-low tech	-0.03	-0.03	0.02	0.04	0.05	0.04	0.02	0.01	-0.01	-0.02	-0.01	-0.06	-0.01	-0.11	0.02	0.01	0.01	0.01	-0.02	-0.01	0.09	0.05	-0.01	-0.22				
26	Low-tech	-0.03	0.01	-0.02	-0.09	-0.03	0.06	0.01	-0.04	-0.02	-0.02	-0.02	-0.06	-0.05	0.04	-0.01	0.15	0.05	0.02	0.02	0.05	-0.04	-0.13	-0.11	-0.20	-0.35			
27	Services	-0.01	-0.09	-0.03	0.01	-0.01	-0.01	-0.06	0.04	0.00	0.00	-0.01	-0.02	0.00	-0.12	-0.01	-0.25	-0.04	-0.04	-0.08	-0.10	0.00	-0.04	0.11	-0.15	-0.26	-0.24		
28	Diversified	0.01	-0.03	0.00	0.01	-0.02	-0.04	0.10	-0.01	-0.01	0.02	0.00	0.01	0.02	0.02	0.00	0.05	-0.01	-0.02	0.09	0.14	0.00	0.01	-0.01	-0.03	-0.06	-0.05	-0.04	
	Mean	0.01	0.17	0.00	0.02	0.00	0.25	0.04	0.02	0.00	0.00	0.00	0.07	0.08	0.54	0.11	0.69	0.01	0.33	0.37	28.57	1149	0.07	0.01	0.11	0.28	0.24	0.15	0.01
	Standard deviation	0.13	0.26	0.02	0.04	0.02	0.23	0.07	0.11	0.05	0.04	0.03	0.45	0.41	1.64	1.80	0.97	0.04	0.47	0.48	18.71	8366	0.15	0.01	0.32	0.45	0.43	0.36	0.10

Observation N = 10,680. Correlations greater than 0.017 are significant at least at $p < 0.10$.

Table 2

Diaspora Ownership and Homeland Firms' Internationalization

	Exporting						Cross-border acquisition					
	Model 1			Model 2			Model 3			Model 4		
	Coef.	Std. Err.	P-value	Coef.	Std. Err.	P-value	Coef.	Std. Err.	P-value	Coef.	Std. Err.	P-value
Diaspora ownership $_{t-1}$				1.248	0.428	0.004				8.634	3.843	0.025
Foreign institutional ownership $_{t-1}$				0.411	0.148	0.006				2.393	2.186	0.274
Foreign corporate ownership$_{t-1}$				0.786	0.259	0.002				-1.862	4.008	0.642
Family ownership $_{t-1}$	0.077	0.034	0.026	0.091	0.035	0.008	0.303	0.643	0.638	0.358	0.658	0.586
Domestic institutional ownership $_{t-1}$	0.117	0.090	0.197	0.063	0.090	0.483	3.482	1.528	0.023	3.199	1.627	0.049
State ownership $_{t-1}$	-0.146	0.054	0.008	-0.130	0.054	0.017	-4.234	1.583	0.007	-3.781	1.523	0.013
Acquisition in Commonwealth $_{t-1}$							4.377	0.356	0.000	4.360	0.384	0.000
Acquisition in developing country $_{t-1}$							3.791	0.397	0.000	3.666	0.423	0.000
Exporting intensity $_{t-1}$							1.961	0.304	0.000	1.921	0.300	0.000
Country experience $_{t-1}$							2.413	1.170	0.039	2.135	0.882	0.015
Foreign acquisition experience $_{t-1}$	0.114	0.016	0.000	0.106	0.016	0.000	0.212	0.137	0.121	0.203	0.132	0.124
Domestic acquisition experience $_{t-1}$	-0.033	0.012	0.008	-0.033	0.012	0.006	0.332	0.231	0.150	0.333	0.221	0.131
Technological intensity $_{t-1}$	0.012	0.004	0.002	0.011	0.004	0.003	0.138	0.042	0.001	0.138	0.043	0.001
International technological resources $_{t-1}$	0.003	0.003	0.305	0.002	0.002	0.290	-0.025	0.245	0.919	-0.056	0.381	0.882
Advertising intensity $_{t-1}$	0.041	0.008	0.000	0.040	0.008	0.000	0.033	0.127	0.792	0.027	0.128	0.830
Borrowing intensity $_{t-1}$	0.019	0.140	0.894	0.007	0.142	0.962	1.123	2.202	0.610	1.241	2.086	0.552
Listed firm	0.000	0.016	0.988	0.000	0.016	0.981	0.231	0.234	0.323	0.248	0.244	0.310
Group affiliation	0.000	0.016	0.980	-0.002	0.016	0.901	0.348	0.257	0.175	0.410	0.263	0.119
Firm age $_{t-1}$	-0.001	0.000	0.062	-0.001	0.000	0.071	0.002	0.005	0.769	0.002	0.005	0.691
Firm size $_{t-1}$	0.000	0.000	0.007	0.000	0.000	0.010	0.000	0.000	0.695	0.000	0.000	0.544
Profitability $_{t-1}$	0.086	0.038	0.024	0.072	0.038	0.058	2.136	0.576	0.000	2.060	0.607	0.001
Pro-capita GDP $_{t-1}$	0.649	0.980	0.508	0.701	0.978	0.473	-23.218	15.953	0.146	-22.127	15.472	0.153
Dummy industries		YES			YES			YES			YES	
Dummy years		YES			YES			YES			YES	
Constant	0.176	0.027	0.000	0.160	0.027	0.000	-5.298	0.414	0.000	-5.484	0.376	0.000
Exporting intensity $_{t-1}$							-17.100	7.962	0.032	-25.619	12.891	0.047
Constant							-15.558	0.651	0.000	-14.482	0.742	0.000
Log pseudo likelihood	-4640.34			-4596.04			-431.630			-428.97		
F test/Wald chi2	12.89		0.000	12.59		0.000	586.000		0.000	576.87		0.000

Robust standard errors corrected for cluster-correlated observations.

Appendix

Out of 195 acquiring firms identified in Zephyr in the period 2006-2012, we found information for 190 firms in the Prowess database (for a total of 305 foreign acquisitions). Table A1 shows the host country distribution of the acquired firms and the stock (as of 2010) of the Indian migrants per country (source: United Nations Population Division. Estimates between 0 and 999 are shown as <1,000. Estimates between 1,000 and 9,999 are shown as <10,000. Estimates starting at 10,000 or greater are rounded to the nearest 10,000).

Table A1: Host location of acquired firms and stock of Indian immigrants as 2010

	Acquisitions per country (2006-2012)	Percent	Cum.	Indian migrants stock (2010)
UNITED STATES	86	28.2	28.2	1780000
UNITED KINGDOM	45	14.75	42.95	690000
CANADA	15	4.92	47.87	520000
GERMANY	15	4.92	52.79	60000
FRANCE	11	3.61	56.39	40000
ITALY	11	3.61	60	140000
SOUTH AFRICA	9	2.95	62.95	30000
SPAIN	9	2.95	65.9	40000
NETHERLANDS	8	2.62	68.52	20000
SINGAPORE	8	2.62	71.15	120000
UNITED ARAB EMIRATES	8	2.62	73.77	2910000
BELGIUM	6	1.97	75.74	<10000
MAURITIUS	5	1.64	77.38	<10000
SWITZERLAND	5	1.64	79.02	20000
AUSTRALIA	4	1.31	80.33	330000
CZECH REPUBLIC	4	1.31	81.64	<1000
OMAN	4	1.31	82.95	470000
SWEDEN	4	1.31	84.26	20000
ARGENTINA	3	0.98	85.25	<1000
HUNGARY	3	0.98	86.23	<10000
INDONESIA	3	0.98	87.21	10000
IRELAND	3	0.98	88.2	20000
AUSTRIA	2	0.66	88.85	10000
CHILE	2	0.66	89.51	<1000
CYPRUS	2	0.66	90.16	<10000
EGYPT	2	0.66	90.82	<10000
FINLAND	2	0.66	91.48	<10000
HONG KONG	2	0.66	92.13	20000
KOREA, REPUBLIC OF	2	0.66	92.79	<10000
THAILAND	2	0.66	93.44	<10000
ZAMBIA	2	0.66	94.1	<10000
BAHRAIN	1	0.33	94.43	260000
BRAZIL	1	0.33	94.75	<1000
BULGARIA	1	0.33	95.08	<1000
CHINA	1	0.33	95.41	<10000
COLOMBIA	1	0.33	95.74	<1000
DENMARK	1	0.33	96.07	<10000
JAPAN	1	0.33	96.39	20000
LIBERIA	1	0.33	96.72	<1000
MEXICO	1	0.33	97.05	<1000
NEPAL	1	0.33	97.38	460000
NORWAY	1	0.33	97.7	<10000
PHILIPPINES	1	0.33	98.03	10000
POLAND	1	0.33	98.36	<1000
PORTUGAL	1	0.33	98.69	<10000
TANZANIA, UNITED REPUBLIC OF	1	0.33	99.02	<10000
URUGUAY	1	0.33	99.34	<1000
UZBEKISTAN	1	0.33	99.67	<1000
VIET NAM	1	0.33	100	<10000
Total	305	100		