

# The Financing and Growth of Firms in China and India

Evidence from Capital Markets

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## Abstract

This paper studies the extent to which firms in China and India use capital markets to obtain financing and grow. Using a unique data set on domestic and international capital raising activity and firm performance, it finds that the expansion of financial market activity since the 1990s has been more limited than what the aggregate figures suggest. Relatively few firms raise capital. Even fewer firms capture the bulk of the financing. Moreover, firms that issue equity or bonds are different and behave

differently from other publicly listed firms. Among other things, they are typically larger and grow faster. The differences between users and non-users exist before the capital raising activity, are associated with the probability of raising capital, and become more accentuated afterward. The distribution of issuing firms shifts more over time than the distribution of those that do not issue, suggesting little convergence in firm size among listed firms.

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# **The Financing and Growth of Firms in China and India: Evidence from Capital Markets**

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## 1. Introduction

One of the most notable developments in the world economy over the past thirty years is the rise of China and India as world economic powers.<sup>1</sup> Although they still lag behind in many respects, their financial systems have also developed rapidly.<sup>2</sup> In particular, following a period of significant reforms and financial liberalization initiated in the early 1990s, their financial systems have become much deeper according to several standard measures. For example, stock market capitalization increased from 4 (22) percent of GDP in 1992 to 80 (95) percent of GDP in 2010 in China (India). By 2010, 2,063 and 4,987 firms were listed in China's and India's stock markets, respectively. Moreover, their financial systems have transitioned from a mostly bank-based model to one where capital (equity and bond) markets have gained importance. For example, capital markets in China (India) have expanded from an average of 11 (57) percent of the financial system in 1990-1994 to an average of 53 (65) percent in 2005-2010.<sup>3</sup> Non-bank institutional investors also have started to play a more central role, channeling domestic savings and fostering the growth in capital markets.<sup>4</sup>

In this paper, we study the extent to which firms in China and India have used and have benefitted from this expansion in capital markets to obtain financing and grow. First, we examine the expansion in equity and bond markets over the past two decades and study whether their overall increase in size has implied a widespread use of these markets by the financial and non-

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<sup>1</sup> China has grown more than twenty-fold in real terms since its economic liberalization in 1978, while India has expanded 6.5 times between 1978 and 2011. In per capita terms, China's GDP increased more than six-fold, while India's GDP more than doubled between 1990 and 2009 alone. This is impressive, especially considering that each country has over one billion people.

<sup>2</sup> See Allen et al. (2005, 2007), Eichengreen and Luengaruemitchai (2006), Neftci and Menager-Xu (2007), Chan et al. (2007), Lane and Schmukler (2007), Shah et al. (2008), Chakrabarti and De (2010), and Patnaik and Shah (2011a and 2011b), among others.

<sup>3</sup> We consider a country's financial system as the sum of the total assets of the banking system, equity market capitalization, and bond market capitalization.

<sup>4</sup> This pattern is consistent with those observed in other countries, where banks and capital markets become more developed as economies grow and capital markets develop more rapidly than banks. See Luintel et al. (2008), Demirguc-Kunt et al. (forthcoming), and references therein.

financial private sector. Because under financial liberalization transactions take place both domestically and abroad, we also evaluate the use of foreign capital markets. Second, we characterize which firms obtain financing from capital markets. Third, we analyze whether the use of capital market financing is associated with changes in firm performance around the capital raising activity. Fourth, we study the implications of the changes in firm size and growth for the firm size distribution (FSD) of listed firms.

To conduct the analysis, we assemble a unique and comprehensive data set on domestic and international capital raising activity and performance by Chinese and Indian firms. We particularly focus on the recurrent use of equity and bond markets among publicly listed firms (after their Initial Public Offering or IPO).<sup>5</sup> To do so, we compile transaction-level information on new capital raising issues of common and preferred equity from 1990 to 2011 and on corporate bond issues from 2000 to 2011 from Thomson Reuters' Security Data Corporation (SDC) Platinum database. We then match the SDC Platinum data on the use of capital markets with the Bureau van Dijk Orbis data on annual firm-level balance sheet information for publicly listed companies from 2003 to 2011.<sup>6</sup> Our matched data set comprises 2,458 firms from China and 4,305 firms from India, out of which 1,915 and 3,428 firms, respectively, did not have any equity or bond issues between 2003 and 2011.

Two main broad features emerge from our analysis. First, our results suggest that the expansion of financing to the private sector in China and India has been much more subdued than what the aggregate numbers suggest. Although capital raising activity in equity and bond markets expanded substantially in 2005-2010, it remained small as a percentage of GDP.

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<sup>5</sup> Our focus on publicly listed firms provides us with a more homogeneous group of firms that, vis-à-vis non-listed firms, are large, have already met the costly listing requirements, and are formal corporations that can raise capital.

<sup>6</sup> We also use the Thomson Reuters' Worldscope database to obtain information on capital expenditures and to check the robustness of the results.

Importantly, such expansion has not been associated with a widespread use of capital markets by firms. For example, the amount of capital raisings through equity issues in domestic markets doubled in China (from 0.5 to 1 percent of GDP per year) between 2000-2004 and 2005-2010, whereas the number of firms using these markets to raise capital per year increased only 20 percent (from 87 to 105 out of 1,621 listed firms) over the same period. On a smaller scale, similar patterns apply to the use of foreign markets. Also, not only have few firms used equity and bond markets on a recurrent basis, but even fewer firms capture the bulk of the capital market financing.<sup>7</sup> For instance, the top 10 firms in China and India captured between 43 and 62 percent of the total amount raised in 2005-2010. Thus, our findings suggest that capital markets have not been a significant source of financing across firms, which contrasts with the perception in the literature that equity markets, particularly in India, are well-developed.

Second, our results show that firms that use equity or bond markets are very different and behave differently from those that do not use capital markets. While non-issuing firms in both China and India grew at about the same rate as the overall economy, issuing firms grew twice as fast in 2004-2011. In fact, firms that raise capital are typically larger initially and become even larger than non-issuing firms after raising capital through equity or bonds. Firms grow faster the year before and the year in which they raise capital.<sup>8</sup> Moreover, firms that use capital markets have ex-ante a longer liability maturity structure and more capital expenditures, and the differences relative to the firms that do not use capital markets become more accentuated ex-post. Notably, all these differences between users and non-users are associated with the

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<sup>7</sup> These findings are consistent with a growing literature that highlights that the top firms in a country play a particularly important role in more aggregate outcomes. See for example Gabaix (2011), Eaton et al. (2012), Freund and Pierola (2012), and di Giovanni and Levchenko (2012).

<sup>8</sup> These findings contrast with those in Shirai (2002a and 2002b), which state that the equity markets in China and India failed to improve firm performance during the 1990s. Our results, instead, indicate that the use of equity (and bond) markets during the 2000s is associated with improved firm performance around the capital raising activity.

probability of raising capital. Furthermore, the evidence on firm size and growth has important implications for the FSD of listed firms. Quantile regressions show that the distribution of issuing firms is tilted to the right and shifts more over time than the distribution of those that do not issue, suggesting little convergence in firm size across listed firms.

The analysis in this paper contributes to several strands of the literature. First, a large number of studies argue that financial development is positively associated with overall economic growth.<sup>9</sup> Most of this finance and growth literature focuses on the size of the financial systems by analyzing aggregate measures. This paper contributes to this literature by studying how widespread the use of capital markets by firms is, as well as the firm dynamics around the capital raising activity, in comparison to a relevant control group of publicly listed firms.<sup>10</sup> Our results suggest that equity and bond financing is associated with firm growth, and thus shed light on the channels through which financial development and growth are related.

Second, China and India have generated significant interest because they do not appear to fit the predictions of the law, finance, and growth literature, according to which more developed legal and financial systems spur growth (Allen et al., 2005, 2007, Yao and Yueh, 2009). China is the most cited counter-example to this literature because it is one of the fastest growing economies in the world and it is not clear which sources of financing propel the fast growth of its private sector. Private firms might have been able to grow rapidly because of their profitability and abundant cash flows (Guariglia et al., 2011, Hale and Long, 2011a), as state-owned banks have been perceived to favor the state-owned corporate sector (Boyreau-Debray and Wei, 2005, Hao, 2006, Linton, 2008, Cull et al., 2009). Informal sources of financing might be important

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<sup>9</sup> Levine (2005) offers a review of the growth and finance literature.

<sup>10</sup> There is relatively little evidence on how firms perform when they raise capital in equity or bond markets. Some of the exceptions are Demirguc-Kunt and Maksimovic (1998), Claessens and Schmukler (2007), and Gozzi et al. (2008, 2010).

(Allen et al., 2005), but a firm-level survey suggests that bank financing has spurred firm growth (Ayyagari et al., 2010).<sup>11</sup> Evidence at the provincial level indicates that capital market depth is positively and significantly associated with provincial growth, though bank depth is usually not (Hasan et al., 2009). Our findings complement the existing papers and provide evidence on the positive association between the use of capital markets and firm performance.

Third, a separate strand of the literature studies the Gibrat's law, which states that firm size and growth are independent and that the FSD is stable over time and approximately log-normal. This view has been challenged over time. Although the growth of large firms seems independent of their size, including smaller firms in the analysis typically introduces a negative relation between growth and firm size (Lotti and Santarelli, 2004, Coad, 2009). Moreover, the distribution of young firms is skewed to the right (most of the mass is on small firms) and the skewness tends to diminish monotonically as firms age and become larger (Cabral and Mata, 2003, Angelini and Generale, 2008). Our findings suggest that even among the publicly listed firms, which consist of the largest firms within a country, there is some heterogeneity: firms that use capital market financing are larger to begin with and grow faster than non-users. In fact, our results indicate that there is no convergence in firm size; if anything, the distributions seem to diverge. The results seem consistent with the rapid growth within large plants in India (Bollard et al., 2013). Moreover, a misallocation of capital in China and India (Hsieh and Klenow, 2009, 2012) might have kept large, highly productive firms artificially small, which might explain why they are the ones that grow the most when financing becomes available.

Fourth, a related strand of the literature studies financial constraints by analyzing whether measures of financial performance affect firm investment in fixed capital, inventories, and

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<sup>11</sup> A number of others papers also find evidence of a positive relation between financial development and economic growth in China. See, for example, Liang (2005), Chen (2006), Zhang et al. (2007), Guariglia and Poncet (2008), Cheng and Degryse (2010), and Zhang et al. (2012).

research and development (R&D), among other things. Several papers argue that small firms are more likely to be financially constrained and that these constraints might get relaxed as firms grow and as countries develop financially.<sup>12</sup> Other papers study whether firms in China and India are financially constrained. In China, state-owned enterprises seem to have better access to finance and thus seem less financially constrained (Chow and Fung, 1998, Li et al., 2008, Poncet et al., 2010, Guariglia et al., 2011, Hale and Long, 2011b). In India, smaller firms seem to be more financially constrained (Love and Martinez Peria, 2005 and Oura, 2008). The results in our paper show that new capital market financing is related to higher growth and investment for publicly listed firms. This seems consistent with financial constraints affecting even the large, publicly listed firms that arguably have access to formal markets.

The rest of the paper is organized as follows. Section 2 describes the data. Section 3 analyses the development of capital markets in China and India and how firms use them to raise financing. Section 4 studies the dynamics of firms around the use of capital markets. Section 5 concludes.

## **2. Data**

To analyze the capital market financing and performance of firms in China and India, we assemble a new and comprehensive firm-level data set covering firms' security issuances in capital markets around the world as well as balance sheet data. Our data on capital raising activity come from the Thomson Reuters' SDC Platinum database, which provides transaction-level information on new issues of common and preferred equity and publicly and privately

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<sup>12</sup> See Kumar et al. (1999), Cooley and Quadrini (2001), Guiso et al. (2004), Beck et al. (2005, 2008a, 2008b), Mitton (2008), Musso and Schiavo (2008), and Arellano et al. (2012), among many others.

placed bonds with an original maturity of more than one year.<sup>13,14</sup> Given that SDC Platinum does not collect data on the debt issues with maturity shorter than one year, our data set does not include commercial paper. To classify security issuances as domestic or international, we consider the main exchange where the issues are listed and compare it to the issuing firm's nationality. The issues taking place in Hong Kong SAR, China or Taiwan, China are considered foreign issues for both China and India. For offerings that take place in more than one market, we consider the issues in each market as separate issues.

The data on equity capital raisings in domestic and international markets cover the period from 1991 to 2011. The coverage for bond issuance in international markets starts in 1991, while the coverage for domestic market activity is more limited and starts in 2000. Therefore, for bond financing activity we restrict our sample to the period 2000-2011. Our data set includes 18,085 security issuances, out of which 6,929 are bond issues and 11,156 are equity issues. This data set covers issues by 3,884 firms from China and 6,483 firms from India.

To analyze the characteristics and performance of the firms that issue and of those that do not issue in domestic and foreign capital markets, we match the data on security issuances from SDC Platinum with firm-level balance sheet data from the Bureau van Dijk's Orbis database over the 2003-2011 period. Our sample covers only publicly listed companies, which gives us a more homogeneous sample of firms relative to using all firms. By not analyzing non-listed firms in our sample, we exclude relatively small firms for which it is probably very costly to issue bonds and equity and which are likely to have different accounting standards and to be informal (thus less

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<sup>13</sup> SDC Platinum collects data on security issuances mostly from filings with local regulatory agencies and stock exchanges. These data are augmented with data from other sources such as offering circulars, prospectus, surveys of investment banks, brokers, and other financial advisors, news sources, trade publications, and wires.

<sup>14</sup> Foreign subsidiaries of firms with headquarters in China or India are not included in our analysis. For example, Tata Steel UK Ltd. and Sinochem International (Overseas) Pte. Ltd. are both excluded from our sample. We also exclude firms with headquarters in Hong Kong SAR, China or Taiwan, China.

able to raise capital). Because we have limited information on firm-level characteristics before the IPOs, we include in our data set only firm-level balance sheet information for the post-IPO years. Our final matched data set comprises 2,458 firms from China and 4,305 firms from India. Of these firms, 1,915 Chinese firms and 3,428 Indian firms did not have any capital raising issue through equities or bonds in domestic or foreign markets between 2003 and 2011.<sup>15</sup> The number of firms with capital raising activity in our final matched data set is smaller than the number of firms included in the SDC Platinum database alone because several firms that raised capital through security issues do not have balance sheet data available from Orbis.

We focus the analysis on some key performance indicators (described in Appendix Table 1).<sup>16</sup> Specifically, we focus on the level and growth rate of total assets, sales, and the number of employees to shed light on the relation between firm size, growth, and their use of domestic and international markets.<sup>17</sup> We also examine firm profitability and financial indicators such as return on assets (ROA), leverage (including bank and other types of financing), the maturity profile of the liabilities, and retained earnings. These indicators allow us to shed light on how healthy firms are and to what extent access to capital markets might affect firm mismatches and their dependence on the more expensive internal financing.

To obtain information on firm investments, which is not available in the Orbis database, we match the SDC Platinum database on the use of capital markets with the Thomson Reuters' Worldscope database, which also contains balance sheet information for listed firms. The data

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<sup>15</sup> Our merged data set comprises both financial and non-financial firms. The results in this paper are quantitatively and qualitatively robust to the exclusion of financial firms.

<sup>16</sup> We deflate the nominal variables (measured in US dollars) by the US Consumer Price Index (CPI).

<sup>17</sup> Given the focus of this paper on firm size and growth, we explore three variables for robustness purposes. Each of these measures captures different conceptual aspects of the firm dynamics and can be influenced by different factors. For example, sales and total assets are affected by inflation and exchange rate dynamics, whereas the number of employees is not. Another example is an increase in productivity, which can lead to sales growth without parallel increase in employees or assets. Total assets are arguably important for the capital-intensive firms, the number of employees might be relevant for labor-intensive ones, while sales might depend on the value of intermediate inputs.

coverage for China is comparable to that of Orbis; Worldscope has information for 2,950 firms. However, for India, the coverage is more limited with only 2,592 firms included in the database, most of which with information available only from 2005 onward. A comparison of the sample of Indian firms in Orbis and Worldscope suggests that the Worldscope sample is biased toward larger firms. Hence, we need to take this fact into account when interpreting the results on capital expenditures for India.<sup>18</sup>

### **3. Capital market development and firm financing**

Since the 1990s, China and India have undertaken significant efforts to expand the scope and depth of their financial systems, including the development of their capital markets. Both countries have also relaxed the rules and regulations for companies to raise capital in equity and bond markets and for domestic and foreign investors to invest in capital markets. Given this background, we next examine the evolution of commonly used aggregate indicators of financial sector development. We then analyze the extent to which the development of the financial system has implied a more widespread use of capital markets as a source of financing for corporations.

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<sup>18</sup> Although survivorship bias could arise in different ways, we believe that it is not affecting our conclusions. This bias could appear if, for example, risky firms that raise capital de-list or die and are not covered in our sample. Then, we would tend to overestimate the effects of the capital raising activity because we would not observe their poor performance. However, it could be the case that more established, blue-chip firms are the ones that raise capital through equity and bonds. Not observing firms that de-list or die (which do not tend to raise capital in this instance) would lead to an overestimation of the performance of the control group, and we would thus tend to underestimate the difference between the treated and the control group. Ex-ante, it is difficult to know whether and how survivorship bias might affect our results. However, our results suggest that the potential for an upward bias in our estimates due to survivorship bias is limited. First, our results suggest that the more established firms are the ones that raise capital and that the ones that are more likely to de-list or die belong to our control group. Second, we obtained information on de-listings during our sample period from Bloomberg. Only a small fraction of the de-listed firms (about 10 percent) actually raised capital through bonds or equity, and 90 percent of those firms that raised capital are covered in our SDC-Orbis matched data set. The de-listed firms that raised funds in capital markets but that are not included in our data set represent in fact around 3 percent of the firms that raised capital and are included in our data set. Moreover, our SDC-Orbis matched data set covers only 23 percent of the de-listed firms that did not raise capital. The omission of these firms suggests that we might be overestimating the performance of our control group and therefore adding a downward bias to our results. Third, we obtained similar results using the Worldscope data, as further described in Section 4.3. Noticeably the post-issuance growth rates are positive and statistically significant, which suggests that our findings of a significant difference between the treated and the control group represent a lower bound of the effects of capital raising activity on firm performance.

### **3.1. Expansion of capital markets**

The financial systems in China and India have effectively developed over the last two decades, becoming deeper according to several standard measures (Figure 1, Panel A). In China, equity and bond markets expanded from an average of 11 percent of GDP between 1990 and 1994 to an average of 141 percent of GDP between 2005 and 2009. In India, the expansion was from 46 percent of GDP to 131 percent during the same period. These figures are large even when compared to the expansion of the banking system. In China, total bank assets increased from 88 percent of GDP in the first half of the 1990s to 132 percent of GDP in the second half of the 2000s. Starting from a lower level, total bank assets in India jumped from 35 percent of GDP to 70 percent during the same period.

For the private sector, most of the expansion in capital markets took place in equity markets, with market capitalization increasing from 5 to 91 percent of GDP in China and from 26 to 89 percent of GDP in India between the early 1990s and the late 2000s. In bond markets, a significant share of the expansion is explained by the public sector. While in absolute terms both public and private bond markets expanded, the increase of public bond market capitalization as a percentage of GDP was greater than that of the private sector (Figure 1, Panel B). Hence, despite a considerable expansion of bond markets in China and India over the past 10 years, bond markets for the private sector have remained relatively small in comparison to both public bond markets and equity markets.

These trends suggest that the structure of the financial systems in China and India has become more similar to that of developed countries, with capital markets gaining space vis-à-vis the banking sector for the financing of both the private and the public sector. In other words, there has been a transition from a mostly bank-based model to a more complete and complex

model with capital markets providing more financing (Figure 1, Panel C). For instance, equity and bond markets in China represented 53 percent of financial systems on average in the second half of the 2000s, up from a mere 11 percent observed in the first half of the 1990s. In India, capital markets grew from 57 to 65 percent of the size of the financial system. This trend is less striking than in China partly because capital markets already represented a significant share of financial systems in the early 1990s. Note that price effects might explain part of these trends in financial systems.

Financial systems have also become more complex from the saver's perspective. In particular, non-bank institutional investors play a more central role in intermediating savings. While both insurance companies and pension funds expanded, mutual funds have shown a remarkable growth in the 2000s. For example, between 2000-2004 and 2005-2009, the size of mutual funds increased almost five times in China relative to GDP and almost doubled in India. Such an expansion suggests that non-bank intermediaries, in particular mutual funds, seem to have played an important role in the development of equity and bond markets by providing a stable demand for financial assets.

These trends for China and India are consistent with the evidence in the growing literature on the overall patterns of financial development. As economies develop, they increase their demand for the services provided by securities markets relative to those provided by banks. In this context, securities markets become increasingly important for economic development.

### **3.2. How widespread is the use of capital markets?**

Given the expansion of financial systems in China and India, we now analyze to what extent the developments documented above have implied a greater use of equity and bond financing by the private sector. We focus the analysis on our data set on capital raising activity (IPOs, SEOs, and

bond issues) at the transaction level in both domestic and foreign capital markets. The inclusion of foreign markets is important because these economies have been undergoing a process of financial liberalization and the experience of other emerging economies suggests that a large fraction of transactions could take place abroad.

The patterns of financing using capital raisings differ from the ones using the more standard measures. For example, the amount raised in domestic equity markets declined steadily during the 1990-2005 period, though it increased after 2005. As a percentage of GDP, new capital raising issues through equity securities from Chinese (Indian) firms in domestic markets declined from an average of 1.1 (0.4) percent of GDP per year between 1991 and 1994 to 0.5 (0.3) percent between 2000 and 2004, only to bounce back to 1.0 (1.3) percent during the 2005-2010 period (Figure 2, Panel A). These patterns suggest that increasing equity prices might explain to some extent the boom in equity markets in China and India over the 20-year period.

The decline in equity financing in domestic markets during the 1990s and early 2000s does not appear to be related to the use of foreign equity markets. Similarly to the trends in domestic markets, new capital raisings in foreign markets also declined during the 1990s and then significantly increased in the second half of the 2000s. Nonetheless, foreign markets have come to represent a sizeable share of the equity financing, especially for Chinese firms (Figure 2, Panel A). Noticeably, capital raising activity by Chinese firms in Hong Kong SAR, China alone was almost as large as that observed in domestic markets between 2005 and 2010. Total foreign equity financing represented over 50 percent of the total equity financing for firms from China and 22 percent for firms from India. However, trading activity remained concentrated in domestic markets, as suggested by the data for firms with depositary receipt (DR) programs. A direct comparison of the secondary market activity for these firms indicates that most of the

trading during the 2000s took place in domestic markets. For example, less than 20 percent of the total trading of Indian firms took place in foreign equity markets (Appendix Figure 1).

Similar to the observed trends in equity financing, activity in primary bond markets increased significantly during the 2000s (Figure 2, Panel B). Bond financing in domestic markets expanded by more than seven-fold in China and by more than three-fold in India in the 2005-2010 period vis-à-vis the 2000-2004 period, reaching about 2 percent of GDP per year in each country. We also observe an increase in the use of foreign bond markets, with an expansion of about 100 percent for both Chinese and Indian firms. Paralleling the developments in foreign equity financing, Hong Kong SAR, China also represented an important foreign market for the bond financing of Chinese firms. However, foreign financing remained only a small fraction of the total capital raising activity through bond markets, about 17 percent in India and 9 percent in China in the second half of the 2000s.

Comparing the two markets, the total amounts raised in domestic bond markets per year were larger than the total amounts raised in domestic equity markets in both China and India during the 2005-2010 period. This stands in stark contrast with the aggregate evidence based on market capitalization. While bond market capitalization was indeed smaller than in equity markets, bond markets have been a greater source of new financing for corporations than equity markets in China and India. For example, the total amount raised through new bond issuance in domestic markets in India was on average 2.4 percent of GDP per year between 2005 and 2010, whereas the total amount raised through equity issues was 1.3 percent of GDP. These patterns are consistent with those observed in other emerging and developed economies around the world, even when adjusting for the fact that bonds expire over time, which might lead to refinancing.

Nevertheless, they might be more surprising in the case of China and India given the perception that equity markets are more developed than bond markets.<sup>19</sup>

To what extent does this expansion in capital markets imply that a wider set of firms access them? The number of listed firms in equity markets steadily expanded in China, increasing from 135 firms on average in the 1991-1994 period to 1,621 in the 2005-2010 period. In contrast, the number of listed firms in India peaked in the 1990s, growing from 3,090 to 5,793 firms between the first and the second half of the decade, and decreased gradually to 4,885 in the 2005-2010 period.<sup>20</sup> Despite these trends, the number of listed firms in India has remained significantly larger than in China, suggesting that China is catching up with India over time. Importantly, the number of listed firms that have used equity markets for their financing purposes still seems limited given the size of their economies and population.

Despite the overall increase in the number of listed firms since the early 1990s, a salient feature of equity markets in China and India is that a small number of firms actually raise capital in equity markets, and thus capture an increasing amount of funds. In China, the number of firms raising capital in domestic equity markets per year has remained remarkably stable; on average 97 firms raised capital every year over the past 20 years (Figure 3, Panel A). In India, the number of firms using domestic equity markets as a source of new capital has actually declined in the 2000s vis-à-vis the 1990s, falling from 534 firms in the first half of the 1990s to 152 in the second part of the 2000s. Scaled by the total number of listed firms, on average only 6.6 and 3.1 percent of the listed firms in China and India, respectively, used domestic equity markets each

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<sup>19</sup> Although the results presented thus far are robust to the exclusion of financial firms, for non-financial firms equity markets actually represented a greater source of financing than bond markets. In fact, financial firms accounted for most of the activity in bond markets and played a much smaller role in equity market financing.

<sup>20</sup> Appendix Figure 2 reports the evolution of the average number of listed firms in domestic equity markets between 1990 and 2010 for China and India.

year during the peak period of 2005-2010 (Figure 4, Panel A).<sup>21</sup> Similar patterns emerge when considering the financing in foreign equity markets. While the amount raised abroad was sizeable relative to the amount raised in domestic equity markets, a restricted set of firms actually used foreign markets. In India, only 18 firms per year between 2005 and 2010 did so, representing less than 0.5 percent of the number of listed firms in domestic markets.

An even smaller number of firms use (domestic or foreign) equity markets for SEOs (Figure 3, Panel B), suggesting a rather limited scope for firm financing on a recurrent basis in equity markets. In China, on average only 10 percent of the firms raising capital (a mere 11 firms per year) conducted SEOs during the 1991-2004 period. In India, consistent with the surge in the number of listed firms in the 1990s, on average less than 10 percent of the firms that used equity markets per year did so for SEOs during this period. However, the proportion of SEOs relative to IPOs increased in the second half of the 2000s, when almost 40 (50) percent of the firms raised equity capital through an SEO (rather than an IPO) in China (India). This increase might be explained by the fact that as more firms become listed over time, fewer IPOs are expected in relation to SEOs. However, despite the increase, fewer than 100 firms per year conducted SEOs in each country, or 4.7 percent of the over 1,600 listed firms in China or 1.4 percent of the over 4,800 listed in India.

The number of firms using bond markets expanded and reached levels comparable to those observed in equity markets during the 2000s (Figure 3, Panel C). The average number of firms raising capital through bonds in domestic markets increased ten-fold in China (from 9 to 94 firms

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<sup>21</sup> These figures do not imply that different firms are using the markets in different years. It is possible that the same firm raised capital in many instances in our sample. There is nonetheless some heterogeneity in how often firms use markets. For example, firms that raised capital in either equity or bond markets twice between 1991 and 2011 did so at an interval between issues of about 41 months in China and 72 in India. In contrast, firms that raised capital three times over the same period did it at an interval of 25 and 42 months between issues in China and India, respectively. An even shorter interval is observed for those with more issues.

per year between the first and the second half of the 2000s) and almost doubled in India (from 86 to 155 firms per year over the same period). In contrast to the patterns observed with aggregate market capitalization, these numbers suggest that during the 2005-2010 period more firms used domestic bond markets as a source of financing than they used domestic equity markets through SEOs. This holds true in India even when IPO-issuing firms are counted among those using equity markets as a source of financing. Yet, if these numbers are scaled by the number of listed firms in equity markets, only a small fraction of the firms used domestic bond market financing between 2005 and 2010, 5.7 percent in China and 3.2 percent in India (Figure 4, Panel B). Though the number of firms using foreign bond markets also increased, they remained a small fraction of the firms using domestic markets.

While the number of firms using domestic equity markets to raise capital per year increased only 20 percent in China between 2000-2004 and 2005-2010, the amount of new equity capital raised in domestic markets per year doubled over the same period. Similarly, the amount raised in domestic bond markets in India increased by more than 200 percent over this same period, whereas the number of firms increased by 70 percent.

Not only do few firms use capital markets as a source of financing, but even fewer firms capture the bulk of the capital market financing. Among issuing firms, there is a high degree of concentration with top issuers typically capturing a large fraction of the market. In China (India), the amount raised by the top 10 issuers as a ratio of the total amount raised per year during the 2005-2010 period was 62 (56) percent in equity markets and 43 (49) percent in bond markets (Figure 4, Panels C and D).

Figures 2 and 3 also show that although state-owned enterprises (SOEs) tend to capture a sizeable share of the volume of equity market financing, they constitute small fraction of the

number of firms. In particular, during the 2000s, Chinese SOEs captured on average about 57 percent of the equity volume raised through capital markets, while Indian SOEs captured on average about 21 percent of the equity amount raised. This corresponds to about 21 percent of the Chinese firms and only 6 percent of the Indian firms raising equity capital. With regards to bond markets, SOEs captured not only a more sizeable share of the volume raised (especially in India), but also represented a larger share of the number of firms raising capital. For example, SOEs accounted for 63 and 50 percent of the total amount raised through bonds in China and India, respectively, which corresponds to 60 (26) percent of the Chinese (Indian) firms issuing bonds.

In sum, the results based on firm-level data on the use of capital markets suggest that the expansion of financing to the private sector in China and India has been much more subdued than what the aggregate numbers suggest. The expansion of equity and bond market capitalization has not been associated with a more widespread use of capital markets by corporations. In fact, financing through capital markets has been channeled to relatively few firms and markets have remained highly concentrated, with few firms capturing an increasing amount of equity and bond financing. In other words, the deepening of equity and bond markets (measured by their expansion in absolute and relative size) has not led to a greater breadth of markets. Moreover, not only do few firms have used equity and bond markets on a recurrent basis, but also the bulk of capital market financing in China and India has been concentrated around few firms. These patterns suggest that capital markets have not provided a stable source of firm financing, which contrasts sharply with the perception in the existing literature that equity markets, particularly in India, are well-developed. Moreover, the patterns are particularly interesting if one considers that part of the financing in capital markets has gone to the SOEs and

that a significant fraction of the growth in these countries might have come from more efficient private firms that displaced the SOEs (Hsieh and Klenow, 2009).

#### **4. Firm dynamics and the use of capital markets**

We now investigate the link between firm dynamics and their use of equity and bond markets. It is well-known that the larger firms within an economy have greater access to capital markets, due at least in part to cost and liquidity considerations. In practice, these considerations render the minimum issue size rather large for smaller firms (Beck et al., 2006). But even among the publicly listed companies, not all firms actually raise capital in capital markets on a recurrent basis, as shown above. Therefore, we analyze which firm characteristics are related to the probability of raising capital in bonds or equity markets. We also study the firm dynamics around the capital raising activity and the implications of our findings for the distribution of firm size.

##### **4.1. Which firms use capital markets?**

To conduct the analysis, we rely on our merged data set that combines the SDC Platinum database on the use of capital markets with firm-level balance sheet information on the post-IPO period from Orbis and Worldscope.<sup>22</sup> We split firms into users and non-users of capital market financing, according to whether firms issue equity or bonds within our sample period. Because the firm-level balance sheet information is only available for the 2003-2011 period, we classify a firm as a user of equity or bond markets if it had at least one non-IPO capital raising between 2003 and 2011. Non-user firms are those that do not issue any equity or bond after their IPO. Based on the matched SDC-Orbis data set, in China, 425 firms are equity users, 195 are bond users, and 1,915 are non-users; in India, those numbers are 727, 291, and 3,428, respectively.

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<sup>22</sup> Because we work with listed firms, all firms had an IPO during or before our sample period. Moreover, because we do not have accurate information before their IPO, we cannot compute growth rates of variables of interest between the IPO and the pre-IPO year. Therefore, we exclude from the analysis the balance sheet information for the IPO year.

We first test the differences in medians between users and non-users of capital markets for a set of firm attributes by pooling all firm-year observations (Table 1). The results show that firms that use capital markets are indeed very different from non-users. Firms that raise capital through either equity or bonds are significantly larger (in terms of total assets, sales, or the number of employees) than the publicly listed firms that do not raise capital. The median equity (bond) user firm in China has total assets of \$443 million (\$1.2 billion), whereas non-users have \$214 million in total assets.<sup>23</sup> In India, the typical firm in our sample is much smaller than that in China, though the differences between users and non-users are also large. For instance, total assets for the median firm without an issue are \$9 million, which stands in stark contrast with the \$56 or \$597 million observed for users of equity and bond markets, respectively.<sup>24</sup> We obtain qualitatively similar differences between users and non-users of capital market financing if we focus on sales or the number of employees.

In terms of growth, the firms in our data set have had a performance that mirrors that observed for the whole economy. For instance, the firms in the data set had average total assets and sales growth of 11 and 17 percent per year in China and 7 and 12 percent per year in India between 2004 and 2010. GDP growth over the same period stood at 11 in China and 8 in India. Moreover, equity and bond market users grow faster than non-users and the difference in growth rates between these firms is statistically significant. In China, total assets growth (sales growth) for equity and bond users is on average 18 (20) percent per year, but only 9 (16) percent for non-users. In India, total assets growth (sales growth) is 16 (17) percent per year for users of equity markets, 18 (18) percent for users of bond markets, and less than 6 (10) percent among non-users. Notwithstanding the large differences in the median firm size, the growth rates of equity

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<sup>23</sup> Throughout the paper, we report the data in constant 2011 US dollars.

<sup>24</sup> Although the size of total assets for the median firm without an issue seems small, this figure is consistent with that calculated by Allen et al. (2012) using the Prowess CMIE database.

and bond users are similar and not statistically different from each other in most instances. Moreover, despite the differences in the median firm size of Chinese and Indian firms, their growth rates are much more similar. For instance, the growth rate of total assets is about 18 percent per year among bond users in both China and India and 19 and 16 percent among equity users in China and India, respectively.

The median Chinese and Indian firms that use capital markets have a longer liability maturity structure, are more leveraged, and have a greater share of retained earnings to total assets than the median non-user firm. Equity and bond market users are also more profitable than non-users. For instance, the difference in ROA between equity users and non-users is about 1 percentage point in both China and India. The differences between equity and bond users are also statistically significant and go in the same direction as those between users and non-users, indicating that the overall differences between bond users and non-users are even starker than those between equity users and non-users.

The median firm that raises capital invests more than the median non-user. For example, the median equity (bond) user in China has capital expenditures of \$16 (\$53) million, while the median non-user has expenditures of \$7 million. Importantly, as a percentage of sales, capital expenditures are also statistically larger for users than for non-users. Among Indian firms, for instance, equity and bond users typically have capital expenditures to sales of 6 and 7 percent, whereas non-users have 4 percent. Bond users have larger capital expenditures than equity users in both absolute and relative terms.

#### **4.2. Ex-ante differences in firm performance**

The summary statistics reported above based on our entire sample do not allow us to distinguish ex-ante and ex-post differences across firms. To explore whether users are similar to non-users

before their capital raising activity, we estimate Cox proportional hazard and Probit models to capture the probability of using capital markets as a function of a set of firm-level attributes.<sup>25</sup> In all the regressions, we include industry dummies to control for sector-specific effects.

The Cox model estimates the determinants of the probability of using equity and bond markets employing all the available information up to the year before an issuance takes place. The model relates the hazard rate, i.e. the probability of using markets at a certain time  $t$  conditional on not having raised any capital yet, to a set of known variables observed at time  $t-1$ .<sup>26</sup> Hence, if a firm issues a bond any time between January and December of year  $t$ , the firm-level explanatory variables are values for December of year  $t-1$ . In the Cox regressions, a coefficient greater than one indicates that increases in the independent variable enhance the probability of a firm using capital market financing, and a coefficient less than one decreases this probability. The coefficients directly indicate the percentage change in the probability of observing a firm becoming international (relative to the base probability) due to a change of one standard deviation in each explanatory variable.

The estimations show that firm size, firm growth (especially for firms raising equity capital), and a longer liability maturity structure are positively and statistically related to the probability of using capital markets (Table 2, left panels). These are the most robust predictors of the propensity of firms to use markets across specifications. The other firm-level attributes typically have weaker statistical significance. Performance, measured by ROA, and leverage are in most instances negatively related to the probability of raising equity financing, but positively (or not

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<sup>25</sup> In constructing these dummies, we follow the major industry divisions of the SIC classification of industries using information at the two-digit level. We consider the following industries: (i) agriculture, forestry, and fishing; (ii) construction; (iii) finance, insurance, and real estate; (iv) manufacturing; (v) mining; (vi) public administration; (vii) retail trade; (viii) services; (ix) transportation, communications and utilities; (x) wholesale trade.

<sup>26</sup> Only the first issue between 2005 and 2011 is considered in these regressions.

statistically significantly) associated with the probability of raising capital through bond markets. Overall, there are few differences in coefficient magnitudes between China and India.

To interpret the economic magnitude of the effects of individual firm attributes on the Cox hazard ratio, we multiply the logarithm of the estimated coefficients by one standard deviation of the explanatory variables. Firm size yields the largest impact on the decision to use capital markets. A one standard deviation increase in the total assets of the average firm is associated with an 81 percent increase in the baseline probability of raising capital with either equity or bonds in China and a 116 percent in India. Firm growth also appears to have an economically important effect. For example, total assets growth is associated with a 42 percent increase in the baseline probability in China and a 30 percent in India. Of about the same magnitude are the effects of the maturity structure of a firm's liabilities, leverage, and in the case of China retained earnings. However, the economic effect of ROA seems relatively small.

The Probit estimator also aims at predicting the decision to use markets over a future time period; however it only uses cross-sectional information as of a certain date. We focus on the use of capital markets between 2005 and 2011 based on firm-level attributes as of 2004. Because it does not use new information (for prediction purposes) becoming available at any time after 2004, this is a more conservative estimate of how firm characteristics might affect the use of markets.

The results typically reinforce the findings from the Cox regressions (Table 2, right panels). Larger firms and those growing faster are more likely to use equity or bond financing. While a longer maturity structure for liabilities is strongly associated with a greater probability of using markets in India, we obtain weaker results for equity financing in China. The results for the other

firm-level attributes are less clear, perhaps due to the noisy nature of these performance variables.

In terms of the economic significance, firm size is the most important firm attribute, consistent with the results of the Cox regressions. A 1 percent increase in total assets raises the likelihood of issuing in capital markets by approximately 2 percentage points in both China and India. The remaining firm-level attributes, including firm growth, have an economically weaker impact on the propensity of firms to use equity and bond markets.

These findings suggest that only certain firms within the listed firms use capital markets on a recurrent basis. Notably, larger and faster growing firms are significantly more likely to use markets than other firms. These findings indicate that the firms that use markets are different from other publicly listed firms and that certain firm attributes are important factors in the use of capital market financing. These findings also imply that it might be difficult for a wider set of firms to participate directly in capital markets.

We performed a number of robustness and additional tests. First, the findings are robust to the exclusion of SOEs, as shown in Appendix Table 2. This seems relevant because these firms might behave differently and might receive special treatment from regulators and financial intermediaries. Second, larger and faster growing firms are more likely to raise capital in foreign markets than those raising capital just in local markets, perhaps because the cost of capital abroad is cheaper, although it requires a higher minimum size (Gozzi et al., 2012). Third, the results hold if we control for mergers and acquisitions (M&A), by interacting the firm-level attributes with whether the firm is the acquirer in an M&A activity in the year of the capital raising or the following year (as shown in Appendix Table 3). Fourth, the results are robust to

considering separately the periods before and after the global financial crisis, namely 2003-2007 and 2008-2011.

### **4.3. Ex-post differences in firm performance**

To examine the firm dynamics around the use of markets and whether the ex-ante differences persist in the aftermath of the capital raising activity, we estimate regressions that trace the evolution of the firm attributes around the year in which firms issue bonds or equities, considering the run-up year and the year after this activity.<sup>27</sup> We compute this type of event studies for each of the firm-level attributes analyzed above using dummy variables that estimate a three-year window around the use of capital markets. The regressions use all the available data for all firms in our data set. The coefficients on the dummy variables measure whether the firm attributes around the use of markets are statistically different from those of our control group in these regressions, namely, the non-users and the users during the years outside the three-year window around the capital raising activity. We also test whether the coefficients on these dummy variables are equal to each other, which allow us to gauge whether the use of markets is associated with a different performance around the issuance. All regressions include industry dummies (leaving out as a base the dummy for the manufacturing sector) and time dummies.<sup>28</sup>

Consistent with the evidence presented in the previous section, the results show that before it uses capital markets, the average firm is larger and grows faster, has a longer maturity structure

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<sup>27</sup> In unreported results, we use for the pre-issuance period all years before the first capital raising takes place and for the post-issuance period all years after that issuance. For each firm, we only consider the first bond and the first equity capital raising activity during our sample period. If a second issuance takes place, we exclude the observations from that event onward. The results are qualitatively similar to the ones reported here. As an additional robustness exercise, we also estimate fixed-effect panel regressions to explore the within variation among users of capital markets. The results are also broadly consistent with the ones reported here.

<sup>28</sup> The use of time dummies allows us to control for common factors driving firm performance in a given year, such as the possible market timing associated with capital raising activity. For example, firms might issue capital during stock market boom years and subsequently underperform as market conditions deteriorate. Heterogeneity among investors could be one of the explanations why some investors might be willing to invest in these firms even when they underperform (Campbell et al., 2012).

on its liabilities, has more retained earnings as a share of total assets, has higher ROA, and invests more (in absolute terms and relative to sales) vis-à-vis non-user firms and other years for the user firms (Table 3). All these differences are statistically significant and emerge after controlling for industry and time effects. In the year in which an issue takes place, we also observe significant differences. Firms raising capital are larger, typically grow faster, have greater retained earnings and capital expenditures, and have a longer-term capital structure. Following the use of markets, the average user firm remains larger in size, has a greater share of long-term liabilities, and tends to have greater retained earnings to total assets and capital expenditures. Moreover, firm leverage is similar in the year after and the year before an equity issuance takes place, whereas it increases after a bond issuance. Total assets of Indian user firms also grow faster than the control group, though we no longer observe differences in the growth rates of total assets among Chinese firms or of sales among Chinese and Indian firms.

These effects are not only statistically significant, but also economically large. For example, the average firm raising equity capital in China (India) is about 40 (154) percent larger than firms in the control group in the year before they raise equity capital. Moreover, they also expand faster. Their total assets grow by about 8 (16) percentage points more in the year before the issuance and 31 (29) percentage points more during the issuance year. These figures are calculated for the average firm raising capital through equity issues in China (India) relative to those in the control group (non-user firms and those years outside the three-year window for user firms).<sup>29</sup>

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<sup>29</sup> The growth rates implied by the regressions based on firm size differ from those in the regressions based on firm growth because of the industry dummies. In the former, the implied growth rate is an average for all firms in all industries as the industry dummies allow for differences in the level of firm size (intercept) but not the slope. In the latter, firm growth actually varies across industries as captured by the different intercepts associated with the industry dummies.

The tests that compare the estimated coefficients show that, upon raising capital, firms become even larger and that these differences are statistically significant (Table 3, bottom of each panel). In some instances, user firms have even greater growth rates during the issuance year than during the pre-issuance period, though these differences fall significantly in the aftermath of the capital raising activity for firms in both China and India. The capital expenditures also become even larger (though not as a share of sales) and the capital structure is longer in the post-issuance period, and these differences are statistically significant.

In sum, the evidence that most of the differences in performance between users and non-users of capital markets are already in place during the year before a firm raises capital reaffirms the findings from the Cox and Probit regressions. However, most of these differences become more accentuated during the year in which the capital raising activity takes place and its aftermath. For instance, issuing firms are typically larger to begin with and become even larger after raising capital through equity or bonds. Moreover, firm growth increases the year before and the year in which the capital raising activity takes place.

We performed similar robustness and alternative exercises as those mentioned in the previous section, but applied to firm dynamics. First, the findings are robust to the exclusion of SOEs (Appendix Table 4). Thus, privately-owned firms seem to benefit from capital market financing, in particular because they grow faster. Second, the firms issuing abroad tend to be larger than the ones issuing domestically before, during, and after issuing. Therefore, the differences between the firms that raise capital abroad and those that do not raise funds in capital markets seem to be much stronger than those currently reported in the paper. Third, firms with M&A activity around the capital raisings display a similar performance than other firms raising capital (Appendix Table 5). In particular, firms engaging in M&A are usually not larger and do not grow faster ex-

ante or ex-post than other firms raising equity or bonds. Fourth, the results are robust to splitting the sample in 2007. Fifth, the results are qualitatively similar when using the Worldscope data, as reported in Appendix Table 6.

#### **4.4. Implications for the firm size distribution**

The evidence on firm size and firm growth has important implications for the FSD and its evolution across publicly listed firms. To study this, we estimate four density estimates: two for the distribution of firm size as of 2003 (one for users and one for non-users of capital market financing) and two analogous ones as of 2010. Figure 5A shows the results for total assets as a proxy for firm size, whereas Figure 5B reports the estimates for sales. In this sub-section, users are the firms that raise equity (Panels A and C) or bonds (Panels B and D) between 2004 and 2010; all firms with capital raising activity in 2003 are excluded from the sample in this figure. Non-users are the other firms in our sample. The figure shows that the nonparametric density estimates of the Kernel distributions of firm size, measured by total assets, are indeed different between users and non-users of capital markets.

The distribution of users of capital markets as of 2003 is located to the right of that of the non-users, indicating that the firms that use capital markets are typically larger than the other firms. The differences in the density functions between equity or bond users and non-users in both China and India are all statistically significant according to the Kolmogorov-Smirnov tests (Figure 5, bottom panel).<sup>30</sup> These patterns indicating differences in firm size at the beginning of our sample are consistent with the evidence presented thus far that larger firms are more likely to use equity or bond financing.

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<sup>30</sup> Among the largest issuers (in terms of total assets) from China are a number of financial corporations, such as China Merchants Bank and Bank of Communications, as well as non-financials like Baoshan Iron and Steel Company and Huaneng Power International. In India, the top user firms also comprises financial and non-financial corporations, among which are ICICI Bank, Reliance Industries, Tata Steel, and Tata Motors.

The distributions as of 2010 are shifted to the right, indicating that firms have typically grown over this period. We also observe that the distribution of users comprises larger firms than that of non-users in 2010. Once more, the differences are statistically significant (Figure 5). The graphs also suggest that the distribution of users shifts to the right more than that of non-users, implying that firms that use markets grow more than non-users.

To formally evaluate the different shifts in the distributions, we estimate quantile regressions using a differences-in-differences approach that test whether there is a significant change in some key quantiles of the distributions. In particular, we pool the information on firm size at two points in time, 2003 and 2010, for all firms in our sample and estimate quantile regressions on a constant, a dummy variable that takes the value of one for users of capital markets between 2003 and 2010, a dummy variable that takes the value of one for observations in 2010, and a term with the interaction of these two dummy variables. We include industry dummies in the regressions (leaving out as a base the dummy for the manufacturing sector). The constant is thus interpreted as the level of the  $j^{th}$  quantile of firm size in 2003 for a firm in the manufacturing sector. The coefficient on the 2010 dummy represents the change in the location of that quantile between 2003 and 2010.<sup>31</sup> The coefficient on the dummy for capital market users captures the change in the location of that quantile between users and non-users. The interaction term captures whether the distribution of users has shifted more than that of the non-users between 2003 and 2010, and it is thus the coefficient of most interest to us.

The quantile regression results for firm size (measured by total assets or sales) as a dependent variable complement and reinforce the findings based on the kernel distribution estimates (Table 4). They show that users of equity and bond markets are larger than non-users at every decile of

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<sup>31</sup> The level of the  $j^{th}$  quantile of the firm size in 2010 can be obtained by adding the constant and the coefficient on the 2010 dummy variable. Similar calculations allow us to recover the levels of the  $j^{th}$  quantiles for the other distributions.

the distribution of firm size in China and India. Not only the top firms in the distribution of users are larger than the top firms in the distribution of non-users, but these differences also exist in every decile, including the bottom ones. The results are statistically significant for all estimates, except for the bottom two deciles of the distribution of total assets among equity users in China. These differences are also economically significant. The estimates suggest that non-user firms in the manufacturing sector in China at the 10<sup>th</sup> decile had about \$60 million in total assets in 2003, while equity users at the same decile had \$77 million in total assets, about 30 percent more. The differences are even starker in India, where equity issuers at the bottom decile of the distribution were on average 175 percent larger than non-users.

The regressions also provide evidence that the distributions of both users and non-users shifted between 2003 and 2010. The coefficient estimates for the 2010 dummy for all deciles are positive and statistically significant. The only exceptions to this pattern are the estimates for the 10<sup>th</sup> decile for firms in India, for which there is a negative though non-significant coefficient. Moreover, the results suggest both a shift to the right and a spread of the distribution because the estimated coefficients for the 2010 dummy increase for higher quantiles. In other words, while all firms grew, the larger ones expanded more between 2003 and 2010 than those in the lower deciles.<sup>32</sup> These shifts in the distribution are also economically meaningful. For non-users in China, the estimates imply an average increase in total assets from 2003 to 2010 of between 24 percent for those at the bottom of the distribution and 170 percent for those at the top. Non-users in India had a relatively milder (though still significant) expansion, with the top decile expanding 120 percent in real terms over the seven-year period.

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<sup>32</sup> These effects can only be captured through quantile regressions. They are not observed in the estimation of the average values as reported in the last columns of Table 4.

Importantly, the quantile regressions show that the distribution of issuing firms shifts more than the distribution of firms that did not use capital markets between 2003 and 2010. The coefficients on the interacted terms are positive and statistically significant for every estimated quantile, with the exception of the top decile for firms using bond markets in China and India and for the users of equity markets in India. The estimated coefficients imply a sizeable additional shift in the distribution of firms that raised capital between 2003 and 2010. For example, after taking into account the initial differences between users and non-users, equity users from the manufacturing sector at the bottom of the distribution in China had an additional expansion of their total assets of almost 170 percent in real terms between 2003 and 2010 (about \$162 million) than the observed shift for non-users. For bond users in the manufacturing sector in India, after controlling for the initial differences, firms at the bottom of the distribution experienced an additional increase in their total assets of about 325 percent (about \$121 million).

These patterns suggest that the use of capital markets is associated with different firm dynamics. These regression estimates provide evidence that firms that use capital market financing are larger to begin with, grow faster, and become even larger than non-users. In other words, there is little convergence in firm size across publicly listed firms. In fact, Angelini and Generale (2008) provide a framework that allows us to test whether the use of capital market financing affects the overall distribution of publicly listed firms. The Komolgorov-Smirnov tests for the equality of the distributions indicate that the distributions of both users and non-users of equity and bond financing are statistically different than that of our entire sample of firms in 2003 and 2010 (Figure 5, bottom panel).<sup>33</sup> This indicates that the use of financial markets not

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<sup>33</sup> The only exception to these patterns is that the FSD for both users and non-users of equity financing in China are not statistically different than that of the entire sample of firms in 2003, though they are in 2010.

only influences, but is also an important determinant of the evolution of the FSD for publicly listed firms.

## **5. Conclusions**

This paper offers new evidence on how much of the expansion in capital markets in China and India has reached different types of firms and to what extent access to these markets has been related to firm performance. Our findings suggest that the expansion of financial activity has been much more limited than what the aggregate numbers on capital market development might suggest. In particular, the capital market financing has been channeled to relatively few firms and markets have remained highly concentrated, with even fewer firms capturing the bulk of the equity and bond financing, both domestically and abroad. In other words, our findings suggest that capital markets have not been a significant source of financing even across the listed firms. However, for the firms that do raise capital in these markets, this funding seems to be related to firm dynamics. Not only do certain types of firms access capital markets, but also their attributes become more distinct after raising capital. For example, large firms are the ones that access markets. Moreover, they grow faster just before and during the year of the capital raising activity and become larger than the control group afterward, increasing among other things their capital expenditure. Furthermore, the firm size distribution shifts more over time for firms that raise capital than for those that do not, suggesting little convergence in firm size across listed firms. In fact, while the non-issuing firms grow on average at a similar rate of the overall economy, issuing firms grow substantially more rapidly.

These findings suggest that finance matters for firms. Even though the financial markets in China and India are arguably not fully developed yet, the firms that are able to raise capital do seem to benefit from it, particularly in terms of their overall expansion. In other words, at least

part of the high growth in these countries seems to come from the firms that are able to raise new funds. Moreover, our findings suggest that even large firms appear to be partly financially constrained. Our results of differentiated performance between users and non-users of capital market financing suggest that, for the group of public listed firms that issue securities, their performance is sensitive to the external capital raised. The fact that firms perform differently and expand when they raise capital also implies that they had investment opportunities ex-ante that they could not realize. But of course testing for the presence of financial constraints is difficult and requires much more work.

While we show that capital raising activity is related to changes in firm dynamics, we do not analyze to what extent the effects are driven by the supply side (the capital market side) or the demand side (the firm side). It is possible that firms have growth opportunities and therefore raise new capital in the markets whenever they need it. The fact that firms grow more rapidly just before raising capital suggests that this might be the case. Namely, firms might have more business opportunities that propel their growth, which leads them to seek more capital to sustain their expansion through new investments. However, supply side effects are also usually at work and fluctuations in financial activity typically have real effects. For example, shocks to global mutual funds seem to have a real impact on investment growth rates in China and India (Jotikasthira et al., 2012). Moreover, frictions in the financial system might affect which firms obtain financing, restricting the access to capital markets to few firms (Didier et al., forthcoming). Much more work is required to understand how financial intermediaries affect access to capital markets, as most of the existing studies focus on banks.

Government rules and regulations on domestic and foreign transactions taking place in capital markets (including capital controls) are also likely to have played a role. In particular, the

restrictions for companies to issue equity and bonds and for domestic and foreign residents to invest in them might have affected the probability of equity and bond issuance in China and bond issuance in India. In relative terms, it is less likely that they have affected equity markets in India, which have operated more freely during our sample period. Moreover, these restrictions have been relaxed over time, so their potential effect has probably been diminishing. Furthermore, these restrictions are unlikely to have affected firm dynamics or the FSD. But more research is needed in this area.

The findings in this paper also have implications for the discussion on capital market development and access to finance for corporations. During the past decades, many emerging economies have undertaken large efforts to expand the scope and depth of their capital markets and to liberalize their financial sectors as a way to complete and increase the provision of financial services. Moreover, many economists have predicted big changes as China and India (lagging behind other countries) further liberalize and develop their financial markets. While these developments will certainly bring important changes, our findings might help put their possible effects in perspective. Expanding capital markets will tend to directly benefit the largest firms (among the already large publicly listed firms) that are able to reach some minimum threshold size for issuance. More widespread direct effects might be more difficult to elucidate. Even for those firms that have increasingly listed in public capital markets, the degree of secondary market activity is rather limited. Furthermore, the indirect effects on smaller firms still need to be understood and quantified.

For the broader set of emerging economies, the findings in this paper suggest that even in fast-growing China and India with plenty of growth opportunities, receiving large inflows of foreign capital, and with thousands of firms listed in the stock market, only a few firms have

directly absorbed the capital market activity. This could suggest that it might be difficult for a broad set of corporations from smaller and slower-growing countries to benefit from capital market development. But, of course, more work needs to be done to have a good benchmark of how many firms should be receiving financing from capital markets.

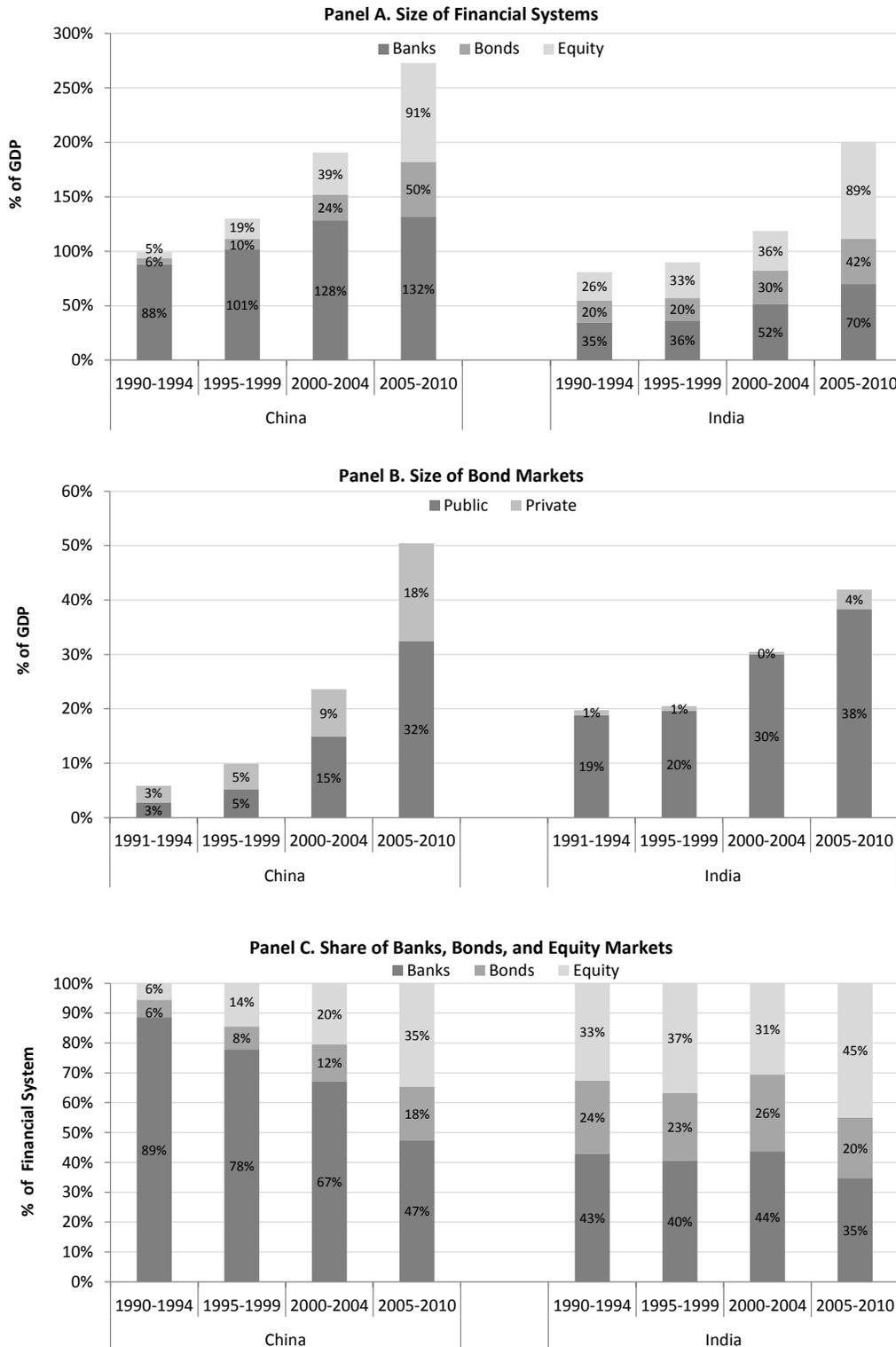
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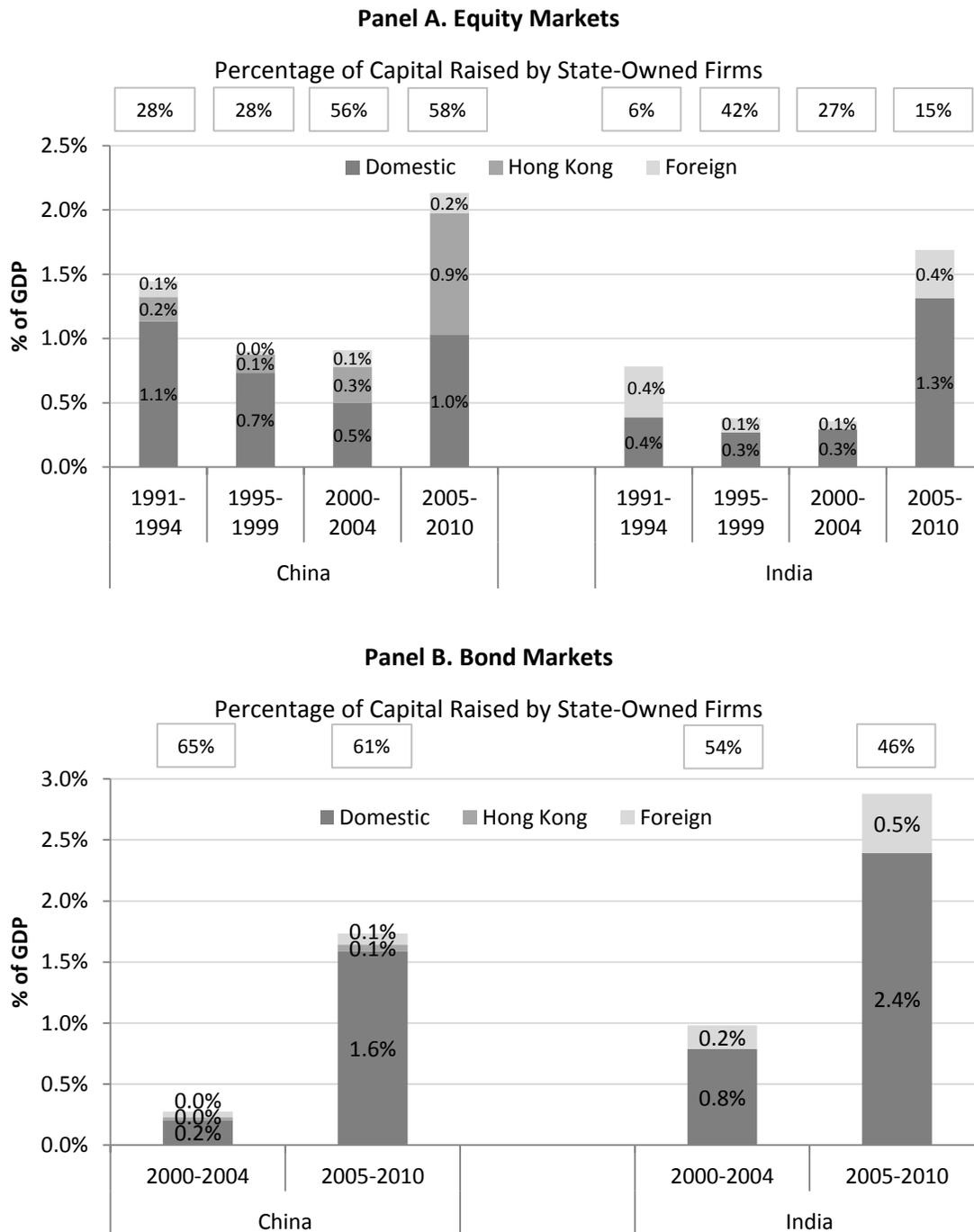
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Figure 1. Financial Systems in China and India



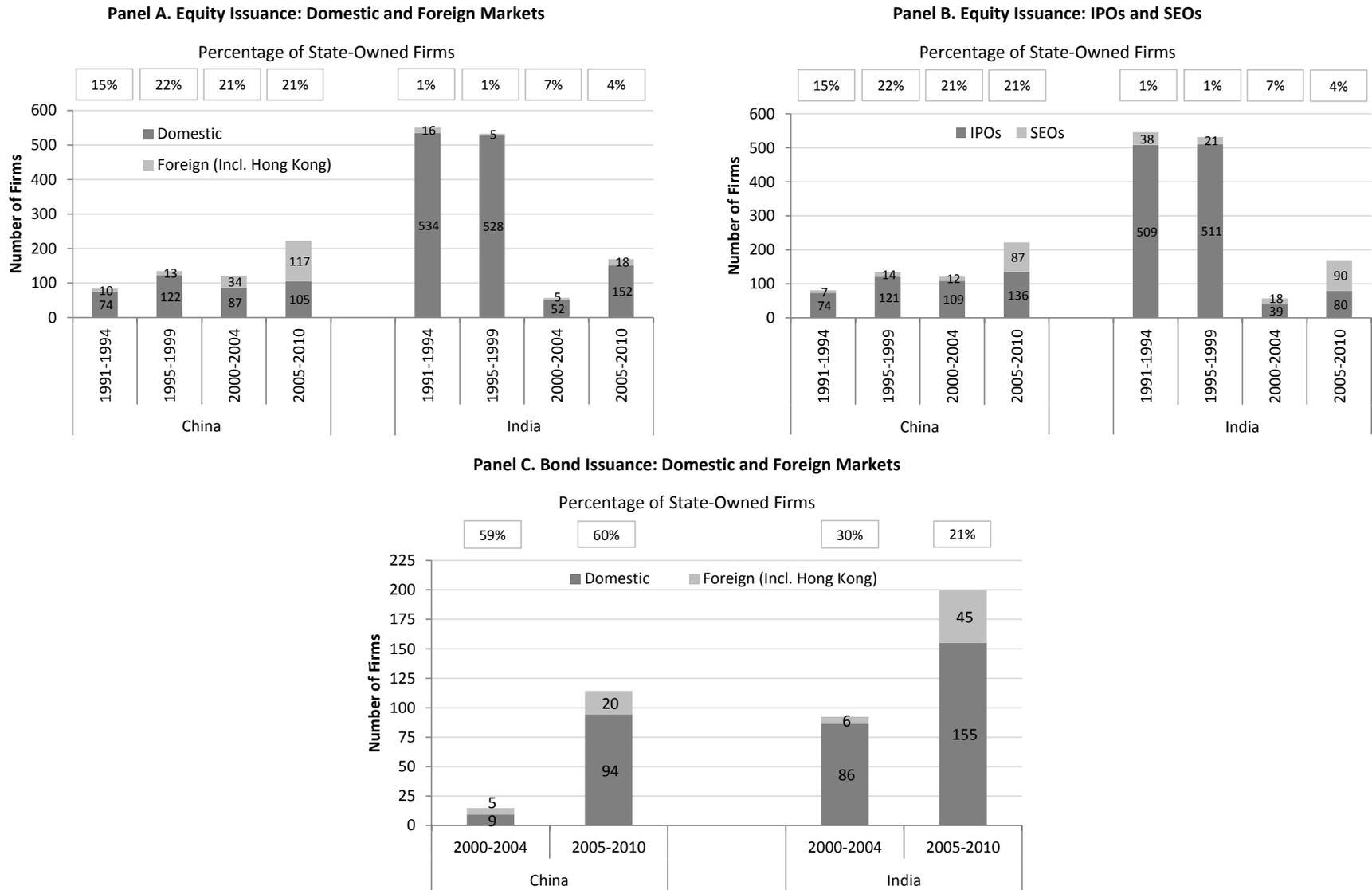
This figure shows the average size and structure of financial systems in China and India between 1990 and 2010. Panel A shows total claims of the banking system, market capitalization of outstanding bonds, and equity market capitalization as a percentage of GDP. Panel B shows the average market capitalization of private and public sector bonds outstanding in domestic markets as a percentage of GDP between 1991 and 2010. Panel C shows the same figures of Panel A expressed as a percentage of the financial system.

**Figure 2. Issuance Activity in Capital Markets**



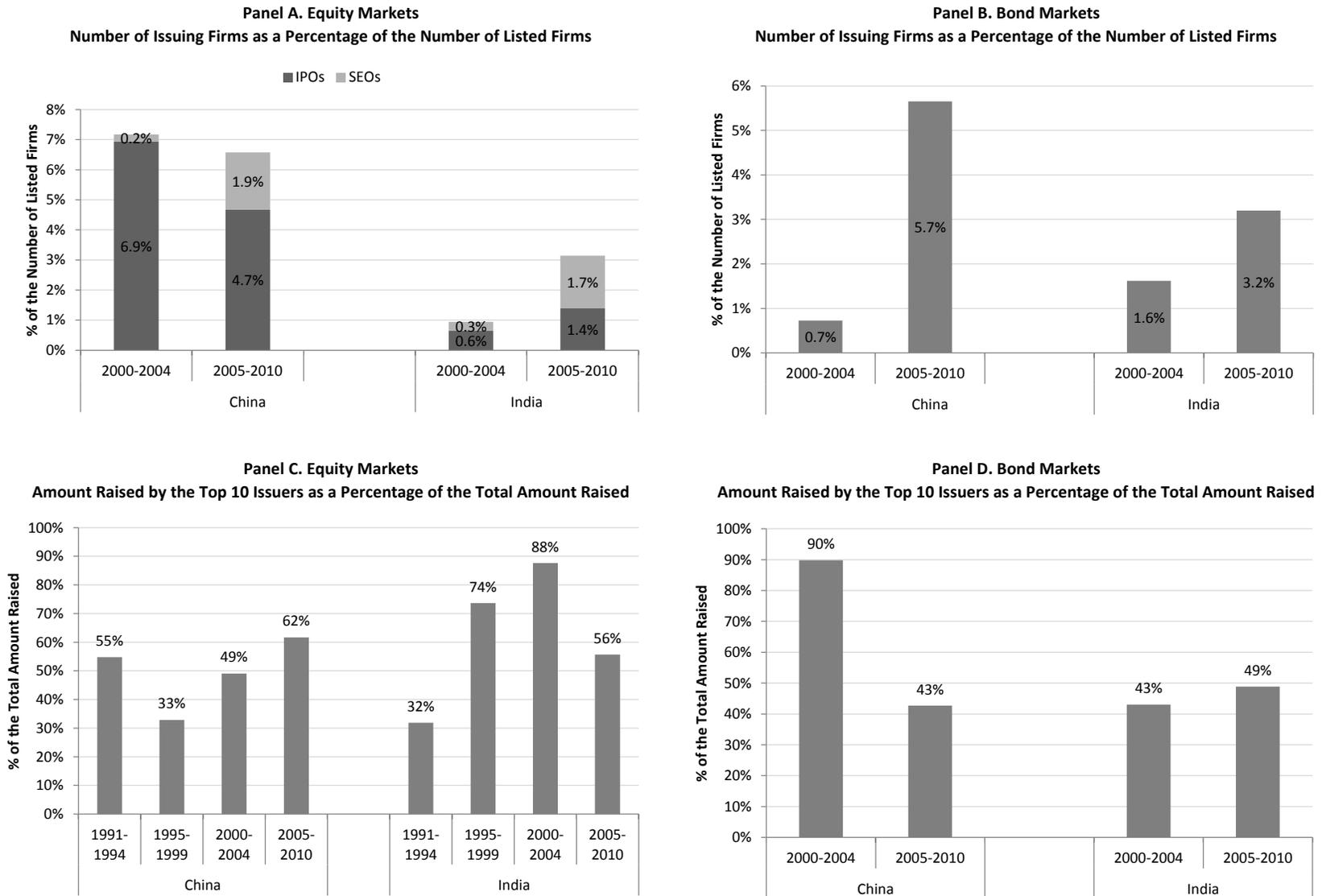
This figure shows the amount raised in equity markets (Panel A) from 1991 to 2010 and the amount raised in bond markets (Panel B) from 2000 to 2010. In both panels, figures are reported as a percentage of GDP. An issue is classified as domestic or foreign according to the location in which it took place. For China, issuance activity in Hong Kong is shown separately. Each panel also reports the percentage of the amount of capital raised by state-owned enterprises (SOEs) as a share of the total amount raised.

**Figure 3. Number of Firms Using Capital Markets**



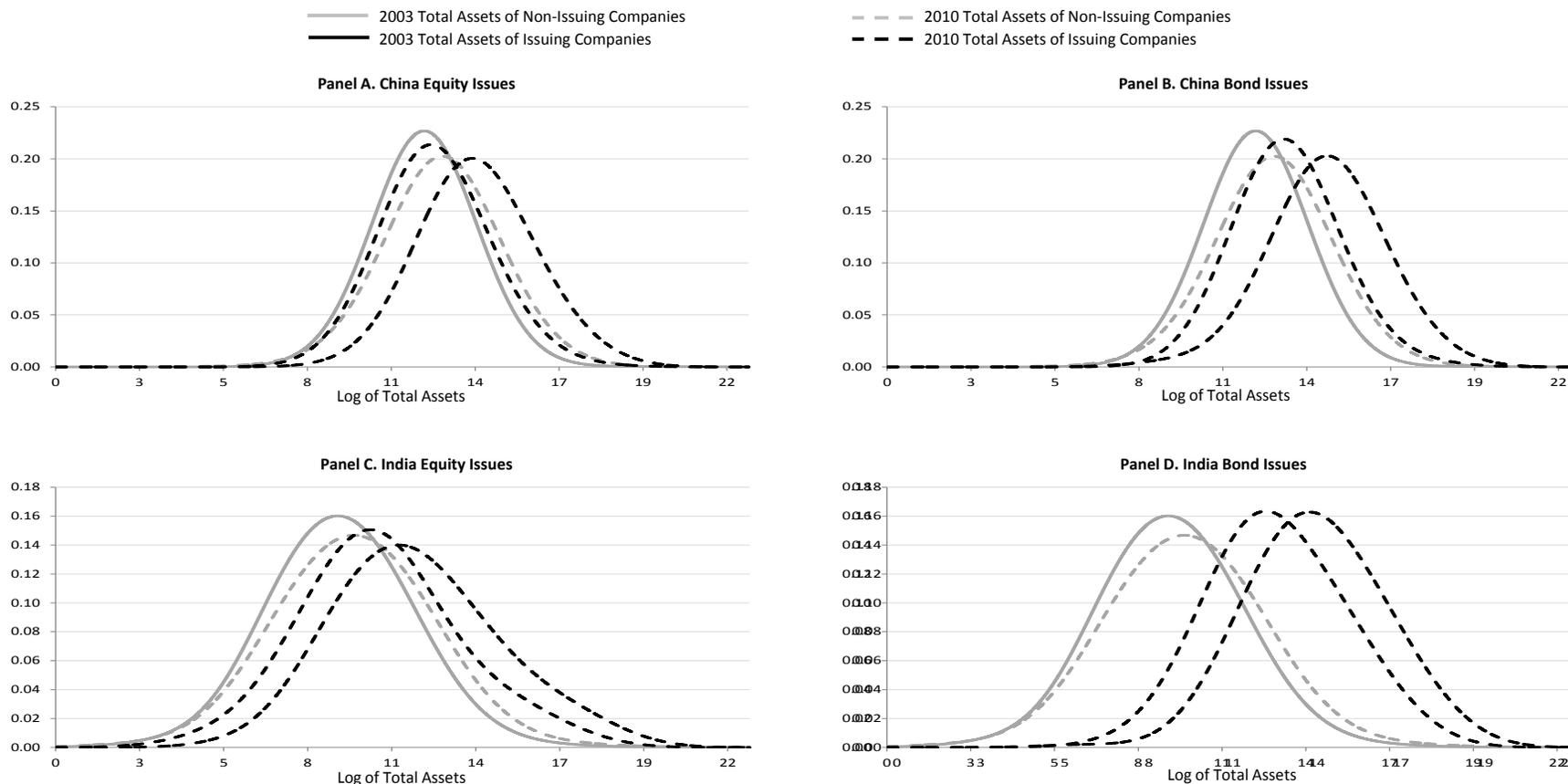
This figure shows the number of firms from China and India raising capital in domestic and foreign equity and bond markets. Panel A shows the average number of firms issuing equity in domestic and foreign markets per year. Panel B shows the average number of firms conducting an IPO or a SEO per year in domestic and foreign markets. Panel C shows the average number of firms issuing bonds in domestic and foreign markets per year. Each panel also reports the percentage of the number of firms using capital markets accounted by SOEs.

**Figure 4. Concentration of Capital Raising Activity in Domestic Markets**



This figure shows the concentration of capital raising activity in domestic equity markets (Panels A and C) and domestic bond markets (Panels B and D). Panels A and B show the number of firms raising capital in domestic markets in a given year as a percentage of the total number of listed firms in domestic equity markets. The figures for equity issues are split into IPOs and SEOs. Panels C and D show the amount raised in domestic markets by the top 10 issuers in a given year as a percentage of the total amount raised in domestic markets in the same year.

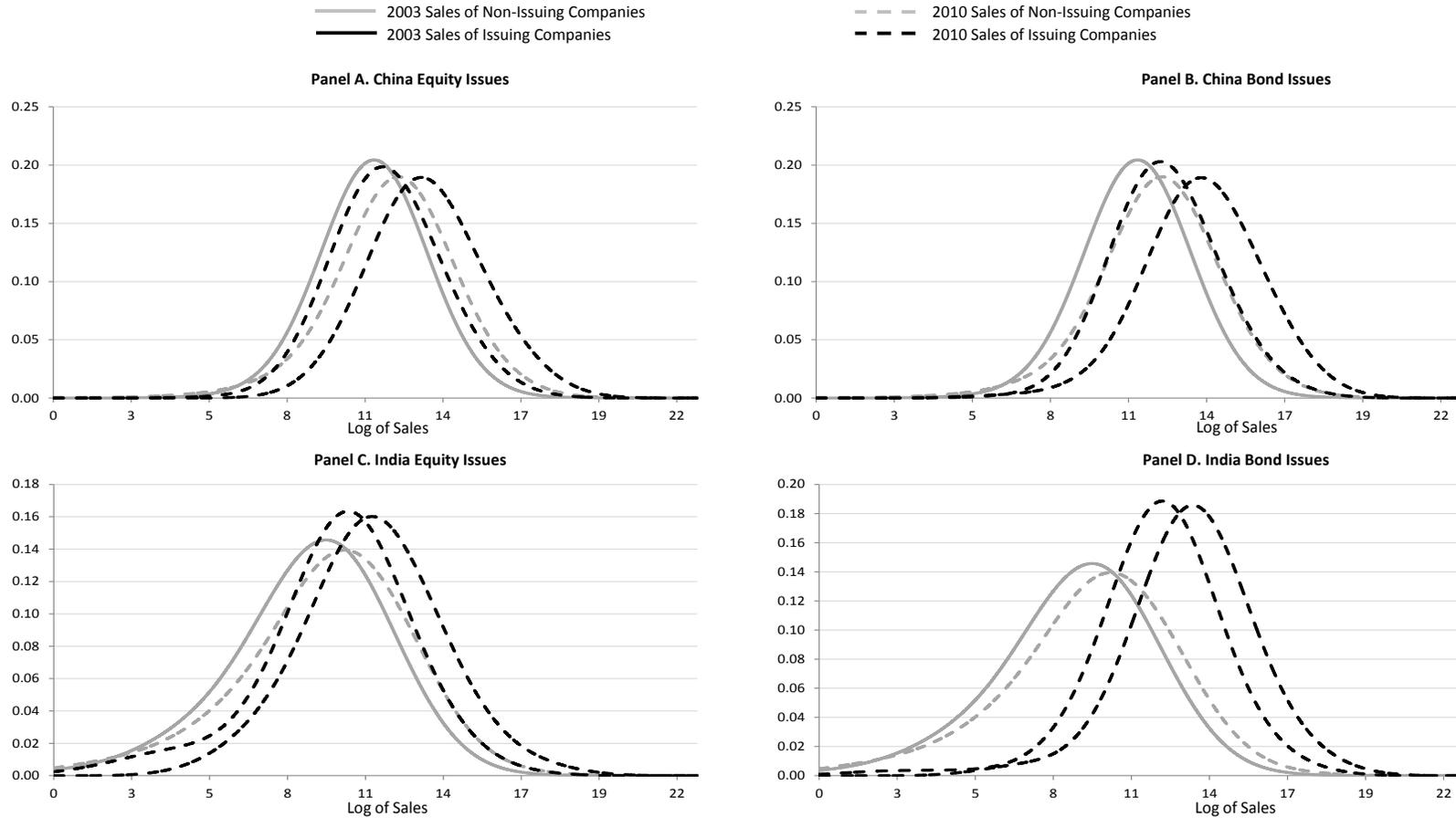
**Figure 5A. Firm Size Distribution**  
*Total Assets as a Proxy for Firm Size*



	Tests of Equality of Distributions			
	China		India	
	2003	2010	2003	2010
Equity Market Users vs. Non-Users	0.128 ***	0.367 ***	0.250 ***	0.321 ***
Bond Market Users vs. Non-Users	0.413 ***	0.591 ***	0.676 ***	0.737 ***
Equity Market Users vs. All Firms	0.083	0.260 ***	0.172 ***	0.231 ***
Bond Market Users vs. All Firms	0.363 ***	0.490 ***	0.603 ***	0.647 ***
Non-Users vs. All Firms	0.052	0.107 ***	0.079 ***	0.096 ***

The top and middle panels of this figure show the estimated Kernel distributions of the log of total assets (in 2011 U.S. dollars) for issuing and non-issuing firms in 2003 and 2010. The bottom panel of this figure shows the Kolmogorov-Smirnov tests of equality of the distributions. User firms are those that raised capital through equity (Panels A and C) or bonds (Panels B and D) between 2004 and 2010, and non-users are the other firms in our sample. All firms with capital raising activity in 2003 are excluded from the sample in this figure. Only firms with data on total assets in both 2003 and 2010 are included in this figure. The kernel type used is a Gaussian with a band-width of 1.5. \*, \*\*, and \*\*\* denote statistical significance at the 10, 5, and 1 percent, respectively.

**Figure 5B. Firm Size Distribution using Sales**  
*Sales as a Proxy for Firm Size*



	Tests of Equality of Distributions			
	China		India	
	2003	2010	2003	2010
Equity Market Users vs. Non-Users	0.143 ***	0.321 ***	0.214 ***	0.290 ***
Bond Market Users vs. Non-Users	0.314 ***	0.456 ***	0.586 ***	0.658 ***
Equity Market Users vs. All Firms	0.102 **	0.231 ***	0.157 ***	0.207 ***
Bond Market Users vs. All Firms	0.274 ***	0.369 ***	0.542 ***	0.605 ***
Non-Users vs. All Firms	0.046	0.090 ***	0.072 ***	0.086 ***

The top and middle panels of this figure show the estimated Kernel distributions of the log of sales (in 2011 U.S. dollars) for issuing and non-issuing firms in 2003 and 2010. The bottom panel of this figure shows the Kolmogorov-Smirnov tests of equality of the distributions. User firms are those that raised capital through equity (Panels A and C) or bonds (Panels B and D) between 2004 and 2010, and non-users are the other firms in our sample. All firms with capital raising activity in 2003 are excluded from the sample in this figure. Only firms with data on sales in both 2003 and 2010 are included in this figure. The kernel type used is a Gaussian with a band-width of 1.5. \*, \*\*, and \*\*\* denote statistical significance at the 10, 5, and 1 percent, respectively.

**Table 1. Firm Characteristics**

Firm Characteristics	Panel A. China			
	No Issues	Firms with		Bond Issues
		Equity Issues		
<b>Size</b>				
Total Assets	214,271	443,289 ***	1,241,700 ***	
Sales	122,237	255,071 ***	507,311 ***	
Employees	1,368	2,527 ***	4,188 ***	
<b>Growth</b>				
Total Assets Growth	9.42%	18.72% ***	18.06% ***	
Sales Growth	15.64%	20.96% ***	20.22% ***	
Employee Growth	0.49%	5.05% ***	4.38% ***	
<b>Capital Structure and Financial Health</b>				
Long-Term Debt/Total Liabilities	2.64%	8.49% ***	22.39% ***	
Leverage	53.58%	56.17% ***	60.50% ***	
Retained Earnings/Total Assets	6.77%	8.28% ***	8.68% ***	
<b>Profitability</b>				
ROA	4.14%	4.83% ***	5.24% ***	
<b>No. of Firms (Orbis database)</b>	1,915	425	195	
<b>Investment</b>				
Capital Expenditures	6,628	16,233 ***	52,840 ***	
Capital Expenditures/Sales	5.84%	8.13% ***	10.22% ***	
<b>No. of Firms (Worldscope database)</b>	2,235	615	224	
	<b>Panel B. India</b>			
Firm Characteristics	No Issues	Firms with		Bond Issues
		Equity Issues		
<b>Size</b>				
Total Assets	8,967	55,633 ***	596,587 ***	
Sales	9,521	41,918 ***	272,083 ***	
Employees	837	2,700 ***	4,600 ***	
<b>Growth</b>				
Total Assets Growth	5.24%	15.77% ***	18.18% ***	
Sales Growth	9.84%	17.33% ***	17.60% ***	
Employee Growth	0.96%	3.62% ***	4.35% ***	
<b>Capital Structure and Financial Health</b>				
Long-Term Debt/Total Liabilities	49.49%	56.76% ***	62.95% ***	
Leverage	52.46%	62.17% ***	64.39% ***	
Retained Earnings/Total Assets	3.69%	4.97% ***	7.08% ***	
<b>Profitability</b>				
ROA	2.59%	3.61% ***	5.14% ***	
<b>No. of Firms (Orbis database)</b>	3,428	727	291	
<b>Investment</b>				
Capital Expenditures	1,754	4,930 ***	18,837 ***	
Capital Expenditures/Sales	4.39%	6.40% ***	7.46% ***	
<b>No. of Firms (Worldscope database)</b>	1,848	601	281	

This table shows the median of firm attributes for the 2003-2011 period. The table also shows the statistical significance of the tests of equality of medians of firm attributes between non-issuing and issuing firms. Issuing firms are those with at least one non-IPO (bond or equity) capital raising issue between 2003 and 2011. Non-user firms are those that did not issue any (non-IPO) equity or bond during this period. The figures are calculated as the median across all firms of the median for each firm across all years in the sample. Total assets, sales, and capital expenditures are reported in thousands of 2011 U.S. dollars. The top and the bottom 1 percent of the observations for each variable capturing firm characteristics are excluded. \*, \*\*, and \*\*\* denote statistical significance at the 10, 5, and 1 percent, respectively.

**Table 2A. Probability of Capital Raising Activity**  
*Total Assets as a Proxy for Firm Size*

<b>Panel A. China</b>						
<b>Independent Variables</b>	<b>Cox Regressions</b>			<b>Probit Regressions</b>		
	<b>Equity</b>	<b>Bonds</b>	<b>Equity or Bonds</b>	<b>Equity</b>	<b>Bonds</b>	<b>Equity or Bonds</b>
<b>Size</b>						
Total Assets	1.578 *** (0.067)	2.087 *** (0.130)	1.655 *** (0.066)	0.047 (0.050)	0.466 *** (0.066)	0.175 *** (0.048)
<b>Growth</b>						
Total Assets Growth	1.013 *** (0.001)	1.000 (0.002)	1.011 *** (0.001)	0.005 *** (0.002)	-0.002 (0.002)	0.004 ** (0.002)
<b>Capital Structure and Financial Health</b>						
Long-Term Debt / Total Liabilities	1.006 * (0.003)	1.035 *** (0.004)	1.013 *** (0.003)	-0.003 (0.003)	0.009 *** (0.003)	0.000 (0.003)
Leverage	0.982 *** (0.003)	1.013 ** (0.006)	0.988 *** (0.003)	0.008 *** (0.003)	0.006 (0.004)	0.008 *** (0.003)
Retained Earnings / Total Assets	1.002 (0.003)	1.034 (0.024)	1.005 (0.004)	0.007 *** (0.002)	0.001 (0.003)	0.006 ** (0.002)
<b>Profitability</b>						
ROA	0.976 *** (0.008)	1.003 (0.022)	0.984 ** (0.008)	0.022 *** (0.008)	0.032 ** (0.014)	0.024 *** (0.008)
<b>Industry Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>No. of Observations</b>	11,602	12,044	11,301	1,172	1,172	1,172
<b>Panel B. India</b>						
<b>Independent Variables</b>	<b>Cox Regressions</b>			<b>Probit Regressions</b>		
	<b>Equity</b>	<b>Bonds</b>	<b>Equity or Bonds</b>	<b>Equity</b>	<b>Bonds</b>	<b>Equity or Bonds</b>
<b>Size</b>						
Total Assets	1.323 *** (0.029)	2.244 *** (0.099)	1.480 *** (0.032)	0.104 *** (0.029)	0.499 *** (0.046)	0.230 *** (0.028)
<b>Growth</b>						
Total Assets Growth	1.006 *** (0.001)	1.004 *** (0.001)	1.006 *** (0.000)	0.006 *** (0.001)	0.003 (0.002)	0.006 *** (0.001)
<b>Capital Structure and Financial Health</b>						
Long-Term Debt / Total Liabilities	1.004 ** (0.002)	1.034 *** (0.004)	1.009 *** (0.002)	0.006 *** (0.002)	0.012 *** (0.003)	0.008 *** (0.002)
Leverage	0.994 *** (0.002)	1.012 ** (0.005)	0.994 *** (0.002)	0.000 (0.002)	-0.003 (0.004)	-0.003 (0.002)
Retained Earnings / Total Assets	1.000 (0.001)	1.016 ** (0.007)	1.000 (0.001)	0.002 (0.002)	0.003 (0.004)	0.001 (0.002)
<b>Profitability</b>						
ROA	0.974 *** (0.005)	1.018 * (0.011)	0.984 *** (0.005)	-0.015 *** (0.005)	0.007 (0.008)	-0.011 ** (0.005)
<b>Industry Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>No. of Observations</b>	15,122	15,476	14,574	1,124	1,124	1,124

This table shows the Cox and Probit estimations of the ex-ante probability of capital raising activity in China (Panel A) and India (Panel B) based on firm-level attributes. The first three columns report the Cox estimates of the hazard ratio of the capital raising activity between 2005 and 2011. The dependent variable is a dummy that takes the value of one in the year that an issue takes place and zero otherwise. The standard errors are clustered at the firm level. The independent variables are lagged one year. The next three columns report the Probit estimates of the probability of capital raising activity during the 2005-2011 period as a function of firm attributes in 2004. The Probit standard errors are robust z-statistics. The top and the bottom 1 percent of the observations for each independent variable are excluded from the sample in this table. All regressions include industry dummies. Total assets are in logs of thousands of 2011 U.S. dollars. Standard errors are shown in parentheses. \*, \*\*, and \*\*\* indicate statistical significance at the 10, 5, and 1 percent, respectively.

**Table 2B. Probability of Capital Raising Activity using Sales**  
*Sales as a Proxy for Firm Size*

<b>Panel A. China</b>						
<b>Independent Variables</b>	<b>Cox Regressions</b>			<b>Probit Regressions</b>		
	<b>Equity</b>	<b>Bonds</b>	<b>Equity or Bonds</b>	<b>Equity</b>	<b>Bonds</b>	<b>Equity or Bonds</b>
<b>Size</b>						
Sales	1.445 *** (0.056)	1.914 *** (0.126)	1.523 *** (0.057)	0.062 * (0.037)	0.296 *** (0.060)	0.140 *** (0.038)
<b>Growth</b>						
Sales Growth	1.004 *** (0.001)	0.999 (0.002)	1.003 *** (0.001)	0.002 ** (0.001)	0.000 (0.001)	0.002 * (0.001)
<b>Capital Structure and Financial Health</b>						
Long-Term Debt / Total Liabilities	1.016 *** (0.003)	1.048 *** (0.004)	1.023 *** (0.003)	-0.002 (0.003)	0.014 *** (0.003)	0.003 (0.003)
Leverage	0.979 *** (0.003)	1.009 (0.006)	0.985 *** (0.003)	0.009 *** (0.003)	0.003 (0.004)	0.007 *** (0.003)
Retained Earnings / Total Assets	1.002 (0.003)	1.033 (0.025)	1.005 (0.004)	0.007 *** (0.002)	0.005 (0.007)	0.006 *** (0.002)
<b>Profitability</b>						
ROA	0.977 *** (0.007)	0.991 (0.025)	0.983 ** (0.007)	0.022 *** (0.008)	0.024 (0.017)	0.021 *** (0.008)
<b>Industry Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>No. of Observations</b>	11,500	11,934	11,210	1,162	1,162	1,162
<b>Panel B. India</b>						
<b>Independent Variables</b>	<b>Cox Regressions</b>			<b>Probit Regressions</b>		
	<b>Equity</b>	<b>Bonds</b>	<b>Equity or Bonds</b>	<b>Equity</b>	<b>Bonds</b>	<b>Equity or Bonds</b>
<b>Size</b>						
Sales	1.333 *** (0.036)	2.363 *** (0.136)	1.464 *** (0.040)	0.078 *** (0.025)	0.419 *** (0.067)	0.167 *** (0.028)
<b>Growth</b>						
Sales Growth	1.001 *** (0.000)	1.000 (0.000)	1.001 *** (0.000)	0.000 (0.000)	0.001 *** (0.001)	0.000 (0.000)
<b>Capital Structure and Financial Health</b>						
Long-Term Debt / Total Liabilities	1.008 *** (0.002)	1.042 *** (0.005)	1.014 *** (0.002)	0.008 *** (0.002)	0.015 *** (0.003)	0.012 *** (0.002)
Leverage	0.992 *** (0.002)	1.009 * (0.006)	0.992 *** (0.002)	-0.001 (0.002)	-0.004 (0.003)	-0.003 * (0.002)
Retained Earnings / Total Assets	0.999 (0.001)	1.012 ** (0.006)	0.999 (0.001)	0.001 (0.002)	0.001 (0.003)	0.000 (0.002)
<b>Profitability</b>						
ROA	0.972 *** (0.005)	1.015 (0.011)	0.981 *** (0.005)	-0.008 (0.006)	0.008 (0.007)	-0.003 (0.006)
<b>Industry Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>No. of Observations</b>	13,978	14,323	13,459	1,050	1,050	1,050

This table shows the Cox and Probit estimations of the ex-ante probability of capital raising activity in China (Panel A) and India (Panel B) based on firm-level attributes. The first three columns report the Cox estimates of the hazard ratio of the capital raising activity between 2005 and 2011. The dependent variable is a dummy that takes the value of one in the year that an issue takes place and zero otherwise. The standard errors are clustered at the firm level. The independent variables are lagged one year. The next three columns report the Probit estimates of the probability of capital raising activity during the 2005-2011 period as a function of firm attributes in 2004. The Probit standard errors are robust z-statistics. The top and the bottom 1 percent of the observations for each independent variable are excluded from the sample in this table. All regressions include industry dummies. Sales are in logs of thousands of 2011 U.S. dollars. Standard errors are shown in parentheses. \*, \*\*, and \*\*\* indicate statistical significance at the 10, 5, and 1 percent, respectively.

Table 3. Firm Dynamics around Issuance Activity

Independent Variables	Panel A. China - Equity											
	Size			Growth			Capital Structure and Financial Health			Profitability	Investment	
	Total Assets	Sales	Employees	Total Assets Growth	Sales Growth	Employee Growth	Long-Term Debt / Total Liabilities	Leverage	Retained Earnings / Total Assets	ROA	Capital Expenditures	Capital Expenditures / Sales
Year before Issue	0.336 *** (0.068)	0.448 *** (0.082)	1,002 *** (381)	7.967 *** (0.976)	8.576 *** (1.334)	7.535 *** (2.146)	1.829 ** (0.835)	-0.892 (1.279)	12.820 *** (2.006)	1.135 *** (0.290)	0.499 *** (0.108)	0.113 (0.082)
Issue Year	0.839 *** (0.063)	0.762 *** (0.074)	2,607 *** (455)	30.880 *** (1.865)	11.440 *** (2.344)	13.060 *** (3.236)	3.381 *** (0.937)	-5.190 *** (1.184)	13.140 *** (1.536)	0.236 (0.303)	1.166 *** (0.113)	0.502 *** (0.107)
Year after Issue	1.195 *** (0.088)	1.211 *** (0.098)	5,869 *** (917)	1.524 (1.123)	1.423 (1.368)	4.391 ** (2.095)	4.006 *** (1.006)	0.975 (1.441)	12.790 *** (1.689)	-0.200 (0.365)	1.346 *** (0.133)	0.081 (0.081)
<b>F-Tests:</b>												
Issue Year vs. Year Before	0.503 ***	0.314 ***	1,605 ***	22.913 ***	2.864	5.525	1.552 *	-4.298 ***	0.320	-0.899 ***	0.667 ***	0.389 ***
Year After vs. Issue Year	0.356 ***	0.449 ***	3,262 ***	-29.356 ***	-10.017 ***	-8.669 **	0.625	6.165 ***	-0.350	-0.436	0.180 *	-0.421 ***
Year After vs. Year Before	0.859 ***	0.763 ***	4,867 ***	-6.443 ***	-7.153 ***	-3.144	2.177 **	1.867	-0.030	-1.335 ***	0.847 ***	-0.032
<b>Year Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Industry Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>No. of Observations</b>	15,009	14,832	13,853	13,414	13,189	12,039	10,806	14,897	14,855	14,840	12,646	12,545
<b>R-Squared</b>	0.17	0.10	0.09	0.08	0.04	0.02	0.14	0.02	0.02	0.05	0.10	0.08
<b>No. of Firms</b>	2,420	2,410	2,403	2,449	2,420	2,001	1,899	2,375	2,415	2,432	1,772	1,762

Independent Variables	Panel B. China - Bonds											
	Size			Growth			Capital Structure and Financial Health			Profitability	Investment	
	Total Assets	Sales	Employees	Total Assets Growth	Sales Growth	Employee Growth	Long-Term Debt / Total Liabilities	Leverage	Retained Earnings / Total Assets	ROA	Capital Expenditures	Capital Expenditures / Sales
Year before Issue	1.135 *** (0.099)	1.219 *** (0.112)	4,061 *** (871)	9.229 *** (1.483)	8.106 *** (1.789)	5.750 * (3.182)	5.885 *** (1.201)	-0.441 (2.252)	9.717 * (5.532)	2.608 *** (0.416)	0.797 *** (0.104)	0.268 *** (0.090)
Issue Year	1.659 *** (0.099)	1.545 *** (0.123)	6,907 *** (1,000)	8.212 *** (2.308)	2.343 (3.212)	5.759 (3.721)	12.700 *** (1.315)	5.110 *** (1.544)	8.789 * (4.934)	0.230 (0.406)	1.778 *** (0.164)	0.369 ** (0.152)
Year after Issue	1.649 *** (0.117)	1.564 *** (0.140)	7,958 *** (1,092)	-0.350 (1.581)	-1.225 (1.754)	-0.040 (2.508)	10.190 *** (1.500)	9.445 *** (2.441)	6.013 (4.066)	-0.625 (0.428)	1.073 *** (0.122)	0.086 (0.086)
<b>F-Tests:</b>												
Issue Year vs. Year Before	0.524 ***	0.326 ***	2,846 ***	-1.017	-5.763 *	0.009	6.815 ***	5.551 ***	-0.928	-2.378 ***	0.981 ***	0.101
Year After vs. Issue Year	-0.010	0.019	1,051	-8.562 ***	-3.568	-5.799	-2.510 **	4.335 ***	-2.776	-0.855 **	-0.705 ***	-0.283
Year After vs. Year Before	0.514 ***	0.345 ***	3,897 ***	-9.579 ***	-9.331 ***	-5.790	4.305 ***	9.886 ***	-3.704	-3.233 ***	0.276 **	-0.182 *
<b>Year Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Industry Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>No. of Observations</b>	15,009	14,832	13,853	13,414	13,189	12,039	10,806	14,897	14,855	14,840	12,490	12,392
<b>R-Squared</b>	0.20	0.12	0.11	0.05	0.04	0.02	0.16	0.02	0.01	0.06	0.09	0.08
<b>No. of Firms</b>	2,420	2,410	2,403	2,449	2,420	2,001	1,899	2,375	2,415	2,432	1,767	1,758

This table reports the panel regressions of firm attributes on a three-year window around (non-IPO) capital raising issues that took place between 2003 and 2011. The three-year windows are captured by a dummy variable for the issue year, a dummy for the preceding year, and a dummy for the year after. All regressions include year and industry dummies. The regressions include firms with no issues as part of the control group. The top and the bottom 1 percent of the observations for each dependent variable are excluded from the sample in this table. Total assets, sales, and capital expenditures are in logs of thousands of 2011 U.S. dollars. Standard errors are clustered at the firm level and are shown in parentheses. \*, \*\*, and \*\*\* indicate statistical significance at the 10, 5, and 1 percent, respectively.

Table 3. Firm Dynamics around Issuance Activity (continued)

Panel C. India - Equity												
Independent Variables	Size			Growth			Capital Structure and Financial Health			Profitability	Investment	
	Total Assets	Sales	Employees	Total Assets	Sales	Employee	Long-Term Debt / Total	Leverage	Retained Earnings /	ROA	Capital Expenditures	Capital Expenditures /
	Growth	Growth	Growth	Liabilities	Total Assets	Growth	Liabilities	Total Assets	ROA	Expenditures	Sales	
Year before Issue	0.934 *** (0.099)	0.862 *** (0.106)	3,168 (2,674)	16.340 *** (1.329)	13.840 *** (4.011)	8.296 ** (4.195)	4.593 *** (1.041)	0.113 (1.602)	23.560 *** (3.598)	0.553 * (0.312)	0.615 *** (0.126)	0.322 *** (0.108)
Issue Year	1.731 *** (0.092)	1.546 *** (0.100)	1,957 (2,298)	28.530 *** (2.635)	14.750 ** (5.945)	5.534 (5.184)	3.437 *** (1.154)	-4.677 *** (1.403)	33.720 *** (3.545)	0.271 (0.374)	0.902 *** (0.118)	0.260 ** (0.110)
Year after Issue	2.147 *** (0.131)	1.679 *** (0.128)	3,767 * (1,933)	7.888 *** (1.235)	-7.834 *** (2.511)	2.469 (2.927)	3.236 ** (1.429)	-0.788 (1.832)	30.700 *** (3.759)	0.134 (0.458)	1.226 *** (0.130)	0.176 * (0.101)
<b>F-Tests:</b>												
Issue Year vs. Year Before	0.797 ***	0.684 ***	-1,211	12.190 ***	0.910	-2.762	-1.156	-4.790 ***	10.160 ***	-0.282	0.287 ***	-0.062
Year After vs. Issue Year	0.416 ***	0.133	1,810	-20.642 ***	-22.584 ***	-3.065	-0.201	3.889 ***	-3.020	-0.137	0.324 ***	-0.084
Year After vs. Year Before	1.213 ***	0.817 ***	599	-8.452 ***	-21.674 ***	-5.827	-1.357	-0.901	7.140 *	-0.419	0.611 ***	-0.146
<b>Year Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Industry Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>No. of Observations</b>	26,301	21,605	981	21,983	17,898	586	19,965	23,426	21,402	25,914	13,781	13,629
<b>R-Squared</b>	0.15	0.19	0.05	0.13	0.03	0.03	0.05	0.03	0.01	0.01	0.08	0.06
<b>No. of Firms</b>	4,211	3,520	362	4,226	3,404	202	3,394	3,644	3,588	4,234	2,274	2,257

Panel D. India - Bonds												
Independent Variables	Size			Growth			Capital Structure and Financial Health			Profitability	Investment	
	Total Assets	Sales	Employees	Total Assets	Sales	Employee	Long-Term Debt / Total	Leverage	Retained Earnings /	ROA	Capital Expenditures	Capital Expenditures /
	Growth	Growth	Growth	Liabilities	Total Assets	Growth	Liabilities	Total Assets	ROA	Expenditures	Sales	
Year before Issue	3.076 *** (0.136)	2.667 *** (0.133)	5,849 (4,343)	24.240 *** (3.067)	12.670 (8.089)	-4.648 (4.194)	4.090 ** (1.701)	-2.089 (1.838)	37.120 *** (2.664)	4.612 *** (0.540)	0.616 *** (0.112)	0.141 (0.113)
Issue Year	3.792 *** (0.118)	3.044 *** (0.118)	4,270 (3,301)	33.470 *** (4.256)	20.470 (12.970)	9.511 (9.433)	13.670 *** (1.411)	3.039 * (1.625)	40.430 *** (2.715)	2.925 *** (0.452)	2.511 *** (0.138)	0.383 *** (0.145)
Year after Issue	3.909 *** (0.132)	2.996 *** (0.122)	5,214 ** (2,263)	7.107 *** (1.151)	-10.700 *** (2.237)	0.310 (2.683)	12.050 *** (1.568)	4.327 * (2.370)	34.200 *** (3.965)	1.250 *** (0.452)	0.959 *** (0.105)	0.158 (0.098)
<b>F-Tests:</b>												
Issue Year vs. Year Before	0.716 ***	0.377 ***	-1,579	9.230 *	7.800	14.159	9.580 ***	5.128 ***	3.310 *	-1.687 ***	1.895 ***	0.242
Year After vs. Issue Year	0.117	-0.048	944	-26.363 ***	-31.170 **	-9.201	-1.620	1.288	-6.230 **	-1.675 ***	-1.552 ***	-0.225
Year After vs. Year Before	0.833 ***	0.329 **	-635	-17.133 ***	-23.370 ***	4.958	7.960 ***	6.416 ***	-2.920	-3.362 ***	0.343 ***	0.017
<b>Year Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Industry Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>No. of Observations</b>	26,301	21,605	981	21,983	17,898	586	19,965	23,426	21,402	25,914	13,781	13,629
<b>R-Squared</b>	0.25	0.23	0.07	0.12	0.03	0.03	0.06	0.03	0.01	0.02	0.10	0.06
<b>No. of Firms</b>	4,211	3,520	362	4,226	3,404	202	3,394	3,644	3,588	4,234	2,274	2,257

This table reports the panel regressions of firm attributes on a three-year window around (non-IPO) capital raising issues that took place between 2003 and 2011. The three-year windows are captured by a dummy variable for the issue year, a dummy for the preceding year, and a dummy for the year after. All regressions include year and industry dummies. The regressions include firms with no issues as part of the control group. The top and the bottom 1 percent of the observations for each dependent variable are excluded from the sample in this table. Total assets, sales, and capital expenditures are in logs of thousands of 2011 U.S. dollars. Standard errors are clustered at the firm level and are shown in parentheses. \*, \*\*, and \*\*\* indicate statistical significance at the 10, 5, and 1 percent, respectively.

Table 4A. Quantile Regressions of Total Assets as the Dependent Variable

Panel A. China - Equity										
Independent Variables	10%	20%	30%	40%	50%	60%	70%	80%	90%	Mean
Issuers	0.252 (0.163)	0.139 (0.102)	0.218 ** (0.099)	0.154 * (0.090)	0.225 ** (0.094)	0.293 *** (0.086)	0.272 *** (0.095)	0.351 ** (0.143)	0.591 *** (0.163)	0.288 *** (0.083)
Y2010	0.218 ** (0.109)	0.331 *** (0.068)	0.410 *** (0.066)	0.449 *** (0.060)	0.570 *** (0.063)	0.747 *** (0.057)	0.756 *** (0.064)	0.861 *** (0.095)	1.000 *** (0.109)	0.602 *** (0.056)
Issuers*Y2010	0.985 *** (0.229)	0.953 *** (0.143)	0.857 *** (0.139)	0.945 *** (0.127)	0.796 *** (0.132)	0.570 *** (0.121)	0.692 *** (0.134)	0.733 *** (0.202)	0.642 *** (0.230)	0.780 *** (0.117)
Constant	11.010 *** (0.084)	11.430 *** (0.052)	11.720 *** (0.051)	11.950 *** (0.046)	12.150 *** (0.048)	12.300 *** (0.044)	12.530 *** (0.049)	12.800 *** (0.074)	13.240 *** (0.084)	12.140 *** (0.043)
Industry Dummies	Yes									
No. of Observations	2,254	2,254	2,254	2,254	2,254	2,254	2,254	2,254	2,254	2,202
R-squared										0.21
Panel B. China - Bonds										
Independent Variables	10%	20%	30%	40%	50%	60%	70%	80%	90%	Mean
Issuers	0.927 *** (0.248)	0.686 *** (0.132)	0.746 *** (0.131)	0.843 *** (0.120)	0.833 *** (0.131)	0.740 *** (0.113)	0.674 *** (0.126)	0.777 *** (0.165)	0.936 *** (0.230)	0.879 *** (0.110)
Y2010	0.214 * (0.123)	0.330 *** (0.066)	0.393 *** (0.065)	0.463 *** (0.060)	0.570 *** (0.065)	0.720 *** (0.056)	0.738 *** (0.063)	0.847 *** (0.082)	1.053 *** (0.115)	0.602 *** (0.055)
Issuers*Y2010	0.685 ** (0.342)	1.074 *** (0.183)	0.950 *** (0.181)	0.666 *** (0.166)	0.694 *** (0.181)	0.791 *** (0.156)	0.896 *** (0.174)	0.709 *** (0.228)	0.521 (0.318)	0.725 *** (0.152)
Constant	11.010 *** (0.096)	11.450 *** (0.052)	11.740 *** (0.051)	11.960 *** (0.047)	12.170 *** (0.051)	12.350 *** (0.044)	12.570 *** (0.049)	12.840 *** (0.064)	13.240 *** (0.090)	12.160 *** (0.043)
Industry Dummies	Yes									
No. of Observations	2,012	2,012	2,012	2,012	2,012	2,012	2,012	2,012	2,012	1,964
R-squared										0.25
Panel C. India - Equity										
Independent Variables	10%	20%	30%	40%	50%	60%	70%	80%	90%	Mean
Issuers	1.010 *** (0.198)	0.822 *** (0.159)	1.110 *** (0.174)	1.010 *** (0.161)	0.954 *** (0.167)	0.965 *** (0.177)	1.026 *** (0.175)	1.199 *** (0.236)	1.994 *** (0.268)	0.767 *** (0.131)
Y2010	-0.047 (0.128)	0.226 ** (0.103)	0.358 *** (0.113)	0.410 *** (0.104)	0.513 *** (0.108)	0.666 *** (0.115)	0.666 *** (0.113)	0.680 *** (0.153)	0.778 *** (0.173)	0.551 *** (0.086)
Issuers*Y2010	0.919 *** (0.279)	0.965 *** (0.224)	0.453 * (0.245)	0.605 *** (0.228)	0.623 *** (0.236)	0.741 *** (0.250)	0.809 *** (0.247)	0.895 *** (0.333)	0.291 (0.378)	0.732 *** (0.186)
Constant	7.573 *** (0.104)	8.267 *** (0.084)	8.786 *** (0.092)	9.331 *** (0.085)	9.786 *** (0.088)	10.230 *** (0.093)	10.740 *** (0.092)	11.260 *** (0.124)	12.040 *** (0.141)	9.970 *** (0.068)
Industry Dummies	Yes									
No. of Observations	2,812	2,812	2,812	2,812	2,812	2,812	2,812	2,812	2,812	2,393
R-squared										0.17
Panel D. India - Bonds										
Independent Variables	10%	20%	30%	40%	50%	60%	70%	80%	90%	Mean
Issuers	3.055 *** (0.283)	3.274 *** (0.216)	3.088 *** (0.220)	3.035 *** (0.226)	2.880 *** (0.240)	3.363 *** (0.237)	3.501 *** (0.254)	3.657 *** (0.289)	3.782 *** (0.291)	2.522 *** (0.179)
Y2010	-0.046 (0.134)	0.229 ** (0.102)	0.386 *** (0.104)	0.416 *** (0.107)	0.525 *** (0.114)	0.621 *** (0.112)	0.668 *** (0.120)	0.659 *** (0.137)	0.833 *** (0.138)	0.551 *** (0.084)
Issuers*Y2010	1.448 *** (0.399)	1.042 *** (0.304)	0.952 *** (0.310)	0.986 *** (0.318)	1.015 *** (0.338)	0.713 ** (0.335)	0.720 ** (0.358)	1.046 ** (0.407)	0.462 (0.410)	0.844 *** (0.253)
Constant	7.521 *** (0.111)	8.204 *** (0.084)	8.727 *** (0.086)	9.278 *** (0.088)	9.737 *** (0.094)	10.160 *** (0.093)	10.690 *** (0.099)	11.300 *** (0.113)	12.070 *** (0.114)	9.961 *** (0.068)
Industry Dummies	Yes									
No. of Observations	2,502	2,502	2,502	2,502	2,502	2,502	2,502	2,502	2,502	2,112
R-squared										0.30

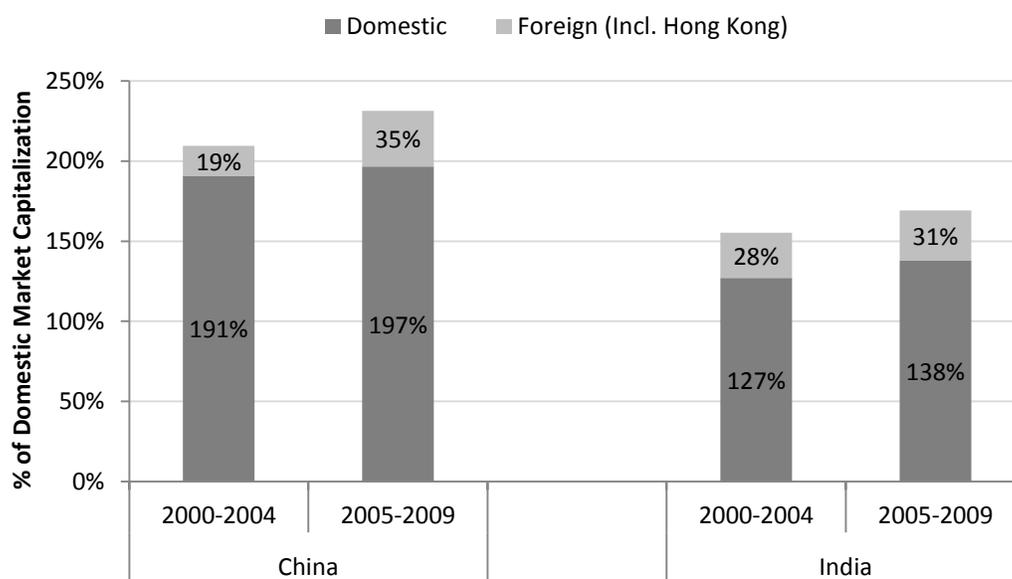
This table reports the quantile and mean regressions of total assets on a constant, a dummy variable for 2010, a dummy variable for issuing firms, and an interaction term with these two dummies. The dependent variable pools the data on total assets at two points in time, 2003 and 2010, for all firms with data on both years. User firms are those that raised capital through equity (Panels A and C) or bonds (Panels B and D) between 2004 and 2010, and non-users are the other firms in our sample. All firms with capital raising activity in 2003 are excluded from the sample in this figure. Panels A and B show the estimates for China based on equity and bond capital raising activity, respectively. Panels C and D show the estimates for India based on equity and bond capital raising activity, respectively. All regressions include industry dummies. Total assets are in logs of thousands of 2011 U.S. dollars. Standard errors are shown in parentheses. \*, \*\*, and \*\*\* denote statistical significance at the 10, 5, and 1 percent, respectively.

Table 4B. Quantile Regressions of Sales as the Dependent Variable

Panel A. China - Equity										
Independent Variables	10%	20%	30%	40%	50%	60%	70%	80%	90%	Mean
Issuers	0.532 ** (0.226)	0.396 ** (0.161)	0.288 ** (0.123)	0.304 *** (0.104)	0.321 *** (0.104)	0.319 *** (0.123)	0.312 ** (0.127)	0.478 *** (0.167)	0.809 *** (0.231)	0.431 *** (0.111)
Y2010	0.459 *** (0.151)	0.674 *** (0.108)	0.798 *** (0.083)	0.789 *** (0.070)	0.787 *** (0.069)	0.788 *** (0.082)	0.974 *** (0.085)	0.994 *** (0.112)	1.095 *** (0.155)	0.745 *** (0.074)
Issuers*Y2010	0.648 ** (0.318)	0.646 *** (0.227)	0.584 *** (0.173)	0.554 *** (0.147)	0.549 *** (0.146)	0.629 *** (0.173)	0.581 *** (0.178)	0.484 ** (0.235)	0.699 ** (0.325)	0.692 *** (0.156)
Constant	9.914 *** (0.117)	10.470 *** (0.083)	10.850 *** (0.064)	11.180 *** (0.054)	11.440 *** (0.054)	11.750 *** (0.064)	11.970 *** (0.066)	12.380 *** (0.086)	12.980 *** (0.119)	11.420 *** (0.057)
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. of Observations	2,202	2,202	2,202	2,202	2,202	2,202	2,202	2,202	2,202	2,202
R-squared										0.15
Panel B. China - Bonds										
Independent Variables	10%	20%	30%	40%	50%	60%	70%	80%	90%	Mean
Issuers	1.236 *** (0.316)	1.206 *** (0.224)	1.047 *** (0.162)	0.842 *** (0.144)	0.786 *** (0.138)	0.829 *** (0.162)	0.842 *** (0.173)	1.174 *** (0.203)	1.451 *** (0.272)	1.033 *** (0.149)
Y2010	0.467 *** (0.159)	0.659 *** (0.112)	0.766 *** (0.081)	0.783 *** (0.073)	0.775 *** (0.069)	0.833 *** (0.081)	0.971 *** (0.087)	0.969 *** (0.102)	1.077 *** (0.137)	0.745 *** (0.075)
Issuers*Y2010	0.494 (0.436)	0.569 * (0.309)	0.392 * (0.223)	0.484 ** (0.199)	0.715 *** (0.190)	0.658 *** (0.223)	0.719 *** (0.239)	0.336 (0.280)	0.247 (0.376)	0.561 *** (0.205)
Constant	9.900 *** (0.124)	10.500 *** (0.088)	10.910 *** (0.063)	11.220 *** (0.057)	11.470 *** (0.054)	11.760 *** (0.063)	12.020 *** (0.068)	12.450 *** (0.080)	13.070 *** (0.106)	11.450 *** (0.058)
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. of Observations	1,964	1,964	1,964	1,964	1,964	1,964	1,964	1,964	1,964	1,964
R-squared										0.16
Panel C. India - Equity										
Independent Variables	10%	20%	30%	40%	50%	60%	70%	80%	90%	Mean
Issuers	1.534 *** (0.384)	1.136 *** (0.280)	1.184 *** (0.220)	0.893 *** (0.196)	0.822 *** (0.192)	0.626 *** (0.185)	0.666 *** (0.184)	0.661 *** (0.207)	0.546 ** (0.240)	0.868 *** (0.171)
Y2010	-0.071 (0.252)	0.367 ** (0.183)	0.564 *** (0.144)	0.485 *** (0.128)	0.569 *** (0.126)	0.592 *** (0.121)	0.850 *** (0.120)	0.884 *** (0.135)	0.881 *** (0.157)	0.545 *** (0.112)
Issuers*Y2010	1.387 ** (0.543)	0.848 ** (0.395)	0.449 (0.310)	0.494 * (0.276)	0.442 (0.271)	0.449 * (0.262)	0.274 (0.259)	0.433 (0.292)	0.464 (0.339)	0.792 *** (0.242)
Constant	6.954 *** (0.200)	8.050 *** (0.145)	8.715 *** (0.114)	9.389 *** (0.102)	9.896 *** (0.100)	10.410 *** (0.096)	10.810 *** (0.095)	11.440 *** (0.107)	12.260 *** (0.125)	9.674 *** (0.089)
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. of Observations	2,424	2,424	2,424	2,424	2,424	2,424	2,424	2,424	2,424	2,424
R-squared										0.21
Panel D. India - Bonds										
Independent Variables	10%	20%	30%	40%	50%	60%	70%	80%	90%	Mean
Issuers	3.569 *** (0.508)	3.143 *** (0.406)	2.987 *** (0.324)	2.561 *** (0.277)	2.365 *** (0.274)	2.180 *** (0.263)	2.221 *** (0.266)	2.155 *** (0.292)	2.144 *** (0.312)	2.642 *** (0.239)
Y2010	-0.006 (0.238)	0.339 * (0.190)	0.583 *** (0.152)	0.494 *** (0.130)	0.573 *** (0.128)	0.637 *** (0.123)	0.847 *** (0.124)	0.875 *** (0.137)	0.867 *** (0.146)	0.545 *** (0.112)
Issuers*Y2010	1.460 ** (0.716)	0.568 (0.572)	0.472 (0.457)	0.679 * (0.391)	0.656 * (0.386)	0.468 (0.371)	0.253 (0.375)	0.359 (0.411)	0.376 (0.440)	0.664 ** (0.337)
Constant	6.969 *** (0.191)	8.107 *** (0.153)	8.715 *** (0.122)	9.398 *** (0.104)	9.896 *** (0.103)	10.390 *** (0.099)	10.790 *** (0.100)	11.370 *** (0.110)	12.270 *** (0.117)	9.677 *** (0.090)
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. of Observations	2,138	2,138	2,138	2,138	2,138	2,138	2,138	2,138	2,138	2,138
R-squared										0.18

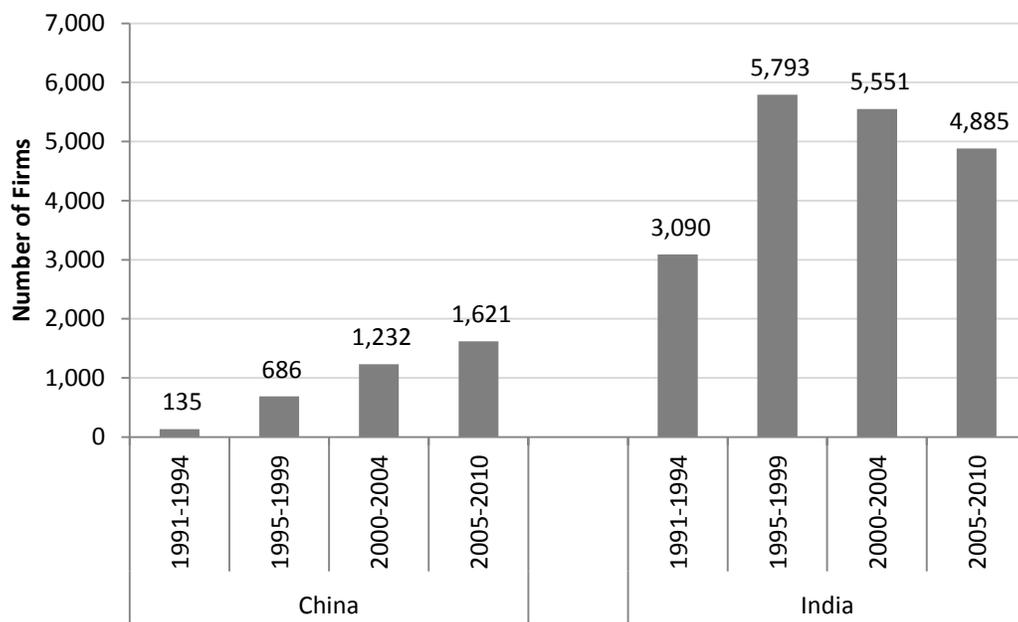
This table reports the quantile and mean regressions of sales on a constant, a dummy variable for 2010, a dummy variable for issuing firms, and an interaction term with these two dummies. The dependent variable pools the data on total assets at two points in time, 2003 and 2010, for all firms with data on both years. User firms are those that raised capital through equity (Panels A and C) or bonds (Panels B and D) between 2004 and 2010, and non-users are the other firms in our sample. All firms with capital raising activity in 2003 are excluded from the sample in this figure. Panels A and B show the estimates for China based on equity and bond capital raising activity, respectively. Panels C and D show the estimates for India based on equity and bond capital raising activity, respectively. All regressions include industry dummies. Sales are in logs of thousands of 2011 U.S. dollars. Standard errors are shown in parentheses. \*, \*\*, and \*\*\* denote statistical significance at the 10, 5, and 1 percent, respectively.

**Appendix Figure 1. Equity Market Turnover  
Firms with Depository Receipt Programs**



This figure shows the average turnover ratio in domestic and foreign markets across firms that have depository receipt (DR) programs. The foreign turnover ratio is defined as the total value traded abroad per year for a given firm to its domestic market capitalization at year end, whereas the domestic turnover ratio is the total value traded in domestic markets per year for a given firm to its domestic market capitalization at year end. The data sources are the Bank of New York Mellon and Bloomberg.

**Appendix Figure 2. Number of Listed Firms in Domestic Equity Markets**



This figure shows the average number of listed firms in domestic equity markets between 1990 and 2010.

**Appendix Table 1. Description of the Firm-Level Characteristics and Data Sources**

<b>Variable</b>	<b>Unit</b>	<b>Description</b>	<b>Data Source</b>
Asset Growth	Percentage Points	Percentage change in total assets.	Orbis
Capital Expenditures	Thousands of 2011 U.S. dollars	Amount spent in acquiring, repairing, upgrading, or restoring fixed and intangible assets; and starting or acquiring a new business.	Worldscope
Capital Expenditures / Sales	Ratio	Ratio of capital expenditures to sales.	Worldscope
Employees	Non-negative Integers	Number of employees included in the company's payroll.	Orbis
Employee Growth	Percentage Points	Percentage change in employees.	Orbis
Leverage	Ratio	The ratio of total liabilities to total assets.	Orbis
Long-Term Debt	Thousands of 2011 U.S. dollars	Long-term financial debt, including to credit institutions (loans and credits) and bonds.	Orbis
Long-Term Debt / Total Liabilities	Percentage Points	Ratio of long-term debt to total liabilities.	Orbis
Retained Earnings	Thousands of 2011 U.S. dollars	Accumulated earnings not distributed as dividends plus accumulated losses.	Orbis
Retained Earnings / Total Assets	Percentage Points	Ratio of retained earnings to total assets.	Orbis
ROA	Percentage Points	Return on assets calculated as the net income as a percentage of total assets.	Orbis
Sales	Thousands of 2011 U.S. dollars	Net sales.	Orbis
Sales Growth	Percentage Points	Percentage change in sales.	Orbis
Total Assets	Thousands of 2011 U.S. dollars	Total amount of all intangible assets (formation expenses, research and development, and other expenses with long term effects), all tangible assets (incl. buildings and machinery), long-term investments, shares, total inventories, trade receivables, and cash and short-term investments.	Orbis
Total Liabilities	Thousands of 2011 U.S. dollars	Total amount of liabilities, including long-term financial debt, other long-term financial liabilities and provisions, trade debt, deferred taxes, loans, creditors, and accounts received in advance.	Orbis

This table shows the description of the variables in our data set and their data sources.

**Appendix Table 2A. Probability of Capital Raising Activity Excluding State-Owned Enterprises (SOEs)**

*Total Assets as a Proxy for Firm Size*

<b>Panel A. China - Total Assets</b>						
<b>Independent Variables</b>	<b>Cox Regressions</b>			<b>Probit Regressions</b>		
	<b>Equity</b>	<b>Bonds</b>	<b>Equity or Bonds</b>	<b>Equity</b>	<b>Bonds</b>	<b>Equity or Bonds</b>
<b>Size</b>						
Total Assets	1.632 *** (0.076)	2.214 *** (0.156)	1.674 *** (0.072)	0.020 (0.054)	0.482 *** (0.073)	0.150 *** (0.052)
<b>Growth</b>						
Total Assets Growth	1.014 *** (0.001)	1.000 (0.003)	1.012 *** (0.001)	0.005 ** (0.002)	-0.004 (0.002)	0.003 (0.002)
<b>Capital Structure and Financial Health</b>						
Long-Term Debt / Total Liabilities	1.005 (0.003)	1.037 *** (0.005)	1.012 *** (0.003)	-0.003 (0.003)	0.009 ** (0.004)	0.000 (0.003)
Leverage	0.981 *** (0.003)	1.007 ** (0.003)	0.988 *** (0.004)	0.009 *** (0.003)	0.006 (0.004)	0.008 *** (0.003)
Retained Earnings / Total Assets	1.002 (0.003)	0.997 (0.003)	0.998 (0.003)	0.008 *** (0.003)	0.001 (0.003)	0.006 *** (0.002)
<b>Profitability</b>						
ROA	0.971 *** (0.009)	1.034 ** (0.014)	0.990 (0.009)	0.020 ** (0.008)	0.027 * (0.014)	0.021 ** (0.008)
<b>No. of Observations</b>	10,774	11,201	10,518	1,076	1,076	1,076
<b>Panel B. China - Sales</b>						
<b>Independent Variables</b>	<b>Cox Regressions</b>			<b>Probit Regressions</b>		
	<b>Equity</b>	<b>Bonds</b>	<b>Equity or Bonds</b>	<b>Equity</b>	<b>Bonds</b>	<b>Equity or Bonds</b>
<b>Size</b>						
Sales	1.508 *** (0.066)	1.930 *** (0.151)	1.543 *** (0.067)	0.066 (0.040)	0.297 *** (0.067)	0.137 *** (0.041)
<b>Growth</b>						
Sales Growth	1.004 *** (0.001)	0.998 (0.002)	1.003 *** (0.001)	0.003 *** (0.001)	0.000 (0.001)	0.002 ** (0.001)
<b>Capital Structure and Financial Health</b>						
Long-Term Debt / Total Liabilities	1.016 *** (0.003)	1.050 *** (0.005)	1.022 *** (0.003)	-0.002 (0.003)	0.013 *** (0.003)	0.002 (0.003)
Leverage	0.978 *** (0.003)	1.006 * (0.004)	0.986 *** (0.004)	0.008 *** (0.003)	0.002 (0.004)	0.006 ** (0.003)
Retained Earnings / Total Assets	1.001 (0.003)	0.996 (0.003)	0.997 (0.003)	0.007 *** (0.002)	0.004 (0.006)	0.007 *** (0.002)
<b>Profitability</b>						
ROA	0.975 *** (0.008)	1.029 ** (0.015)	0.992 (0.010)	0.017 ** (0.008)	0.017 (0.017)	0.016 * (0.008)
<b>No. of Observations</b>	10,676	11,089	10,426	1,065	1,065	1,065

This table shows the Cox and Probit estimations of the ex-ante probability of capital raising activity in China based on firm-level attributes. The first three columns report the Cox estimates of the hazard ratio of the capital raising activity between 2005 and 2011. The dependent variable is a dummy that takes the value of one in the year that an issue takes place and zero otherwise. The standard errors are clustered at the firm level. The independent variables are lagged one year. The next three columns report the Probit estimates of the probability of capital raising activity during the 2005-2011 period as a function of firm attributes in 2004. The Probit standard errors are robust z-statistics. SOEs have been excluded from the sample in this table. The top and the bottom 1 percent of the observations for each independent variable are excluded from the sample in this table. All regressions include industry dummies. Total assets and sales are in logs of thousands of 2011 U.S. dollars. Standard errors are shown in parentheses. \*, \*\*, and \*\*\* indicate statistical significance at the 10, 5, and 1 percent, respectively.

**Appendix Table 2B. Probability of Capital Raising Activity Excluding State-Owned Enterprises**  
*Sales as a Proxy for Firm Size*

<b>Panel C. India - Total Assets</b>						
<b>Independent Variables</b>	<b>Cox Regressions</b>			<b>Probit Regressions</b>		
	<b>Equity</b>	<b>Bonds</b>	<b>Equity or Bonds</b>	<b>Equity</b>	<b>Bonds</b>	<b>Equity or Bonds</b>
<b>Size</b>						
Total Assets	1.371 *** (0.033)	2.538 *** (0.126)	1.545 *** (0.036)	0.109 *** (0.029)	0.506 *** (0.049)	0.227 *** (0.029)
<b>Growth</b>						
Total Assets Growth	1.006 *** (0.001)	1.004 *** (0.001)	1.006 *** (0.000)	0.005 *** (0.001)	0.002 (0.002)	0.005 *** (0.001)
<b>Capital Structure and Financial Health</b>						
Long-Term Debt / Total Liabilities	1.003 * (0.002)	1.032 *** (0.004)	1.008 *** (0.002)	0.006 *** (0.002)	0.013 *** (0.003)	0.008 *** (0.002)
Leverage	0.994 *** (0.002)	1.010 * (0.006)	0.994 *** (0.002)	0.000 (0.002)	-0.006 (0.004)	-0.003 (0.002)
Retained Earnings / Total Assets	1.000 (0.001)	1.020 *** (0.007)	0.999 (0.001)	0.003 (0.002)	0.008 * (0.005)	0.001 (0.002)
<b>Profitability</b>						
ROA	0.974 *** (0.005)	1.021 * (0.011)	0.983 *** (0.005)	-0.017 *** (0.005)	0.007 (0.009)	-0.011 ** (0.005)
<b>No. of Observations</b>	14,940	15,327	14,438	1,112	1,112	1,112
<b>Panel D. India - Sales</b>						
<b>Independent Variables</b>	<b>Cox Regressions</b>			<b>Probit Regressions</b>		
	<b>Equity</b>	<b>Bonds</b>	<b>Equity or Bonds</b>	<b>Equity</b>	<b>Bonds</b>	<b>Equity or Bonds</b>
<b>Size</b>						
Sales	1.340 *** (0.037)	2.448 *** (0.157)	1.473 *** (0.042)	0.083 *** (0.025)	0.442 *** (0.077)	0.167 *** (0.029)
<b>Growth</b>						
Sales Growth	1.001 *** (0.000)	1.000 (0.000)	1.001 *** (0.000)	0.000 (0.000)	0.002 *** (0.001)	0.000 (0.000)
<b>Capital Structure and Financial Health</b>						
Long-Term Debt / Total Liabilities	1.008 *** (0.002)	1.042 *** (0.005)	1.013 *** (0.002)	0.008 *** (0.002)	0.017 *** (0.003)	0.011 *** (0.002)
Leverage	0.992 *** (0.002)	1.008 (0.006)	0.992 *** (0.002)	-0.001 (0.002)	-0.007 * (0.004)	-0.003 * (0.002)
Retained Earnings / Total Assets	0.999 (0.001)	1.014 ** (0.006)	0.999 (0.001)	0.001 (0.002)	0.004 (0.004)	0.000 (0.002)
<b>Profitability</b>						
ROA	0.972 *** (0.005)	1.015 (0.011)	0.981 *** (0.005)	-0.008 (0.006)	0.010 (0.008)	-0.002 (0.006)
<b>No. of Observations</b>	13,854	14,223	13,364	1,035	1,035	1,035

This table shows the Cox and Probit estimations of the ex-ante probability of capital raising activity in India based on firm-level attributes. The first three columns report the Cox estimates of the hazard ratio of the capital raising activity between 2005 and 2011. The dependent variable is a dummy that takes the value of one in the year that an issue takes place and zero otherwise. The standard errors are clustered at the firm level. The independent variables are lagged one year. The next three columns report the Probit estimates of the probability of capital raising activity during the 2005-2011 period as a function of firm attributes in 2004. The Probit standard errors are robust z-statistics. SOEs have been excluded from the sample in this table. The top and the bottom 1 percent of the observations for each independent variable are excluded from the sample in this table. All regressions include industry dummies. Total assets and sales are in logs of thousands of 2011 U.S. dollars. Standard errors are shown in parentheses. \*, \*\*, and \*\*\* indicate statistical significance at the 10, 5, and 1 percent, respectively.

Appendix Table 3. Probability of Capital Raising Activity controlling for M&amp;A Activity

Panel A. China - Total Assets						
Independent Variables	Cox Regressions			Probit Regressions		
	Equity	Bonds	Equity or Bonds	Equity	Bonds	Equity or Bonds
<b>Size</b>						
Total Assets	1.337 *** (0.063)	2.028 *** (0.141)	1.454 *** (0.058)	-0.029 (0.058)	0.443 *** (0.071)	0.158 *** (0.057)
Total Assets * M&A	1.220 *** (0.033)	0.992 (0.068)	1.208 *** (0.031)	0.180 *** (0.047)	0.043 (0.056)	0.234 *** (0.057)
<b>Growth</b>						
Asset Growth	1.013 *** (0.001)	1.003 (0.003)	1.012 *** (0.001)	0.007 *** (0.002)	0.000 (0.002)	0.005 *** (0.002)
Total Assets Growth * M&A	0.996 *** (0.001)	0.991 (0.005)	0.994 *** (0.001)	0.001 (0.006)	-0.007 (0.006)	0.009 (0.010)
<b>Capital Structure and Financial Health</b>						
Long-Term Debt / Total Liabilities	1.010 ** (0.004)	1.033 *** (0.005)	1.014 *** (0.004)	-0.003 (0.004)	0.007 (0.004)	-0.002 (0.003)
Long-Term Debt / Total Liabilities * M&A	0.985 *** (0.005)	1.004 (0.008)	0.992 * (0.004)	-0.012 * (0.007)	0.006 (0.008)	0.018 (0.014)
Leverage	0.983 *** (0.004)	1.008 (0.007)	0.988 *** (0.003)	0.006 * (0.004)	0.002 (0.004)	0.005 (0.003)
Leverage * M&A	0.992 (0.006)	1.013 (0.012)	0.994 (0.005)	0.002 (0.009)	0.002 (0.010)	-0.003 (0.012)
Retained Earnings / Total Assets	1.006 (0.005)	1.011 (0.022)	1.006 (0.006)	0.007 ** (0.004)	-0.002 (0.002)	0.003 (0.003)
Retained Earnings / Total Assets * M&A	0.986 * (0.007)	1.082 *** (0.031)	1.003 (0.009)	-0.052 ** (0.021)	0.049 ** (0.023)	-0.029 (0.026)
<b>Profitability</b>						
ROA	0.972 ** (0.011)	1.012 (0.024)	0.979 ** (0.010)	0.036 *** (0.010)	0.020 (0.016)	0.032 *** (0.010)
ROA * M&A	1.000 (0.019)	0.981 (0.035)	0.997 (0.017)	-0.015 (0.036)	0.017 (0.042)	-0.023 (0.052)
<b>No. of Observations</b>	11,597	12,040	11,297	1,171	1,171	1,171
Panel B. China - Sales						
Independent Variables	Cox Regressions			Probit Regressions		
	Equity	Bonds	Equity or Bonds	Equity	Bonds	Equity or Bonds
<b>Size</b>						
Sales	1.221 *** (0.050)	1.799 *** (0.125)	1.325 *** (0.048)	-0.010 (0.043)	0.275 *** (0.065)	0.107 ** (0.045)
Sales * M&A	1.258 *** (0.039)	0.986 (0.069)	1.230 *** (0.035)	0.182 *** (0.053)	0.052 (0.064)	0.250 *** (0.057)
<b>Growth</b>						
Sales Growth	1.000 (0.000)	0.997 (0.003)	1.000 (0.000)	0.000 (0.000)	-0.002 (0.001)	0.000 (0.000)
Sales Growth * M&A	1.000 (0.000)	1.001 (0.003)	1.000 (0.001)	0.001 (0.002)	0.002 (0.001)	0.000 (0.000)
<b>Capital Structure and Financial Health</b>						
Long-Term Debt / Total Liabilities	1.016 *** (0.004)	1.044 *** (0.005)	1.021 *** (0.003)	-0.003 (0.004)	0.011 *** (0.004)	0.001 (0.003)
Long-Term Debt / Total Liabilities * M&A	0.989 ** (0.005)	1.002 (0.007)	0.995 (0.004)	-0.008 (0.007)	0.007 (0.007)	0.023 * (0.014)
Leverage	0.981 *** (0.004)	1.008 (0.007)	0.986 *** (0.004)	0.009 ** (0.003)	0.000 (0.005)	0.006 * (0.003)
Leverage * M&A	0.988 * (0.006)	1.012 (0.013)	0.990 * (0.006)	0.002 (0.010)	0.000 (0.011)	-0.004 (0.012)
Retained Earnings / Total Assets	1.004 (0.004)	1.010 (0.021)	1.004 (0.004)	0.008 ** (0.004)	0.001 (0.005)	0.006 * (0.003)
Retained Earnings / Total Assets * M&A	0.983 *** (0.005)	1.077 *** (0.031)	0.996 (0.007)	-0.052 ** (0.022)	0.041 * (0.023)	-0.026 (0.027)
<b>Profitability</b>						
ROA	0.983 * (0.009)	1.012 (0.024)	0.987 (0.009)	0.044 *** (0.010)	0.021 (0.018)	0.037 *** (0.011)
ROA * M&A	0.991 (0.018)	0.971 (0.035)	0.991 (0.016)	-0.023 (0.038)	0.003 (0.044)	-0.033 (0.050)
<b>No. of Observations</b>	11,577	12,020	11,277	1,170	1,170	1,170

This table shows the Cox and Probit estimations of the ex-ante probability of capital raising activity in China based on firm-level attributes. Interacted terms between firm-level attributes and an M&A dummy, which captures whether the firm is the acquirer in an M&A activity in the year of the capital raising or the following year. The first three columns report the Cox estimates of the hazard ratio of the capital raising activity between 2005 and 2011. The dependent variable is a dummy that takes the value of one in the year that an issue takes place and zero otherwise. The standard errors are clustered at the firm level. The independent variables are lagged one year. The next three columns report the Probit estimates of the probability of capital raising activity during the 2005-2011 period as a function of firm attributes in 2004. The Probit standard errors are robust z-statistics. The top and the bottom 1 percent of the observations for each independent variable are excluded from the sample in this table. All regressions include industry dummies. Total assets and sales are in logs of thousands of 2011 U.S. dollars. Standard errors are shown in parentheses. \*, \*\*, and \*\*\* indicate statistical significance at the 10, 5, and 1 percent, respectively.

Appendix Table 3. Probability of Capital Raising Activity controlling for M&A Activity (continued)

Panel C. India - Total Assets						
Independent Variables	Cox Regressions			Probit Regressions		
	Equity	Bonds	Equity or Bonds	Equity	Bonds	Equity or Bonds
<b>Size</b>						
Total Assets	1.218 *** (0.032)	1.943 *** (0.104)	1.326 *** (0.032)	0.050 (0.031)	0.404 *** (0.049)	0.168 *** (0.031)
Total Assets * M&A	1.119 *** (0.045)	0.993 (0.060)	1.089 ** (0.038)	0.152 ** (0.071)	0.236 *** (0.084)	0.288 *** (0.112)
<b>Growth</b>						
Asset Growth	1.006 *** (0.001)	1.006 *** (0.001)	1.006 *** (0.001)	0.005 *** (0.001)	0.001 (0.002)	0.005 *** (0.001)
Total Assets Growth * M&A	0.998 (0.001)	0.994 ** (0.003)	0.997 *** (0.001)	0.005 (0.005)	-0.002 (0.004)	0.000 (0.006)
<b>Capital Structure and Financial Health</b>						
Long-Term Debt / Total Liabilities	1.005 *** (0.002)	1.031 *** (0.005)	1.009 *** (0.002)	0.007 *** (0.002)	0.010 *** (0.004)	0.008 *** (0.002)
Long-Term Debt / Total Liabilities * M&A	0.990 ** (0.005)	1.006 (0.008)	0.997 (0.004)	-0.026 *** (0.009)	-0.007 (0.010)	-0.030 ** (0.013)
Leverage	0.994 *** (0.002)	1.008 (0.006)	0.994 *** (0.002)	0.000 (0.002)	0.000 (0.004)	-0.002 (0.002)
Leverage * M&A	1.002 (0.007)	1.020 ** (0.010)	1.011 ** (0.005)	0.013 (0.011)	-0.010 (0.013)	0.013 (0.014)
Retained Earnings / Total Assets	1.001 (0.001)	1.011 * (0.006)	1.000 (0.001)	0.003 (0.002)	0.003 (0.004)	0.001 (0.002)
Retained Earnings / Total Assets * M&A	0.990 *** (0.004)	1.011 (0.016)	0.994 * (0.003)	0.007 (0.010)	0.017 (0.017)	0.012 * (0.007)
<b>Profitability</b>						
ROA	0.972 *** (0.005)	1.014 (0.014)	0.980 *** (0.005)	-0.016 *** (0.006)	0.007 (0.010)	-0.013 ** (0.005)
ROA * M&A	1.019 (0.016)	1.000 (0.024)	1.013 (0.012)	-0.043 (0.030)	-0.031 (0.031)	-0.054 (0.044)
<b>No. of Observations</b>	15,122	15,474	14,574	1,124	1,124	1,124

Panel D. India - Sales						
Independent Variables	Cox Regressions			Probit Regressions		
	Equity	Bonds	Equity or Bonds	Equity	Bonds	Equity or Bonds
<b>Size</b>						
Sales	1.208 *** (0.033)	1.850 *** (0.106)	1.285 *** (0.034)	0.051 ** (0.024)	0.315 *** (0.056)	0.130 *** (0.027)
Sales * M&A	1.116 *** (0.045)	0.972 (0.064)	1.064 * (0.038)	0.075 (0.080)	0.161 (0.110)	0.154 (0.109)
<b>Growth</b>						
Sales Growth	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Sales Growth * M&A	1.000 (0.000)	1.001 ** (0.000)	1.000 (0.000)	0.004 (0.003)	0.000 (0.002)	-0.001 (0.001)
<b>Capital Structure and Financial Health</b>						
Long-Term Debt / Total Liabilities	1.007 *** (0.002)	1.038 *** (0.006)	1.011 *** (0.002)	0.008 *** (0.002)	0.011 *** (0.004)	0.009 *** (0.002)
Long-Term Debt / Total Liabilities * M&A	0.995 (0.005)	1.008 (0.008)	1.001 (0.004)	-0.017 ** (0.008)	0.001 (0.012)	-0.012 (0.012)
Leverage	0.993 *** (0.002)	1.007 (0.007)	0.993 *** (0.002)	0.000 (0.002)	-0.003 (0.003)	-0.002 (0.002)
Leverage * M&A	1.001 (0.008)	1.022 ** (0.011)	1.014 ** (0.006)	0.018 (0.012)	-0.003 (0.014)	0.018 (0.015)
Retained Earnings / Total Assets	1.000 (0.001)	1.010 (0.006)	1.000 (0.001)	0.002 (0.002)	0.000 (0.003)	0.001 (0.002)
Retained Earnings / Total Assets * M&A	0.979 *** (0.005)	1.009 (0.015)	0.989 ** (0.005)	0.007 (0.009)	0.019 (0.017)	0.007 (0.008)
<b>Profitability</b>						
ROA	0.971 *** (0.005)	1.008 (0.014)	0.978 *** (0.005)	-0.013 ** (0.006)	0.005 (0.008)	-0.010 * (0.006)
ROA * M&A	1.031 ** (0.016)	1.003 (0.025)	1.021 * (0.012)	-0.022 (0.033)	-0.021 (0.035)	-0.013 (0.040)
<b>No. of Observations</b>	13,994	14,327	13,456	1,057	1,057	1,057

This table shows the Cox and Probit estimations of the ex-ante probability of capital raising activity in India based on firm-level attributes. Interacted terms between firm-level attributes and an M&A dummy, which captures whether the firm is the acquirer in an M&A activity in the year of the capital raising or the following year. The first three columns report the Cox estimates of the hazard ratio of the capital raising activity between 2005 and 2011. The dependent variable is a dummy that takes the value of one in the year that an issue takes place and zero otherwise. The standard errors are clustered at the firm level. The independent variables are lagged one year. The next three columns report the Probit estimates of the probability of capital raising activity during the 2005-2011 period as a function of firm attributes in 2004. The Probit standard errors are robust z-statistics. The top and the bottom 1 percent of the observations for each independent variable are excluded from the sample in this table. All regressions include industry dummies. Total assets and sales are in logs of thousands of 2011 U.S. dollars. Standard errors are shown in parentheses. \*, \*\*, and \*\*\* indicate statistical significance at the 10, 5, and 1 percent, respectively.

Appendix Table 4. Firm Dynamics around Issuance Activity Excluding State-Owned Enterprises

Independent Variables	Panel A. China - Equity Growth									
	Size			Growth			Capital Structure and Financial Health			Profitability
	Total Assets	Sales	Employees	Total Assets Growth	Sales Growth	Employee Growth	Long-Term Debt / Total Liabilities	Leverage	Retained Earnings / Total Assets	ROA
Year before Issue	0.532 *** (0.061)	0.624 *** (0.071)	1,927 *** (395)	13.210 *** (1.615)	12.010 *** (2.002)	7.920 *** (2.447)	3.234 *** (0.903)	1.241 (1.110)	15.140 *** (1.683)	1.285 *** (0.320)
Issue Year	0.802 *** (0.061)	0.723 *** (0.069)	2,358 *** (378)	29.650 *** (1.860)	9.393 *** (2.151)	10.270 *** (2.970)	3.147 *** (0.884)	-5.294 *** (1.147)	12.510 *** (1.563)	0.048 (0.301)
Year after Issue	0.893 *** (0.064)	0.910 *** (0.073)	2,798 *** (410)	0.983 (1.355)	4.528 * (2.425)	8.468 ** (3.483)	3.179 *** (0.965)	-0.999 (1.148)	11.690 *** (1.434)	-0.194 (0.335)
<b>F-Tests:</b>										
Issue Year vs. Year Before	0.270 ***	0.099 ***	431 **	16.440 ***	-2.617	2.350	-0.087	-6.535 ***	-2.630 ***	-1.237 ***
Year After vs. Issue Year	0.091 ***	0.187 ***	440 *	-28.667 ***	-4.865	-1.802	0.032	4.295 ***	-0.820	-0.242
Year After vs. Year Before	0.361 ***	0.286 ***	871 **	-12.227 ***	-7.482 **	0.548	-0.055	-2.240 ***	-3.450 ***	-1.479 ***
<b>Year Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Industry Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>No. of Observations</b>	13,899	13,747	12,805	12,420	12,218	10,976	9,931	13,812	13,778	13,740
<b>R-Squared</b>	0.13	0.08	0.05	0.08	0.04	0.06	0.12	0.02	0.02	0.05
<b>No. of Firms</b>	2,274	2,270	2,262	2,298	2,275	1,857	1,764	2,231	2,271	2,283
Independent Variables	Panel B. China - Bonds									
	Size			Growth			Capital Structure and Financial Health			Profitability
	Total Assets	Sales	Employees	Total Assets Growth	Sales Growth	Employee Growth	Long-Term Debt / Total Liabilities	Leverage	Retained Earnings / Total Assets	ROA
Year before Issue	1.046 *** (0.121)	1.150 *** (0.137)	4,767 *** (805)	4.326 ** (2.195)	2.156 (3.516)	7.053 (5.576)	3.061 ** (1.336)	5.038 (3.804)	1.375 (8.811)	1.027 ** (0.450)
Issue Year	1.195 *** (0.111)	1.148 *** (0.128)	5,228 *** (748)	7.927 *** (2.155)	0.892 (2.872)	5.549 (5.302)	11.350 *** (1.298)	7.739 ** (3.308)	5.733 (4.922)	0.820 ** (0.319)
Year after Issue	1.312 *** (0.129)	1.257 *** (0.126)	5,663 *** (877)	0.820 (1.871)	4.106 (3.130)	-5.493 * (3.073)	10.890 *** (1.363)	5.247 (3.244)	4.226 (6.548)	0.263 (0.426)
<b>F-Tests:</b>										
Issue Year vs. Year Before	0.149 **	-0.002	461	3.601	-1.264	-1.504	8.289 ***	2.701 ***	4.358	-0.207
Year After vs. Issue Year	0.117 *	0.109	435	-7.107 ***	3.214	-11.042 *	-0.460	-2.492	-1.507	-0.557
Year After vs. Year Before	0.266 ***	0.107	896	-3.506	1.950	-12.546 *	7.829 ***	0.209	2.851	-0.764
<b>Year Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Industry Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>No. of Observations</b>	13,899	13,747	12,805	12,420	12,218	10,976	9,931	13,812	13,778	13,740
<b>R-Squared</b>	0.12	0.06	0.08	0.01	0.00	0.00	0.13	0.01	0.01	0.01
<b>No. of Firms</b>	2,274	2,270	2,262	2,298	2,275	1,857	1,764	2,231	2,271	2,283

This table reports the panel regressions of firm attributes on a three-year window around (non-IPO) capital raising issues that took place between 2003 and 2011. The three-year windows are captured by a dummy variable for the issue year, a dummy for the preceding year, and a dummy for the year after. All regressions include year and industry dummies. The regressions include firms with no issues as part of the control group. SOEs have been excluded from the sample in this table. The top and the bottom 1 percent of the observations for each dependent variable are excluded from the sample in this table. Total assets, sales, and capital expenditures are in logs of thousands of 2011 U.S. dollars. Standard errors are clustered at the firm level and are shown in parentheses. \*, \*\*, and \*\*\* indicate statistical significance at the 10, 5, and 1 percent, respectively.

Appendix Table 4. Firm Dynamics around Issuance Activity Excluding State-Owned Enterprises (continued)

Independent Variables	Panel C. India - Equity									
	Size			Growth			Capital Structure and Financial Health			Profitability
	Total Assets	Sales	Employees	Total Assets Growth	Sales Growth	Employee Growth	Long-Term Debt / Total Liabilities	Leverage	Retained Earnings / Total Assets	ROA
Year before Issue	1.239 *** (0.080)	1.091 *** (0.090)	6,804 *** (2,495)	19.970 *** (2.112)	5.996 (5.277)	9.589 * (5.787)	4.219 *** (0.944)	-0.098 (1.231)	22.150 *** (3.955)	0.502 (0.342)
Issue Year	1.534 *** (0.079)	1.364 *** (0.082)	4,881 ** (2,178)	22.850 *** (2.206)	8.495 * (4.640)	1.798 (3.757)	2.424 ** (0.970)	-3.492 *** (1.116)	26.400 *** (2.776)	0.117 (0.325)
Year after Issue	1.581 *** (0.090)	1.415 *** (0.092)	5,954 *** (1,989)	4.836 *** (1.814)	-7.783 ** (3.324)	6.033 (5.536)	2.632 ** (1.155)	-1.114 (1.243)	26.630 *** (2.600)	0.069 (0.385)
<b>F-Tests:</b>										
Issue Year vs. Year Before	0.295 ***	0.273 ***	-1,923	2.880	2.499	-7.791	-1.795 **	-3.394 ***	4.250	-0.385
Year After vs. Issue Year	0.047	0.051	1,073	-18.014 ***	-16.278 ***	4.235	0.208	2.378 ***	0.230	-0.048
Year After vs. Year Before	0.342 ***	0.324 ***	-850	-15.134 ***	-13.779 **	-3.556	-1.587	-1.016	4.480	-0.433
<b>Year Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Industry Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>No. of Observations</b>	25,884	21,403	886	21,620	17,723	526	19,781	23,233	21,242	25,497
<b>R-Squared</b>	0.14	0.18	0.12	0.13	0.03	0.10	0.05	0.03	0.01	0.01
<b>No. of Firms</b>	4,153	3,489	331	4,164	3,373	182	3,365	3,612	3,558	4,170

Independent Variables	Panel D. India - Bonds									
	Size			Growth			Capital Structure and Financial Health			Profitability
	Total Assets	Sales	Employees	Total Assets Growth	Sales Growth	Employee Growth	Long-Term Debt / Total Liabilities	Leverage	Retained Earnings / Total Assets	ROA
Year before Issue	2.447 *** (0.098)	2.184 *** (0.103)	4,596 ** (2,058)	19.830 *** (3.969)	3.324 (5.244)	5.652 (4.135)	8.324 *** (1.185)	0.929 (1.235)	25.780 *** (1.951)	2.310 *** (0.371)
Issue Year	2.443 *** (0.100)	2.162 *** (0.111)	5,744 ** (2,391)	19.820 *** (3.394)	10.380 (8.755)	11.340 *** (4.324)	9.319 *** (1.178)	4.103 *** (1.049)	23.800 *** (1.913)	1.188 *** (0.297)
Year after Issue	2.636 *** (0.086)	2.262 *** (0.096)	4,303 ** (1,692)	-3.504 (2.199)	-16.640 *** (3.533)	-3.816 (4.225)	7.941 *** (1.203)	3.677 *** (1.243)	25.200 *** (2.015)	0.513 (0.352)
<b>F-Tests:</b>										
Issue Year vs. Year Before	-0.004	-0.022	1,148	-0.010	7.056	5.688	0.995	3.174 ***	-1.980 *	-1.122 ***
Year After vs. Issue Year	0.193 **	0.100	-1,441	-23.324 ***	-27.020 **	-15.156 **	-1.378	-0.426	1.400	-0.675 *
Year After vs. Year Before	0.189 **	0.078	-293	-23.334 ***	-19.964 ***	-9.468	-0.383	2.748 ***	-0.580	-1.797 ***
<b>Year Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Industry Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>No. of Observations</b>	25,884	21,403	886	21,620	17,723	526	19,781	23,233	21,242	25,497
<b>R-Squared</b>	0.16	0.18	0.10	0.01	0.01	0.02	0.02	0.03	0.00	0.00
<b>No. of Firms</b>	4,153	3,489	331	4,164	3,373	182	3,365	3,612	3,558	4,170

This table reports the panel regressions of firm attributes on a three-year window around (non-IPO) capital raising issues that took place between 2003 and 2011. The three-year windows are captured by a dummy variable for the issue year, a dummy for the preceding year, and a dummy for the year after. All regressions include year and industry dummies. The regressions include firms with no issues as part of the control group. SOEs have been excluded from the sample in this table. The top and the bottom 1 percent of the observations for each dependent variable are excluded from the sample in this table. Total assets, sales, and capital expenditures are in logs of thousands of 2011 U.S. dollars. Standard errors are clustered at the firm level and are shown in parentheses. \*, \*\*, and \*\*\* indicate statistical significance at the 10, 5, and 1 percent, respectively.

Appendix Table 5. Firm Dynamics around Issuance Activity controlling for M&amp;A Activity

Independent Variables	Panel A. China - Equity									
	Size			Growth			Capital Structure and Financial Health			Profitability
	Total Assets	Sales	Employees	Total Assets Growth	Sales Growth	Employee Growth	Long-Term Debt / Total Liabilities	Leverage	Retained Earnings / Total Assets	ROA
Year before Issue	0.543 *** (0.082)	0.609 *** (0.091)	2,215 *** (601)	12.610 *** (1.876)	12.680 *** (2.286)	7.774 *** (2.904)	2.970 *** (1.039)	0.709 (1.247)	15.110 *** (1.541)	1.758 *** (0.395)
Issue Year	0.769 *** (0.082)	0.703 *** (0.090)	2,918 *** (656)	26.310 *** (2.021)	10.290 *** (2.633)	7.829 ** (3.551)	2.393 ** (1.037)	-5.647 *** (1.319)	11.960 *** (1.469)	0.405 (0.358)
Year after Issue	0.852 *** (0.089)	0.907 *** (0.097)	3,667 *** (731)	-0.896 (1.604)	1.957 (2.823)	0.976 (2.417)	1.358 (1.110)	-1.945 (1.430)	11.280 *** (1.421)	-0.038 (0.434)
(Issue Year * M&A Dummy) (t-1)	0.079 (0.115)	0.155 (0.136)	-272 (806)	-1.017 (3.279)	-4.549 (3.661)	-3.165 (4.510)	0.042 (1.686)	3.143 * (1.704)	-4.070 *** (1.324)	-1.444 *** (0.552)
(Issue Year * M&A Dummy) (t)	0.181 (0.114)	0.116 (0.129)	-202 (956)	5.295 (3.729)	-0.268 (4.209)	5.155 (5.711)	1.687 (1.566)	3.476 * (1.827)	-2.735 ** (1.392)	-0.894 * (0.487)
(Issue Year * M&A Dummy) (t+1)	0.223 * (0.130)	0.083 (0.140)	441 (1,201)	2.309 (2.518)	4.198 (4.504)	16.340 ** (7.698)	4.670 *** (1.750)	4.105 ** (1.978)	-2.243 (1.450)	-0.422 (0.576)
<b>F-Tests:</b>										
Issue Year vs. Year Before	0.226 ***	0.094 ***	703 ***	13.700 ***	-2.390	0.055	-0.577	-6.356 ***	-3.150	-1.353 *
Year After vs. Issue Year	0.083 ***	0.204 ***	749 ***	-27.206 ***	-8.333 ***	-6.853 **	-1.035	3.702 ***	-0.680	-0.443 *
Year After vs. Year Before	0.309 ***	0.298 ***	1,452 ***	-13.506 ***	-10.723 ***	-6.798 **	-1.612	-2.654	-3.830	-1.796 ***
Issue Year * M&A Dummy:										
(t) vs. (t-1)	0.102 ***	-0.039 ***	70 **	6.312	4.281	8.320	1.645	0.333	1.335 **	0.550
(t+1) vs. (t)	0.042	-0.039	-76	-1.675	-0.838	-2.093	-0.576	-0.274	0.097	-0.118
(t+1) vs. (t-1)	0.042	-0.046 **	-150 ***	-1.258	-1.028	-0.959	-0.649	-0.385	0.145 *	-0.194
<b>Year Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Industry Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>No. of Observations</b>	15,003	14,826	13,847	13,409	13,184	11,913	10,800	14,891	14,849	14,834
<b>R-Squared</b>	0.14	0.08	0.06	0.08	0.04	0.06	0.14	0.02	0.02	0.05
<b>No. of Firms</b>	2,419	2,409	2,402	2,448	2,419	2,000	1,898	2,374	2,414	2,431
Independent Variables	Panel B. China - Bonds									
	Size			Growth			Capital Structure and Financial Health			Profitability
	Total Assets	Sales	Employees	Total Assets Growth	Sales Growth	Employee Growth	Long-Term Debt / Total Liabilities	Leverage	Retained Earnings / Total Assets	ROA
Year before Issue	1.212 *** (0.144)	1.062 *** (0.182)	6,637 *** (1,452)	2.014 (2.304)	0.946 (3.720)	5.017 (5.535)	3.375 ** (1.561)	3.275 (4.313)	-4.670 (12.150)	0.896 (0.557)
Issue Year	1.254 *** (0.137)	1.057 *** (0.167)	6,518 *** (1,225)	5.838 ** (2.488)	-2.978 (3.125)	5.729 (6.709)	9.903 *** (1.535)	7.667 ** (3.484)	-0.798 (6.302)	-0.269 (0.385)
Year after Issue	1.147 *** (0.170)	0.978 *** (0.158)	6,575 *** (1,277)	-1.352 (2.395)	3.652 (3.815)	-2.563 (3.267)	9.370 *** (1.861)	8.490 * (4.540)	-5.349 (8.928)	-0.683 (0.577)
(Issue Year * M&A Dummy) (t-1)	0.097 (0.181)	0.319 (0.218)	-1,220 (1,830)	8.505 ** (3.953)	8.046 (6.495)	11.860 (10.120)	-2.472 (2.162)	-2.160 (4.622)	17.280 (12.030)	0.218 (0.765)
(Issue Year * M&A Dummy) (t)	0.032 (0.188)	0.285 (0.221)	-7 (1,660)	-3.803 (3.713)	5.679 (5.144)	-4.984 (8.190)	-0.469 (2.051)	-2.400 (3.623)	9.890 (6.254)	0.117 (0.506)
(Issue Year * M&A Dummy) (t+1)	0.341 (0.216)	0.569 ** (0.222)	1,284 (1,831)	-0.078 (3.428)	-6.230 (5.366)	-3.411 (5.954)	-2.003 (2.269)	-1.687 (4.741)	13.450 (8.776)	-0.278 (0.711)
<b>F-Tests:</b>										
Issue Year vs. Year Before	0.042 ***	-0.005 *	-119 ***	3.824	-3.924 *	0.712	6.528 ***	4.392 **	3.872	-1.165 ***
Year After vs. Issue Year	-0.107	-0.079	57	-7.190 ***	6.630	-8.292	-0.533	0.823 **	-4.551	-0.414
Year After vs. Year Before	-0.065 ***	-0.084	-62 ***	-3.366 ***	2.706 ***	-7.580	5.995 **	5.215 ***	-0.679	-1.579 ***
Issue Year * M&A Dummy:										
(t) vs. (t-1)	-0.065	-0.034	1,213	-12.308 **	-2.367	-16.844 **	2.003 *	-0.240	-7.390	-0.101
(t+1) vs. (t)	0.309	-0.060	-553	-1.558	-2.680	-6.853	-0.301	-0.082	-3.102	-0.188
(t+1) vs. (t-1)	0.309	-0.051	-605	-1.465	-3.370	-3.411 *	-0.627	-1.138	-5.728	-0.380
<b>Year Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Industry Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>No. of Observations</b>	15,003	14,826	13,847	13,409	13,184	11,913	10,800	14,891	14,849	14,834
<b>R-Squared</b>	0.16	0.09	0.10	0.04	0.04	0.06	0.15	0.02	0.01	0.05
<b>No. of Firms</b>	2,419	2,409	2,402	2,448	2,419	2,000	1,898	2,374	2,414	2,431

This table reports the panel regressions of firm attributes on a three-year window around (non-IPO) capital raising issues that took place between 2003 and 2011. The regressions also include a three-year window around an interacted term between firm-level attributes and an M&A dummy, which captures whether the firm is the acquirer in an M&A activity in the year of the capital raising or the following year. The three-year windows are captured by a dummy variable for the issue year or the interacted term, a dummy for their respective preceding year, and a dummy for their respective year after. All regressions include year and industry dummies. The regressions include firms with no issues as part of the control group. The top and the bottom 1 percent of the observations for each dependent variable are excluded from the sample in this table. Total assets, sales, and capital expenditures are in logs of thousands of 2011 U.S. dollars. Standard errors are clustered at the firm level and are shown in parentheses. \*, \*\*, and \*\*\* indicate statistical significance at the 10, 5, and 1 percent, respectively.