The Magic of Diasporas: The Role of Overseas National Ownership in Outward FDI of Emerging Market Firms

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Abstract

Overseas nationals are an important subset of investors in many emerging and less developed economies. Inspired by work on the relationship between ownership structure and internationalization, we seek to examine how the presence of overseas national shareholders can influence homeland firms' outward FDI. Drawing on risk-taking behavior theory and key concepts from the information-processing perspective, we hypothesize and empirically find that overseas national ownership is positively correlated with FDI and positively moderates the negative relationship between family ownership and FDI. We also compare the role of overseas national ownership with that of foreign corporate bodies. As expected, minority stake of foreign corporate bodies show a weaker influence in positively moderating the negative relationship between family ownership and FDI. We explain these relationships by overseas nationals' dual orientation, i.e. their familiarity with both the domestic and the international contexts.

INTRODUCTION

"The world has some 215m first-generation migrants, […] If migrants were a nation, they would be the world's fifth-largest, a bit more numerous than Brazilians, a little less so than Indonesians." (The Economist, November 19th 2011). Although migrants have always existed, the involvement in and the contribution to economic growth of *overseas nationals* in both the host and the home country is a more recent phenomenon that has literately exploded with the availability of new communication channels provided by newer technologies. In particular, "overseas nationals" (Ramamurti, 2004)—emigrants of a given ethnic group outside their country of origin, also referred to as diaspora—are an important subset of investors in many emerging and less developed economies. Many emerging market countries are seeking policies and marketing programs to promote and attract overseas nationals' investments in their country of origin (Nielsen & Riddle, 2010; Saxenian, 2005; United Nations, 2006). Overseas nationals are becoming economic agents who are able to connect the world to their country of origin and vice versa.

The interest in diasporas in international business (IB) is not new. Research in IB has shown that a country's diaspora is more likely to invest in the homeland than other foreign investors (e.g., Buckley et al., 2002; Gillespie et al., 1999; Nielsen & Riddle, 2010). Researchers interested in international entrepreneurship have studied both the role of overseas nationals in establishing new ventures abroad (e.g., Saxenian, 1994; 2005) and the role of scientists and engineers returning to the country of origin ("returnees") to start up a new venture (Liu et al., 2010). Other scholars has focused on ethnic ties as determinant of location decisions by foreign and domestic entrants (Zaheer et al., 2009). Parallel research regarding the economic involvement

of overseas nationals in their country of origin has focused on the role of remittance flows—i.e., cash transfers (Vaaler, 2011).

The growing importance of diasporas in today's economies makes it essential that we extend our understanding of the role of overseas nationals in relation to the internationalization of emerging market firms in the country of origin of the diaspora. In this context, the presence of returnee entrepreneurs among firm founders has been found positively associated to export orientation of small and medium enterprises (Filatotchev et al., 2009). We seek to identify and examine other micro (firm-) level mechanisms able to explain how overseas nationals can influence homeland outward FDI. Inspired by work on the relationship between ownership structure and internationalization (Bhaumik et al., 2010; Fernandez & Nieto, 2006; Lien et al., 2005), we posit that the presence of overseas national shareholders in the ownership structure of the home-country firm will positively influence the FDI decision of that firm. How ownership structure influences corporate strategic decisions and, in particular, the decision of firms to internationalize, is receiving increasing attention in the IB literature. Recent work has strongly contributed to our understanding of how family ownership and other block-holders (e.g., domestic and foreign institutional investors) relate to internationalization (Fernandez & Nieto, 2006; Filatotchev et al., 2008; Lien et al., 2005). In particular, in the emerging market context, risk aversion of family owned businesses to firm internationalization has been highlighted (Bhaumik et al., 2010; Filatotchev et al., 2007). Yet there has been little research, if any, on the specific role of overseas national investors in influencing the extent of outward FDI of domestic firms.

We suggest that overseas national investors can facilitate domestic firms' outward FDI because of their *dual orientation*: they are foreign and local at the same time. They share some characteristics with family members and others with foreign investors, but they also represent a

distinctive ownership category. Drawing on risk-taking behavior theory and key concepts from the information-processing perspective, we argue that overseas national ownership not only directly enhances FDI of domestic emerging market firms, but it also positively influences FDI decisions of family members. Although the complementary role of different shareholders in affecting internationalization strategies has received some attention—Bhaumik et al. (2010) enlighten how the presence of minority foreign investors can reduce family-owned firms' risk aversion to internationalization—other ownership interdependencies, such as between family ownership and overseas national ownership, have gone unexplored. Moreover, since overseas nationals are a subsample of the broader category of foreign investors, in isolating their role we can understand better the differences between the presence of overseas nationals and other foreign investors such as foreign corporate bodies in relation to outward FDI of domestic emerging market firms. In particular, we expect overseas nationals to be more successful in lowering family members' risk perception toward FDI than foreign corporate investors.

Our work thus contributes to the diaspora literature, as well to the emerging stream of research on the relationship between ownership structure and internationalization. To governments we provide insights into what potential benefits can overseas nationals offer and, therefore, which governmental tools can be more effective in their immigration regimes.

In the next sections, we first describe the economic relevance of overseas nationals and illustrate the concept of dual orientation. Secondly, we link ownership structure and FDI decision applying a risk-taking behavior perspective. We than develop our hypotheses and point out the results of the hypothesis testing based on a sample of 2,447 Indian firms. Discussion and remarks for future research close the paper.

RESEARCH BACKGROUNG AND HYPOTHESIS DEVELOPMENT

Overseas nationals and dual orientation

"Overseas nationals" (Ramamurti, 2004)—emigrants of a given ethnic group outside their country of origin, also referred to as *diaspora*—are an important subset of investors in many emerging and less developed economies. Overseas nationals are not a new phenomenon, nor are they specific to a single country. The Chinese diaspora is estimated around 60 million and about 20 million Indians are living outside India. Emigration flows (forced and voluntary) from Mexico, Philippines, Taiwan, Afghanistan or African countries, are only a few examples (Kuznetsov, 2006; United Nations, 2011). More and more often we witness national governments and multilateral organizations enacting policies and reforming their constitutions—special ministers, investment opportunities, voting rights—to officially recognize their diaspora communities and encourage a sense of membership (United Nations, 2006). This is because of the important role of overseas nationals in contributing to the economic development of their home countries (Gillespie et al., 1999; Liu et al., 2010; Vaaler, 2011).

Research in IB has shown that a country's diaspora is more likely to invest in the homeland than other foreign investors (e.g., Buckley et al., 2002; Gillespie et al., 1999). Historically, a perceived unattractive environment was the reason why foreign investors were reluctant in investing in emerging economies and local governments solicited FDI from their diasporas, making overseas nationals significant investors in their homeland (Gillespie et al., 1999). More recently, academic research has suggested that not only financial but also emotional motivations and those related to social status—non-pecuniary motivations—can drive investments decisions of overseas nationals in their country of origin (Nielsen & Riddle, 2010). International entrepreneurship, meanwhile, has shown the existence and the role played by diasporas in finding connections to start business abroad (e.g., Kalnins & Chung, 2006; Siqueira, 2007). A typical example is the case of Chinese and Indian entrepreneurs that contributed to the

development of the Silicon Valley in California (Saxenian, 1994). Ethnic ties provide access to market information, supply matching and referral services and distributors, and can represent critical reputational intermediaries (Giarratana & Torrisi, 2010; Kapur & McHale, 2005). These network-based benefits have been found crucial also for returnees in establishing new ventures in the home countries (Liu et al., 2010; Zaheer et al., 2009).

At a macro level, Vaaler (2011) has shown that diasporas' remittance flows—i.e., cash transfers—explain the level of economic internationalization of the country of origin. This result provides crucial preliminary evidence of the ability of overseas nationals to positively alter the home-country internationalization. However, at a more micro (firm-) level we know little about how overseas nationals can influence homeland outward FDI. Filatotchev et al. (2009) theoretically argue and empirically support that the presence of a returnee entrepreneur is positively associated to export orientation of small and medium enterprises. Inspired by this important finding together with recent developments in IB that study whether different governance characteristics are more or less related to the decision to undertake FDI (Bhaumik et al., 2010; Fernandez & Nieto, 2006; Lien et al., 2005), we expect that the presence of overseas national shareholders in the ownership structure of the focal firm will significantly influence the FDI decision of that firm. Specifically, we suggest that overseas national investors can facilitate domestic firms' outward FDI because of their *dual orientation*: an international and local space of experience and knowledge—an ongoing sense of double belonging—that characterizes overseas nationals.

Diaspora members benefit from a unique opportunity to learn from their host environment although maintaining access to network, resources, and knowledge in the country of origin (Saxenian, 2005).They can develop a "*transnational habitus*" (Guarnizo, 1997: 311): a set of analytic, emotional, creative and communication competencies characteristic of individuals who

are able to familiarize themselves with a range of other values, practices and cultures (Koehn & Rosenau, 2002; Vertovec, 2004). Overseas nationals are living abroad; they are exposed to educational, training, work experiences and practices that differ from those of their country of origin. Accordingly, we expect this type of investors to have an information advantage stemming from their ability to manage multiple identities and grasp unfamiliar settings, their sense of transnational efficacy and openness toward difference. This information advantage is likely to be relevant to internationalization.

Transnational habitus is a relevant characteristic of overseas nationals' dual orientation but not the only one. A second key aspect relates to the fact that overseas nationals experience a need to belong to their country of origin, need that favors the formation and maintenance of social bonds and interpersonal relationships with locals (Baumeister & Leary, 1995). Not surprisingly overseas nationals preserve their relationships with their home country in terms of capital flows, political interests and social relations (Nielsen & Riddle, 2010; Vaaler, 2011). However, it is a form of double belonging. Investing in the homeland, overseas nationals gain local recognition and legitimacy: fulfilling their origin-country-duty they become a legitimate part of the country of origin (Nielsen & Riddle, 2010; Vaaler, 2011).

We posit that these characteristics of dual orientation affect risk-taking behavior to FDI of overseas nationals and make them in the conditions to act as cross-border mediators when combined with other ownership categories, such as family ownership.

Ownership structure and risk-taking behavior

The decision to engage in outward FDI is a complex and risky one. FDI requires to control activities linked to a different cultural, linguistic, political, economic environment; to evaluate

when, where and how to enter a foreign market; to coordinate different people, units and processes across countries (Dunning & Lundan, 2007).

Risk propensity (i.e. risk-averse behavior vs. risk-seeking behavior) captures a decision maker's current tendency to take or avoid risk and is influenced by disposition characteristics and outcome history of the decision maker. *Risk perception* (i.e. positive situation versus negative situation) refers to a decision maker's assessment of the risk inherent in a situation and is influenced by situational characteristics—objective or perceived—(Sitkin & Pablo, 1992). Since different categories of owners have strategic objectives and decision making horizons that ultimately relate to different levels of risk propensity and risk perception and, consequently, to different risk-taking behavior (Sitkin & Pablo, 1992), different shareholders relate to different FDI strategies (Fernandez & Nieto, 2006). By the same token, homogenous types of investors will take decisions in a similar way, following similar risk rationales (Douma et al., 2006; Pedersen & Thomsen, 1997; Thomsen & Pedersen, 2000).

Already in the early 70s, Penrose (1972) indicated that the risk of a decision refers to the potential losses (from gains) associated to it. This focus on risk of a loss has been particularly important in the internationalization literature (for a review, see Liesch et al., 2011). Within the context of the current work—the relationship between different ownerships and FDI—the potential losses associated to a FDI decision can be seen in terms of the proportions of personal wealth invested in the firm that different investor groups can lose. The need for protecting personal wealth and gains, indeed, can result in the selection of a non-value maximizing strategy (Wright et al., 1996). However, if we compare the risk propensity of two investor categories with identical current wealth but different experiences and histories, it is likely to observe different risk-taking behavior (March, 1988). Moreover, as it has been shown in research on individual firm's stock price formation process, different types of investors are also likely to influence the

firm's information environment (e.g., El-Gazzar, 1998; Piotroski & Roulstone, 2004). Decision makers often rely on the information they can gather from others to support their decision-making process. Galbraith (1977) suggests that there is a relationship between the amount of uncertainty faced by a decision maker and the information available to the decision maker. How decision makers perform decision making tasks is therefore related to their information-processing capacity. Thus, we expect that the risk-taking behavior associated to the FDI decision can also change depending on the information-processing capacity of each ownership group and, additionally, by the provision of additional information processed by other ownership groups within the firm.

In the following sections, through the concept of dual orientation—a characteristic specific to the overseas nationals' ownership group—we identify and develop theoretical mechanisms explaining how overseas nationals' experience and information-processing capacity can influence risk-taking behaviors in relation to FDI.

Family ownership and outward FDI: A baseline hypothesis

Studies that have analyzed the relationship between ownership structure and firm internationalization from a risk-taking behavior perspective have argued and empirically corroborated a negative relationship between family ownership and different measures of internationalization, such as exporting activities by small and medium enterprises (Fernandez & Nieto, 2006), the use of alliances and joint ventures in foreign markets (Zahra, 2005) and shares owned in foreign affiliates (Filatotchev et al., 2007). This negative effect of family ownership on internationalization has been previously shown also in an Indian context, with the presence of Indian family owners negatively associated to the proportion of assets held overseas by the domestic firm (Bhaumik et al., 2010).

A characteristic of family ownership concerns the direct commitment of resources and capital in the firm. The family is affectively attached to the firm as part of the family identity and progeny is expected to work in the family firm (Chung & Luo, 2008). Accordingly, family shareholders are typically more conservative and would avoid risk taking strategies to avoid situations that could put at risk the transfer of the family wealth to the next generations (Anderson et al., 2003). Family ownership has been found inversely related to acquisitions as a response to families' priority of retaining control and concentrating wealth. Indeed, family investors are often concerned with corporate continuity and tend to avoid potentially risky acquisitions (Miller et al., 2010), with no guarantees of financial success (Zahra, 2005).

Since strategic decisions are evaluated upon the personal gains and losses they can generate (Wright et al., 1996), the commitment of resources to foreign ventures in the form of wholly owned subsidiaries will be perceived as a risky project. The protection of the personal wealth and the lack of financial portfolio diversification will lead to a rigid localization of resources, which hinders internationalization (Filatotchev et al., 2007; Gallo & Pont, 1996). In other words, as far as family ownership and FDI decisions are concerned, risk avoidance is greater because the threats to control loss are prominent (high risk is perceived).

We expect to confirm the suggested negative relationship and therefore our baseline hypothesis will be:

Hypothesis 1: Family ownership is negatively associated to the extent of outward FDI.

Overseas national ownership and outward FDI

Overseas nationals and families are alike in their direct commitment of resources and capital in the firm. Accordingly, also overseas nationals may be expected to show similar high risk avoidance because of the threats of capital loss. However, overseas nationals can behave in a

significantly different manner from family members.

Firstly, overseas nationals' international orientation is likely to relate to a more positive risk propensity toward FDI (March, 1988). Diaspora members have international experience such as travel stays abroad and foreign language proficiency (Dichtl et al., 1990), they share "openness to experience", seen as the willingness to be adventurous and to experiment (Costa & McCrae, 1992). Overseas nationals have already exhibited superior means to discover and exploit new business opportunities back home (Vaaler, 2011). Thus, if we compare the risk propensity of families and overseas nationals with hypothetically identical wealth invested in the firm, the different international experiences of the latter, it is likely to suggest a higher risk propensity.

Moreover, the theoretical model on risk-taking behavior suggested by Sitkin and Pablo (1992) advocates that the direct relationship between risk propensity and risk-taking behavior is mediated by risk perception (i.e. risk propensity is one of the determinants of risk perception). For instance, decision makers with high risk propensity (risk-seeking behavior) would focus more on positive than negative outcomes and, therefore, will probably perceive most situations as relatively positive. Thus, they will have a higher tendency to take risk. Conversely, decision makers with low risk propensity (i.e. risk-averse behavior) would focus more on negative than positive outcomes and, therefore, will probably perceive most situations as being relatively negative. Thus, they will have a lower tendency to take risk. Since overseas nationals have a high risk-taking tendency (high risk propensity) toward international experiences, they would probably also perceive most FDI opportunities as relatively positive, they would pay more attention and give higher weight to positive than to negative outcomes associated to outward FDI (e.g. March & Shapira, 1987).

Finally, research shows that the overseas nationals' decision to buy and sell shares of firms located in the country of origin predicates not only on financial return expectations.

Overseas nationals' local orientation makes also non-pecuniary investment motivations important, such as the desire to engage in investment decisions deemed socially desirable (Gillespie et al., 1999; Nielsen & Riddle, 2010). By the same token, we expect overseas national investors to evaluate other corporate strategic decisions considering emotional and social-status returns on the investment. Facilitating FDI of domestic firms can be perceived as a contribution to the development of the country of origin and not simply evaluated by the opportunity to profit. In other words, overseas nationals are more likely to trade off wealth/control loss against opportunities for social recognition. Similar risk-taking behavior driven by psychological altruistic feelings or moral obligations has been indicated by the ethical investment literature (e.g., Hofmann et al., 2008).

Based on these arguments, our hypothesis will be:

Hypothesis 2: Overseas national ownership is positively associated with the extent of outward FDI.

Research on ownership structure and FDI has suggested that family ownership is often associated to lack of internal expertise and information to internationalize (Gallo & Pont, 1996). In this context, Bhaumik et al. (2010) argue and empirically corroborate that the presence of minority foreign investors in the ownership structure of a family-owned firm can facilitate access to investment opportunities abroad. In a similar vein, we are interested in examining whether the presence of overseas national ownership can modify the relationship between family ownership and FDI and, furthermore, whether the role played by overseas nationals differ from that of foreign corporate bodies.

Overseas nationals that invest in their home country can be a crucial source of information due to their experience and professional networks abroad (Saxenian, 2005). They can provide

ideas that have been internationally tested and relationships for investing guidance (Vaaler, 2011). The transnational habitus of overseas nationals (Guarnizo, 1997; Vertovec, 2004) can fill the void in experiential global knowledge faced by emerging market domestic firms (Khanna & Palepu, 2000). Hence, since FDI (negative) assessment by family members reflects the degree to which they perceive the outcome of such investment as negative (Sitkin & Pablo, 1992), family's access to overseas nationals' information and understanding of international markets can modify family members' relative salience of FDI threats and opportunities (i.e., family risk perception).

Overseas nationals' dual orientation not only is at the bases of the existence of this additional information-processing capacity, but it also explains its potential access from the family. Diaspora members typically understand domestic business practices and share similar culture (Nielsen & Riddle, 2010). Retaining knowledge about their home countries, overseas nationals are able to "translate" their overseas experience to family members. This process can enhance the information available to family members and be in support of FDI decisions, leading to a more positive perception of FDI.

Based on these arguments, our hypothesis will be:

Hypothesis 3: Overseas national ownership will decrease the negative effect of family ownership on the extent of outward FDI.

Potential access to knowledge and linkages provided by foreign shareholders could reduce the uncertainty associated with FDI, thereby facilitating such a risk-taking decision by more risk-averse family members (Bhaumik et al., 2010). In this regard, overseas nationals would not differ from other foreign investors able to provide access to information and experience for the understanding and evaluation of international opportunities. Nevertheless, overseas nationals, relative to other foreign shareholders, differ in their incentives to provide potentially additional

information-processing capacity to other investors.

Not wholly-owned investments often represent a first way used by MNCs to entry into a new market and access local knowledge (Dunning & Lundan, 2007; Johanson & Vahlne, 1977). In particular, such a way to gain key information regarding local tastes, customers and distribution channels, local culture and local governmental policies and norms has been suggested to be predominant in entering less developed countries, which may require a different set of knowledge and resource endowments (Beamish, 1994; Hitt et al., 2000; Meyer, 2001). Accordingly, for a foreign corporate body having an equity stake in an emerging market firm represents an efficient preliminary way to *search* for information about the new local foreign context. On the other hand, we have already indicated that overseas nationals can be motivated to invest at home for non-pecuniary reasons such as emotional returns and social-status recognition (Gillespie et al., 1999; Nielsen & Riddle, 2010). In other words, investing in domestic firms at home can be perceived as a contribution to the future economic development of the country of origin. In this context, for overseas nationals having an equity stake in a domestic firm constitutes an opportunity to *provide* potential access to their own international information and experience to the other shareholders. Therefore, although both foreign corporate bodies and overseas nationals can be similar in the additional information-processing capacity they bring into the firm, the likelihood to access this additional information from family members is likely to be higher when overseas nationals are involved rather than foreign corporate bodies.

Moreover, overseas nationals, relative to other foreign shareholders, are likely to differ also in their ability to make intelligible their information and experience to family members. This is a direct consequence of overseas nationals being both local and international and, hence, as argued before to play a translator role.

Based on these arguments, we posit that overseas nationals can exercise a greater positive

effect on family's risk perception toward FDI than the influence carried out by foreign corporate bodies. This is because of overseas nationals' dual orientation. Accordingly, our hypothesis will be:

Hypothesis 4: Minority overseas national ownership will decrease the negative effect of family ownership on the extent of outward FDI more than minority foreign corporate ownership.

It is worth noting that the focus on foreign corporate bodies with minority shareholders is needed to isolate domestic firms from firms already belonging to an international network through inward FDI.

METHODOLOGY

Data and Sample

The *Prowess* database (2011 release) from the Centre for Monitoring of the Indian Economy (CMIE), an independent organization headquartered in Mumbai, provides annual financial data for over 7,000 Indian firms. The database has been used in the past to investigate strategy and international management issues (e.g., Chittoor et al., 2009; Elango & Pattnaik, 2007; Gubbi et al., 2010). To identify the outward FDIs made by Indian firms, we relied on the Zephyr database—maintained by Bureau van Dijk.

Since we are interested in understanding the internationalization behavior of domestic firms, we only analyze firms in which the ownerships held by foreign investors (corporate bodies or institutions) are lower than 10%. In other words, we only include domestic firms in which foreign ownerships (i.e. overseas nationals excluded) can be considered the result of portfolio investments, while we exclude Indian firms that can be the result of an inward FDI. In this choice, we follow the OECD recommendation that an ownership of at least 10% of ordinary shares or voting stock determines the existence of a direct investment relationship (OECD, 1996).

In such a case, the foreign investor as an effective voice in the management and the firm can benefit—at least partially—of the multinational network of the investor. Moreover, a firm (although partially) owned by a foreign enterprise can get access to its superior resources. This multinationality can reduce barrier to internationalization and facilitate FDIs (Dunning, 1988).

Our final sample consists of a cross-section of 2,447 Indian firms observed in 2010. We excluded firms with missing information about financial data and ownership structure and those firms with allegedly erroneous reported values—e.g. negative values of export intensity. For each of these firms we count the number of majority-owned cross-border acquisitions undertaken during the period 2000-2010 (extremes included). In the Zephyr database we found 619 majority-owned acquisitions (i.e. acquired stake bigger than 50%) made by Indian firms in the period 2000-2010 abroad. Removing the deals completed by individuals, unknown acquirers, and organizations not included in the Prowess database, we arrived to a total of 449 acquisitions undertaken by 380 firms. We then lost about two thirds of the observations due to missing values among the data in Prowess: the final number of acquisitions in our sample is therefore 136, undertaken by 90 firms.

The value of cross-border acquisitions by Indian firms in 2007 was over 11 billion USD with the number of deals that moved from seven in 1992 to 197 in 2007, according to Gubbi and colleagues (Gubbi et al., 2010). In the case of India, it is particularly insightful to focus on cross-border acquisitions, compared to other forms of investments, because they represent the largely preferred internationalization mode (Athreye & Godley, 2009).

Measures

The dependent variable, *cumulative outward FDIs*, captures the cumulative number of majority-owned cross-border acquisitions undertaken by each Indian firm during the period 2000-2010.

Our dependent variable assumes values from 0 to 10. In 2010 (our reference year) 90 firms had undertaken at least one majority cross-border acquisition in the past 11 years (2000-2010). The average number of cumulative cross-border acquisitions in 2010 per Indian firm is 1.5. More in detail, 68 firms in 2010 had undertaken 1 cross-border acquisition in the past 11 years; 13 firms had undertaken 2 acquisitions, 3 firms had invested 3 times, and other 3 firms had done so 4 times; three single firms had undertaken instead respectively a total of 5, 6 and 10 cross-border acquisitions. A total of therefore 136 acquisitions were undertaken during the period of time 2000-2010, according to our sample.

For each Indian firm, we define the following independent variables capturing the firm ownership structure. The variable *family ownership* captures the percentage of shares owned by local individuals belonging to Hindu Undivided Families, which is a legal entity defined by Indian law. The percentage of shares owned by individuals that are non resident Indians or persons of Indian origin resident abroad is captured instead by the variable *overseas national ownership*. It is important to note that we do not know the percentages of ownership of each single owner; we know however the total shares owned by each ownership category. For instance, the overseas national owners' group could include more than one overseas national investor, but we do not have access to details concerning the specific ownership for each of these investors. We know however how many shares the overseas nationals' category owns and we assume that these owners will behave homogeneously in terms of risk taking behavior and information-processing capacity, if compared to other ownership groups. In order to test hypothesis 4, we define the following variables. *Minority foreign corporate* is a dummy capturing the presence of portfolio investments (under 10%) by foreign corporate firms. Similarly, the dummy variable *minority overseas national* equals 1 when overseas national ownership is of minority type (under 10%).

We control for a number of factors that could impact the Indian firms' outward FDI behavior. First of all we control for two other possible ownership categories: domestic institutions and Indian government. The variable *domestic institutional ownership* measure the percentage of shares owned by Indian financial institutions, Indian mutual funds, Indian banks and insurance companies and other Indian institutions while the variable *state ownership* is the percentage of shares owned by the Indian government. We control for firm performance: *profitability* measures the return on capital employed (PBDITA). We also add to the model the dummy variable *group affiliation* that takes value 1 if the firm is affiliated to a business group, it is 0 otherwise. Firms' technological intensity is captured by the annual R&D expenses divided by total sales, normalized by the average technological intensity of the industry (*technological intensity*). The variable *advertising intensity* is measured as the firm's annual advertising, sales and distribution expenses, divided by total sales, normalized by the average advertising intensity of the industry. We account for the internationalization experience of the firm adding to the model the variable *exporting experience*, measured as the value of the natural logarithm of export activities, as a fraction of total sales. The variable *borrowing intensity* is the value of the total financing received by the focal firm from the group, from associated business enterprises or from governmental agencies (including secured and unsecured borrowings from governmental agencies and bonds issued in favor of governmental authorities), divided by the total liabilities. Following Chittor et al. (2009), we define the variable *international technological resources* as the sum of the royalty, technical know-how fees and license fees, the import of raw materials and capital goods. We control for the age of the firm (*firm age*), measured in terms of number of years from the firm's date of establishment and for its size. The variable *firm size* is the natural logarithm of the firm's total assets. Finally, we control for the industry the Indian firm belongs to. Since the firms in the sample span over several industries, we grouped the industries into classes

captured by the following dummy variables: *high-tech*, *medium-high tech*, *medium-low tech*, *low-tech*, *services* and *diversified industries*. To categorize the industries, we have followed the OECD classification (Hatzichronoglou, 1997). All independent and control variables are lagged by one year with respect to the dependent variable and therefore measured at 2009.

Results

The dependent variable used in this study is a count measure, proxing the cumulative number of outward FDIs undertaken by Indian firms from 2000 to 2010. Since our data have a preponderance of zeros in the actual count of outward FDI, our dependent variable includes many zeros. The Indian firms investing abroad represent indeed about 4% of the total firms in our sample (2,357 of 2,447 firms in 2010 had never invested in the previous 11 years). We handle this so-called "zero inflation" condition estimating a zero inflated negative binomial model (Greene, 2000). In particular, we explain the probability of the count dependent variable being equal to zero by the previous export experience of the focal firm. The reason for which we hypothesize that there might be firms that will always be zeros in our sample (therefore generating the phenomenon of zero inflation) is that after the main liberalizations in India (i.e. after 1991) different industries have been de-licensed in an incremental way. Therefore some firms during our period of analysis (i.e. from 2000 to 2010) might have not been able to internationalize, because of the obstacles that might have still been present in some of the industries they are active in. They would therefore be likely to be part of the always zero group.

Table 1 summarizes the descriptive statistics and correlations for all the variables used to test our hypotheses. No variables exhibit distribution or correlation problems.

Insert Table 1 about here

In Table 2, the results of the zero inflated negative binomial model are reported. The "inflate" section specifies the equation that determines whether the observed count is likely to be always zero. *Export experience*, which is the independent variable chosen for this purpose, is positive and significant in all specified models. We have performed the Vuong (1989) test, to check the actual existence of the "zero inflation" phenomenon. In other words, we test whether the zero inflated negative binomial model would actually be preferable to a regular negative binomial model. This test statistic has a standard normal distribution and the significant positive values (2.45 ($p<0.01$), 2.44 ($p<0.01$), 2.50 ($p<0.01$) and 2.48 ($p<0.01$) for the Models 1, 2, 3 and 4 respectively) indicate that the zero inflated negative binomial model is preferable. The marginal effects calculated for the Models 1, 2, and 4 (Table 2) are reported in Appendix, Table A1.

The results of the zero inflated negative binomial model support all the hypothesized relationships. In Model 2, the variable *family ownership* shows a negative and significant coefficient ($p<0.05$), indicating that the higher is the level of shares owned by family owners in the firm, the lower is the firm's involvement in outward FDI. Such a result is confirmed in the Models 2, 3 and 4. This gives support to hypothesis 1. More in details, based on incidence-rate ratios the expected decrease of level of the dependent variable given one standard deviation increase in the family ownership (i.e. 23%) would be about 34.6%. We find support for hypothesis 2: the coefficient of the variable *overseas national ownership* is positive and statistically significant across the different estimated models. Based on Model 1, a standard deviation increase of the level of overseas nationals' ownership (equal to 4%) will correspond to about 9.9% increase of the level of cumulative outward FDIs. Aligned with hypothesis 3, we observe also that the interaction term between *family ownership* and *overseas national ownership* is positive and significant ($p<0.05$). Model 4 shows finally that the interaction between *minority overseas national* and *family ownership* is significant and positive as expected ($p<0.01$) whereas

the interaction between *minority foreign corporate* and *family ownership* is not significant. These findings jointly support our hypothesis 4. In addition, we have also tested whether the coefficients of the two interaction variables are statistically different. The test confirms such a difference at a significant level of $p<0.01$. This supports hypothesis 4 as well.

Insert Table 2 about here

In order to reduce the number of unobserved effects in our empirical analysis, we added important control variables, which have been highlighted in the past by the literature. As far as these control variables are concerned, we find relationships aligned with the findings of other empirical works on firms' internationalization. For instance, firms with *past export experience* are more likely to undertake outward FDIs (e.g., Johanson & Vahlne, 1977). Given the potential greater amount of financial and managerial resources available, we confirm that bigger firms are also more likely to engage in international investments (Chen & Hambrick, 1995). The industry dummies suggest greater FDI involvement in high tech industries. On the other hand, the higher the level of state ownership, the lesser is the firm's involvement in outward FDIs: this is confirmed by previous literature that observes that the majority of Indian FDIs are conducted by private firms (Athreye & Kapur, 2009; Sun et al., 2012).

Robustness Checks

The dependent variable of this study is the cumulative count of the outward FDIs undertaken by Indian firms from 2000 to 2010. The ownership structure variables are observed at 2009. Accordingly, we are assuming that the ownership structure of the investing Indian firm is stable over the period 2000-2010. Unfortunately, we do not have access to data concerning the ownership structure of the Indian firms over these 11 years. However, we know the ownership structure of firms in our sample from 2006 to 2010. As a robustness check, we analyze the

changes in the ownership structure over the 5 years available. We observe that both family and overseas national shares have remained stable over these last 5 years. The majority of the firms do not change their ownership structure at all. When there are changes, shares increase or decrease on average by less than 1% from year to year. These results indicate stability during the 5 observable years.

A small group of firms in our sample are operating in regulated industries. After 1991 industrial licensing in India was incrementally abolished in many industries, including the infrastructure sectors, financial services, retail banking and insurance (Athreye & Kapur, 2001). After more than 20 years since then, according to the 2010 version of the Industries (Development and Regulation) Act (1951), only five industries remain nowadays under compulsory license, because of safety and strategic reasons.[2] The five industries are: distillation and brewing of alcoholic drinks; cigars and cigarettes made from tobacco and manufactured tobacco substitutes; electronic aerospace and defense equipments; industrial explosives; hazardous chemicals. Reasons and dynamics behind acquisitions (and strategic decision in general) undertaken by firms in these industries can be biased and reflect the peculiar structure of the industry. Accordingly, we excluded firms belonging to these industries and re-ran our analyses on the reduced sample. The results remain unchanged.

It could be important to verify whether the moderated role of overseas national ownership on the relationship between family ownership and FDI still holds when considering firms having majority family holdings. To check for this effect, we replaced the continuous variable capturing the share of the equity owned by families (*family ownership*) with a dummy variable that takes the value of 1 if the largest shareholder category is the family category. Using this new variable, the results of Models 1-4 reported in Table 2 remain largely unchanged.

[2] Source: http://dipp.gov.in/English/Archive/statannual/2009-10/chapter1.2.pdf.

Finally, zero inflated negative binomial model assumes that a set of the observations will always have the dependent variable equal to zero. In other words, an exogenous reason preventing some of our firms to undertake FDI should exist. We suggested that during the period 2000-2010 some firms might have not been able to internationalize, because of the obstacles related to the slow de-regulation of internationalization activities after the liberalization. However, if such an assumption does not hold, a valid alternative involves running an ordered probit model that fits models of ordinal dependent variables. The actual values taken on by the dependent variable are irrelevant, except that larger values are assumed to correspond to "higher" outcomes. The estimation by ordered probit model of our models does not affect our results.

DISCUSSION AND CONCLUSION

Governments, business press and academics are increasingly recognizing overseas nationals as important actors within and outside their country of origin. Attention has been paid to the effect of overseas nationals' remittance flows on the economic growth of their country of origin (Vaaler, 2011), the role of diaspora is spurring entrepreneurship in the host country or in the country of origin using ethnic social networks (Liu et al., 2010; Saxenian, 2005; Zaheer et al., 2009) and to returnees' effect on venture performance (Li et al., 2012). However, the role of overseas national on the FDI decision of firms located in the country of origin has remained largely unexamined in the literature. This work contributes to understand the role of diaspora in economic development of the country of origin by looking at additional firm level mechanisms through which such a positive effect can take place.

Drawing on recent work in IB that shows the need to analyze the link between firms' ownership structure and the decision to internationalize (Bhaumik et al., 2010; Fernandez & Nieto, 2006; Filatotchev et al., 2008; Lien et al., 2005), we posit that the presence of overseas

nationals in the ownership structure of a domestic firm can represent an important firm level mechanism through which diasporas can influence outward FDI. Pedersen and Thomsen (1997) have highlighted that the types of owners relevant for corporate strategy are likely to depend on the national and institutional context in which firms operate. Although overseas nationals' investors are becoming a growing phenomenon, also due to the new opportunities and economic growth in their countries of origin, such a type of ownership category has been overlooked in the literature, partly because of the focus of past research on specific empirical settings such as US, UK, continental Europe or Japan. Only recently strategic and international management have starting showing how the context of emerging markets is valuable to study phenomena that are not substantially observable in advanced market contexts. There are indeed important differences in institutions, microstructures and business environments between emerging and advanced market firms, which can have an influence on their internationalization (Narula, 2012).

Looking at overseas national ownership, we contribute to the literature studying the effect of ownership structure on the firm's internationalization (Bhaumik et al., 2010; Fernandez & Nieto, 2006; Filatotchev et al., 2008; Filatotchev et al., 2007). While we confirm the limiting effect that family ownership has on internationalization (i.e. negative relationship), at the same time we find that the under-researched but relevant ownership category of overseas nationals plays a key role in explaining the internationalization of domestic firms. While both family and overseas national investors face similar threats of capital loss, the effect of overseas national ownership on FDI decisions is positive because of what we define as overseas nationals' dual orientation. Specifically, overseas nationals have an *international orientation,* given by their venturing abroad: they have been personally exposed to the challenges of entering foreign environments in the past and, it can be argued, they have done so in a successful way, since they have been able to gain enough wealth to invest at least part of it in a home-country firm. At the

same time, overseas nationals show also a *domestic orientation*: a need to belong to their country of origin that favors remittances and the formation and maintenance of social ties (Nielsen & Riddle, 2010; Vaaler, 2011). Dual orientation of overseas nationals predicts higher risk propensity for international ventures and a reduced negative perception of FDI barriers and complexity. These are conditions that, creating a positive perception of FDI, can lead to a greater risk-taking behavior. This is suggested by our findings. It merits attention to note that we do not know where these overseas nationals are located. Examining how the effect of overseas national ownership on FDI differs depending on which country hosts the diaspora would be an interesting study for future research.

Our result—that the negative relationship between family ownership and FDI is reduced with the presence of overseas nationals in the firm ownership structure—contribute more directly to the literature on family businesses. The assessment of FDI by family owners is expected to be negative, as a consequence of family owners' high risk aversion when confronted with such a strategic decision (i.e. FDI perceived as negative due to the threat of loss of control or personal wealth). Firstly, in line with past literature, we empirically confirm this relationship (e.g., Bhaumik et al., 2010; Fernandez & Nieto, 2006). Secondly, applying key concepts from information-processing theory to the evaluation of the risk-taking behavior of family members, we indicate potential benefits associated to the additional information-processing capacity available in the firm given the presence of overseas national investors. The literature on family business and FDI has typically focused on the potential access of family members to additional information-processing capacity provided by foreign firms (Bhaumik et al., 2010; Filatotchev et al., 2007). Our study makes an important contribution to this literature.

On the one hand, the presence of overseas nationals in the ownership structure provides a potential access to relevant information by family members that allows new assessment of FDI

opportunities, and threats. In other words, family members come to evaluate FDI through the eyes of overseas nationals, which can distort family's perceptions of situational risks (Sitkin & Pablo, 1992; Sitkin & Weingart, 1995), in particular, as we argue and empirically find, by underemphasizing FDI risk. On the other hand, we compare the role of overseas nationals with that of foreign firms. Although the presence of foreign investors can facilitate the access to investment opportunities abroad, for instance through managerial input from the foreign investors (Bhaumik et al., 2010), overseas nationals differ from other foreign shareholders in their incentives to potentially provide additional information-processing capacity to other investors. Specifically, our finding of a weaker role for minority stake of foreign corporate bodies in positively moderating the negative relationship between family ownership and FDI (relative to minority stake of overseas nationals) is in agreement with the idea that foreign firms are more keen in using minority equity stake as a preliminary way to search for information about the new local foreign context (Beamish, 1994; Hitt et al., 2000; Meyer, 2001). Whereas overseas nationals—often motivated by non-pecuniary reasons, being able to understand domestic business practices and share similar culture (Gillespie et al., 1999; Nielsen & Riddle, 2010)—are more likely to favor other shareholders' access to their international information and experience. Therefore, although both foreign corporate bodies and overseas nationals can be similar in the additional information-processing capacity they bring into the firm, we show the need for greater attention to identify more fine-grained characteristics of the different investor categories, such as overseas nationals' dual orientation, in order to better understand how interdependency between different ownership categories may affect FDI decisions.

However, a limitation of our analysis might be that we are unable to consider the ownership stake of each single investor. For instance, the overseas nationals' group could include more than one overseas national investor, but we do not have the details for each of these investors.

Accordingly, we assume that homogenous types of investors will share similar strategic objectives and decision making horizons, following similar risk rationales (Douma et al., 2006; Pedersen & Thomsen, 1997; Thomsen & Pedersen, 2000). Moreover, although we control for the government ownership's influence in our empirical analysis, we do not include government ownership in our theoretical development. In emerging markets the local government continues to be an important investor. Since governmental-invested firms typically follow very different strategic objectives compared to other firms—governments have generally political aims such as the promotion of jobs and social welfare and are subject to pressures from local interest groups (Cuervo-Cazurra & Dau, 2009; Thomsen & Pedersen, 2000)—examining how government ownership interrelates with other ownership categories in influencing FDI may yield useful insights in future research.

Our results also provide interesting insights into the phenomenon of "brain circulation" or reverse brain drain (Saxenian, 2005). Overall, the international (ethnic) entrepreneurship literature has theoretically argued and empirically shown that returnees promote business development, technology growth and export activities (Filatotchev et al., 2009; Liu et al., 2010; Zaheer et al., 2009). However, we show that also the simple presence of overseas nationals in the ownership structure of a domestic firm is at least as relevant as the case of returnee entrepreneurs. In this way, we complement the work on the importance of diasporas by showing how migrants can also foster changes in the home country without actually returning to it. Accordingly, this result indicates that government investments aiming at attracting and supporting overseas nationals are worth the effort. Actually, governments should assess the effectiveness of their national immigration regimes in reducing obstacles in terms of double citizenship and integration of overseas nationals. Not all governments act in the same effective way, when it comes to attracting overseas nationals' investments. In the case of India, for example, even if the

government has sent “welcome signals” (Davis & Hart, 2010), overseas Indians still face some difficulties when it comes to investing back home. According to a PriceWaterhouseCoopers’ report (2010), NRIs’ investments have still to follow separate stricter limits of investments in some industries. Some authors claim also that the Indian government could do more to attract NRIs, and create better conditions to stimulate their investments (Saxenian, 2002).

Given the risk-taking behavior of overseas nationals and the potentially additional information-processing capacity they can provide to other investors—in particular to family risk-averse members—we should encourage governments to act more in favor of overseas nationals. Specific actions could aim at improving the communication of services, marketing events and investment promotion activities for diaspora members; other could pay particular attention to how the home market can be attractive to overseas nationals, since this has a direct effect on the extent of overseas nationals’ investments in domestic companies. As part of the “brain circulation”, the creation of supportive institutions and policies addressing overseas nationals is clearly fundamental.

For researchers interested in diaspora and FDI, cross-diaspora comparisons of ethnic group characteristics influencing risk-taking behavior and information-processing capacity could be interesting studies to pursue. Although there are similarities, we acknowledge indeed that there are also significant differences among and within different communities of overseas nationals. To those interested in different entry modes, our analysis has focused exclusively on acquisition. Since our empirical setting is India, we proxy FDI by wholly-owned acquisitions and we do not include in our analysis greenfield investments, a much less diffused entry mode among Indian firms (Athreye & Godley, 2009). However, greenfield investments play a much more important role in other contexts, such as China. Future research should assess this limitation and evaluate

how ownership-based mechanisms can be informative regarding the relationship between overseas nationals and FDI via greenfields or even through other forms of internationalization.

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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)
1)Cumulative outward FDIs $_{t-1}$																					
2)Family ownership $_{t-1}$	-.069																				
3)Overseas national ownership $_{t-1}$	.069	-.064																			
4) Minority overseas national $_{t-1}$	.041	-.033	.138																		
5) Minority foreign corporate $_{t-1}$	.057	-.067	.032	.164																	
6)Domestic financial institutional ownership $_{t-1}$	.093	-.181	-.020	.021	.055																
7)State ownership $_{t-1}$	-.010	-.147	-.016	-.019	-.012	.076															
8)Profitability$_{t-1}$	-.001	.043	-.0003	-.014	-.008	.010	-.004														
9)Group affiliation $_{t-1}$	.045	-.311	-.032	.048	.076	.245	-.066	-.012													
10)Technological intensity$_{t-1}$	.016	-.030	.004	.042	.048	.066	-.001	-.002	.001												
11)Advertising intensity$_{t-1}$	-.004	.050	-.008	-.009	.001	-.007	-.008	.005	.006	.020											
12)Exporting experience$_{t-1}$	.132	.022	.061	.0340	.030	-.0004	-.034	.008	.014	.025	.038										
13)Borrowing intensity$_{t-1}$	-.006	-.050	-.003	.011	-.007	.013	.081	.008	-.011	.005	.0003	.022									
14)International technological resources$_{t-1}$	.001	.027	.002	.008	.034	.074	.043	-.004	.044	-.001	-.004	.037	.013								
15)Firm age $_{t}$	-.006	-.119	.010	.011	-.0001	.235	.123	-.0003	.272	-.008	-.003	-.040	.014	.003							
16)Firm size$_{t-1}$	.185	-.148	-.027	.030	.070	.302	.255	-.020	.358	.024	.010	.121	-.019	.104	.194						
17)Medium-high tech $_{t-1}$	-.013	-.032	.021	.018	.009	.045	.004	.0002	.094	.006	.005	-.025	-.009	.0003	.135	.058					
18)Medium-low tech $_{t-1}$	-.032	.044	-.010	.006	.007	.043	.021	.010	-.022	-.052	-.023	-.013	-.016	.010	-.005	.121	-.174				
19)Low tech $_{t-1}$	-.041	.039	-.025	-.045	-.005	.036	-.020	.026	.038	.053	.013	.009	.004	-.019	.046	.047	-.172	-.298			
20)Services $_{t-1}$	-.055	.019	-.031	-.042	-.028	-.121	-.016	-.022	-.088	-.054	.025	-.051	-.028	-.019	-.110	-.221	-.178	-.308	-.304		
21)Diversified $_{t-1}$	.008	-.032	-.013	.016	-.015	.080	-.013	-.002	.100	.004	.003	-.021	-.005	-.002	.174	.078	-.031	-.054	-.053	-.055	
Mean	0.06	0.260	0.006	0.051	0.023	0.028	0.014	5.988	0.308	0.631	0.864	0.127	0.010	0.087	29.207	4.229	0.091	0.232	0.227	0.239	0.009
Standard deviation	0.377	0.229	0.041	0.219	0.150	0.060	0.103	194.44	0.462	6.569	6.024	0.300	0.153	0.486	17.419	1.967	0.288	0.422	0.419	0.427	0.097

Observation N. = 2,447.

Table 2. Ownership structure and the extent of outward FDI

	Model 1	Model 2	Model 3	Model 4
Family ownership $_{t-1}$	-1.330 (0.632) **	-1.339 (0.650) **	-1.848 (0.736) **	-1.820 (0.739) **
Overseas national ownership $_{t-1}$	2.705 (1.005) ***	5.642 (1.835) ***	2.354 (1.020) **	2.343 (1.026) **
Family ownership$_{t-1}$ × Overseas national ownership $_{t-1}$		0.002 (0.001) *		
Minority overseas national $_{t-1}$			0.660 (0.284) **	0.733 (0.288) **
Minority overseas national $_{t-1}$ × Family ownership $_{t-1}$			0.058 (0.014) ***	0.058 (0.014) ***
Minority foreign corporate $_{t-1}$	0.692 (0.302) **	0.651 (0.301) **	0.551 (0.293) *	0.139 (0.463)
Minority foreign corporate $_{t-1}$ × Family ownership $_{t-1}$				-0.029 (0.023)
Domestic institutional ownership $_{t-1}$	1.857 (1.234)	1.893 (1.225)	1.940 (1.163) *	2.027 (1.172) *
State ownership $_{t-1}$	-4.820 (1.566) ***	-4.812 (1.516) ***	-5.047 (1.593) ***	-5.014 (1.594) ***
Profitability$_{t-1}$	-0.002 (0.001) *	-0.002 (0.001) *	-0.002 (0.001)	-0.002 (0.001)
Group affiliation $_{t-1}$	-0.883 (0.289) ***	-0.907 (0.285) ***	-0.967 (0.295) ***	-0.999 (0.301) ***
Technological intensity$_{t-1}$	0.003 (0.007)	0.003 (0.006)	0.001 (0.007)	0.003 (0.006)
Advertising intensity$_{t-1}$	-0.028 (0.076)	-0.027 (0.075)	-0.019 (0.070)	-0.019 (0.070)
Exporting experience$_{t-1}$	0.240 (0.132) *	0.239 (0.133) *	0.237 (0.111) **	0.243 (0.110) **
Borrowing intensity$_{t-1}$	0.195 (0.343)	0.193 (0.346)	0.192 (0.362)	0.188 (0.367)
International technological resources$_{t-1}$	-2.415 (1.244) *	-2.410 (1.230) *	-2.671 (1.235) **	-2.702 (1.246) **
Firm age$_{t}$	-0.009 (0.005) *	-0.009 (0.005)	-0.010 (0.005) *	-0.010 (0.005) *
Firm size$_{t-1}$	0.800 (0.073) ***	0.804 (0.073) ***	0.828 (0.073) ***	0.825 (0.072) ***
Medium-high tech $_{t-1}$	-0.659 (0.324) **	-0.652 (0.324) **	-0.649 (0.327) **	-0.654 (0.324) **
Medium-low tech $_{t-1}$	-1.306 (0.289) ***	-1.311 (0.289) ***	-1.334 (0.284) ***	-1.342 (0.284) ***
Low-tech $_{t-1}$	-1.356 (0.304) ***	-1.344 (0.304) ***	-1.408 (0.290) ***	-1.412 (0.289) ***
Services $_{t-1}$	-1.826 (0.492) ***	-1.880 (0.476) ***	-1.960 (0.517) ***	-1.959 (0.517) ***
Diversified $_{t-1}$	0.440 (3.141)	0.499 (3.402)	-0.452 (0.809)	-0.472 (0.785)
Constant	-4.763 (0.583) ***	-4.782 (0.594) ***	-4.802 (0.573) ***	-4.781 (0.569) ***
Inflate equation				
Exporting experience$_{t-1}$	-7.1394 (2.749) ***	-6.840 (2.493) **	-6.848 2.396 ***	-6.854 2.367 ***
Constant	1.1478 (0.481) **	1.157 (0.501) *	1.090 0.332 ***	1.085 0.331 ***
Log pseudolikelihood	-340.811	-339.988	-334.064	-333.708
Wald chi2	283.96***	286.60***	285.26***	295.41***

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Observation N. = 2,447.

Appendix

Table A1. Zero inflated negative binomial: marginal effects[a]

	Model A1	Model A2	Model A3
Family ownership $_{t-1}$	-0.050	-0.049	-0.064
Overseas national ownership $_{t-1}$	0.102	0.208	0.082
Family ownership$_{t-1}$ × Overseas national ownership $_{t-1}$		.0001	
Minority overseas national $_{t-1}$			0.026
Minority overseas national $_{t-1}$ × Family ownership $_{t-1}$			0.002
Minority foreign corporate $_{t-1}$	0.026	0.024	0.005
Minority foreign corporate $_{t-1}$ × Family ownership $_{t-1}$			-0.001
Domestic institutional ownership $_{t-1}$	0.070		0.071
State ownership $_{t-1}$	-0.182	0.070	-0.176
Profitability$_{t-1}$	-.0001	-0.177	-.0001
Group affiliation $_{t-1}$	-0.033	-.0001	-0.035
Technological intensity$_{t-1}$	.0001	-0.033	.0001
Advertising intensity$_{t-1}$	-0.001	.0001	-0.001
Exporting experience$_{t-1}$	0.160	-0.001	0.142
Borrowing intensity$_{t-1}$	0.007	0.153	0.007
International technological resources$_{t-1}$	-0.091	0.007	-0.095
Firm age$_{t}$	-.0003	-0.089	-.0003
Firm size$_{t-1}$	0.030	-.0003	0.029
Medium-high tech $_{t-1}$		0.030	0.026
Medium-low tech $_{t-1}$			
Low-tech $_{t-1}$			
Services $_{t-1}$			
Diversified $_{t-1}$			

[a] All continuous variables at mean values and all categorical variables at benchmark values (industry=high tech).