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ABSTRACT

The Brain Gain of Corporate Boards: a Natural Experiment from China*

We study the impact of directors with foreign experience on firms in emerging markets. To establish causality, we use a unique dataset from China and exploit that at different times, Chinese provinces introduced policies to attract highly talented emigrants. These policies led to an exogenous increase in the supply of Chinese individuals with foreign experience in the local labor market and ultimately increased the likelihood that firms in these provinces had directors with foreign experience in comparison to firms with a similarly high demand for these skills elsewhere. We document that hiring directors with foreign experience results in higher firm valuation, productivity, and profitability. Furthermore, corporate governance improves and firms are more likely to make international acquisitions, to export, and to raise funds internationally. These results indicate that the transfer of knowledge to emerging markets occurs not only through foreign investment, but also through labor flows and, in particular, return migration.

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1. INTRODUCTION

Development economists have long warned about the costs for developing countries of the emigration of the best and brightest that decamp to universities and businesses in the developed world (Bhagwati, 1976). While this *brain drain* has attracted a considerable amount of economic research, more recently, arguments have been raised that the emigration of the brightest may actually benefit developing countries, because emigrants may eventually return with more knowledge and organizational skills (Docquier and Rapoport, 2012; Nanda and Khanna, 2010).[1] Thus, the brain drain may actually become a *brain gain*.

In this paper, we highlight a specific channel through which the brain gain arising from return migration to emerging markets may benefit the overall economy: the brain gain in the corporate boards of publicly listed companies. Specifically, we explore the effects of individuals with foreign experience joining the boards of directors on firms' performance and corporate policies in China.

We expect that the arrival of individuals with foreign experience in the board of listed companies in emerging markets can enhance the firms' productivity and performance, because board members perform an important advisory role for the management (Fama and Jensen, 1983). Board members with foreign experience, having learnt how foreign organizations work, may facilitate the adoption of superior management practices, which—as shown by Bloom and Van Reenen (2007)—greatly enhance the performance and productivity of firms. Board directors with foreign experience could thus help bridging the large productivity gaps that persist across countries and firms (Hall and Jones, 1999; Jones and Romer, 2009).

Directors with foreign experience may also perform more effectively the monitoring function of the board and help improve firm level corporate governance in emerging markets,

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[1] See The Economist, May 26, 2011.

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not only thanks to the foreign expertise accumulated abroad, but also because, being relatively disenfranchised from local ties, they may have stronger incentives to pursue profitability rather than pleasing politicians and other local constituencies.

It is empirically challenging to establish whether directors with foreign experience have a causal effect on firm performance. In particular, firms may select or attract directors with foreign experience because they have certain characteristics (e.g., growth opportunities) that independently affect firm performance. We surmount this challenge by using a unique dataset from China and by exploiting exogenous variation caused by policy changes. We hand-collect information on foreign education, work experience and other demographic characteristics from the bios of 33,707 executive and non-executive directors of 1,733 publicly listed companies from 1999 to 2009. We consider an individual to have foreign experience if he or she studied and/or worked outside (mainland) China.

China provides a unique environment to address the endogeneity problems for the following reasons. First, Chinese firms face talent shortage in filling managerial positions. Since individuals with foreign experience are scarce, not all firms with similarly high demand for directors with foreign experience are able to attract one. Second and most importantly, during the sample period, almost all provinces, at different times, introduced incentives for highly skilled individuals with foreign experience to return. Since the labor market for board directors is largely local (Knyazeva, Knyazeva and Masulis, 2011), the introduction of the provincial policies determined exogenous changes in the supply of potential directors with foreign experience.

Not being directed at listed companies, the timing of the introduction of the incentives was largely independent from the characteristics and growth opportunities of the publicly listed firms in our sample (an assumption that we test in a number of ways described below). Instead, it was determined by how politically progressive the provincial government was. We

show that after the policy changes, the number of directors with foreign experience increases more for the firms headquartered in the provinces adopting the policies than for comparable firms elsewhere. This is the case not only because some individuals return and become executive directors of the company, but mostly because there is a larger pool of individuals with foreign experience working in the area, who can become independent directors. The increase in board members with foreign experience provoked by the provincial policy changes is extremely unlikely to have coincided with changes in the demand for directors with these skills (or with other firm-level changes) for firms affected by the policies in comparison to similar firms headquartered elsewhere. We can thus conclude that directors with foreign experience *enable* the changes in corporate policies concurrent to their arrival in the board of a firm.

We find that when individuals with foreign experience join the board of a company, the firm's valuation improves and its total factor productivity increases. Furthermore, in the subsequent years, the firm's profitability increases. We also show that these improvements in performance are accompanied by changes in corporate policies that are generally set by the board. First, firms' propensity to manage earnings decreases and CEO turnover following low profits increases, indicating that corporate governance improves. Second, among the firms that make mergers and acquisitions, the ones with board members with foreign experience are more likely to make an international merger or acquisition. This suggests that these firms are able to access a broader range of investment opportunities. Similarly, firms with board members with foreign experience are able to access more sources of external financing, as they are more likely to engage a foreign investor when raising capital through private placements than other firms without directors with foreign experience. Lastly, firms that hire directors with foreign experience start exporting more. Overall, these results suggest that firm performance improves because, among other effects, directors with foreign

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experience facilitate the adoption of strong corporate governance practices and internationalization.

We provide a number of further tests supporting the mechanism behind the causal interpretation of the empirical evidence. First, we estimate alternative models including province fixed effects, firm fixed effects, and controls for firm previous performance and changing economic conditions across provinces and across industries over time. All these tests, even when we exploit only differences in the firms' ability to attract directors with foreign experience within the same province for the identification, are fully consistent with our previous results and strongly support the positive causal effect of board members with foreign experience on firm performance.

Second, we show that the policy changes affect positively firm performance only for firms that actually end up hiring a director with foreign experience, thus supporting our identifying assumption that the increase in supply is truly exogenous and unrelated to province-specific growth opportunities. This evidence also suggests that hiring directors with foreign experience is crucial and that our results are unlikely to be driven by similar talent hired at a lower rank.

Finally, since individuals with foreign experience are a relatively scarce resource in China and there exist companies that would like to employ directors with foreign experience, but are unable to do so for idiosyncratic reasons, we can use propensity scores and compare the performance of similar companies with and without directors with foreign experience. In other tests, we restrict the sample to firms that employ at least one director with foreign experience during the sample period. All these tests, in which we restrict the control sample to firms that are more homogeneous and more likely to experience the same shocks as the firms that actually hire directors with foreign experience, consistently indicate a positive

impact of directors with foreign experience on firm performance. This confirms that these directors are crucial to enable the changes in corporate policies.

This paper is related to a growing literature exploring the effects of board expertise and structure on performance (e.g., Cole, Daniel and Naveen, 2008; Klein, 1998). Adams, Hermalin and Weisbach (2010) provide a recent and comprehensive survey of this literature. Ahearn and Dittmar (2011) explore the effect of gender quotas in Norway on changes in board composition and firm performance. Particularly related to ours are papers exploring how directors' expertise affects corporate decisions and corporate governance. Most of these papers, spurred by the Sarbanes Oxley Act, focus on the effects of board independence and financial expertise (Agrawal and Chadha, 2005; Chhaochharia and Grinstein, 2009; Güner, Malmendier and Tate, 2008; Guthrie, Sokolowsky and Wan, 2012). To the best of our knowledge, this is the first paper exploring the effect of foreign experience and returnee migrants in corporate boards. Furthermore, while most of the existing literature focuses on the US, we explore the role of boards in an emerging market. Since underdeveloped financial systems lack sophisticated gatekeepers (e.g., domestic and foreign institutional investors and analysts) monitoring listed companies (Stulz, 1999), the impact of the board is potentially larger. Furthermore, directors could transmit know-how and managerial skills that are known to improve firm performance in emerging markets (Bloom et al., 2012).

Our work is also related to the literature exploring how foreign investment and foreign acquisitions improve firm performance (e.g., Guadalupe, Kuzmina and Thomas, 2012). We highlight that these benefits can accrue not only through foreign investment, but also by engaging individuals with certain skills in firm management and monitoring.

The rest of the paper is organized as follows. Section 2 discusses the institutional background in China and our research setting. Section 3 describes our identification strategy. Section 4 introduces our data sources and sample construction. Sections 5 and 6 present the

empirical results. Section 7 discusses the robustness tests. Section 8 concludes the paper. Variable definitions are in the Appendix.

2. BACKGROUND

2.1. The Chinese Environment

China is the largest emerging market and has experienced spectacular economic growth since the late 1970s, when it initiated an overhaul of its economic system. While the economy has a large surplus of unskilled labor, there is significant talent shortage. Multinational companies and domestic firms find that few Chinese university graduates have the necessary skills for service occupations, such as engineers, finance workers, accountants, quantitative analysts, generalists and life science researchers (Farrell and Grant, 2007). Little practical experience in projects or teamwork, poor English and, more in general, poor communication style and cultural fits are commonly adduced as limitations of local hires.

Farrell and Grant estimate that over the next 10 to 15 years, firms active in China will need 75,000 managers who can work effectively in an international environment; however, today they have only 3,000 to 5,000, mostly consisting of highly skilled returnee emigrants, who have worked or studied in developed economies.

Another problem constraining the growth of Chinese firms is poor corporate governance and, in particular, poor disclosure (Green, 2003; Gul, Kim and Qiu, 2010). In this regard, the board of directors may perform an important monitoring role. Newcomers that have been exposed to governance practices in developed countries may educate and coax the older guard of directors to begin to adhere to international standards of governance (Khanna, 2008).

Scarcity of managerial talent and poor corporate governance are problems common to many emerging markets. For this reason, we believe that from the experience of China, we

can draw broader conclusions on the effects that directors with foreign experience, and more in general, labor flows and return migration have on firm performance and corporate governance.

2.2. The Policies to Attract Highly Skilled Emigrants

While the Chinese political elite often had periods of studies abroad, the flows of students from China towards universities in the developed world became sizable in the early 1990s. After completing their studies, many Chinese immigrants also gained foreign work experience. Starting from the early 2000s, tens of thousands of individuals trained abroad have been returning to China. According to the China Statistical Yearbook 2006, while the number of individuals with foreign training returning to China in 1995 was about 5,000, the number of returnees had reached 35,000 in 2006. These returnees, often called "sea turtles", are mostly foreign-trained scientists and academics, who once in China may join corporate boards as dependent or independent directors.

The inversion of the brain drain was fostered by an environment of economic growth and political stability. However, government policies and inter-regional competition have favored the process. Starting in late 1990s, at different points in time, local governments adopted policies to attract highly skilled emigrants (Zweig, 2006). The policies adopted by the local governments include tax breaks, subsidized housing, tax-free imports of automobiles and computers, schooling for the children of the returnees, local grants and awards, medical benefits, jobs for spouses, and long-term residence permits. Only the most distinguished Chinese expatriates can benefit from these incentives.

The main objective of the policies was increasing the quality of academic and industrial research in China as well as fostering entrepreneurial activity and the entry of new businesses. In no case, the policies were targeted to publicly listed companies and their

boards. However, since directors in China are often university professors or researchers (Jiang, Wan and Zhao, 2011), the policies created a large pool of skilled individuals from which the board members of listed companies could be drawn.

We collect data on the timing of the incentives introduced by the local governments in mainland China from Wang, Zeng and Pu (2011), and verify the timing and type of policies through internet searches.[2] Table 1 provides detailed information on the timing of the policies. It is apparent that an earlier adoption of policies for reverting the brain drain is not necessarily related to regional economic development: While the highly developed Beijing and Guangdong were early adopters (in 2000 and 1999, respectively), so were the far less developed Inner Mongolia and Yunnan (in 2001). The highly developed Shanghai, on the other hand, implemented similar policies only in 2005.

Figure 1 provides a first glance at the relevance of the policies for the changes in board composition. Besides showing the fraction of board members with foreign experience for all provinces, before and after the policy adoption, it also shows the effect for Beijing, Shanghai and Guangdong, the provinces that attract most of the internal white and blue collar migration.[3] We observe a rise in the fraction of directors with foreign experience after the implementation of the provincial policies. On the aggregate, while in 1999 only 200 sample firms had at least one director with foreign experience, by the end of the sample 803 firms had at least one director with foreign experience (not tabulated).

3. IDENTIFICATION STRATEGY

Identifying the causal effect of board expertise on firm performance poses serious challenges because firms choose board structure optimally. The proportion of directors with

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[2] Our sample includes firms located in 22 provinces, 5 autonomous regions, and 4 municipalities (Beijing, Chongqing, Tianjin, and Shanghai). The municipalities are directly governed by the central government and enjoy the same status as provinces and autonomous regions.
[3] The results we report hereafter are not driven exclusively by Beijing, Shanghai and Guangdong as the estimates are invariant if we exclude all firms from these three regions from the sample.

foreign experience depends on firm characteristics. In particular, firms that are in the process of implementing certain changes and that would grow more, irrespectively from their board composition, could select or attract board members with foreign experience.

We argue that our sample of Chinese firms is ideal to explore this challenging issue because given the scarcity of individuals with foreign experience, not all firms that would like to hire directors with this characteristic are able to do so. Furthermore, the policies to attract highly skilled returnee migrants led to an (exogenous) increase in the supply of individuals with these skills that can join the board in some provinces, but not in others.

Since the labor market for board directors is largely local (Knyazeva, Knyazeva and Masulis, 2011), as shown in Figure 1 and, more formally, in Table 4 later on, in the years following the adoption of the policies, the number of board members with foreign experience indeed increases for firms in those provinces, but not for similar firms elsewhere. The policies can therefore be used to construct instruments that are relevant.

The supply shocks determined by the policies help us identify the causal effect as long as firms are not believed to experience contextual shocks, independently affecting their performance and corporate policies. Since the policies were not targeted to listed companies and their boards, there is no reason to believe that the adoption of the policies occurs contextually to a change in the firms' demand for directors with foreign experience.

Our instruments based on the policy changes could fail to satisfy the exclusion restrictions, however, if the firms in the provinces adopting the policies earlier in our sample differed along unobserved dimensions related to firm performance from the control firms and from the firms in provinces adopting the policies later on. We address this concern by including province fixed effects (or, in alternative specifications, firm fixed effects). While this approach allows us to control for the time-invariant characteristics of the firms incorporated in a province, unobserved time-varying heterogeneity across provinces could

still bias our estimates. For instance, provincial governors could issue policies in expectation of a change in the province's growth opportunities or demand for talent.

We address these concerns in several ways. First, we explore not whether firms perform better after the adoption of the policies, but whether they perform better than the median firm in their industry during the same year. Second, we design a test that exploits only *within* province (and within industry) variation as follows. After the introduction of the new policies, firms with certain *ex ante* characteristics (which we identify in Section 5.1) are more likely to attract individuals with foreign experience to their boards. We can thus test whether firms with *ex ante* characteristics that make them more likely to attract individuals with foreign experience to their boards grow more than the median listed firm within the province after the policy change (and therefore after the increase in the supply of individuals with foreign experience).

Ex ante firm characteristics, which we measure at the beginning of the sample period, are unlikely to predict future changes in firm performance, because we control in the second stage estimation for the contemporaneous firm characteristics. The identifying assumption is just that the effect of these firm characteristics on firm performance should not vary contextually to the policy change.

Taken jointly, these tests, together with the analysis of the changes in corporate policies that are generally set by the board, allow us to gauge the extent to which directors with foreign experience affect firm performance. We want to stress that our identification strategy allows us to identify the effect of directors with foreign experience from firms that increase the proportion of directors with foreign experience subsequently to the policy change. As Imbens and Angrist (1994) highlight in a similar context, firms in the provinces adopting the policies that are unable or unwilling to hire directors with foreign experience do not contribute to the identification (as in fixed effects estimates).

Thus, our estimates are valid as long as the control group includes predominantly firms that have similar growth opportunities and are as inclined to hire directors with foreign experience as the firms that actually hire them. For this reason, as discussed in Section 7, we explore to what extent our estimates vary if we limit the control sample by using propensity scores or, even more restrictively, by dropping firms that have no directors with foreign experience throughout the sample period.

4. DATA AND SAMPLE CHARACTERISTICS

4.1. Data Sources and Sample Construction

We hand-collect information on foreign education and work experience of the executive and non-executive directors of all non-financial companies in mainland China that are publicly traded on the A-share market during 1999-2009.[4] We manually collect the directors' bios from sina.com.cn finance and the companies' annual reports. We screen 33,707 directors' bios and cross-verify the information obtained from the bios through various news and internet searches. In this way, we obtain information on any academic degrees that the board member obtained abroad, on the academic institution granting the degree, on whether the director has worked abroad, and on the country where the director studied or worked. To ensure that foreign experience captures actual exposure to a foreign environment, we do not consider Chinese individuals who worked for a foreign branch of a Chinese company or for a Chinese branch of a foreign company or joint venture as having foreign (work) experience.

We consider only directors affiliated with companies with basic accounting and market information. We extract accounting information, stock prices, and the number of board

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[4] Chinese firms may issue three categories of shares: A shares, B shares, and H shares. A shares were originally issued for domestic investors, but since 2002 also foreign investors have been allowed to purchase them. B shares were originally issued for foreign investors; however, since March 2001, also domestic investors can hold B shares. Lastly, a limited number of firms can issue H shares on the Hong Kong Stock Exchange. In our sample, there are 52 firms with H shares. Before the 2005-2006 ownership reform, Chinese firms also issued non-tradable shares, which were held by the government and other domestic institutions.

members from the China Stock Market & Accounting Research Database (CSMAR), developed by GTA Information Technology, one of the major providers of Chinese data. After excluding firms with missing financial statements, our sample includes 1,738 firms for a total of 14,425 firm-year observations. We then apply the following filtering criteria. We first exclude 66 firm-year observations for which we have missing observations for sales, net income, number of employees, and market capitalization, and for which we are unable to compute the firm performance proxies that we describe below. We next exclude 12 firm-year observations for firms whose board has fewer than 2 directors or firms with missing information on the number of directors. We further exclude 16 firm-year observations with missing industry information. Our final sample consists of 1,733 unique firms and 14,331 firm-year observations; at the director level, we have a total of 33,707 unique directors and 138,092 individual-firm-year observations.

From the CSMAR database, we also obtain information on the tenure of board members, on the top 10 shareholders, on private placements, and on mergers and acquisitions. To define foreign ownership, we identify whether any of the top 10 largest shareholders is foreign through various news and internet searches. Our definition of foreign ownership includes foreign institutional, corporate, and individual investors, but excludes foreign branches of Chinese firms. In the same way, we establish the presence of foreign investors in private placements and foreign bidders or targets in merger and acquisitions.[5] From CSMAR, we also obtain information on CEO turnover from 2000 to 2009.

We gather information on firms' foreign sales from the Supplement Information on Sales in the annual reports starting from 2000.[6] Firms generally provide information on the regional breakdown of their sales. When a firm discloses its sales with regional breakdown

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[5] Private placements became common after 2006. Therefore, our sample period for private placements is 2006-2009.

[6] CSMAR began reporting the Supplement Information on Sales in 2002. We manually collect data on foreign sales for 2000-2001. Most of our sample firms did not disclose their sales by region in 1999. Therefore, the sample period for the foreign sales is 2000-2009.

and does not report any sales outside mainland China, we code the firm's foreign sales as zero. If a firm does not disclose the regional breakdown of its sales, we code the firm's foreign sales as missing.

Finally, we obtain information on firms' industries, block ownership, and government ownership from the CCER China Economic and Financial Database, managed by SinoFin Information Services. Firms are classified as state-owned if their largest ultimate shareholders are either the central or a provincial government.

4.2. Descriptive Statistics

Table 1 shows the number of firms and the number of firm-years affected by the policies. For instance, our sample includes 110 unique firms (831 firm-year observations) headquartered in Beijing; 161 unique firms (1,499 firm-year observations) headquartered in Shanghai; 229 unique firms (1,647 firm-year observations) headquartered in Guangdong. Importantly, the number of firms in different cities and provinces is such that each year we have a large sample of firms that are unaffected.

Panel A of Table 2 presents the main characteristics of the director level dataset. About 6.3 percent of the observations (or 8,758 director-firm-year observations) involve directors with some foreign education; of these, 2.9 percent or 4,014 director-firm-year observations refer to directors that made short-term visits, short-term training or post-docs in foreign academic institutes; 879 director-firm-year observations refer to directors with foreign bachelor degrees; 2,350 director-firm-year observations refer to directors with foreign master degrees; and 1,515 director-firm-year observations refer to directors with foreign doctoral degrees.

Most of the directors earned their highest foreign degree in the US (3,424 director-firm-year observations), followed by the UK (1,042 director-firm-year observations), Japan (924

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director-firm-year observations), Hong Kong (680 director-firm-year observations), Canada (468 director-firm-year observations), and Germany (426 director-firm-year observations). A considerable number of directors obtained degrees in a variety of other countries, such as Australia, Singapore, and Sweden. Consequently, it is a director's foreign experience, rather than exposure to some specific culture or language, which is more likely to explain our findings.

Besides foreign experience, we collect information on other characteristics of board members that are generally used in the literature. Starting from 2005, CSMAR reports a flag for directors that have positions in other companies. This flag indicates that most of the directors in our sample, and especially the directors with foreign experience, have another occupation besides being board members.

We report two alternative definitions of independent director. The first one captures whether the director is also an employee of the firm (because he or she receives a salary from that firm). Slightly over 60 percent of the directors can be defined independent according to this definition. The second definition of independence is more restrictive and, as in the US post Sarbanes-Oxley, aims to capture individuals who are not affiliated with the firm, except as directors, and do not have a relationship with the company that would interfere with their "independent judgment". According to the second definition, executives of the parent company or individuals who obtain fees as consultants are not considered independent.[7] About 27 percent of the director-firm-year observations are independent.

Panel B of Table 2 describes the firm-level dataset, which is at the center of the empirical analysis. We start by listing our firm performance proxies: the market to book ratio (MTB); a measure of firm profitability, the ROE; and the total factor productivity (TFP).[8] As is common in the literature (see, for instance, Schoar, 2002), we compute a firm's total factor

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[7] China did not enforce the presence of independent directors until 2001.
[8] We censor extreme values in the firm performance proxies as detailed in the appendix. The censoring, however, does not affect our results.

productivity as the residual, $\hat{\epsilon}_{it}$, of the following firm level regression $y_{ijt} = \alpha_{jt} + \beta_{jt}l_{ijt} + \gamma_{jt}k_{ijt} + \delta_{jt}m_{ijt} + \epsilon_{ijt}$, where y_{ijt} are the logarithm of sales of firm i belonging to industry j during year t, l_{ijt} is the logarithm of the number of workers of firm i during year t, k_{ijt} is the logarithm of the total assets of firm i during year t, and m_{ijt} are the logarithm of the expenses for material and other inputs of firm i during year t. We estimate all equations by industry and year. For this reason, our estimate of total factor productivity captures a firm's deviation from the factor productivity within its industry in a given year.

We then present the firm-level variables capturing board expertise. While in the empirical analysis we almost exclusively rely on the proportion of board members with foreign experience, we also report their number and a dummy variable taking a value of one if the firm has at least one director with foreign experience and taking a value of zero otherwise. Approximately 46 percent of the observations in our sample refer to firm-years in which firms have at least one director with foreign experience.[9]

Our dataset contains information on board structure and ownership structure. On average, Chinese firms have slightly less than 10 board members. Thus, board size is slightly smaller than in the U.S. where on average, listed companies have about 12 directors (Yermack, 1996).

We control for the percentage ownership of the largest shareholder. Existing literature (e.g., McConnell and Servaes, 1990; Morck, Shleifer and Vishny, 1988) highlights that ownership concentration may improve performance, because it strengthens shareholders' incentives to monitor. Government ownership is another important control as central and local governments own shares in nearly 70 percent of the firm-year observations in our sample.

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[9] In unreported specifications, we also distinguish between directors with foreign experience that are directly involved in management (such as CEOs and Chairmen of the Board) and other directors with foreign experience. While our findings are qualitatively invariant, we do not find any differences between the two, highlighting the importance of both the advising and the monitoring role of the board.

Last, but not least, we control for foreign ownership. Foreign blockholders are believed to bring superior technology, organizational capital, and access to international capital markets (see for instance, Chari, Chen and Dominguez 2009; Desai, Foley and Forbes, 2007; Haskel, Pereira and Slaughter, 2007). Regulatory restrictions on foreign ownership of listed companies and on the activities of foreign financial institutions, however, significantly limit the role of foreign owners in Chinese listed companies. This is also apparent from the fact that foreigners own about 2 percent of the stocks of our sample firms. Nevertheless, to the extent that firms with a foreign blockholder are more likely to engage directors with foreign experience, without including this control, we could erroneously ascribe changes in performance due to changes in foreign ownership to changes in board attributes.

Panel C of Table 2 reports the industry distribution of firms with directors with and without foreign experience. While all industries have firms with directors with foreign experience, the industries in which more firms do so are machinery, gas and chemistry, metal, information technology and pharmaceutical products. Unsurprisingly, these are industries in which scientific knowledge acquired abroad may play a particularly important role.

Table 3 compares the characteristics of firms that eventually hire directors with foreign experience in the years before they have done so with those of firms that do not hire directors with foreign experience during the sample period, our (main) control group. In comparison to the control group, firms that end up hiring directors with foreign experience appear to have similar growth opportunities (market to book ratio), profitability (ROE) and conduct a similar number of foreign M&A transactions and private placements, indicating that there are no pre-existing differences. However, firms that end up hiring directors with foreign experience appear to have higher total factor productivity and foreign sales. These firms are also smaller,

have a slightly larger board size, a slightly lower leverage, are more likely to have the government or a block holder as shareholders.

To take into account these *ex ante* differences, we control for these firms characteristics as well as for industry or firm fixed effects throughout the analysis. In some robustness tests, we also restrict the control sample to firms that are *ex ante* more similar to the ones with foreign directors either using propensity scores or focusing only on firms that end up hiring directors with foreign experience during the sample period.

5. RESULTS

5.1. Which Firms Have Directors with Foreign Experience?

Table 4 relates the proportion of directors with foreign experience to firm characteristics and alternative variables capturing the provincial policies to attract highly skilled emigrants.[10] It shows that firms with a greater proportion of directors with foreign experience have a higher level of foreign ownership and are less likely to have the government as shareholder. It also appears that these firms are larger and more profitable. However, once we control for firm fixed effects, in column 2, board structure seems to be affected only by ownership characteristics and firm size.[11] The effect of foreign ownership is not only statistically significant but also economically significant: A one-standard-deviation increase in foreign ownership increases the proportion of directors with foreign experience by nearly 4 percentage points.[12]

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[10] Even though our dependent variable is truncated at zero and one, here, we estimate parameters by ordinary least squares instead of using a Tobit model. The Tobit estimator relies on the distributional assumptions and is inconsistent when disturbances are non-normal (Arabmazar and Schmidt, 1982). In contrast, in a standard linear regression model, the ordinary least square estimator is unbiased and consistent even when the assumption of normality of the disturbances is violated.

[11] Importantly, in unreported results, we do not find that the percentage of directors with foreign experience is followed by an increase in foreign ownership.

[12] Results are qualitatively similar if instead of the proportion of directors with foreign experience, we use the number of directors with foreign experience (and control for board size) or, alternatively, a dummy variable that takes a value of one if the firm has at least one director with foreign experience. For brevity, we do not tabulate these results.

Starting from column 3, we explore the role of the provincial policies. We construct a dummy variable that takes a value of one for firms incorporated in the province in the years following the adoption of the policy. As expected, the dummy capturing the timing of the policy changes has a positive and statistically significant effect on the proportion of board members with foreign experience.

In column 4, we consider how the effect of the policy differs across firms with different ownership structures. It appears that firms that have a foreign blockholder or the government as shareholders are more likely to be able to attract directors with foreign experience after the implementation of the policy (although the effect of the interaction of the policy dummy with the dummy capturing government ownership is not statistically significant at conventional levels).

The effect of the policies we highlight is in excess of a province-specific (linear) trend, indicating that after the policy adoption the proportion of directors with foreign experience increases faster than during previous years in that province, and it is highly significant even if we cluster errors at the year level to account for eventual common shocks leading to a higher proportion of directors with foreign experience. This indicates that the timing of the policies adoption can be used to construct instruments for the proportion of directors with foreign experience. The Staiger-Stock (1997) F-statistics, which we present in columns 3 and 4, reveals that the instruments based on the policies (that is, the policy dummy in column 3 and the policy dummy and the interaction of the policy dummy with firm ownership characteristics in column 4) can be strong instruments for the proportion of directors with foreign experience.

Below, we construct instrumental variables for the proportion of directors with foreign experience using the policy dummy. As explained in Section 3, to be able to design the within province tests, we further instrument the proportion of directors with foreign

experience with interactions of the policy dummy and the *ex ante* firm ownership characteristics. We use the percentage of foreign ownership, state ownership and the fraction of shares held by the largest shareholder at the beginning of the sample period. In the second stage estimation, we control for the contemporaneous effect of these firm characteristics.

5.2. Directors with Foreign Experience and Firm Performance

We study whether a larger proportion of directors with foreign experience is associated with better firm performance. Table 5 focuses on corporate valuations, as measured by the market-to-book ratio (MTB). In all columns but 6, we define the MTB in deviation from the industry-year median by subtracting from the firm's MTB the industry median MTB in year t. In this way, we capture the ranking of firms within an industry and are able to abstract from industry shocks.[13]

In columns 1 through 3, we present the ordinary least square estimates, first, using a limited set of controls, then, controlling for ownership structure, and finally, including also firm fixed effects. Although the parameter estimate of our variable of interest becomes smaller especially when we add firm fixed effects, we always find a positive effect of a higher proportion of directors with foreign experience on performance.

In columns 4 to 6, we present the instrumental variable estimates. In all cases, the estimates indicate a positive and significant effect of a higher proportion of directors with foreign experience on firm valuations. In particular, the results cannot be interpreted to depend on differences in growth opportunities across industries as the dependent variable is defined in deviation from the MTB of the median firm in the industry in year t. In column 5, we include province fixed effects, which account for time-invariant firm heterogeneity across

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[13] Our results do not depend on the fact that we use industry-adjusted variables. In unreported specifications, we estimate the ordinary least squares specifications by including industry times year effects and/or province times year effects. The results are similar to the ones we report.

provinces. Results are similar if, instead of the province fixed effects, we include firm fixed effects.

In other (unreported) specifications, we control for the aggregate GDP growth in the province (instead of the province fixed effects), to take into account time-varying growth opportunities across provinces. Both our ordinary least squares and instrumental variable estimates are similar to the ones we report.

In columns 6, we account for differences in time-varying growth opportunities across provinces by subtracting from the firm's MTB the median MTB of the firms in the same province in year t as well as the median MTB of the firms in the same industry in year t. The estimates continue to imply a positive effect of the directors with foreign experience on firm valuation and indicate that precisely the firms that are more likely to attract directors with foreign experience perform better after the introduction of the policy. If anything, fully accounting for time-invariant heterogeneity increases the magnitude of the coefficient of our variable of interest.

Importantly, the effects we highlight are not only statistically significant, but also economically large, especially when we exploit the exogenous variation in the proportion of directors with foreign experience. Using the ordinary least square estimates in column 3, a one-standard deviation change in the proportion of directors with foreign experience leads to a 0.04-standard deviation change in the dependent variable, an overall tiny number.[14] By contrast, in column 5, when we consider only the variation in the proportion of board members with foreign experience due to the provincial policies, a one-standard deviation change in the proportion of directors with foreign experience leads to an economically more relevant 0.82-standard deviation increase in the market to book of the firm, a change sufficient to bring a firm with median valuation to nearly the 80th percentile.

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[14] We obtain the economic magnitude of the coefficients using the standard deviation of the industry-year-adjusted market to book ratio, which is 1.195.

This large increase in the parameter estimates has an intuitive economic interpretation. The proportion of directors with foreign experience captures *all* directors with foreign experience. However, directors have different foreign experiences and some of these experiences can certainly be more valuable for firms than others. Since the policies were directed only to individuals with the most distinguished backgrounds, when we exploit the exogenous variation, we concentrate on the most skilled individuals, who can make the most valuable contributions to firm performance. It is therefore natural that we obtain stronger results.

Table 6 and Table 7 repeat the same set of exercises for two other measures of firm performance, total factor productivity and profitability, respectively. Since we expect any effects on accounting profits to be delayed, we consider profitability not during the year in which the policy is implemented, like for the other performance measures, but one year afterwards. The estimates are still strongly supportive of a positive effect of directors with foreign experience on performance. For instance, based on column 5 in each table, a one-standard-deviation increase in the fraction of directors with foreign experience can bring a firm with median productivity to the 65th percentile and a firm with median ROE to have an ROE slightly above the 75th percentile.

6. WHAT DO DIRECTORS WITH FOREIGN EXPERIENCE DO?

The causal mechanism behind our maintained hypothesis that directors with foreign experience positively affect firm performance implies that the way in which firms are run changes when directors with foreign experience join the board. We thus explore whether directors with foreign experience affect policies that are a prerogative of the board, such as firm internationalization and corporate governance.

First, we ask whether the probability that the firm does an international merger or acquisition, as opposed to a domestic deal, is larger when a higher proportion of the firm's board members have foreign experience. As before, we present ordinary least squares and instrumental variable estimates. The estimates in columns 1 and 2 in Panel A of Table 8 indicate that this is the case. In column 3, we interact the proportion of directors with foreign experience and a dummy for whether the target firm is from the same country in which any of the directors obtained the foreign experience. The coefficient of the interaction term is positive and highly significant, fully supporting the causal interpretation of the empirical evidence.

Second, we consider capital raising activities and in particular whether firms do private placements with international or domestic investors.[15] By considering only firms that do a private placement, we keep the demand for equity constant. We also control for whether a firm has issued B shares and/or H shares in addition to A shares, as a firm's ability to engage foreign investors depends on whether foreign investors can trade its shares. Our data on private placements starts in 2006, which significantly reduces the sample size and explanatory power of the instruments. Nevertheless, columns 4 and 5 in Panel A of Table 8 indicate that a higher proportion of directors with foreign experience increases the probability that the firm makes a private placement with a foreign investor.[16]

Third, we examine the impact of a larger portion of directors with foreign experience on firms' foreign sales. Columns 6 and 7 in Panel A of Table 8 provide the OLS and IV estimates. A higher proportion of directors with foreign experience is associated with a larger fraction of sales outside mainland China in comparison to other firms in the same industry during that year. Also in this case, the coefficient of the fraction of directors with foreign

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[15] Our sample includes few cross-listed firms, because our sample firms are traded in the Chinese A-share markets, which imply that their first listing was in mainland China. Chinese cross-listed firms generally list first in the foreign market, and only relatively few of them afterwards obtain a listing in China.

[16] We present the OLS and IV results so that the coefficients are comparable. In unreported tests, we estimate logit models for foreign mergers and acquisitions and for foreign private placement. We find similar results.

experience is larger when we use instrumental variables. Overall, these findings suggest that board members with foreign experience help to shape the international activity of the firm.

Lastly, in Panel B of Table 8, we consider two aspects of corporate governance, earning management and CEO turnover. Better governed firms should be more transparent and manage their earnings to a lower extent. Following Stubben (2010), we construct a proxy for earnings management from the residuals of a regression for discretionary revenues that we run for each industry and year.[17] In columns 1 and 2 of Panel B, we find that a higher proportion of directors with foreign experience is associated with a lower degree of earnings management.

Next, in column 3 of Panel B, we estimate how the presence of directors with foreign experience affects the probability of CEO turnover. A higher proportion of directors with foreign experience increases the probability of CEO turnover in firms with relatively poor performance, as the negative and significant coefficient of the interaction term between the proportion of directors with foreign experience and the firm's ROA indicates. Overall, the estimates suggest that directors with foreign experience facilitate firm internationalization and improve corporate governance.

7. ROBUSTNESS

7.1. Directors or Other Employees?

A potential alternative explanation of our results is that, while the policies to attract talented emigrants with foreign experience indeed had a positive impact on firm performance, this may have affected firms also through other channels, such as the hiring of returnee emigrants in positions other than the board of directors. Such an explanation would be broadly consistent with the positive effect of human capital we highlight, especially if

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[17] For this reason, in these specifications, we do not include industry fixed effects and do not subtract from the dependent variable the industry-year median.

directors with foreign experience facilitate the recruitment of a few other employees with foreign experience.

A generalized change in the labor force of all firms affected by the provincial policies is instead unlikely to explain our findings. First, as we show in Section 6, corporate policies that are typically set by the board, and not by lower level employees, change after the arrival of directors with foreign experience.

Second, the highly talented returnee emigrants benefiting from the policies are a tiny proportion of the Chinese population and the workforce of each province (during the sample period, the number of returnee emigrants goes from less than 5,000 to around 30,000 in a population of over 1.3 billion and only a small fraction of these were sufficiently highly skilled to benefit from the policies). Thus, the policies we consider cannot have changed the composition of the labor force of the large listed companies in our sample. Even if firms hired a few individuals with foreign experience in non-director positions, these could plausibly have a tiny effect on the firm's overall performance, which we would be unlikely to be able to uncover. Directors affecting the firm's strategy and corporate governance can more plausibly generate the effects that we highlight. Consistently, with this explanation, in unreported specifications, we do not find any changes in the total wages paid by the sample firms to lower level employees, which should presumably reflect (large) changes in the labor force composition of the firm.[18]

Nevertheless, we test whether the policies matter predominantly through the composition of the board of directors as follows. We ask whether the adoption of a policy for attracting highly talented returnee emigrants affects all firms in the province or rather only the firms with a non-zero proportion of directors with foreign experience, as we would expect if the impact of the policies were exclusively through the composition of the board of

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[18] This is not inconsistent with the fact that, as we discuss in Subsection 7.4, we do not find an effect on director compensation, as being a board member of a listed company is a prestigious position *per se* and does not involve a full time commitment.

directors. Our estimates in Table 9 clearly indicate that the effect of the policies is through the composition of the board. While the policies appear to have a positive effect on all three measures of performance for firms that end up having at least one director with foreign experience, the effect for the remaining firms in the province is negative and is not statistically different from zero, indicating that the directors' foreign experience is crucial.

7.2. Foreign Experience vs. Other Board Characteristics

So far we have shown that directors with foreign experience affect firm performance and corporate policies. However, it is possible that these highly skilled returnee emigrants change the structure of the board along other dimensions that are known to affect performance. For this reason, we explore whether the proportion of directors with foreign experience is still positively related to performance if we control for other characteristics of the board. We include controls for the following board characteristics: the average tenure of the directors, the proportion of board members who are also employed in the firm,[19] board size, the average age of board members, the proportion of female directors, the proportion of directors that attended and/or worked for either Tsinghua University or Peking University, which are considered the Chinese most selective universities, the proportion of foreign board members, the proportion of board members with political connections, and the proportion of busy directors.

Tenure and board independence are sometimes believed to capture board entrenchment and may thus characterize boards that are less effective in performing their monitoring function. Others, however, argue that directors with longer tenures or who hold posts in the firm may have better information and are more effective advisors. Since, given the nature of

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[19] Since China did not enforce the broader definition of independent directors until 2001, for the whole sample, we can only control for board independence using the fraction of directors employed by the firm, an inverse measure of board independence.

our experiment, directors with foreign experience have shorter tenure, it is important to control for the average tenure of the board members.

Similarly, board size is often considered to influence the effectiveness of the board. Some argue that large boards are less effective because of coordination problems. Others object that firms with large boards are able to draw from a broader range of expertise. The arrival of directors with foreign experience may increase board size. To the extent that boards become too large, the negative effect of board size may attenuate the positive effects of their expertise on firm performance.

By the same token, some associate busy directors (that is, directors who belong to the corporate board of more than one firm) with ineffective monitoring (Core, Holthausen and Larcker, 1999; Fich and Shivadasani, 2006), while others argue that busy directors have more experience and better connections, and thus can help improve firm value (Field, Lowry and Mkrtchyan, 2011). To the extent that directors with foreign experience are busier, this could also affect our findings.

Demographic characteristics are often included as controls in studies exploring the effect of board structure on firm performance. In particular, the proportion of directors that attended the Chinese most selective universities allows us to control for the extent to which the proportion of directors with foreign experience may be correlated with the directors' innate abilities and quality of education, rather than with their foreign experience.

Masulis, Wang and Xie (2012) show for US listed companies that foreign individuals may bring expertise. However, because of physical distance and cultural differences, they appear not to be effective monitors, even in a high transparency environment like the US, and are in fact extremely rare (especially, in our sample). Consistently with this evidence, our estimates indicate that foreign directors are not as beneficial for firm performance as the Chinese directors with foreign experience.

Furthermore, board members' political connections are particularly important in the Chinese context. Fan, Wong and Zhang (2007) show that Chinese companies with politically connected CEOs are more likely to appoint bureaucrats, rather than professionals, to the board and underperform those without politically connected CEOs. The concern may thus arise that board members with foreign experience are hired by the most efficient companies without political connections and that this may be driving our results. This is unlikely because our results are invariant when we include firm fixed effects and when we control for state ownership, a proxy for formal political connections. Furthermore, the empirical evidence on the effect of political connections on firm performance is mixed. Calomiris, Fisman and Wang (2010) find a positive effect of political connections on firms' valuations. Similarly, Cao et al. (2011) find that CEOs with political career concerns improve firm performance. Nevertheless, we further address this criticism and control for the political ties of the directors by including the proportion of politically connected board members, which, following Fan, Wong and Zhang (2007) and Calomiris, Fisman and Wang (2010), we define as directors that are currently or were previously employed as bureaucrats by the central or by a local government.

Table 10 shows that the effect of board members with foreign experience is unchanged when we control for other characteristics of the board. For brevity, we report only the instrumental variable estimates.

7.3. Propensity Scores

Our main analysis is based on the whole sample of publicly traded companies. Since individuals with foreign experience are a relatively scarce resource in China, our control sample largely consists of firms that would like to employ directors with foreign experience, but are unable to do so for idiosyncratic reasons, even though they are similar to firms that

have directors with foreign experience. To further refine our control sample and check the robustness of our findings, we use a propensity score framework.

For firms employing directors with foreign experience, we use a nearest neighbor matching estimator based on year, industry, size and leverage to create a matching sample of firms without directors with foreign experience. We then compare the performance of matched firms with and without directors with foreign experience by re-estimating Tables 5 to 7. The results in columns 1 to 3 of Table 11 show that our estimates are unaffected.

In other unreported tests, we re-estimate Tables 5 to 7 excluding any firms that never have directors with foreign experience during the sample period. Also in this case the estimates remain qualitatively and quantitatively similar to the ones we present.

7.4. More Evidence on (the Absence of) Selection Effects

Could firms that attract directors with foreign experience differ along dimensions that independently lead to the changes in performance and corporate policies we have highlighted? The tests we have presented so far indicate that this is unlikely and, in particular, that differences across provinces do not drive our findings. In this section, we provide further evidence that other types of firm heterogeneity are also unlikely to drive our findings.

In columns 4 to 6 of Table 11, we re-estimate the main equations in Tables 5, 6 and 7 including firm fixed effects and the lagged dependent variable as a control. For brevity, we report only the instrumental variable estimates. It is apparent that directors with foreign experience, if anything, have a larger effect in firm performance when we fully absorb firm time-invariant heterogeneity and control for any time-varying heterogeneity captured by the firm's previous performance.

Further, independent evidence supporting our identification strategy comes from the analysis of the compensation of board members. We surmise, as general equilibrium models

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of the allocation of talent imply (e.g., Murphy and Zabojnik, 2004), that if directors with foreign experience sort in firms with higher demand for their skills, then these firms should pay more for their services.

In unreported tests, we find unambiguous evidence that this is not the case. Firms with directors with foreign experience do not pay (all) their directors more. Moreover, within these firms, directors with foreign experience are not paid more than other directors. Thus, this evidence indicates, consistently with our previous tests, that no bidding process occurs and that directors with foreign experience do not sort across firms on the basis of firms' unobservable characteristics. In particular, directors with foreign experience are unlikely to have joined companies in which their skills are needed more than in others. It rather appears that the widespread scarcity of talent in China makes the control sample of firms that do not employ directors with foreign experience highly comparable.

7.5. The Quality of Foreign Experience

In other tests that we do not report for brevity, we distinguish between foreign work experience and education. If we focus on foreign work experience, we find that it increases firm performance. However, if we run a horse race between foreign education and foreign work experience, the effect of foreign education appears to be more important than the effects of foreign work experience. This may depend on the fact that individuals with foreign work experience also have foreign education and that a foreign education allows to access better foreign work experience.

In Table 12, we compare the effect of (any) foreign education and of foreign education that led to a foreign academic degree. In all cases, we find that the coefficient of foreign education that led to an academic degree is larger and more precisely estimated (although the difference between foreign experience and foreign experience that led to an academic degree

is statistically significant only for TFP), further supporting the causal interpretation of our findings.

8. CONCLUSIONS

The brain drain from emerging markets may not only have costs, but also positive, indirect, benefits. Talented individuals migrating to foreign countries accumulate knowledge and skills. If these highly skilled emigrants ever decide to return, the experience they gained abroad can benefit their home country and the brain drain becomes a brain gain.

This paper documents a specific channel leading to brain gain. We show that when individuals with foreign experience join corporate boards, firm performance improves and firms are run differently. The positive causal effects on firm valuations are large relative to the compensation of board members, which is moderate in China, and suggest that the externalities created by highly skilled returnee emigrants in emerging economies are potentially large.

We argue that the positive effects on firm performance we document depend on the adoption of superior management practices, improvements in corporate governance and easier access to foreign investors and technologies through M&As. The externalities created by highly skilled returnee emigrants are unlikely to be confined to the universe of listed companies and are likely to be found, and potentially be even larger, also in entrepreneurial firms or universities and education, the main target of the policies. We consider this an exciting area for future research.

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Appendix: Variable Definition and Construction

Variable	Definition and Data Source
Age	The difference between the current year and the director year of birth. Source: Manual collection and CSMAR database.
Average Age	Average age of a firm's directors. Winsorized at 1% and 99% levels.
Average Tenure	Average tenure of a firm's directors. Winsorized at 1% and 99% levels.
Assets	Total assets of the firm (in RMB 100 millions). Winsorized at 1% and 99% levels. Source: CSMAR database.
Block	Fraction of shares held by the largest shareholder. Winsorized at 1% and 99% levels. Source: CCER database.
Board Political Connection	Fraction of politically connected directors in the board. A director is defined as politically connected if he or she is a current or former government bureaucrat following Fan et al. (2007) and Calomiris et al. (2010). Winsorized at 1% and 99% levels. Source: Manual collection.
Board Size	The number of directors. Winsorized at 1% and 99% levels. Source: CSMAR database.
Busy Directors (Fraction)	Fraction of directors who sit on the boards of two or more publicly traded firms. Winsorized at 1% and 99% levels. Source: Manual collection and CSMAR database.
CEO Turnover	A dummy equal to one if there is a CEO turnover in a given year. Source: Manual collection and CSMAR database.
Directors with Foreign Experience Dummy	A dummy variable equal to one if at least one director has either foreign working experience, or foreign education, or both, and zero otherwise. Source: Manual collection.
Dummy for B/H-share	A dummy variable equal to one if a firm has B and/or H shares in addition to A shares. Source: CSMAR database.
Earnings Management	Following Stubben (2010), for each year-industry group, we regress the change in gross accounts receivable scaled by total assets at the beginning of the year on Δsales (change in sales scaled by total assets at the beginning of the year), the interactions between Δsales and log of total assets, between Δsales and log of firm's age, between Δsales and sales growth adjusted by industry-year median if the latter is greater than 0, between Δsales and sales growth adjusted by industry-year median if the latter is smaller than 0, between Δsales and gross profit margin adjusted by industry-year median, as well as the interaction between Δsales and the square of the log of firm's age, and the interaction between Δsales and the square of gross profit margin adjusted by industry-year median. We then take the absolute value of the residual. Winsorized at 1% and 99% levels. Source: CSMAR database.
Employed Directors (Fraction)	Proportion of directors who receive a salary from the firm. Winsorized at 1% and 99% levels. Source: Manual collection.
Female Directors (Fraction)	Proportion of female directors. Winsorized at 1% and 99% levels. Source: Manual collection.

Foreign Directors (Fraction)	Proportion of directors that are foreign nationals. Winsorized at 1% and 99% levels. Source: Manual collection.
Foreign Education	Fraction of directors with foreign education. Source: Manual collection.
Foreign Experience	Fraction of directors with foreign experience. Calculated as the number of directors that have either foreign working experience, or foreign education, or both, scaled by the total number of board directors. Winsorized at 1% and 99% levels. Source: Manual collection and CSMAR database.
Foreign M&A	A dummy equal to one if at least one of the merger & acquisition transactions announced by a sample firm in a given year involves a foreign target firm, and zero if the M&A transactions announced by a sample firm in a given year involve no foreign targets. Source: Manual collection and CSMAR database.
Foreign Ownership	Fraction of shares held by foreign investors. Winsorized at 1% and 99% levels. Source: Manual collection.
Foreign Private Placement	A dummy equal to one if at least one of the private placements filed by the firm in a given year is targeted to foreign investors, and zero if none of these private placements is targeted to foreign investors. Source: Manual collection and CSMAR database.
Foreign Sales	Foreign sales as a fraction of total sales. Winsorized at 1% and 99% levels. Source: Manual collection and CSMAR database.
Foreign Work Experience	Fraction of directors with foreign work experience. Source: Manual collection.
Leverage	Total liabilities divided by total assets. Winsorized at 1% and 99% levels. Source: CSMAR database.
MTB	Market-to-book ratio. Constructed as the sum of the market value of equity and book value of total liabilities, scaled by the book value of total assets. We censor this variable if it is above 10 or below 0. Source: CCER and CSMAR databases.
Number of Directors with Foreign Experience	The total number of directors that have either overseas working experience, or foreign education, or both. Winsorized at 1% and 99% levels. Source: Manual collection.
ROA	Operating income divided by total assets. Winsorized at 1% and 99% levels. Source: CSMAR database.
ROE	Net income divided by total equity. The sample period for this variable is 1999-2010. We censor this variable if it is above 2 or below -2. Source: CSMAR database.
Size	Natural log of total assets. Winsorized at 1% and 99% levels.
State	A dummy variable equal to one if a firm is government controlled or owned, and zero otherwise. State ownership includes central and provincial government ownership. Source: CCER database.
Tenure	One plus the difference between the current year and the year when an individual joined the firm's board of directors. Source: Manual collection and CSMAR database.

TFP	Total factor productivity. Defined as in Schoar (2002). For all firms in an industry and a given year, we regress the natural logarithm of sales on the natural logarithm of its total assets, the natural logarithm of its total number of employees, and the natural logarithm of cash payments for raw materials and service. The firm's TFP is computed as the residual of this regression. Winsorized at 1% and 99% levels.
Chinese University (Fraction)	Fraction of directors that graduated from and/or worked for Peking University and/or Tsinghua University, the two top universities in China. Winsorized at 1% and 99% levels. Source: Manual collection.

Figure 1
Fraction of Directors with Foreign Experience

This figure presents the fraction of directors with foreign experience before and after the implementation of the provincial policies to encourage the return of highly skilled emigrants in the event time. The first two columns compare the fraction of directors with foreign experience before and after the implementation of the policies for firms in each of the provinces. We also compare the fraction of directors with foreign experience for the firms located in Beijing, Shanghai, and Guangdong before and after the implementation of the policies in each of these provinces.
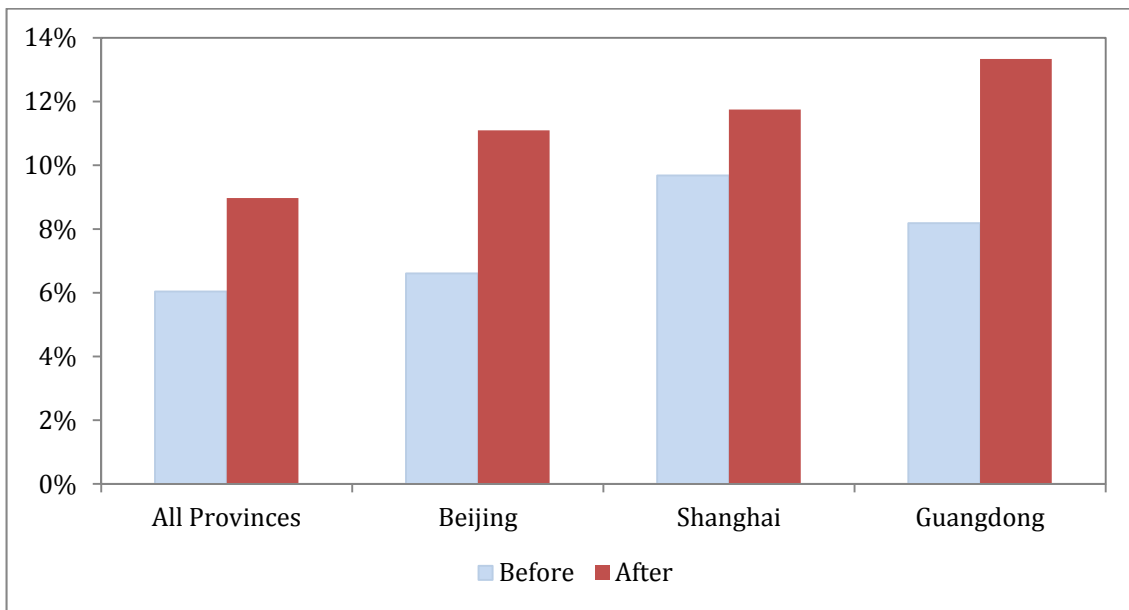
Table 1
Policies to Attract Highly Skilled Emigrants

This table reports the year of the policy adoption, the number of unique sample firms, and the number of firm-year observations for each province that implements a policy to attract highly talented emigrants. The sample period is 1999-2009. "Issuing year" is the year when the policy was adopted. "After" refers to firm-year observations after the issuing year. "Before" refers to firm-year observations before and during the issuing year.

Province	Issuing year	# of unique firms	# of firm-year observations		
			Total	Before	After
Anhui	1994	59	436	0	436
Beijing	2000	110	831	92	739
Chongqing	2005	30	293	180	113
Fujian	2000	62	488	71	417
Gansu	2003	23	202	82	120
Guangdong	1999	229	1,647	114	1,533
Guangxi	2005	27	232	133	99
Guizhou	2003	18	158	56	102
Hainan	2001	23	219	58	161
Hebei	2001	39	347	74	273
Heilongjiang	2002	33	330	120	210
Henan	1992	44	346	0	346
Hubei	2002	66	622	207	415
Hunan	2001	53	439	90	349
Inner Mongolia	2001	23	215	50	165
Jiangsu	2004	127	930	391	539
Jiangxi	2003	27	242	88	154
Jilin	2001	39	356	90	266
Liaoning	1999	61	554	43	511
Ningxia	2003	11	114	49	65
Qinghai	1999	10	99	7	92
Shaanxi	1995	30	260	0	260
Shandong	2005	105	813	445	368
Shanghai	2005	161	1,499	924	575
Shanxi	2007	26	232	183	49
Sichuan	2005	80	685	415	270
Tianjin	2001	28	245	49	196
Tibet	N/A	9	80	N/A	N/A
Xinjiang	2003	34	278	103	175
Yunnan	2001	27	234	51	183
Zhejiang	2001	135	905	143	762

Table 2
Summary Statistics
Panel A: Director Characteristics

This panel summarizes the characteristics of the directors of our sample firms from 1999 to 2009. The unit of observation is the director-firm-year. "Director with foreign experience" is a dummy equal to one if a director has either foreign education or foreign work experience, and zero otherwise. "Director with foreign work experience" is a dummy equal to one if a director has foreign work experience, and zero otherwise. "Director with foreign education" is a dummy equal to one if a director has foreign education, and zero otherwise. "Foreign visiting scholar/training/postdoc" is a dummy variable equal to one if a director was a visiting scholar, post-doc or did a short-term training program, and zero otherwise. "Foreign bachelor degree" is a dummy variable equal to one if a director holds a bachelor degree from a foreign country, and zero otherwise. "Foreign master degree" is a dummy variable equal to one if a director holds a bachelor degree from a foreign country, and zero otherwise. "Foreign doctoral degree" is a dummy variable equal to one if a director holds a doctoral degree from a foreign country, and zero otherwise. "Age" is the difference between the current year and the birth year of the director. "Female director" is a dummy variable equal to one if the director is female, and zero if male. "Tenure" is one plus the difference between the current year and the year when the individual joined the board of a given firm. "Director employed in the firm" is a dummy variable equal to one if a director also receives a salary as an employee of the firm, and zero otherwise. "Independent director" is a dummy variable equal to one if a director is an independent director, defined according to the China Securities Regulatory Commission as an individual who is not affiliated with the firm except as a director, and does not have a relationship with the company that would interfere with independent judgment. "Foreign director" is a dummy variable equal to one if a director is a foreign national and zero otherwise. "Busy director" is a dummy variable equal to one if a director sits on the boards of two or more publicly traded companies and zero otherwise. "Politically connected director" is a dummy variable equal to one if a director is a current or former government bureaucrat and zero otherwise.

	Mean	Median	Std. Dev.	# of obs.
Director with foreign experience	0.081	0	0.272	138,092
Director with foreign work experience	0.032	0	0.176	138,092
Director with foreign education	0.063	0	0.244	138,092
Foreign visiting scholar/training/postdoc	0.029	0	0.168	138,092
Foreign bachelor degree	0.006	0	0.08	138,092
Foreign master degree	0.017	0	0.129	138,092
Foreign doctoral degree	0.011	0	0.104	138,092
Age	48.203	47	8.893	138,073
Female director	0.097	0	0.296	138,092
Tenure	2.005	2	1.051	138,092
Director employed in the firm	0.391	0	0.488	137,971
Independent director	0.272	0	0.445	138,092
Foreign director	0.004	0	0.062	138,092
Busy director	0.161	0	0.367	138,092
Politically connected director	0.196	0	0.397	138,092

Table 2 Continued.
Panel B: Firm Characteristics

This panel reports the summary statistics for the sample firms between 1999 and 2009.The unit of observation is the firm-year. ROE is the firm's return on equity led by one year. All other variable definitions are in the Appendix.

	Mean	Median	Std. Dev.	# of obs.
MTB	2.401	1.958	1.44	14,068
TFP	0.001	-0.007	0.266	13,144
ROE	0.047	0.065	0.193	13,743
Foreign Experience	0.081	0	0.111	14,331
Number of Directors with Foreign Experience	0.768	0	1.069	14,331
Directors with Foreign Experience Dummy	0.462	0	0.499	14,331
Board Size	9.433	9	2.112	14,331
State	0.696	1	0.46	14,331
Foreign Ownership	0.023	0	0.074	14,331
Block	0.403	0.386	0.167	14,331
Assets (RMB 100 millions)	32.71	14.53	61.96	14,331
Leverage	0.504	0.488	0.25	14,331
ROA	0.028	0.037	0.085	14,331
Average Tenure	1.986	2	0.835	14,331
Average Age	48.096	48.111	3.986	14,331
Busy Directors (Fraction)	0.160	0.125	0.143	14,331
Employed Directors (Fraction)	0.397	0.375	0.221	14,331
Female Directors (Fraction)	0.098	0.091	0.103	14,331
Foreign Directors (Fraction)	0.002	0	0.016	14,331
Board Political Connection	0.194	0.167	0.165	14,331
Top Chinese University (Fraction)	0.026	0	0.059	14,331
Foreign M&A	0.056	0	0.231	4,182
Foreign Private Placement	0.134	0	0.341	350
Foreign Sales	0.128	0.002	0.218	5,259
Earnings Management	0.033	0.019	0.04	13,299
CEO Turnover	0.247	0	0.431	9,027

Table 2 Continued.
Panel C: Industry Distribution of Sample Firms

This panel reports the industry distribution of the sample firms. Statistics are based on firm-year observations. The 21 industries are based on the official industry classification of the China Securities Regulatory Commission.

Industry	%	# of obs.
Agriculture	2.55%	366
Mining	1.64%	235
Food	4.27%	612
Apparel	4.47%	641
Furniture	0.25%	36
Printing	2.04%	293
Gas and Chemistry	11.22%	1,608
Electronic	3.64%	522
Metal	9.33%	1,337
Machinery	15.69%	2,249
Pharmaceutical Products	6.26%	897
Other Manufacturing	1.47%	211
Energy Supply	4.11%	589
Construction	1.97%	282
Transportation	4.12%	591
Information Technology	5.87%	841
Retail & Wholesale	7.06%	1,012
Real Estate	4.05%	580
Other Service Supply	3.17%	454
Entertainment	0.87%	124
Other	5.94%	851

Table 3
Firm Characteristics and Directors with Foreign Experience

We report univariate tests comparing the mean characteristics of firms that eventually hire directors with foreign experience prior to the hiring of any directors with foreign experience to those of firms without directors with foreign experience. The unit of observation is the firm-year and the sample goes from 1999 to 2009. We subtract from MTB, TFP, and ROE their industry-year median as we do in the multivariate analysis. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Firm Characteristics	Firms without directors foreign experience		Firms *eventually* with directors foreign experience		*t*-statistics
	# of obs.	Mean	# of obs.	Mean	
MTB	3,442	0.207	2,374	0.221	-0.446
TFP	3,216	-0.013	2,227	0.014	-3.765***
ROE	3,364	-0.028	2,333	-0.029	0.178
Board Size	3,504	9.12	2,398	9.335	-3.695***
Foreign Ownership	3,504	0.005	2,398	0.005	-0.254
Block	3,504	0.414	2,398	0.461	-10.426***
Assets (RMB 100 millions)	3,504	24.732	2,398	19.879	5.726***
Leverage	3,504	0.5	2,398	0.466	5.638***
State	3,504	0.723	2,398	0.816	-8.424***
Foreign M&A	981	0.035	561	0.034	0.082
Foreign Private Placement	88	8%	18	11.10%	-0.387
Foreign Sales	1,266	0.103	381	0.142	-3.336***
Earnings Management	3,188	0.031	2,156	0.045	-11.157***
CEO Turnover	2,240	22.10%	1,618	31%	-6.099***

Table 4
Policy Changes and the Board of Directors

This table relates the proportion of directors with foreign experience ("Foreign Experience") to firm characteristics and the provincial policies. "Provincial Policy" is a dummy variable that takes a value of one if the firm is headquartered in a given province in the years following the adoption of a policy to encourage the return of highly skilled emigrants, and zero otherwise. All other variables are defined in the Appendix. T-statistics, computed with robust standard errors clustered at the year level, are reported in parentheses. All models include a constant and different sets of fixed effects as indicated in the table, but the coefficients are not reported. Columns 3 and 4 also include province-specific linear trends. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
Foreign Ownership	0.467***	0.543***	0.467***	0.399***
	(26.44)	(23.65)	(26.30)	(8.19)
ROA	0.028**	-0.005	0.029**	0.029**
	(2.26)	(-0.42)	(2.27)	(2.26)
Block	-0.016**	-0.027***	-0.015**	-0.013**
	(-2.86)	(-3.61)	(-2.80)	(-2.55)
State	-0.011***	-0.015***	-0.011***	-0.013***
	(-4.09)	(-4.93)	(-4.07)	(-3.65)
Size	0.008***	0.005***	0.008***	0.008***
	(7.28)	(3.18)	(7.19)	(7.26)
Leverage	0.002	-0.003	0.002	0.002
	(0.48)	(-0.74)	(0.42)	(0.47)
Provincial Policy			0.012**	0.009**
			(3.05)	(2.29)
Provincial Policy × State				0.004
				(1.43)
Provincial Policy × Foreign Ownership				0.102*
				(2.08)
Provincial Policy × Block				-0.004
				(-0.63)
Province-Specific Trend	Yes	Yes	Yes	Yes
Industry FE	Yes	No	Yes	Yes
Firm FE	No	Yes	No	No
F-test of excluded instruments			9.33**	13.72***
# of obs.	14,331	14,331	14,331	14,331
R-squared	0.19	0.68	0.19	0.19

Table 5
Directors with Foreign Experience and Firm Value

This table relates the firm's market to book ratio (MTB) to the proportion of directors with foreign experience. In columns 1 to 3, we present ordinary least squares estimates. In columns 4 to 6, we present instrumental variable estimates. In columns 1 to 5, the dependent variable is the firm's MTB from which we subtract the industry-year median. The dependent variable in column 6 is the firm's MTB from which we subtract the industry-year median and the province-year median. The instrumental variables in columns 4 to 6 includes the "Provincial Policy", a dummy variable that takes a value of one in years following the implementation of the policy in each province and interaction variables between the policy dummy and firm characteristics "State", "Foreign Ownership", and "Block" in 1999 (the beginning of the sample period). If a firm enters our sample later than 1999, firm characteristics computed in the year of the firm's entry in the sample are used to construct the interaction terms. All the variables are defined in the Appendix. T-statistics computed with robust standard errors clustered at firm level are reported in parentheses. All models include a constant, but the coefficients are not reported. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	OLS			IV		
	(1)	(2)	(3)	(4)	(5)	(6)
						Within-Province Test
Foreign Experience	0.943***	0.851***	0.463**	5.554***	8.838***	17.759***
	(6.94)	(5.79)	(2.57)	(3.91)	(4.50)	(5.55)
Foreign Ownership		0.433*	0.729	-1.897***	-3.438***	-8.132***
		(1.74)	(1.41)	(-2.64)	(-3.60)	(-4.76)
Block		0.529***	-0.483***	0.685***	0.701***	0.989***
		(5.48)	(-2.83)	(5.64)	(4.74)	(3.82)
State		-0.151***	-0.118**	-0.061	-0.028	0.076
		(-4.12)	(-2.29)	(-1.17)	(-0.43)	(0.70)
Size	-0.517***	-0.524***	-0.635***	-0.578***	-0.614***	-0.657***
	(-25.69)	(-25.40)	(-17.81)	(-18.97)	(-16.57)	(-10.71)
Leverage	0.123	0.172*	0.510***	0.194*	0.181	0.473***
	(1.21)	(1.66)	(4.67)	(1.74)	(1.49)	(2.82)
Firm FE	No	No	Yes	No	No	No
Province FE	No	No	No	No	Yes	No
# of obs.	14,068	14,068	14,068	14,068	14,068	14,068
R-squared	0.20	0.21	0.11	0.21	0.23	0.16

Table 6
Directors with Foreign Experience and Total Factor Productivity

This table relates the firm's total factor productivity (TFP) to the presence of directors with foreign experience. In columns 1 to 3, we present ordinary least squares estimates. In columns 4 to 6, we present instrumental variable estimates. In columns 1 to 5, the dependent variable is the firm's TFP from which we subtract the industry-year median. The dependent variable in column (6) is the firm's TFP from which we subtract the industry-year median and the province-year median. The instrumental variables in columns 4 to 6 includes the "Provincial Policy", a dummy variable that takes a value of one in years following the implementation of the policy in each province and interaction variables between the policy dummy and firm characteristics "State", "Foreign Ownership", and "Block" in 1999 (the beginning of the sample period). If a firm enters our sample later than 1999, firm characteristics computed in the year of the firm's entry in the sample are used to construct the interaction terms. All the variables are defined in the Appendix. T-statistics computed with robust standard errors clustered at firm level are reported in parentheses. All models include a constant, but the coefficients are not reported. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	OLS			IV		
	(1)	(2)	(3)	(4)	(5)	(6)
						Within-Province Test
Foreign Experience	0.114***	0.139***	0.082**	0.981***	0.759**	0.838**
	(2.89)	(3.28)	(2.02)	(2.86)	(2.26)	(2.53)
Foreign Ownership		-0.032	-0.053	-0.462**	-0.364**	-0.421**
		(-0.53)	(-0.50)	(-2.53)	(-2.12)	(-2.40)
Block		0.099***	0.039	0.131***	0.107***	0.113***
		(3.48)	(1.02)	(4.09)	(3.49)	(3.63)
State		0.005	-0.008	0.023*	0.019	0.021
		(0.50)	(-0.61)	(1.76)	(1.50)	(1.63)
Size	-0.001	-0.004	-0.036***	-0.014**	-0.011*	-0.011*
	(-0.19)	(-0.94)	(-5.32)	(-2.12)	(-1.81)	(-1.86)
Leverage	-0.123***	-0.111***	-0.065***	-0.109***	-0.111***	-0.110***
	(-6.51)	(-5.82)	(-2.93)	(-5.12)	(-5.48)	(-5.41)
Firm FE	No	No	Yes	No	No	No
Province FE	No	No	No	No	Yes	No
# of obs.	13,144	13,144	13,144	13,144	13,144	13,144
R-squared	0.01	0.02	0.01	0.02	0.03	0.02

Table 7
Directors with Foreign Experience and Profitability

This table relates the firm's profitability to the presence of directors with foreign experience. In columns 1 to 3, we present ordinary least squares estimates. In columns 4 to 6, we present instrumental variable estimates. In columns 1 to 5, the dependent variable is the firm's ROE at $t + 1$ from which we subtract the industry-year median. The dependent variable in columns 6 is the firm's ROE at $t + 1$ from which we subtract the industry-year median and the province-year median. The instrumental variables in columns 4 to 6 includes the "Provincial Policy", a dummy variable that takes a value of one in years following the implementation of the policy in each province and interaction variables between the policy dummy and firm characteristics "State", "Foreign Ownership", and "Block" in 1999 (the beginning of the sample period). If a firm enters our sample later than 1999, firm characteristics computed in the year of the firm's entry in the sample are used to construct the interaction terms. All the variables are defined in the Appendix. T-statistics computed with robust standard errors clustered at firm level are reported in parentheses. All models include a constant, but the coefficients are not reported. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	OLS			IV		
	(1)	(2)	(3)	(4)	(5)	(6)
						Within-Province Test
Foreign Experience	0.054***	0.063***	0.022	0.582***	0.477**	0.392**
	(2.90)	(3.16)	(0.77)	(2.88)	(2.10)	(2.06)
Foreign Ownership		-0.037	0.060	-0.293***	-0.244**	-0.216**
		(-1.18)	(0.73)	(-2.59)	(-2.07)	(-2.04)
Block		0.073***	0.132***	0.091***	0.086***	0.088***
		(5.82)	(5.08)	(5.69)	(5.56)	(5.87)
State		-0.021***	-0.032***	-0.011*	-0.009	-0.011*
		(-4.27)	(-3.28)	(-1.74)	(-1.39)	(-1.74)
Size	0.017***	0.017***	-0.039***	0.010***	0.012***	0.010***
	(7.85)	(7.44)	(-8.02)	(2.92)	(3.35)	(3.15)
Leverage	-0.039***	-0.033**	0.180***	-0.028*	-0.029*	-0.029*
	(-2.65)	(-2.21)	(7.06)	(-1.74)	(-1.84)	(-1.91)
Firm FE	No	No	Yes	No	No	No
Province FE	No	No	No	No	Yes	No
# of obs.	13,743	13,743	13,743	13,743	13,743	13,743
R-squared	0.01	0.02	0.02	0.02	0.02	0.01

Table 8
Corporate Policies

This table relates corporate policies to the proportion of directors with foreign experience. The dependent variable in columns 1 to 3 of Panel A is "Foreign M&A", a dummy variable equal to one if at least one of the mergers and acquisitions a sample firm announced in a given year involves a foreign firm, and zero otherwise. In columns 4 and 5, the dependent variable is "Foreign Private Placement", a dummy variable equal to one if at least one of the firm's private placements in a given year is targeted to foreign investors and zero if none of these private placements is targeted to foreign investors. In columns 6 to 7 of Panel A, the dependent variable is "Foreign Sales" from which we subtract the industry-year median. The dependent variable in columns 1 and 2 of Panel B is a proxy increasing in the extent of earnings management in the spirit of Stubben (2010). The dependent variable in column 3 of Panel B is a dummy variable that takes value 1 if there is an event of CEO turnover and value zero otherwise. In columns 1, 3, 4, and 6 of Panel A and column 1 and 3 of Panel B, estimates are obtained by ordinary least squares; in the rest of the columns we report instrumental variable estimates. The instrumental variables in columns 4 to 6 includes the "Provincial Policy", a dummy variable that takes a value of one in years following the implementation of the policy in each province and interaction variables between the policy dummy and firm characteristics "State", "Foreign Ownership", and "Block" in 1999 (the beginning of the sample period). If a firm enters our sample later than 1999, firm characteristics computed in the year of the firm's entry in the sample are used to construct the interaction terms. Variable definitions are in the Appendix. T-statistics computed with robust standard errors clustered at firm level are reported in parentheses. All models include a constant, but the coefficients are not reported. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Table 8 continued.
Panel A: Internationalization

	Foreign M&A			Foreign Private Placement		Foreign Sales	
	OLS	IV	OLS	OLS	IV	OLS	IV
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Foreign Experience	0.203***	0.844***	0.127***	0.320*	0.417	0.260***	0.703***
	(4.18)	(3.99)	(2.88)	(1.74)	(0.64)	(4.23)	(3.20)
Foreign Experience × Same Country M&A			2.986***				
			(9.25)				
Dummy for B/H-share				-0.095	-0.098		
				(-1.60)	(-1.51)		
State	-0.016*	-0.006	-0.014	-0.048	-0.043	-0.000	0.008
	(-1.88)	(-0.64)	(-1.64)	(-0.99)	(-0.88)	(-0.04)	(0.65)
Size	0.014**	0.006	0.012**	0.015	0.012	-0.009*	-0.015***
	(2.55)	(1.08)	(2.45)	(0.81)	(0.53)	(-1.78)	(-2.68)
Leverage	-0.018	-0.020	-0.019	-0.126	-0.121	-0.010	-0.000
	(-0.88)	(-0.91)	(-1.00)	(-1.30)	(-1.08)	(-0.38)	(-0.01)
MTB	0.002	0.005	0.002	-0.012	-0.010	-0.004	-0.005
	(0.65)	(1.57)	(0.50)	(-0.92)	(-0.77)	(-1.18)	(-1.46)
ROA	-0.031	-0.045	-0.033	0.422	0.501	0.091	0.082
	(-0.53)	(-0.69)	(-0.61)	(1.36)	(1.52)	(1.36)	(1.20)
Year FE	Yes	No	Yes	Yes	No	No	No
Industry FE	Yes	Yes	Yes	Yes	Yes	No	No
# of obs.	4,118	4,118	4,118	344	344	5,170	5,170
R-squared	0.03	0.04	0.11	0.13	0.12	0.02	0.03

Table 8 continued.
Panel B: Corporate Governance

| | Earnings Management | | CEO Turnover |
	OLS	IV	OLS
	(1)	(2)	(3)
Foreign Experience	-0.013**	-0.484***	0.029
	(-2.05)	(-6.19)	(0.63)
Foreign Experience $\times$ ROA			-0.881*
			(-1.81)
ROA	0.007	0.001	-0.571***
	(0.87)	(0.06)	(-6.56)
State	0.009***	-0.003	0.012
	(4.43)	(-0.86)	(1.17)
Size	-0.009***	-0.002	-0.020***
	(-9.35)	(-1.06)	(-4.06)
Leverage	-0.011***	-0.007	0.019
	(-3.02)	(-1.45)	(0.80)
CEO Age			0.006***
			(8.18)
CEO Tenure			-0.013***
			(-6.15)
Firm FE	Yes	Yes	No
# of obs.	13,299	13,243	9,027
R-squared	0.02	0.03	0.03

Table 9
Direct and Indirect Effects of the Provincial Policies

The dependent variable is the firm's market to book ratio (MTB) from which we subtract the province-year median in column (1), the firm's total factor productivity (TFP) from which we subtract the province-year median in column (2), and the ROE at year *t*+1 from which we subtract the province-year median in column (3). Variable definitions are in the Appendix. T-statistics computed with robust standard errors clustered at firm level are reported in parentheses. All models include a constant, but the coefficients are not reported. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	MTB	TFP	ROE (t+1)
	(1)	(2)	(3)
Provincial Policy × Foreign Experience	0.490***	0.120***	0.054**
	(3.08)	(2.72)	(2.51)
Provincial Policy	-0.036	-0.011	-0.004
	(-0.95)	(-1.08)	(-0.60)
Foreign Ownership	0.750***	-0.036	-0.031
	(3.09)	(-0.61)	(-0.98)
Block	0.657***	0.107***	0.088***
	(6.44)	(3.58)	(6.39)
State	-0.135***	0.012	-0.016***
	(-3.63)	(1.24)	(-3.11)
Size	-0.597***	-0.007	0.014***
	(-28.58)	(-1.40)	(5.48)
Leverage	0.131	-0.128***	-0.040**
	(1.24)	(-6.68)	(-2.53)
Year FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
# of obs.	14,068	13,144	13,743
R-squared	0.26	0.02	0.03

Table 10
Proportion of Directors with Foreign Experience and Other Board Characteristics

This table relates the proportion of directors with foreign experience to firm performance controlling for additional board characteristics. The dependent variable is the market to book ratio (MTB) from which we subtract the industry-year median in column 1, the total factor productivity (TFP) from which we subtract the industry-year median in column 2, and the ROE at year $t + 1$ from which we subtract the industry-year median in column 3. The additional controls are: "Average Tenure", defined as the average tenure of the firm's directors; "Employed Directors (Fraction)", defined as the proportion of directors that receive a salary from the firm; "Female Directors (Fraction)", defined as the proportion of female directors in the firm's board; "Average Age", defined as the average age of the directors; "Foreign Directors (Fraction)", defined as the proportion of foreign directors in the firm's board; "Board Political Connections", defined as the proportion of current or former government bureaucrats as in Fan et al. (2007) and Calomiris et al. (2010); and "Top Chinese University (Fraction)", defined as the fraction of directors that graduated from and/or worked for Peking University and/or Tsinghua University, the two top universities in China. The rest of variables are defined in the Appendix. For brevity we report only the instrumental variable estimates. The instrumental variables include "Provincial Policy", a dummy variable that takes a value of one in the years following the implementation of the policy in each province and zero otherwise, and the interactions between this dummy with firm characteristics "State", "Foreign Ownership", and "Block" in 1999 (the beginning of the sample period). If a firm enters our sample later than 1999, firm characteristics computed in the year of the firm's entry in the sample are used to construct the interaction terms. T-statistics computed with robust standard errors clustered at firm level are reported in parentheses. All models include a constant, but the coefficients are not reported. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Table 10 continued.

	MTB	TFP	ROE (t+1)
	(1)	(2)	(3)
Foreign Experience	5.037**	1.054**	0.708**
	(2.50)	(2.15)	(2.38)
Foreign Ownership	-1.184	-0.430**	-0.300**
	(-1.53)	(-2.13)	(-2.31)
Block	0.637***	0.118***	0.086***
	(5.63)	(3.84)	(5.44)
State	-0.120**	0.015	-0.011
	(-2.13)	(1.04)	(-1.43)
Size	-0.574***	-0.018***	0.010***
	(-20.81)	(-3.06)	(3.08)
Leverage	0.183*	-0.104***	-0.026
	(1.66)	(-4.98)	(-1.59)
Average Tenure	0.025*	0.002	0.006***
	(1.83)	(0.46)	(2.97)
Employed Directors (Fraction)	-0.225**	0.050*	0.028*
	(-2.05)	(1.77)	(1.66)
Board Size	0.010	0.006***	-0.000
	(1.32)	(3.02)	(-0.17)
Female Directors (Fraction)	-0.078	-0.014	0.046*
	(-0.43)	(-0.33)	(1.73)
Average Age	0.007	0.004***	0.001
	(1.44)	(3.54)	(1.44)
Foreign Directors (Fraction)	-6.093**	-1.167*	-0.676*
	(-2.05)	(-1.67)	(-1.70)
Board Political Connection	0.170	-0.027	0.008
	(1.61)	(-0.84)	(0.49)
Top Chinese University (Fraction)	-1.278	-0.311	-0.253**
	(-1.59)	(-1.56)	(-2.23)
Busy Directors (Fraction)	-0.146	0.003	-0.003
	(-0.65)	(0.06)	(-0.10)
# of obs.	14,068	13,144	13,743
R-squared	0.22	0.03	0.02

Table 11
Controlling for Firm Unobserved Heterogeneity

This table reports instrumental variable estimates for a sample of firms with and without foreign experienced matched on year, industry, size and leverage using a nearest neighbor estimator and for the full sample; in the latter, we control for firm fixed effects and the lagged performance. The dependent variable is the market to book ratio (MTB) (column 1 and 4), total factor productivity (TFP) (column 2 and 5), and ROE at year $t + 1$ (column 3 and 6), from which we subtract the industry-year median, respectively. In columns 5 to 6, we match firms with directors with foreign experience to firms with firms that on the basis of their size, leverage industry and year have similar probability (probability) of having directors with foreign experience. We include in the control sample only firms with similar propensity score. All models are estimated by instrumental variables The instrumental variables include "Provincial Policy", a dummy variable that takes a value of one in the years following the implementation of the policy in each province and zero otherwise, and the interactions between this dummy with firm characteristics "State", "Foreign Ownership", and "Block" in 1999 (the beginning of the sample period). If a firm enters our sample later than 1999, firm characteristics computed in the year of the firm's entry in the sample are used to construct the interaction terms. Variable definitions are in the Appendix. T-statistics computed with robust standard errors clustered at firm level are reported in parentheses. All models include a constant, but the coefficients are not reported. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Matched Sample			Full Sample		
	MTB	TFP	ROE (t+1)	MTB	TFP	ROE (t+1)
	(1)	(2)	(3)	(4)	(5)	(6)
Foreign Experience	3.810**	0.895*	0.597**	14.983***	1.140**	0.560**
	(2.13)	(1.89)	(2.04)	(5.34)	(2.25)	(2.04)
Foreign Ownership	-1.110	-0.389*	-0.282*	-7.561***	-0.609**	-0.232
	(-1.35)	(-1.72)	(-1.91)	(-3.88)	(-1.98)	(-1.36)
Block	0.613***	0.107***	0.088***	0.021	0.044	0.155***
	(5.04)	(3.05)	(4.79)	(0.07)	(1.01)	(5.28)
State	-0.096*	0.018	-0.012	0.118	0.012	-0.014
	(-1.75)	(1.18)	(-1.53)	(1.19)	(0.72)	(-1.22)
Size	-0.498***	-0.008	0.015***	-0.675***	-0.045***	-0.036***
	(-18.52)	(-1.30)	(4.32)	(-11.83)	(-5.20)	(-6.10)
Leverage	0.076	-0.126***	-0.045***	0.530***	-0.056**	0.093***
	(0.65)	(-5.04)	(-2.71)	(3.91)	(-2.24)	(4.04)
Lag(MTB)				0.187***		
				(12.56)		
Lag(TFP)					0.213***	
					(11.92)	
ROE						0.138***
						(6.80)
Firm FE	No	No	No	Yes	Yes	Yes
# of obs.	10,108	9,453	9,894	13,013	11,208	13,505
R-squared	0.19	0.02	0.02	0.27	0.24	0.01

Table 12
The Impact of Quality of Foreign Education

This table relates alternative measures of the directors' foreign experience to firm performance. "Foreign Experience (Weighted by Foreign Degree)" is computed as number of directors with a foreign academic degree scaled by total number of directors of the firm. We present an *F*-test for the difference of the coefficients of Foreign Experience and Foreign Experience (Weighted by Foreign Degree). The dependent variable is the market to book ratio (MTB) from which we subtract the industry-year median in columns 1 and 2, the total factor productivity (TFP) from which we subtract the industry-year median in column 3 and 4, and the ROE at year $t + 1$ from which we subtract the industry-year median in columns 5 and 6. Estimates are obtained by ordinary least squares. Variable definitions are in the Appendix. T-statistics computed with robust standard errors clustered at firm level are reported in parentheses. All models include a constant, but the coefficients are not reported. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Table 12 continued.

	MTB		TFP		ROE (t+1)	
	(1)	(2)	(3)	(4)	(5)	(6)
Foreign Experience	0.463**		0.082**		0.022	
	(2.57)		(2.02)		(0.77)	
Foreign Experience (Weighted by Foreign Degree)		0.536*		0.157**		0.067*
		(1.91)		(2.45)		(1.77)
Foreign Ownership	0.729	0.794	-0.053	-0.061	0.060	0.049
	(1.41)	(1.56)	(-0.50)	(-0.60)	(0.73)	(0.60)
Block	-0.483***	-0.494***	0.039	0.039	0.132***	0.133***
	(-2.83)	(-2.89)	(1.02)	(1.03)	(5.08)	(5.12)
State	-0.118**	-0.120**	-0.008	-0.008	-0.032***	-0.032***
	(-2.29)	(-2.35)	(-0.61)	(-0.58)	(-3.28)	(-3.22)
Size	-0.635***	-0.632***	-0.036***	-0.036***	-0.039***	-0.040***
	(-17.81)	(-17.73)	(-5.32)	(-5.31)	(-8.02)	(-8.03)
Leverage	0.510***	0.514***	-0.065***	-0.065***	0.180***	0.180***
	(4.67)	(4.70)	(-2.93)	(-2.91)	(7.06)	(7.07)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
F-test. H_0: Foreign Experience = Foreign Experience (Weighted by Foreign Degree)	1.22		4.06**		2.53	
# of obs.	14,068	14,068	13,144	13,144	13,743	13,743
R-squared	0.11	0.11	0.01	0.01	0.02	0.02