

**Indirect Learning:
How Emerging Market Firms Grow in Developed Markets**

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**Indirect Learning:
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Some emerging market firms appear to have recently achieved substantial growth in developed markets despite having had little prior experience in these markets. What explains the performance of these firms? Building on the literature on organizational learning, the authors argue that indirect learning (i.e., learning from the experience of others) plays a crucial role in explaining this phenomenon. Specifically, they propose that emerging market firms that grow in developed markets overcome their lack of direct experience in how to compete in such markets by learning indirectly through their leaders, through competitors, and through inter-firm networks. The authors test their thesis by comparing the international growth in developed markets of a sample of emerging market firms (specifically 116 Indian firms) against a sample of developed market firms (specifically 160 UK firms). The results support the authors' thesis about the importance of indirect learning in explaining the international growth of emerging market (relative to developed market) firms in developed markets. The authors discuss the implications of these findings for policy makers in the areas of higher education, competition policy and international trade; and the implications for managers in the areas of middle management recruitment, competitor analysis and tracking, and managing inter-firm networks.

Keywords: International Growth, Emerging Markets, Developed Markets, Indirect Learning, Leaders, Competitors, Networks

Consider the case of Ranbaxy Laboratories, the Indian pharmaceutical firm. Like many of its peers from emerging markets, Ranbaxy did not generate any revenues from developed markets until 1989. By 2006, however, the firm earned 60% of its revenues from developed markets and had completed nine cross-border acquisitions in such markets. Ranbaxy's international growth in developed markets is hardly an isolated case; rather, it is part of a more widespread phenomenon. Taking note of the phenomenal growth of emerging market firms in developed markets, *The Economist* (2010) has observed that "many of the developing world's champions have risen from *zero to hero* in just a couple of decades".

Only a few firms, however, account for a significant proportion of the international growth of emerging markets in developed markets. For instance, between 1999 and 2008, only 7.82% of publicly traded firms from major emerging markets were involved in cross border acquisitions in developed markets (Rabbiosi, Elia and Bertoni 2012). The overall revenues from developed markets among emerging market firms are similarly lopsided, with only a few firms showing significant international growth in developed markets. This raises the following research question: Why do *some* emerging market firms achieve more revenue growth in developed markets than others?

The question of how firms grow is arguably one of the most important facing the marketing discipline (Srivastava, Shervani and Fahey 1998; Bharadwaj, Varadarajan and Fahy 1993). With the globalization of markets, the international aspects of such growth are of increasing importance to academics and managers alike (Steenkamp 2005). While substantial work has examined the international growth of firms from developed countries into emerging markets, there is very little research on the international growth of firms from *emerging* countries into *developed* markets (Gielens and Dekimpe 2007; Burgess and Steenkamp 2006). The Marketing Science Institute observes this gap and, in setting out its research

priorities for 2010-2012, stresses the need to understand the opportunities and threats posed by the international growth of emerging market firms.

The existing literature on the international growth of firms suggests that a major driver of such growth is firms' knowledge about how to compete in foreign markets (Johanson and Vahlne 1977; Barkema and Drogendijk 2007). An influential stream of research, based on the international growth of *developed* market firms, argues that these firms learn how to compete in foreign markets in an incremental manner - through their direct experience of foreign markets, which they accumulate over time (Barkema and Drogendijk 2007; Johanson and Vahlne 1977). This argument is unlikely, however, to hold for the international growth of emerging market firms in developed markets. This is because the context that emerging market firms faced when they internationalized was very different from the one that developed market firms faced when they did so. Specifically, internationalization generally happened much later and in a more compressed time period in emerging than in developed markets. As a result, the opportunity to learn directly from their own experience and in an incremental manner was generally lacking for emerging market relative to developed market firms. How then did some emerging market firms learn how to compete in developed markets in harsher competitive conditions and in a much shorter timeframe? We argue that, in contrast to their developed market counterparts who learned directly from their own experience, emerging market firms learned *indirectly* about how to compete in developed markets by acquiring this knowledge from three types of other entities: leaders, competitors, and other firms in the networks they belong to.

By studying the international growth of emerging market firms in developed markets, we seek to make three contributions. First, we respond to recent calls by eminent marketing scholars to do more research on emerging markets (Sheth 2011; Gu, Hung and Tse 2008). As Sheth states: "Research on emerging markets is not just a 'nice thing to do'; it is increasingly

becoming a necessity” (2011, p.180). Within the context of emerging markets, we shed light on an understudied phenomenon that is important in scale and potential: the international growth of firms from these markets in developed markets (Burgess and Steenkamp 2006). Most research on the international growth of firms has so far only examined the expansion of firms from developed markets. But, as we argue above, theories based on the international expansion of firms from developed markets are unlikely to directly apply to firms from emerging markets, given the very different nature of emerging markets and the firms that come from them. Thus our paper is very much in the spirit of Burgess and Steenkamp (2006, p. 338) who state that: “Emerging markets’ institutional contexts present significant socioeconomic, demographic, cultural, and regulative departures from the assumptions of theories developed in the Western world and challenge our conventional understanding of constructs and their relations.”

Second, we contribute to the organizational learning and international marketing literatures by applying the former to the latter, and thereby offering new substantive insights. We argue and demonstrate – to the best of our knowledge for the first time - that indirect learning is more important than direct learning for the international growth of emerging market firms in developed markets. Conversely, we show that direct learning is more important than indirect learning for the international growth of developed market firms in other developed markets. Prior research (which has focused on the growth of developed market firms) has emphasized the importance of direct learning while neglecting the role of indirect learning (Barkema and Droogendijk 2007; Johanson and Vahle 1977). Our paper attempts to correct this imbalance.

We also advance the international marketing literature by making two methodological contributions. First, we exploit an exogenous change in Outward Foreign Direct Investment policy in the emerging country we consider (namely India) to address the problem of

endogeneity that dogs much research in the field of international marketing (Herrmann and Datta 2005; Reeb, Sakakibara and Mahmood 2012). As far as we are aware, this is the first time such an exogenous policy shift has been used to address endogeneity in the context of the international growth of emerging market firms. The exogenous shift that India experienced was sudden, dramatic, unanticipated, and allowed the internationalization of Indian firms. It therefore enables us to study the internationalization of Indian firms practically from the birth of the phenomenon and to ensure against an unobserved variable (such as the firm's intention to internationalize in developed markets) influencing both our key independent variables (e.g., choosing leaders with developed market experience) and the dependent variable of interest (international growth in developed markets). Second, we compare our results for Indian firms with data on firms from a developed country (the UK). Doing so allows us to show that indirect learning is uniquely important for the international growth of firms from emerging markets, as opposed to being a generic driver of international growth. Such a comparative counterfactual analysis is novel in the international marketing literature and, more specifically, in the context of international growth.

THEORY AND HYPOTHESES

In this section we develop theory and hypotheses that seek to address the question of why some emerging market firms achieve more international growth in developed markets than others do. We begin by describing the context in which emerging market firms internationalized and how this was different from the context for developed market firms. Next we develop our theoretical anchor around the concept of organizational learning and argue that such learning can be of two types: direct and indirect. We then develop our thesis that indirect learning provides an important means for emerging market firms to gain knowledge of how to compete in developed markets, in contrast to developed market firms that typically did so through a process of direct learning. We define indirect versus direct

learning and describe the different sources of indirect learning for emerging market firms. We end with hypotheses about the impact of the different sources of indirect learning on the international growth of emerging market firms in developed markets.

The Context of Internationalization: Emerging Market versus Developed Market Firms

The world that emerging market firms faced when they internationalized into developed markets was very different from the one that developed market firms faced when they did so. First, when emerging market firms began to internationalize into developed markets (in the 1980s and 1990s), they confronted a world that had already witnessed dramatic improvements in communications and transportation technology, and offered unprecedented access to developed markets through the dismantling of trade barriers (Ghemawat 2011). Emerging market firms therefore faced far more intense competition from firms that were already proficient in operating across developed markets (Luo and Tung 2007). Specifically, emerging market firms were under time pressure to catch up with their *developed* and *emerging* market counterparts in growing internationally in developed markets. In contrast, when developed market firms first internationalized (decades earlier), they faced much less international competition in the markets they entered (Wan and Hoskisson 2003; Dunning 1981).

Second, when emerging market firms began to internationalize, they generally came out of closed economies that had been shielded from global competition (Hitt et al. 2000). Emerging market firms therefore faced a disadvantage in competitiveness relative to developed market firms. In contrast, when developed market firms internationalized, they had already operated in fairly open and competitive markets, and did not have the same relative disadvantage. Specifically, when emerging market firms internationalized, they had far less direct experience of open and competitive markets in comparison to their developed market counterparts (Sheth 2011; Burgess and Steenkamp 2006; Wan and Hoskisson 2003).

Third, when emerging market firms began to internationalize, they came out of economies with institutional weaknesses, specifically in terms of poorly functioning capital, labor and information markets (Khanna and Palepu 2000). In contrast, when developed market firms internationalized they typically did so from more developed institutional contexts. As a result, emerging market firms faced two disadvantages in developed markets relative to developed market firms. They faced higher transaction costs of exchange within their home economies, which in turn made them less competitive globally. Moreover, they had relatively little direct knowledge of how to compete in foreign markets, especially markets with more developed institutions, and they did not have the luxury of time to acquire this knowledge in an incremental manner through their own experience in such markets (Gu, Hung and Tse 2009; Kumar, Mohapatra and Chandrasekhar 2009).

Direct versus Indirect Organizational Learning

How then did some emerging market firms overcome these limitations and learn how to compete in developed markets in much harsher competitive conditions and in a much shorter time? We frame our answer to this question around the theoretical anchor of *organizational learning*. Organizational learning can be of two types: direct versus indirect (Argote and Miron-Skeptor 2011). Direct learning in organizations occurs from the organization's own experience. In contrast, indirect learning is organizational learning that occurs through the observation, incorporation and sharing of others' experience.¹

In the context of this paper, indirect learning about developed markets by a focal firm occurs when the firm learns through the observation, incorporation and sharing of others' experience of developed markets. We argue that indirect learning (in contrast to direct learning) helps some emerging market firms learn how to compete in developed markets by

¹ Our construct of indirect learning is related to other constructs used in the literature such as vicarious learning. Note, however, that vicarious learning is gained from other entities *outside* the firm (see Kim and Miner 2007; Manz and Sims 1981; Srinivasan et al. 2007). Indirect learning is a more general construct because it includes both vicarious learning as well as learning through the experience of individuals or entities such as executives who become part of the firm and bring their own learning with them.

helping them acquire this knowledge through the experience of other entities. Drawing on existing literature, we argue that indirect learning in firms can happen through individuals, competitors and networks (Srinivasan, Haunschild and Grewal 2007; Kim and Miner 2007; Manz and Sims 1981). Specifically, we argue that emerging market firms gain knowledge of how to compete in developed markets through their indirect learning from: (1) individual leaders, specifically CEOs, with education and work experience from developed markets; (2) industry competitors, specifically developed market competitors in domestic markets, domestic competitors in developed markets, and global competitors in global markets; and (3) network members operating in developed markets.

We now develop hypotheses linking indirect learning through leaders, competitors and networks to the international growth of emerging market firms in developed markets.

Indirect Learning from Leaders and International Growth in Developed Markets

Leaders with education and work experience from developed markets play a particularly important role in the international growth of emerging market firms (Herrmann and Datta 2005; Sambharya 1996). First, leaders' managerial discretion, i.e., their ability to make unilateral decisions, is particularly high in emerging market relative to developed market firms (Guillen 2000; Crossland and Hambrick 2011). Specifically, the weak enforcement of corporate governance laws in emerging markets makes it easier for leaders to drive decision making within their firms (Guillen 2000). Thus leaders with education and work experience from developed markets can ensure that their knowledge of developed markets has a substantial influence on decisions related to the international growth of the firms they lead.

Second, the origins of emerging market firms are in highly protected economies that constrain the extent to which these firms have direct experience of developed markets relative to their developed market counterparts. For this reason, the knowledge and experience that their leaders bring from other contexts (through their education and experience from

developed markets) is particularly important for emerging market firms. Moreover, such education and experience is less common among leaders of emerging market relative to developed market firms. This in turn makes such education and experience a novel, relatively inimitable resource for some emerging market firms, giving it greater importance in their international growth. Specifically, education and work experience in developed markets gives leaders of emerging market firms a better understanding of what it takes to enter and compete in developed markets (Hitt et al. 2000). Leaders with such education and experience have a better understanding of the institutions that underpin business in developed markets. They also have first-hand awareness of the quality of products available in developed markets and therefore of the improvements that their emerging market firm must make to match the expectations of developed market customers. More generally, such leaders, through their keener appreciation of the opportunities and challenges of developed markets, are able to make these salient to other decision makers within the firm (Herrmann and Datta 2005; Sambharya 1996). In light of these arguments, we hypothesize that:

H₁: Emerging market firms that have leaders with education and work experience from developed markets will exhibit greater international growth in developed markets than other emerging market firms.

Indirect Learning from Competitors and International Growth in Developed Markets

Emerging market firms can also learn indirectly about how to compete in developed markets from competitors within their industry. Specifically, they can learn by observing the activities of developed market competitors in domestic markets, the activities of domestic competitors in developed markets, and the activities of global competitors in global markets.

When the process of liberalization in emerging markets began, the initial contact between developed and emerging market firms was in emerging markets themselves. This was because, as industry sectors within emerging markets opened up to international competition, firms from developed economies were more prepared to move across markets

due to their superior experience with internationalization (Johanson and Vahle 1977; Dunning 1981). In the next phase of the liberalization of their economies, as state controls were further lifted, some emerging market firms from outward-looking industries began to venture into developed markets (Elango and Patnaik 2007; Pradhan 2007). And in the final phase, as they grew even more global and ambitious, some emerging market firms began to benchmark themselves against industry-wide competitors in global markets (Boston Consulting Group 2011). The global competitors of the final phase were typically different from the developed market competitors of the first phase in being far more dominant in major markets of the world and being more at the cutting edge of their respective industries. For example, while competitors in the first phase might have been, say, Dutch firms with a presence in India, those in the final phase would have been US or Japanese firms with dominance in most large markets of the world. In the hypotheses below, we apply insights from these phases of competitive interaction to discuss the impact on the international growth of emerging market firms in developed markets.

Indirect learning from developed market competitors: When firms from emerging markets began to internationalize into developed markets, they were typically at a disadvantage relative to developed market competitors within their industry in terms of technology, marketing and innovation, and general business processes (Wright et al. 2005). One way they could overcome this disadvantage was to learn indirectly from developed market competitors who operated in their domestic markets. Specifically, they could learn about what technologies to invest in, how to manage brands, make better product decisions, and develop superior business processes from their developed market competitors who possessed more advanced knowledge on these dimensions. This indirect learning would in turn allow some emerging market firms to develop the brands, products, technologies, management skills and business processes they needed to compete in developed markets.

Indirect learning from developed market competitors was more likely in sectors where such competitors are more prominent in the domestic market. For example, Chinese telecom equipment companies such as Huawei and ZTE had greater opportunities to learn about brands, products and technologies and hence to compete in developed markets by observing the actions of developed market competitors such as Nokia-Siemens Networks operating in China. Drawing on these arguments, we hypothesize that:

H_{2a}: Emerging market firms that have greater exposure to developed market competitors in their domestic market will exhibit greater international growth in developed markets than other emerging market firms.

Indirect learning from domestic competitors: Emerging market firms seeking to internationalize into developed markets can also learn indirectly from their domestic competitors operating in developed markets. Specifically, some emerging market firms can observe how their domestic competitors cope in developed markets despite possessing weaker brands and inferior technology in comparison to their developed market counterparts. Because they interact closely with other domestic competitors in their industry, some emerging market firms can observe, for instance, how their domestic peers overcame these disadvantages through the purchase of developed market brands and technology.

Such indirect learning by observing domestic peers in developed markets is more likely in industries that are farther along in their international growth and more closely integrated into developed markets. Such industries provide follower firms greater opportunities to indirectly learn about developed markets by observing the activities of their leading domestic peers. For example, the Indian IT industry (which is closely integrated into developed markets) has a host of companies that have learned how to grow in developed markets by observing and incorporating the approaches of leading domestic competitors such as Wipro and Infosys (Kumar, Mohapatra and Chandrasekhar 2009). Thus we hypothesize that:

H_{2b}: Emerging market firms that have domestic competitors with greater developed market experience will exhibit greater international growth in developed markets than other emerging market firms.

Indirect learning from global competitors: Emerging market firms can learn indirectly about how to compete in developed markets by observing the activities of a third type of competitor: truly global firms that dominate their industry in global markets. Truly global, dominant firms act as role models for other firms in their industry that aspire to a global presence. Emerging market firms with global aspirations are particularly likely to look to such firms for inspiration and learning.

In industries where dominant global firms loom large, the activities of these global behemoths are more salient. Moreover, the gap between emerging market firms and their leading global competitors is so great in terms of brands, products and technologies that this provides the emerging market firms greater opportunities to learn what it takes to compete globally. For example, Tata Steel, an Indian steel manufacturer that operates in the concentrated global steel industry, learnt indirectly about international expansion by studying the international expansion of Arcelor Mittal, the world's largest steel manufacturer (Kumar, Mohapatra and Chandrasekhar 2009). Hence, we hypothesize that:

H_{2c}: Emerging market firms in sectors with large global competitors will exhibit greater international growth in developed markets than other emerging market firms.

Indirect Learning from Networks and International Growth in Developed Markets

Finally, emerging market firms can also learn indirectly about how to compete in developed markets through firms in their networks that operate in developed markets. The most common form of inter-firm networks in emerging markets are business groups. A business group is “a set of firms which, though legally independent, are bound together by a constellation of formal and informal ties and are accustomed to taking coordinated action” (Khanna and Rivkin 2001, p. 47). Although business groups can also be found in developed markets, they are particularly common in emerging markets (Khanna and Palepu 2000;

Khanna and Rivkin 2001; Elango and Patnaik 2007). The relatively inferior institutions of emerging markets result in poorly functioning capital, labor and information markets, which in turn increase the transaction costs of doing business in emerging markets. Business groups, by setting up internal markets for capital, labor and information, are able to reduce these costs and the overall disadvantage of doing business in the face of poor home country institutions (Khanna and Palepu 2000; Khanna and Rivkin 2001).

Three aspects of business groups make them a relevant source of indirect learning about how to compete in developed markets. First, member firms within business groups are bound by ties such as cross shareholding, interlocking directorates, and social relationships. These ties provide member firms with privileged access to one another's knowledge of what works in developed markets (Yiu et al. 2007). Moreover, there is a core administrative entity within business groups that provides common administration and managerial coordination (Yiu et al. 2007). This in turn facilitates better learning between member firms. Finally, member firms operate in different industries—some of which have greater exposure in developed markets than others—and this in turn facilitates learning across sectors.

Emerging market firms in networks can learn indirectly about how to compete in developed markets in at least two ways (Elango and Patnaik 2007). First, the direct experience of other member firms in developed markets provides first-hand knowledge of what it takes to achieve success as well as avoid failure as firms plan and execute their own growth in developed markets (Elango and Patnaik 2007). For instance, firms can learn how to leverage the existing relationships of network members to learn through them about developed market customers and suppliers.

Second, firms in business groups can benefit from the experience of member firms in other industries that may be farther along in their international growth in developed markets and more closely integrated into developed markets. By their very nature, business groups

operate in multiple industries (Khanna and Palepu 2000). Some industries face the challenges and opportunities of developed market competition earlier than other industries do. Managers of a firm planning to operate in developed markets in a particular industry can learn about best practices from member firms that have achieved greater international growth in more competitive or leading edge industries. Given these arguments, we hypothesize that:

H₃: Emerging market firms that have network members with greater developed market experience will exhibit greater international growth in developed markets than other emerging market firms.

Any empirical approach that seeks to test the hypotheses above should ideally address two challenges that have been endemic to the study of international growth. First the empirical approach should permit us to rule out alternative explanations for the international growth of emerging market firms in developed markets (i.e., explanations other than our indirect learning explanation) and enable us to account for potential sources of bias due to endogeneity (see Herrmann and Datta 2005; Reeb, Sakakibara, and Mahmood 2012). Second, the empirical approach should demonstrate that the indirect learning variables we propose are uniquely important to emerging market firms, and are not simply generic variables that also apply to the international growth of developed market firms.

The empirical approach we describe below seeks to address each of these challenges. Endogeneity due to omitted variables is a concern because it is possible that an unobserved (and difficult to measure) factor—intention to internationalize in developed markets—could influence our independent variables (i.e., the indirect learning variables) as well as the dependent variable (international growth in developed markets). Any empirical approach that does not account for this potential source of endogeneity in indirect learning will likely yield biased estimates. We address the issue of endogeneity by choosing an empirical context that witnessed an exogenous and unexpected policy shock. We make use of this exogenous shock to rule out the most obvious sources of endogeneity. Moreover, we account for unobserved

variance due to firm-specific and time-specific factors by tracking the same firms over time and by accounting for unobserved heterogeneity in our model specification.

We show the unique importance of our indirect learning variables to emerging market firms in two ways. First, we control for several factors that have been suggested in the prior literature to be important to the international growth of firms in general. We then examine whether the effects of the indirect learning variables that emanate from our theoretical framework persist even after we control for the previously studied factors. Second, we not only examine the significance of our indirect learning variables for a sample of emerging market firms, but we also do so for a counterfactual sample of developed market firms (see Reeb, Sakakibara, and Mahmood 2012). By estimating the effects of these variables in both contexts separately and by pooling both the samples, we are able to assess the relative importance of indirect learning in each context. This approach allows us to examine whether our indirect learning explanation is uniquely important to emerging market firms or simply a generic explanation for the international growth of firms. The next section describes our empirical approach in more detail.

METHOD

Empirical Context

We test our hypotheses on a sample of firms from an important and representative emerging market: India. To contrast our results for India against a counterfactual, we also collect data from a developed economy: the UK. We now discuss our choice of India and then discuss why the UK provides an appropriate counterfactual to the Indian context.

India. India provides an ideal empirical context in which to test our hypotheses for three reasons. First, it has in recent years been one of the fastest growing emerging economies in the world, with many firms that are making their presence felt globally. For instance, the Boston Consulting Group's Global Challengers report of 2011 places 20 firms from India in the top 100 firms from emerging markets with significant international growth.

Second, in the Indian context, international growth has largely been driven by non-state owned firms, making our data and findings more representative of firm-based drivers of growth (as opposed to growth due to state patronage). For instance, all 20 Indian firms in the BCG Global Challengers report of 2011 are publicly traded, non-state owned firms. The context of non-state owned, publicly traded firms ensures that the international growth of firms in our sample is more likely to be driven by a profit maximization motive. International growth by state owned enterprises, in contrast, might be driven by more nationalistic motives like fortifying economic influence regionally and globally, thus representing a different phenomenon from the one we wish to study.

Finally, the Indian context provides an institutional setting in which it is easier to make robust inferences. Restrictions on the international growth of domestic firms in India were lifted fairly recently. Specifically, India experienced a well-documented, sudden and unanticipated Outward Foreign Direct Investment (OFDI) policy shift in May 1999 when Indian firms were first allowed to internationalize *without consent* from the Indian government, *without repatriation* of the amount invested abroad, and with a *rise in upper limit* for foreign investment from \$2 million to \$15 million (Government of India 1999; Pradhan 2007). This OFDI policy shift was so important that it resulted in a steep rise in the developed market revenues of Indian firms (see Figure 1 which presents inflation-adjusted average annual revenues in US dollars for our sample of firms). This OFDI policy shift also provides two specific advantages. First, since the shift happened in the recent past, it presents an opportunity to study the international growth of emerging market firms in developed markets practically from birth, i.e., from the moment that serious internationalization first became possible (Pradhan 2007). Second, the policy shift allows us to alleviate concerns due to endogeneity. Despite other liberalizing reforms that had been put in place since 1991 (when India's economy began to open up), stringent restrictions on outward foreign direct

investments remained an article of faith within Indian policy circles throughout the 1990s. The presence of these restrictive policies on Indian firms until the late 1990s enables us to ensure against an unobserved variable (such as the firm's intention to internationalize in developed markets) influencing two of our key independent variables (choosing leaders with developed market experience, or even choosing industries with competitors who have developed market experience) as well as the dependent variable of interest (international growth in developed markets). Specifically, the sudden and unanticipated removal of restrictions in 1999 significantly reduces the likelihood of firms having an intention to grow in developed markets prior to 1999 and thus choosing leaders or industries that would promote international growth in developed markets.

United Kingdom. An ideal test of our thesis would involve comparing the results for our emerging market sample against those of a counterfactual developed market sample (Reeb, Sakakibara and Mahmood 2012). Specifically, we would need to compare our results for the emerging market (India) against firms from a comparable developed (i.e., non-emerging) market which did not go through the policy shift that the Indian firms went through.

We choose the UK to provide this counterfactual for the following reasons. First, it has been a very long time since firms from the UK firms have faced restrictions on going international. Indeed, UK firms have actively ventured into and grown in international markets since as far back as 1600, when the East India Company received its Royal Charter (UK National Archives 2013). Thus, while India discouraged and even prevented its firms from venturing into international markets until 1999, the UK has encouraged its firms to venture into international markets for several centuries. Second, the UK represents a developed economy with well-developed institutions such as efficient capital, labor, and information markets. This provides a contrast to India which, as an emerging market, has relatively poorly functioning institutions. These two differences between India and the UK

capture the very different circumstances under which emerging market firms internationalized relative to their developed market counterparts.

Third, while UK firms provide an important contrast to firms from India, these countries also have two important commonalities that provide us with somewhat comparable samples. Both in India and the UK, international growth has largely been driven by publicly traded non-state owned firms, making our findings more representative of firm-based drivers of growth. Further, India and the UK have economies of a comparable size: the Indian GDP in 2012 was \$1.8 trillion while the UK GDP in 2012 was \$2.4 trillion (IMF 2013).

Data and Sample

We compile two archival databases (one for India and one for the UK) spanning 10 years (1999-2008) from multiple sources (see Table 1). We use the BSE 500 index of the Bombay Stock Exchange as the population to draw our Indian sample from and the FTSE 350 index of the London Stock Exchange as the population to draw our UK sample from. Both indices capture almost the full value of the stock market: the BSE 500 index comprises 93% of the market capitalisation of the Bombay Stock Exchange and the FTSE 350 comprises 90% of the market capitalisation of the London Stock Exchange. Data on all the variables for the 10 year period (1999-2008) for the firms on the BSE 500 and FTSE 350 were available for 384 (76.8%) and 313 (89.4 %) firms respectively.

We apply three filters to our population of 384 Indian and 313 UK firms to arrive at our final sample. First, we follow previous studies (e.g., Chittoor et al. 2009) and remove firms that are subsidiaries of foreign multinationals from both the population of Indian and UK firms. By doing so, we ensure that we compare a sample in which all firms are from emerging markets with a sample in which all firms are from developed markets. This results in us dropping 84 and 82 firms from the Indian and UK samples respectively. Second, we omit state owned firms from the samples since, as we note earlier, such firms do not always

pursue a profit maximization objective and are therefore not representative of the phenomenon we wish to study. This results in us dropping 48 and 0 firms from the Indian and UK samples respectively. Third, we drop firms classified as financial institutions from both the population of Indian and UK firms. Such firms are regulated by central banks, making them unique and non-representative of the phenomenon we wish to study. Doing so results in us dropping 38 and 71 firms from the Indian and UK samples respectively, giving us a sample of 214 Indian and 160 UK firms. From this we drop a further 98 Indian firms that were established after 1992. 1992 was a watershed year in Indian macro-economic policy; major changes were implemented that lowered state intervention and boosted private enterprise. Firms established after 1992 operated in a liberal, highly competitive economic environment from birth, while firms established before 1992 operated in a protected environment. As the firms established after 1992 are non-representative of the phenomenon we wish to study, we remove them to achieve a final sample of 116 Indian firms.

We track these firms over a period of 10 years from 1999 to 2008, and collect data on 13 variables from 9 different sources. Table 1 lists the conceptual variables, the measured variables and the data sources we use. We describe each of our measures next.

Dependent Variables

International growth in developed markets (GROWDEVMARK): Following the bulk of prior research, we use revenues in developed markets to calculate our measure of international growth in developed markets in both our Indian and UK samples (Ramaswamy, Kroeck, and Renforth 1996). We record revenues in developed markets annually for the years 1999 to 2008. We then convert the data to US dollars (USD) using the relevant exchange rates. We adjust for inflation by dividing revenues by the consumer price index (in both India and UK) with the base year as 1998. We then apply a logarithmic transform to this inflation adjusted value to reduce the difference between extreme values. Since a logarithmic transform is not

possible for revenues with a value of zero, we add a negligible value (0.00001 to be precise) to all revenue figures before we perform the transformation. We then calculate the final measure of international growth in developed markets for both the Indian and the UK samples by measuring the first difference of the log transformed revenues in developed markets. The first difference of a log transformed series provides a good measure for growth (year on year percentage change in revenues) of the original series.² In using such a measure to capture growth, we follow extensive past research in marketing and elsewhere (see Fornell, Rust and Dekimpe 2010; Fama 1965; Barro and Sala-i-Martin 1992).

We also use an alternative measure of international growth - log transformed revenues in developed markets - and repeat our analysis with this measure. Our results hold for this alternative measure, as we report in the additional analysis section of the paper.

Independent Variables

Indirect learning from leaders (LEADERIL): Of the firm's leaders, the CEO has a disproportionately large influence on strategic decision making within the firm (Hambrick and Mason 1984). International growth is a major strategic issue, and is likely to involve the CEO in a significant way. Moreover, CEOs enjoy particularly high managerial discretion in emerging markets (Guillen 2000; Crossland and Hambrick 2011). For these reasons, we measure indirect learning from leaders by focusing on the background of the CEO.³

In the context of the international growth of emerging markets firms, a key aspect of indirect learning from leaders is the developed market experience of these leaders. Following extensive past research, we operationalize developed market experience by measuring CEOs' educational and work experience in developed markets (Hambrick and Mason 1984;

² Growth in variable x between period t and period $t-1$ is calculated as $Growth(g) = (x_t - x_{t-1})/x_{t-1}$ which is equivalent to $x_t/x_{t-1} = 1+g$. Log transformation of both sides of the expression gives us the expression $\log(x_t) - \log(x_{t-1}) = \log(1+g)$. Using Taylor Series we re-write $\log(1+g)$ as $g - g^2/2 + g^3/3 - g^4/4 \dots$. This expression can be approximated to $\log(1+g) = g$. Therefore growth of a variable can be approximately measured as a first difference of the log transformed variable, i.e., $g = (x_t - x_{t-1})/x_{t-1} = \log(x_t) - \log(x_{t-1})$.

³ Our results are robust to replacing the CEO by the Chairperson.

Herrmann and Datta, 2005; Sambharya 1996). This is an appropriate measure for two reasons. First, education and work experience from developed markets broaden the cognitive horizon of CEOs and make them aware of customers, competitors and regulations in developed markets (Sambharya 1996). Second, demographic measures like education and work experience provide comprehensiveness, objectivity, parsimony, predictive power and testability (Hambrick and Mason 1984).

Collecting biographical information on the early lives of CEOs in India and UK is a tedious and time consuming task that requires careful piecemeal investigation across many sources. In an ideal world, we would have accurate and detailed (continuous) data for all the CEOs in all the firms we study. In reality, however, it is virtually impossible to get such data and we are faced with a choice between including only continuous variables for a limited set of firms versus including slightly coarser measures for a more complete set of firms. To maximize data coverage across firms while minimizing information loss due to coarse measures, we triangulate across four separate measures. We standardize each of these measures across the focal firm's industry and then consolidate by summing across the four standardized measures to generate our final measure of indirect learning through CEOs' developed market knowledge.⁴ The details of the measures are as follows:

- a. *Extent of international education*: Score of 1 if number of years of developed market education is less than 1 year; score of 2 if number of years of developed market education is between 2 and 5 years; and score of 3 if number of years of developed market education is greater than 5 years.
- b. *Extent of international experience*: Score of 1 if number of years of developed market experience is less than 1 year; score of 2 if number of years of developed market experience is between 2 and 5 years; and score of 3 if number of years of developed market experience is greater than 5 years.
- c. *Level of international education*: Score of 1 if the CEO had pre-undergraduate level education in developed markets; score of 2 if the CEO had undergraduate level education in developed markets; and score of 3 the CEO had postgraduate level education in developed markets.⁵
- d. *Level of work experience*: Score of 1 if a person had operational level experience in developed markets; score of 2 if a person had tactical level of experience in developed markets; and score of 3 if the person had strategic level experience in developed markets.⁶

⁴ Robustness checks show that our results hold for a simple dichotomous measure of whether or not the CEO had international education or experience; the results also hold for unstandardized measures and a measure standardized across all industries.

⁵ Our results also hold if we assign a score of 1 for CEOs with a pre-undergraduate level of education and a score of 2 for CEOs with an undergraduate and beyond level of education.

Indirect learning from developed market competitors in the domestic market

(DEVCOMPIL): To measure indirect learning from developed market competitors we use the market share of all publicly held developed market competitors in the domestic market (i.e., a ratio of the sum of revenues of all publicly held *developed market* competitors in the domestic market to the sum of revenues of all publicly held competitors in the domestic market). This measure is a proxy for the extent of developed market competition in the focal firm's home market (Elango and Patnaik 2007). The greater this competition, the greater the knowledge of developed markets that exists in the domestic market, and the greater in turn the extent to which firms can learn from such competitors. We add a small value (0.00001) to the revenue figures and do a log transform to reduce the difference between extreme values.

Indirect learning from domestic competitors (DOMCOMPIL): We sum the developed market revenues of the top 3 publicly listed domestic competitors of a firm to measure indirect learning from domestic competitors. This measure is a good proxy for the extent of a firm's domestic competitors' developed market activity (Elango and Patnaik 2007; Chittoor et al 2009): the greater this value, the greater the extent to which emerging market firms can learn indirectly from such competitors. We add a negligible value (0.00001) to the relevant revenue figures and perform a log transform to reduce the difference between extreme values.

Indirect learning from global competitors (GLOBCOMPIL): We measure indirect learning from global competitors using the sum of the revenues of the top 3 global competitors of the focal firm: the greater this value, the greater the extent to which emerging market firms can learn indirectly from such competitors. We identify the top 3 global competitors by matching the Standard Industrial Classification (SIC) between the focal firm and the global competitors and then selecting the top 3 firms. For example, for British Petroleum an SIC match for the top 3 global competitors would include Exxon Mobil

⁶ Non managerial positions are classified as operational; managerial positions up to General Manager are classified as tactical; and positions above General Manager are classified as strategic.

Corporation, Total, and Chevron Corporation. The revenues for the top 3 global competitors can be in different currencies of the world. We transform all these into US dollars for each firm from 1999 to 2008. We perform a log transform of the sum of revenues for the top 3 global competitors and use this as our measure of indirect learning from global competitors.

Indirect learning from networks (NETWORKIL): Since the focus of this study is international growth in developed markets, we measure a focal firm’s indirect learning from the network by using the developed market revenues of network members. In this way we are able to capture how much the focal firm can indirectly learn about developed markets from the scale and scope of the network’s developed market activity.

We operationalize indirect learning from networks as indirect learning through business groups. We construct a measure of scale and scope of a network’s developed market activity by multiplying the total developed market revenues of a business group (scale) with the most commonly used measure of scope, i.e., entropy (see Sorescu, Chandy and Prabhu 2003).⁷ For each firm affiliated with the business group we calculate the scale and scope of the network’s developed market activity for every year from 1999-2008 in the following manner:

$$\text{Scale and scope of network's developed market activity} = A * E = A * \left[\sum_{j=1}^n \frac{A_j}{A} \ln \frac{A}{A_j} \right] = \sum_{j=1}^n A_j \ln \frac{A}{A_j} \dots\dots(1),$$

where A=the business group’s total developed market revenues in each year from 1999-2008, A_j=developed market revenues of the jth member firm within the business group in each year from 1999-2008, and E=entropy measure of the business group.

Following past research (see Khanna and Palepu 2000), we use the Prowess classification of Indian firms and the Fame classification of UK firms to identify a firm’s

⁷ We use this multiplicative measure because the entropy measure by itself does not differentiate between the scale of different business groups. For instance, the entropy measure by itself would be identical for a business group with substantial developed market revenues whose developed market revenues are spread equally across 5 member firms relative to a business group with much smaller developed market revenues whose developed market revenues are also spread equally across 5 member firms.

business group affiliation. Prowess and Fame examine the family and ownership ties of firms to classify firms as members of a business group. We record the developed market revenues of member firms of a business group from Prowess and Fame. We then use the developed market revenues of member firms (excluding those of the focal firm) to calculate the scale and scope of the network's developed market expansion from equation (1). For firms unaffiliated to a business group, the scale and scope of the network's developed market expansion takes a value of 0. For firms affiliated to business groups, the greater the value of equation (1), the greater the scale and scope of developed market expansion and hence the greater the focal firm's indirect learning from the business group about how to compete in developed markets. We add a negligible value (0.00001) to the output of equation (1) and perform a log transform to obtain the final measure of indirect learning from networks.

Control Variables

Age (AGE): Prior research suggests that the age of a firm influences its international growth (Elango and Patnaik 2007). We calculate the age of the firm by subtracting the year the firm was established from every year between 1999 and 2008. We then perform a log transform of the firm's age and use this value in our analysis.

Size (SIZE): Prior research suggests that the size of a firm influences its international growth (Sambharya 1996). We convert the revenues of Indian and UK firms to millions of US dollars and then adjust this number for inflation with the base year as 1998. We then perform a log transform of this value. Our use of revenues as a measure of firm size is consistent with prior research on international growth (Sambharya 1996).

Industry (INDUSTRY): Our Indian sample is classified into ten industries using the single digit National Industrial Classification of India. Our UK sample is classified into 26 industries using the FTSE sector classification. Industries represented in both samples include pharmaceuticals, mining and quarrying, automotives, information technology, metals,

industrial machinery, chemicals and healthcare. We control for industry in the Indian and UK samples by developing a set of dummy variables, one for each industry in the sample.

R&D Expenses (R&D): Prior research suggests that firms with greater R&D expenses are able to achieve greater international growth (Chittoor et al. 2009). We use R&D expenses for firms in our India and UK sample for each year from 1999 to 2008. We convert the R&D expenses of Indian and UK firms to millions of US dollars and then adjust this number for inflation with the base year as 1998. We add a negligible value (0.00001) to the R&D expenses and perform a log transform to obtain the final measure of R&D expenses.

Domestic industry rivalry (HHI): The international marketing literature argues that domestic industry rivalry forces firms to expand across borders (Gielens and Dekimpe 2007) thus influencing international growth. We measure domestic industry rivalry for each firm in each year between 1999 and 2008 using the logarithm of the Herfindahl-Hirschman Index. Past literature uses the Herfindahl-Hirschman Index because it is a comprehensive measure which takes into account the market share of all competitors within a firm's industry. We calculate the Herfindahl-Hirschman Index as below:

$$\text{Herfindahl-Hirschman Index} = \sum_{i=1}^N s_i^2 \dots\dots\dots(2)$$

where s_i is the market share of firm i in the domestic market and N is the number of firms in the domestic market.

We calculate the market share s_i for firm i as a ratio of revenues of the firm i in the domestic market and the sum of revenues of all competitor firms in the domestic market. We add a negligible value (0.00001) to the Herfindahl-Hirschman Index and perform a log transform to obtain the final measure of domestic industry rivalry.

Past international growth in developed markets (GROWDEVMARK_{it-2}): Research has shown that past international growth is a predictor of future international growth (Johanson and Vahle 1977; Dunning 1981). Research also argues that past international growth in

developed markets is a source of direct learning about developed markets (Johanson and Vahle 1977). We measure past international growth in developed markets as the difference between log transformed revenues in developed markets between year t-2 and t-3.

Past international growth in emerging markets (GROWEMARK_{it-2}): Research also argues that past international growth in emerging markets is a source of learning about the process of internationalization which in turn can drive international growth in developed markets (Kumar, Mohapatra and Chandrasekhar 2009). We therefore control for past international growth in emerging markets using the difference between log transformed revenues in emerging markets between year t-2 and t-3.

Past acquisitions in developed markets (ACQ_{it-2}): Research argues that past acquisitions in developed markets can serve as a source of learning which drives international growth in developed markets (Kumar, Mohapatra and Chandrasekhar 2009). We control for past acquisitions in developed markets using the first difference between log transformed acquisition values in developed markets between year t-2 and t-3.

Model

We test our hypotheses using panel estimation with a two-step sample selection model. Because we have panel data, we correct for sample selection using the Orme method (Orme 1997; Arulampalam and Stewart 2009). The main merit of using the Orme method over the Heckman correction for panel data is that this method does not require separate programming and can be straightforwardly estimated using standard software (Arulampalam and Stewart 2009). We use the Orme method to estimate the selection model (equation (4)) using a pooled probit specification. From this output we calculate the Inverse Mills Ratio and use it as a control in the substantive model (equation (3)). Specifically, we estimate the following two equations:

$$\text{GROWDEVMARK}_{it} = \beta_0 + \beta_1 \text{LEADERIL}_{it-1} + \beta_2 \text{DEVCOMPIL}_{it-1} + \beta_3 \text{DOMCOMPIL}_{it-1} + \beta_4 \text{GLOBCOMPIL}_{it-1} + \beta_5 \text{NETWORKIL}_{it-1} + \beta_6 \text{AGE}_{it-1} + \beta_7 \text{SIZE}_{it-1} + \beta_8 \text{R\&D}_{it-1} + \beta_9 \text{HHI}_{it-1}$$

$$1 + \beta_{10} \text{GROWDEVMARK}_{it-2} + \beta_{11} \text{GROWEMARK}_{it-2} + \beta_{12} \text{ACQ}_{it-2} + \beta_{12} \text{Inverse Mills Ratio} + \varepsilon_{it} + \gamma_i \dots(3)$$

$$P(\text{Non-zero Revenues in Developed Markets}_{it}=1) = \alpha_0 + \alpha_1 \text{SIZE}_{it-1} + \alpha_2 \text{R\&D}_{it-1} + \alpha_3 \text{PERFORMANCE}_{it-1} + \mu_{it} + \eta_i \dots(4)$$

where i is the subscript for a firm, t is the subscript for a year, GROWDEVMARK is international growth in developed markets; LEADERIL is indirect learning from leaders; DEVCOMPIL, DOMCOMPIL and GLOBCOMPIL are indirect learning from developed market, domestic, and global competitors respectively; NETWORKIL is indirect learning from networks; HHI is industry rivalry; GROWDEVMARK_{*it-2*} and GROWEMARK_{*it-2*} are past international growth in developed markets and emerging markets respectively; and ACQ_{*it-2*} is past acquisitions in developed markets.

We estimate these equations on the Indian sample and then repeat the estimation on the UK sample. We also perform estimations using the pooled data. Together, these analyses enable us to test our hypotheses for emerging market firms (the Indian sample) and compare these results with the international growth of developed market firms (the UK sample).

Panel estimation with a sample selection model enables us to do the following. First, the panel estimation helps us to use the temporal separation between the dependent and independent variables which ensures that we test for the effects of learning (independent variables) on international growth in developed markets (dependent variable) rather than the other way around. Second, the panel estimation helps us to alleviate the possibility of endogeneity caused by an unobserved variable which can influence both the dependent and the independent variables. This is because we specify a panel estimation model where both the dependent and the independent variables are measured after the removal of restrictive policies in India in 1999. As we note earlier, the presence of these restrictive policies until 1999 enables us to ensure against an unobserved variable (such as the firm's intention to internationalize in developed markets) influencing both key independent variables (e.g.,

choosing leaders with developed market experience, or even choosing industries with competitors who have developed market experience) and the dependent variable of interest (i.e., international growth in developed markets).

Third, the panel estimation allows us to control for factors other than the ones we hypothesize as drivers of the international growth of firms. For instance, our model allows us to control for firm and time specific heterogeneity, thus addressing two potential sources of bias due to unobserved heterogeneity. The model also controls for time invariant variables like industry effects and time varying variables such prior revenues, R&D expenses, etc.

Fourth, the panel estimation with the sample selection model allows us to account for sample selection bias in our data. 43 out of 116 firms in the Indian sample and 28 out of 160 firms in the UK sample did not obtain any revenues from developed markets between 1999 and 2008. We correct for self-selection in the choice to pursue revenues in developed markets by choosing the predictors for the selection equation carefully and ensuring that we fulfil exclusion restrictions. We use size, performance and R&D as predictors and measure them using total revenues, return on sales and R&D expenses respectively (Chittoor et al. 2009). We fulfil the exclusion restriction by having at least one variable (i.e., return on sales) in the selection equation (4) that does not appear in the substantive equation (3). Doing so helps us with model identification, while correcting for sample selection.

RESULTS

We present means, standard deviations, minimum and maximum values, and correlations of our measures in Table 2A for Indian firms and Table 2B for UK firms. The tables show that age, size, R&D expenses, international growth in developed markets, and acquisitions in developed markets are lower for Indian relative to UK firms. This is consistent with existing literature which argues that emerging market firms are younger, smaller, and less technologically advanced, while having lower international growth and fewer developed

market acquisitions than their developed market counterparts (Wright et al. 2005). We perform collinearity diagnostics by computing the variance inflation factors (VIFs) for all independent variables. The VIF values range from 1.01 to 1.79 for India and from 1.00 to 1.63 for the UK. The correlation matrix and the VIFs together indicate the likely absence of multicollinearity in our data.

Tests of Hypotheses

Table 3 presents the results of the substantive models that test our hypotheses for the Indian and UK samples. The models use random effects panel estimation with robust standard errors. A Hausman test shows that the difference in coefficients between the fixed and random effects estimation is not systematic ($p > .5$) (Hausman 1978). A Breusch-Pagan Lagrange Multiplier test shows that a random effects panel estimation is appropriate for our data ($p < .05$).

We perform a Chow test (Chow 1960) to compare the coefficients of the hypothesized variables for the India and UK samples and check if they are different. The Chow statistic is 1.61 which is greater than the critical F value, confirming that the coefficients of the Indian and UK samples are different. We conduct an additional test to show that the coefficients of the hypothesized variables are different for India and the UK. First, we estimate a model using the pooled Indian and UK data with interaction terms. We create a dummy “IND” with a value of 1 for the Indian firms and 0 for the UK firms in the pooled data. We then add interaction terms between this dummy and all the hypothesized and control variables to equation 3 and re-estimate the equation. The results of the estimation (see Table 3) show that these interactions are all significant, confirming that the coefficients of the hypothesized variables are significantly greater for India compared to the UK.

Indirect learning from leaders and international growth: H₁ predicts that emerging market firms that learn indirectly from their leaders’ developed market experience

(LEADERIL) exhibit greater international growth than other emerging market firms. In support of H₁, Table 3 shows that for our Indian sample the coefficient of LEADERIL is positive and significant ($\beta_{1,IND}=.04, p<.05$). In contrast, for the UK sample, the corresponding coefficient is positive and non-significant ($\beta_{1,UK}=.04, p>.05$). Further, the results from the pooled data show that the interaction variable (IND*LEADERIL) is positive and significant ($\beta=.09, p<.05$) (see pooled India-UK column in Table 3). Taken together, the results of Table 3 suggest that indirect learning from the developed market experience of leaders plays a more important role in the international growth of emerging relative to developed market firms.

Indirect learning from developed market competitors and international growth: H_{2a} suggests that emerging market firms that have greater exposure to developed market competitors in their domestic market (DEVCOMPIL) will exhibit greater international growth than other emerging market firms. The results for the Indian sample in Table 3 support H_{2a} ($\beta_{2,IND}=.01, p<.05$). In contrast, for the UK sample, the corresponding coefficient is positive and non-significant ($\beta_{2,UK}=.04, p>.05$). Further, the results from the pooled data show that the interaction variable (IND*DEVCOMPIL) is positive and significant ($\beta=.01, p<.05$) (see pooled India-UK column in Table 3). Taken together, the results of Table 3 support our claim that indirect learning from developed market competitors plays a more important role in the international growth of emerging relative to developed market firms.

Indirect learning from domestic competitors and international growth: H_{2b} states that emerging market firms that have domestic competitors with greater developed market experience (DOMCOMPIL) exhibit greater international growth than other emerging market firms. The results from the Indian sample in Table 3 support H_{2b} ($\beta_{3,IND}=.01, p<.01$). In contrast, for the UK sample, the corresponding coefficient is non-significant ($\beta_{3,UK}=-3.93 \times 10^{-3}, p>.05$). Further, the results from the pooled data show that the interaction variable (IND*DOMCOMPIL) is positive and significant ($\beta=.02, p<.10$) (see pooled India-UK

column in Table 3). Taken together the results of Table 3 support our argument that indirect learning from the developed market experience of domestic competitors plays a more important role in the international growth of emerging relative to developed market firms.

Indirect learning from global competitors and international growth: H_{2c} predicts that emerging market firms in sectors with large global competitors (GLOBCOMPIL) exhibit greater international growth than other emerging market firms. In support of H_{2c} (see Table 3), the coefficient of GLOBCOMPIL is positive and significant for the Indian sample ($\beta_{4,IND}=.03, p<.05$). In the UK sample, however, this coefficient is non-significant ($\beta_{4,UK}=-.03, p>.05$). Further, the results from the pooled data show that the interaction variable (IND*GLOBCOMPIL) is positive and significant ($\beta=.04, p <.10$) (see pooled India-UK column in Table 3). Taken together, the results of Table 3 support our argument that indirect learning from global competitors plays a more important role in the international growth of emerging market relative to developed market firms.

Indirect learning from networks and international growth: H_3 predicts that emerging market firms that have network members (NETWORKIL) with greater developed market experience exhibit greater international growth than other emerging market firms. In support of H_3 , we find that the coefficient of NETWORKIL for the Indian sample is positive and significant ($\beta_{5,IND}=.02, p<.05$). In our UK sample, however, the coefficient of NETWORKIL is non-significant ($\beta_{5,UK}=-.02, p>.05$). Further, the results from the pooled data show that the interaction variable (IND*NETWORKIL) is positive and significant ($\beta=.02, p<.05$) (see Table 3). Taken together, the results support our argument that indirect learning from the developed market experience of network members plays a more important role in the international growth of emerging relative to developed market firms.

Controls: One of our controls is learning from past international growth in developed markets (GROWDEVMARK_{it-2}). In our Indian sample (see Table 3), we do not find a

significant effect for this variable on international growth ($\beta_{IND}=.04, p>.05$). In our UK sample, however, we find a significant effect of direct learning from past international growth in developed markets ($\beta_{UK}=.12, p<.05$). These results suggest that direct learning (i.e., past international growth in developed markets) is more important for developed relative to emerging market firms. Our controls for learning from past international growth in emerging markets ($GROWEMARK_{it-2}$) and learning from cross-border acquisitions in developed markets (ACQ_{it-2}) are not significant for either the Indian or UK firms.

Additional Analyses and Robustness Checks

Can we rule out heteroskedasticity and autocorrelation? To rule out heteroskedasticity and autocorrelation we re-estimate the models in Table 3 with Driscoll and Kraay standard errors estimation. Our results in Table 3 hold for this estimation (Driscoll and Kraay 1998). We conduct further robustness checks by re-estimating our models with feasible generalized least squares. Our results hold for these estimations too.

Are our results robust to alternate measures of international growth? We re-estimate equations 3 and 4 on the Indian, UK and pooled data using log transformed revenues in developed markets as an alternate dependent variable (rather than *growth*, our primary dependent variable, that uses the first difference of log transformed revenues in developed markets,). For this alternate measure, each of our hypothesized effects holds for the Indian but not for the UK sample. We also find that the interaction terms between the dummy (India) and hypothesized variables are positive and significant ($p<.10$) in the pooled data.

Are our results robust to alternate estimation methods? It can be argued that our dependent variable in equation 3 measures *change* (i.e., growth) through a first difference of log transformed developed market revenues whereas our hypothesized variables measure *level* (i.e., they do not measure change in the measures of leaders, competitors or networks). To alleviate any concerns about this inconsistency between the dependent and hypothesized

variables, we conduct a Blundell-Bond estimation with first differenced dependent and hypothesized variables (Blundell and Bond 1998). The results of this estimation show that for each of the hypothesized effects our results hold for the Indian sample and not for the UK sample. In addition, the results of this estimation for our interaction model with pooled data also shows that our hypothesized variables drive the international growth of emerging market firms but do not drive the international growth of developed market firms.

Comparison of hypothesized effects within samples: To compare the hypothesized effects within samples we standardize all variables in equation (3) across firms and re-estimate our models. We find that the coefficients of the hypothesized variables in the Indian sample are positive and significant ($p < .05$) while those in the UK sample are non-significant ($p > .5$). In the Indian sample, the size of each coefficient represents its relative importance in the regression. Accordingly, we find that the coefficients of the hypothesized indirect learning variables in decreasing order of importance are: networks (.10); domestic competitors (.09), foreign competitors (.07), global competitors (.05) and leaders (.04).

Marginal effects of hypothesized variables: The results for the Indian sample show that a one standard deviation increase in indirect learning from leaders results in a 2.24% (i.e., $.04 \times$ standard deviation) increase in growth in developed market revenues. The increase in developed market revenues is presented as a percentage change because our dependent variable (first difference of log transformed developed market revenues) is an approximation for percentage change. Similarly, a one standard deviation increase in indirect learning from foreign competitors, domestic competitors and global competitors results in a 3.92% ($.07 \times$ standard deviation), 5.04 % (i.e., $.09 \times$ standard deviation), and 2.80% ($.05 \times$ standard deviation) increase in growth in developed market revenues respectively. Finally, our standardized regression results suggest that a one standard deviation increase in indirect

learning from networks results in a 5.60% (0.10*standard deviation) increase in growth in developed market revenues.

SUMMARY AND DISCUSSION

Many scholars have noted that the question of how firms grow is one of the most important facing the marketing discipline (Srivastava, Shervani and Fahey 1998; Bharadwaj, Varadarajan and Fahy 1993). As firms look overseas for new sources of growth, the international aspects of such growth take on critical importance (Steenkamp 2005). We contribute to the marketing literature by proposing and testing an explanation anchored around organizational learning, specifically *indirect* learning about markets. We argue that in contrast to developed market firm who learn directly from their own experience, emerging market firms learn indirectly about how to compete in developed markets by acquiring this knowledge from leaders, competitors, and network members. We now discuss the implications of these findings for research and practice.

Implications for Research

This paper has several implications for research. First, to the best of our knowledge, this is the first paper in marketing to systematically study the international growth of emerging market firms. In doing so, it demonstrates the opportunities that exist in studying emerging markets more generally. Despite calls to study the international growth of emerging market firms from a number of sources—scholars and editors of journals, research organizations such as the Marketing Science Institute, business journals such as *The Economist* and *BusinessWeek*, and management consultancies like Boston Consulting Group—such studies are rare in the marketing literature. By offering new, empirically-based insights on well-studied topics such as market growth, as well as on understudied topics such as the role of indirect learning, this paper will (we hope) serve as an initial basis for future research into the

dynamic and important, yet poorly understood phenomenon of the international growth of emerging markets firms.

Second, this research highlights the fact that theories from developed market contexts do not easily transfer across the boundaries from developed to emerging markets. This is because the stage and pattern of business evolution is different in emerging markets, as are the institutional contexts that pervade such markets. For example, emerging market firms often lack knowledge of how to compete in developed markets and do not have the luxury of being able to learn over time from their own direct experience in developed markets. We show that emerging market firms overcome this lack of knowledge and time by employing alternate, indirect ways of learning that are more suited to their specific contexts than the more direct ways of learning highlighted in the existing literature. This suggests that researchers should use caution when applying existing developed market frameworks to emerging market contexts. We therefore echo the views of editors of marketing journals who have also urged scholars to study the international aspects of marketing topics (Bolton 2003; Steenkamp 2005) and to use emerging markets as laboratories in which to test and modify assumptions and theories developed in and for the Western world (Burgess and Steenkamp 2006). More generally, by exploring alternate ways in which firms learn about new markets, this paper contributes to broader marketing research on organizational learning (Sinkula 1994) and the gathering, disseminating and responding to information on competitors (Kohli and Jaworski 1990). Given that the study of competitors is an integral part of marketing (Dickson 1992; Lambkin and Day 1989) our focus on how firms learn about and through competitors enables us to contribute to a significant stream of research in marketing.

Third, little existing research has been able to address methodological problems such as endogeneity in testing theories about international growth (Herrmann and Datta 2005; Reeb, Sakakibara and Mahmood 2012). In contrast, we employ an empirical strategy that

takes advantage of the pace and timing with which regulatory restrictions were removed in emerging markets. Specifically, we use a recent regulatory shock to deal with the problem of endogeneity in our study of the international growth of Indian firms. Future researchers could also look to similar exogenous shocks to rigorously estimate the effects they seek to study.

Fourth, most research on business groups emphasizes their role in mitigating the downside of operating in emerging markets. The focus is typically on how business groups help emerging market firms overcome the institutional voids they face by lowering the transaction costs these voids create (Khanna and Palepu 2000). In contrast, we highlight the upside potential of business groups in growing globally. We show that business groups can help increase the competitiveness of member firms in international markets by enabling the sharing of information among member firms, by fostering learning from the activities of member firms, and by leveraging the scale and scope of the business group for growth.

Implications for Practice

Implications for policy makers: The international growth of emerging market firms benefits emerging economies by improving their balance of trade, increasing foreign exchange reserves, and strengthening the home currency. These benefits suggest several implications of our findings for policy makers. First, policy makers in emerging economies often believe that allowing citizens to study and work in developed markets results in brain drain and is thus to be discouraged. Exit restrictions and emigration controls have been mooted as potential policy instruments. For instance, the Migration Information Source (2005) states: “That something needs to be done about brain drain is not in question. G8 leaders have discussed the issue, the UK's Commission on Africa calls for better responses, and unions, development agencies, and other civil-society groups are demanding action.” Our findings, however, suggest that there can be benefits to allowing, and even encouraging, citizens from emerging economies to study and work in developed markets. Specifically, we show that citizens with

education and work experience from developed markets offer emerging market firms access to a pool of leaders with developed market knowledge that these firms can learn from and who can drive their growth in developed markets. Accordingly, we argue that policy makers in emerging economies should be careful about placing obstacles in the paths of their citizens who seek to study or work in developed markets. Indeed, they might even encourage their citizens to study in developed markets, for instance, by providing them with scholarships, increasing the availability of loans, and removing foreign exchange restrictions on spending in developed markets.

Second, policy makers in emerging economies often succumb to the demands of business leaders to raise barriers to protect domestic firms from developed market competitors. For example, after reforms in 1991 opened up Indian markets to developed market competitors, several business leaders formed a group (known as the Bombay Club) to lobby policy makers to raise barriers to developed market competition. As Gurcharan Das, a noted Indian business commentator, states: “Reforms have been painfully slow precisely because of arguments . . . espoused by the Bombay Club and others” (Outlook 2011). Our findings suggest that emerging market firms have much to gain from the opening up to developed market competition and that policy makers in emerging markets should not bow to the demands of domestic business leaders to keep protectionist barriers high.

Specifically, our findings suggest that (in addition to other potential benefits) greater developed market competition helps emerging market firms learn about developed markets and pursue international growth. Accordingly, we argue that policy makers should encourage the entry of developed market firms and stimulate ways in which domestic firms can learn from developed market entrants. They can achieve the latter by encouraging the formation of alliances; by stimulating the formation of trade associations which bring together domestic and foreign firms; by organizing international trade shows in which domestic firms interact

with developed market firms; and by creating information repositories which collect, analyze and disseminate information on the activities of developed market firms.

Implications for emerging market firms: Recruitment in emerging market firms often focuses on a) hiring large numbers of young graduates from home universities (with no international education or experience) and b) developing this internal talent pool to draw future top managers from. As a recent Ernst and Young (2012) report states: “Entry-level hiring is characterized by large volumes with a focus on quick turnaround time rather than on quality hiring.” Consequently, emerging market firms lose out on access to the talent of outside recruits with education and work experience from developed markets. Our findings suggest that human resource managers in emerging markets firms must develop capabilities in lateral recruitment which would enable them to gain access to managers with education and experience in developed markets at the middle management level. Doing so would create an internal pool of managers with developed market experience who could eventually lead these firms. In this way, emerging market firms would be better poised to learn how to compete in developed markets which would, in turn, increase their ability to grow globally.

Second, a widely held belief among managers is that firms in business groups perform better in closed economic regimes but lose out in more liberal ones (Khanna and Palepu 2000). In contrast, our findings from post-liberalization India suggest that firms in business groups experience greater global growth even in liberal economic regimes than non-affiliated firms do. This is because firms in business groups can share informational resources with each other and thus learn about how to compete in developed markets from member firms with such experience. Our results suggest that business groups should strengthen the information sharing mechanisms between member firms as a means to pursue greater international growth. Our results also suggest that firms not affiliated with business groups

should become members of industry consortia which could enable them to share such informational resources and learning in order to grow globally.

Implications for developed market firms: Executives in developed market firms have at various points in recent history believed that emerging market firms cannot compete with them in international markets (Wright et al. 2005). Even if they are aware of the competitiveness of emerging market firms, they might not be able to easily identify which emerging market firms are likely to be the most competitive. In contrast, our findings show that some emerging market firms are as competitive as developed market firms and also suggest ways to identify these firms. Specifically, developed market firms can identify the most competitive emerging market firms by studying if they have leaders with developed market educational or work experience; if they operate in industries with many developed market competitors; if they have domestic competitors with experience in developed markets; and if they have network members with international experience. This implies that not all emerging market firms will be as competitive as developed market firms; it is especially those firms that can learn indirectly about how to compete in international markets that are likely to pose serious threats to their developed market counterparts.

Limitations and Further Research

This paper has a number of limitations, some of which offer opportunities for further research. First, although our theorizing is general in scope over emerging markets and provides a comparison with developed markets, our empirical context is limited to a single emerging market country, India, and a single developed market country, the UK. Additional research using data from other emerging and developed markets will be valuable in exploring the generalizability of our findings. Second, we use two measures of international growth: year on year change in developed market revenues and annual developed market revenues. These measures undoubtedly pick up important aspects of firms' international growth.

Nevertheless, future researchers may wish to employ additional multi-item measures of international growth. We also restrict ourselves to measuring overall annual revenues (i.e., we estimate a firm-year model) instead of country-specific annual revenues (i.e., estimating a firm-destination country-year model) because the latter would answer a different research question: Why does the revenue growth of an emerging market firm vary across different developed markets? Since the research question of this paper “Why do some emerging market firms achieve more revenue growth in developed markets than others?” is itself an important one that has not been addressed before, we restrict our focus to answering this question. Future researchers can provide valuable insights by collecting country-specific annual revenues to implement the firm-destination country-year model and answer the former research question. Third, we examine only some, albeit important, measures of indirect learning from leaders, competitors and networks. More fine-grained measures of these three drivers (and others) may provide additional insights. Future research could therefore examine the effects of, among others, the country of CEO’s international educational or work experience; the educational and professional networks of board members; the education and work experience of local talent from host countries; the extent of international expansion by domestic competitors in developed markets (e.g., the number of international sales personnel or sales offices in developed markets); the extent of marketing activities that developed market competitors engage in domestic markets; the extent of global industry concentration in different regions of the world; and the role of cost-based relative to differentiation strategies for international growth.

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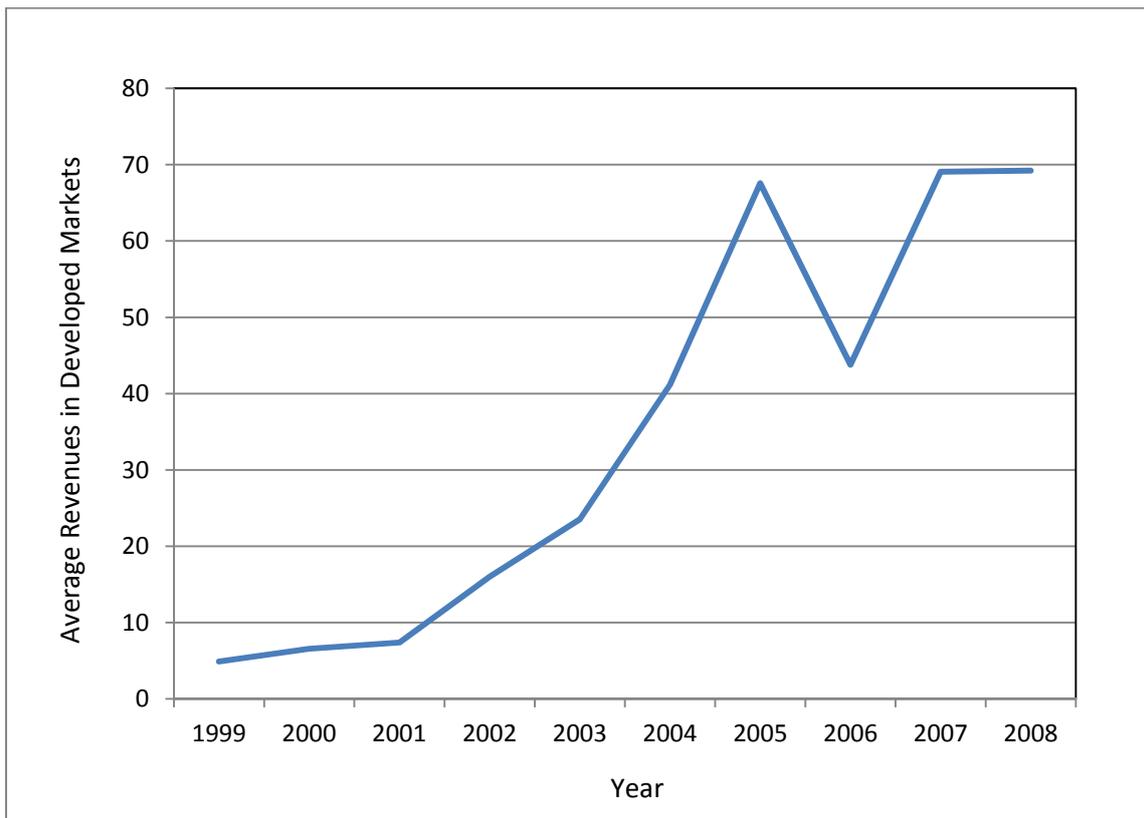
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Figure 1: Average Annual Revenues in Developed Markets (in mn USD) for the Indian Sample*



* These values have been adjusted for inflation with the base year as 1998

Table 1: Summary of Measures and Sources

Conceptual Variable	Measured Variable	Data Source for India	Data Source for UK
Dependent Variable			
International Growth in Developed Markets	$\text{Log}(\text{Revenues in Developed Markets}_{it}) - \text{Log}(\text{Revenues in Developed Markets}_{it-1})$	Prowess Database & Company Annual Reports	Thompson One Banker & Fame
Independent Variables:			
Indirect Learning from Leaders	CEO Education or Work Experience from Developed Markets	Prowess Database & Directors Database	Thompson One Banker
Indirect Learning from Foreign Competitors	Ratio of Sum of Revenues of Developed Market Competitors to Sum of Revenues of All Competitors in Domestic Market	Prowess Database	Thompson One Banker & Fame
Indirect Learning from Domestic Competitors	Sum of Revenues from Developed Markets for the Top 3 Domestic Competitors	Prowess Database & Company Annual Reports	Thompson One Banker & Fame
Indirect Learning from Global Competitors	Sum of Revenues of Top 3 Global Competitors	Thompson One Banker	Thompson One Banker
Indirect Learning from Networks	Product of Scale and Scope of Developed Market Revenues of Business Group Members	Prowess Database & Company Annual Reports	Thompson One Banker & Fame
Controls:			
Age	Age of the Firm	Prowess Database	Company History
Size	Revenue of the Firm	Osiris, Prowess Database	Thompson One Banker
Industry	Industry Dummy	National Industrial Classification	FTSE 350 Sector Classification
R&D Expenses	R&D Expenses	Prowess Database	Thompson One Banker
Domestic Industry Rivalry	Herfindahl Hirschman Index	Prowess Database	Thompson One Banker
Past International Growth in Developed Markets	$\text{Log}(\text{Revenues in Developed Markets}_{it-2}) - \text{Log}(\text{Revenues in Developed Markets}_{it-3})$	Prowess Database & Company Annual Reports	Thompson One Banker & Fame
Past International Growth in Emerging Markets	$\text{Log}(\text{Revenues in Emerging Markets}_{it-2}) - \text{Log}(\text{Revenues in Emerging Markets}_{it-3})$	Prowess Database & Company Annual Reports	Thompson One Banker & Fame
Past Acquisitions in Developed Markets	$\text{Log}(\text{Acquisitions Value from Developed Markets}_{it-2}) - \text{Log}(\text{Acquisitions Value from Developed Markets}_{it-3})$	Thompson One Banker	Thompson One Banker

Table 2A: Descriptive Statistics and Correlation Matrix for Indian Firms

	Mean	SD	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13
1. GROWDEV MARK	.09	.56	-2.24	8.76	1.00												
2. LEADERIL	.76	1.06	0	6	.07	1.00											
3. DEVCOMP IL	.10	.17	0	.78	.10*	.07	1.00										
4. DOMCOM PIL [#]	222.52	660.16	0	4004.06	.11*	-.08*	.03	1.00									
5. GLOBCOM PIL [#]	4940.37	18630.5	5.79	233580	.01	.10*	.11*	-.29*	1.00								
6. NETWORK IL [#]	90.07	386.48	0	2109.19	.11*	.24*	-.11*	.03	.09*	1.00							
7. AGE (years)	37.90	24.21	10	135	-.07	.26*	-.04	-.25*	.19*	.28*	1.00						
8. SIZE [#]	259.89	854.34	.28	18802.21	-.03	.21*	.05	-.21*	.54*	.20*	.39*	1.00					
9. R&D [#]	1.99	10.55	0	164.40	-.03	.16*	.34*	.07	.20*	.13*	.29*	.38*	1.00				
10. HHI	.19	.16	.03	1	-.12*	-.04	-.20*	-.30*	.13*	.17*	.32*	.18*	-.11*	1.00			
11. GROWDEV MARK _{it-2}	.18	1.18	-1.39	16.81	.12*	.01	.09*	.15*	-.02	6.40 X 10 ⁻³	-.05	-.01	-.01	-.13*	1.00		
12. GROWEM ARK _{it-2}	.09	2.28	-12.47	15.51	-4.50 X 10 ⁻³	4.50 X 10 ⁻³	-.03	.04	.04	.05	1.9 X 10 ⁻³	.02	.04	-.04	-.02	1.00	
13. ACQ _{it-2}	.12	3.56	-15.87	20.60	-.01	-.01	-5.30 X 10 ⁻³	4.00 X 10 ⁻³	-.01	.01	7.00 X 10 ⁻⁴	-.04	-.04	.01	1.80 X 10 ⁻³	0.03	1.00

* $p < 0.05$. Number of Firms=116 and Number of Observations=611. [#] Values in millions of USD.

Table 2B: Descriptive Statistics and Correlation Matrix for UK Firms

	Mean	SD	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13
1. GROWDEV MARK	.11	2.40	-16.84	16.86	1.00												
2. LEADERIL	2.06	2.51	0	7	.02	1.00											
3. DEVCOMP IL	.07	.12	0	0.94	-.01	-.11*	1.00										
4. DOMCOMP IL [#]	17660.72	43885.84	0	295347	-2.60 X 10 ⁻³	.16*	.11*	1.00									
5. GLOBCOM PIL [#]	27325.37	83787.11	0	742471.1	-.02	.14*	.08*	.02	1.00								
6. NETWORK IL [#]	133.09	1181.15	0	14889.76	3.10 X 10 ⁻³	.08*	-.05	.09*	.14*	1.00							
7. AGE (years)	62.45	52.09	1	266	-.09*	-.05	-.07	-.02	.20*	-.07	1.00						
8. SIZE [#]	10148.15	37527.22	0	458361	-.01	.11*	.09*	.08	.56*	.12*	.26*	1.00					
9. R&D [#]	119.60	636.09	0	6369.18	-3.70 X 10 ⁻³	.15*	-.15*	.08*	.23*	.14*	-.12*	.28*	1.00				
10. HHI	.28	.19	.08	1	.03	.13*	-.35*	-.13*	.19*	.07	-.06	.02	.18*	1.00			
11. GROWDEV MARK _{it-2}	.31	2.55	-16.78	19.14	.14*	3.30 X 10 ⁻³	.02	-2.30 X 10 ⁻³	.01	-.02	-.02	-1.80 X 10 ⁻³	-.02	8.90 X 10 ⁻³	1.00		
12. GROWEM ARK _{it-2}	.26	2.09	-16.95	17.73	-3.70 X 10 ⁻³	.04	.02	4.30 X 10 ⁻³	-.05	-4.60 X 10 ⁻³	-.01	-.07*	-6.6 X 10 ⁻³	-1.00 X 10 ⁻⁴	.06	1.00	
13. ACQ _{it-2}	.30	7.38	-20.04	20.42	-.02	.03	-.01	-.01	.02	4.50 X 10 ⁻³	-6.20 X 10 ⁻³	.02	.02	7.20 X 10 ⁻³	-.02	.03	1.00

* $p < 0.05$. Number of Firms=160 and Number of Observations=736. [#] Values in millions of USD.

Table 3: The Impact of Indirect Learning from Leaders, Competitors and Networks on the International Growth of Indian and UK Firms

	Base Model India	Full Model India	Base Model UK	Full Model UK	Pooled India-UK
LEADERIL (H ₁)		.04* (.02)		.04 (.13)	-.05 (.05)
DEVCOMPIL (H _{2a})		.01* (7.93 X 10 ⁻³)		.04 (.09)	-4.49 X10 ⁻³ (9.26 X 10 ⁻³)
DOMCOMPIL (H _{2b})		.01** (4.18 X 10 ⁻³)		-3.93 X 10 ⁻³ (.01)	-0.02 (0.01)
GLOBCOMIL (H _{2c})		.03* (.02)		-.03 (.04)	-0.02 (0.03)
NETWORKIL (H ₃)		.02* (7.58 X 10 ⁻³)		-.02 (.02)	-8.33 X 10 ⁻³ (7.69 X 10 ⁻³)
AGE	-3.07 X 10 ⁻³ (.03)	-.04 (.03)	-.29** (.13)	-.30** (.13)	-.10+ (.07)
SIZE	-2.42 X 10 ⁻³ (.02)	-.02 (.02)	.03 (.07)	.05 (.06)	0.04 (.04)
R&D	-6.57 X 10 ⁻³ (5.90 X 10 ⁻³)	-9.46 X 10 ⁻³ + (7.01 X 10 ⁻³)	-2.67 X 10 ⁻⁴ * (1.46 X 10 ⁻⁴)	-2.67 X 10 ⁻⁴ * (1.56 X 10 ⁻⁴)	8.72 X 10 ⁻³ (7.90 X 10 ⁻³)
HHI	-.08+ (.05)	-.09+ (.06)	.86* (.45)	1.02* (.56)	.02 (.07)
GROWDEVMAR K _{it-2}	.04 (.05)	.04 (.05)	.12* (.06)	.12*(.06)	.02 (.02)
GOWREMARK _{it-2}	-2.26 X 10 ⁻⁴ (2.21 X 10 ⁻³)	-2.44 X 10 ⁻³ (2.78 X 10 ⁻³)	-.01 (01)	-.01 (.01)	-2.15 X 10 ⁻³ (3.31 X 10 ⁻³)
ACQ _{it-2}	-1.57 X 10 ⁻³ (4.53 X 10 ⁻³)	-2.41 X 10 ⁻³ (4.45 X 10 ⁻³)	-7.13 X 10 ⁻³ (9.53 X 10 ⁻³)	-7.01 X 10 ⁻³ (9.63 X 10 ⁻³)	2.99 X 10 ⁻³ (3.60 X 10 ⁻³)
IND * LEADERIL					.09* (.05)
IND * DEVCOMPIL					.01* (0.01)
IND * DOMCOMPIL					0.02+ (0.01)
IND * GLOBCOMPIL					.04+ (.03)
IND * NETWORKIL					.02* (9.43 X 10 ⁻³)
IND GROWDEVMAR K _{it-2}					-.22 (.35) -4.82 X 10 ⁻³ (.04)
Inverse Mills Ratio	.05 (.12)	.15 (.12)	-.10 (.51)	-.13 (.54)	.02 (.10)
Intercept	-.17 (.24)	.04 (.22)	2.47** (.94)	3.96* (1.48)	.38 (.34)
Firms	116	116	160	160	276
N	611	611	736	736	1347
R²	.09	.13	.05	.05	.05

+*p*<.10

**p*<.05

***p*<.01

****p*<.001