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Abstract

Issuance of public equity and investment do not increase when a country liberalizes its stock market. Similarly, at the firm-level foreigner-investability is associated with lower equity issuance and investment. Moreover, foreign institutional ownership is low in firms that foreigners can invest in; the median value is only 5.3% of total shares outstanding. Consistent with confounding effects, foreign *direct* investment, which does not include equity investment in public firms, surges during and after the year a country liberalizes its equity market. Our evidence suggests that the growth effects associated with equity market liberalization are caused by other financial and economic reforms.

JEL Codes: F30, F38, G30, G24, G15

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Many emerging market countries have had regulations that limit foreign investment and the flow of capital across borders. During the last few decades many of these barriers have been eliminated or reduced. In this paper we try to better understand the real and financial effects of reducing barriers to foreign equity portfolio investment, which is commonly referred to as equity market liberalization.

The potential benefits of equity market liberalization are that the cost of capital falls, the supply of capital increases, and corporate governance improves. Consistent with this framework, Bekeart and Harvey (2000), Henry (2000a and 2003), Kim and Singal (2000), and Chari and Henry (2004) provide evidence that dividend yields fall and stock prices surge during the years following stock market liberalizations. Henry (2000) shows that private investment booms after a country liberalizes its stock market. Mitton (2006) shows that operating efficiency is higher in firms that are investable to foreigners. Bekaert, Harvey, and Lundblad (2005 and 2010), Bekaert, Harvey, Lundblad, and Siegel (2007), and Quinn and Toyada (2008) show that GDP growth is higher in countries with liberalized equity markets, although they include both developed and emerging markets in their study, whereas the other aforementioned papers focus on emerging markets.

Our research challenges the idea that these effects are caused by equity market liberalization, and instead suggests that confounding factors play a more central role. To further appreciate how confounding factors can affect a country that liberalized its stock market, consider the case of Brazil. In 1991, Brazil reduced several barriers to foreign *direct investment* (Shatz, 2000; Desai, Foley, and Hines, 2005). Foreign direct investment includes the establishment of subsidiaries by foreign companies, subsequent investments in such subsidiaries, the acquisition of domestic firms, and other foreign investments that are expected to be long

lasting in nature. Foreign *direct investment* is therefore much different than foreign *portfolio investment*. Brazil's decision to lift barriers to foreign direct investment meant that restrictions on profit and capital repatriations for foreign multinational companies were reduced. Hence, an American company such as Pepsi, which has a subsidiary in Brazil, now has fewer restrictions on the timing and amount of profits and capital that it can repatriate. Desai, Foley, and Hines (2005) show that this type of financial liberalization results in more foreign direct investment.

Brazil also liberalized its stock market in 1991 (Bekeart, Harvey, and Lundblad, 2005), thereby lifting restrictions that barred foreigners from owning shares of companies listed on its domestic stock exchange. Unipar Carbocloro, SA is one such company that trades on the Brazilian stock exchange. Since 1991, foreigners have been able to invest in its shares. However, not all firms in Brazil were made investable to foreigners in 1991; some firms retained legal restrictions, while others were too small or illiquid to be practically investable. In the finance literature firms are classified as either investable or uninvestable by the International Finance Corporation's Investability Indices (IFCI). The Brazilian company Bombril, SA did not become investable until 1994, three years after Brazil liberalized its stock market.

Brazil's decision to liberalize its stock market did not affect Pepsi's ability to repatriate its profits and capital; that was affected by Brazil's decision to lift barriers to foreign direct investment. Brazil's foreign direct investment liberalization did not affect the ability of investors to buy shares in Bombril, SA; that was made possible by Brazil's decision to liberalize its equity market and Bombril's size and liquidity. However, in Brazil the liberalization of foreign direct investment and the liberalization of the equity market happened in the same year (1991), most likely along with other capital account and economic liberalizations that we do not observe (e.g., many emerging markets have changed policies regarding foreign lending and deposits in

domestic banks). Moreover, contemporaneous policy changes like this are not uncommon. Examining the emerging markets studied in Desai, Foley, and Hines (2005) that overlap with our sample, almost all of the countries that had foreign direct investment liberalizations in their study also had equity market liberalizations in the same year, or within a one-year difference (e.g., Chile, Columbia, Egypt, Greece, Mexico, Philippines, and Peru; India had liberalizations that were 3 years apart). For this reason, identifying the effects of equity market liberalization on economic growth is difficult.

We reason that if equity market liberalization is causing the growth effects documented in previous studies, then we should be able to observe its impact on the share issuance and investment of publicly traded firms that are investable to foreigners, as these are the only firms that are directly affected by this policy. Using data from 24 different emerging markets, we find that if a firm is investable to foreigners, its share issuance and investment tend to be lower, not higher. We consider the possibility that investability only impacts firms that rely more on external funding. We follow Rajan and Zingales (1998) and Gupta and Yuan (2009) and construct industry-level measures of equity dependence, and estimate whether share issuance increases more following investability for firms that depend on equity finance. We find that investability has the same effect on firms from both more and less equity dependent industries; in both cases, investability is associated with less share issuance. If investable firms do raise capital they are more likely to issue debt than equity, although debt issues are not higher for investable firms. We obtain similar findings when we study these effects around the country-liberalization year, in that there is not an increase in either share issuance or investment in publicly traded firms. These findings contradict the idea that equity market liberalization promotes growth by reducing financial constraints and increasing investment in publicly traded firms.

We extend our analyses by replacing investability with actual foreign institutional ownership. In these tests, share issuance and investment are found to be lower when foreign ownership is higher, although the effects are not statistically significant. Moreover, we find that although foreign institutional ownership increases after a firm becomes investable, the effect is very small. The median investable firm has only 5.3% of its shares held by foreign institutions, too small to be have any real effects. Hence, although we find that share issuance and investment are significantly lower for investable firms, we don't think the relation is a casual one, as the amount of foreign institutional ownership is in our view too small to be important. We think it is more likely that firms are made investable once they reach a certain level of maturity, and mature firms simply grow more slowly and issue fewer shares.

To further explore the idea that contemporaneous policies could be causing the growth effects associated with equity market development, we ask whether equity market liberalizations are associated with increases in foreign *direct* investment. As we explain above, equity market liberalization does not affect foreign direct investment per se, however liberalizing the equity market tends to happen contemporaneously with other financial and economic reforms that encourage foreign direct investment. Consistent with this idea, we find significant increases in foreign direct investment following a country's equity market liberalization year. The economic magnitude of these effects is very large; on average, foreign direct investment more than doubles in the few years that follow the liberalization of an emerging equity market.

Our findings build on previous studies, which show that emerging stock markets are dominated by firms that are unlikely to benefit from foreign institutional investors. La Porta, Lopez-de-Silanes, and Shelifer (1999), Claessens, Djankov, and Lang (2000), and Morck, Wolfenzon, and Yeung (2005) show that in emerging markets the larger publicly traded firms

tend to be family-owned (or at least not widely-held), often in pyramid structures, and that special voting rights often create big divergences between ownership and control. When emerging equity markets are liberalized, it is these firms that become investable to foreigners. Yet it is unlikely that these firms are capital constrained, and even more unlikely that these firms will heed to foreign monitors. Moreover, a literature on cross-listing shows that firms in emerging markets can access foreign capital by listing on foreign exchanges (see Karolyi (2005) and Doidge et al. (2010)). Aggarwal, Erel, Ferreira, and Matos (2010) show that foreign institutional ownership improves corporate governance and firm performance in developed markets, however they do not study the emerging market countries in our sample. Bekaert, Harvey, and Lundblad (2005) show that the effects of financial liberalization on GDP growth are weaker in countries with low levels of financial development and investor protection, which describes most emerging markets. So it could be the case that foreign *portfolio* investment is important in countries with more developed equity markets and more firms that are widely held, such as the U.S. and the U.K., whereas in emerging markets foreign *direct* investment matters more.

The remainder of this paper is organized as follows. Section 1 describes the data, sample characteristics, and variable construction. Section 2 discusses the firm-level investability findings. Section 3 discusses the liberalization-year event study findings. Section 4 discusses our foreign direct investment results, and Section 5 concludes the paper.

1. Sample and Measurement

1.1. Sample and Data

Our data comes from several different sources. We obtain equity market liberalization dates from Bekaert, Harvey, and Lundblad (2005). From Standard and Poor's we obtain the International Finance Corporation (IFC) Investability indices (IFCI) for 24 different emerging markets. The firms in the indices are deemed to be investable both legally and feasibly to foreigners. A second variable provided by IFC, the investable weight factor (IWF), reflects the degree of openness, or the upper bound on the percentage of shares that can be legally and feasible held by foreigners. Both IFC indices are commonly used in the liberalization literature (e.g., Edison and Warnock (2003), Li et al. (2004), Bekaert, Harvey, Lundblad, and Siegel (2007), Bekaert, Harvey, and Lundblad (2010), Mitton (2006), Mitton and O'Connor (2010), Li et al. (2010), and Bae et al (2012).

From Worldscope we obtain annual financial data, and from Datastream we obtain monthly data on shares outstanding and stock returns. To be in our sample a firm must be listed in the IFC investable index for at least one year and have shares outstanding from Datastream. If an observation has shares outstanding from Datastream and is also in the IFC investable index, we characterize this observation as investable; if an observation has shares outstanding from Datastream and is not in an IFCI index, we refer to it as uninvestable, so long as it belongs to a firm with at least one year of investable data. Our sample contains 26,767 firm-year observations and 1,834 firms during the period 1988-2010.

1.2. Describing the Sample

Panel A of Table 1 reports the liberalization year for each country, and describes our sample in terms of the number of firms, the total number of firm-years, and the percentage of firm-years that are investable to foreigners in each country. We also report the average maximum percentage of shares that can be held by foreigners in each country.

Table 1 shows that the liberalization dates are clustered in time; most liberalizations occurred between the years 1988 and 1992. The sample contains 26,767 firm-year observations; 41.6% of which are investable, and 1,834 firms in total. The average investable weight factor, which reflects the maximum number of shares that can be held by foreigners, is 26.5%. As we mention above, our sample is limited to firms with both Datastream and IFC coverage, so we have fewer firms as compared to the IFC indices. Panel B of table 1 provides summary statistics for several of the main variables that are used in our regression analyses. We will refer back to the statistics in Panel B when interpreting the economic significance of our findings.

1.3. Firm-Level Variables

Share issuance is the real change in shares outstanding, or the log change in the number of shares outstanding adjusted for distribution events such as stock splits and stock dividends. Our measurement of share issuance follows McLean, Pontiff, and Watanabe (2009). We use the capital adjustment index from Datastream recorded at the end of month t (CAI_t) to calculate the number of real shares outstanding for that month (*Adjusted Shares*$_t$). The *CAI* is the cumulative product of the inverse of the individual-period capital adjustment factor (*AX*).

$$CAI_t = \prod_{i=1}^{t} 1/AX_i .$$

Adjusted Shares$_t$ is then given by:

$$Adjusted\ Shares_t = Shares\ Outstanding_t / CAI_t.$$

We use *Adjusted Shares* to compute a 1-year share issuance measure.

$$Share\ Issuance_t = Ln(Adjusted\ Shares_t) - Ln(Adjusted\ Shares_{t-1}).$$

Size and Liquidity Criterions. IFC requires that a firm have a minimum market capitalization and a minimum dollar trading volume in order to be classified as investable. These minimums have of course changed over time. Following Mitton (2006), we create a size criterion variable equal to 1 if the firm's market capitalization is greater than $50M USD, and zero otherwise. We also create a liquidity criterion variable that is equal to 1 if the firm's dollar trading volume over the past 12 months exceeds $20M USD, and zero otherwise. Our sample covers more recent years than Milton (2006) (his sample ends in 2000), and we use $100M USD as the size criterion and $50M USD trading volume as the liquidity criterion during the years after 2000. These values reflect IFC's most recently reported size and liquidity criterions.

Cash flow. We measure cash flow from operations as net income plus amortization and depreciation, all scaled by assets measured at the beginning of the year.

Leverage. We measure leverage as total debt scaled by the book value of assets.

Tobin's q (*q*). Tobin's *q* is estimated as the market value of equity, minus the book value of equity, plus the book value of assets, all scaled by the book value of assets. We use the log of this *q* measure in our regression analyses. Mitton and O'Connor (2010) show that investable firms tend to have higher *q*'s.

Capex/PPE is measured as capital expenditures scaled by property, plant, and equipment at the beginning of the year.

Asset Growth is the log change in total assets.

Debt Issuance is the annual log change in total debt.

2. Is Investability Associated with More Equity Issuance and Investment?

Some empirical evidence regarding liberalization and investability is consistent with investability reducing financial constraints and lowering capital costs. If investability reduces financial constraints, then all else held equal, investable firms should issue more shares and invest more than uninvestable firms. In this section, for the first time, we directly estimate the relations between investability and share issuance, and between investability and other measures of external finance dependence and investment.

2.1 Firm-Level Investability and Share Issuance

In this section we estimate panel regressions with firm and year fixed effects to test whether investability is related to share issuance. The regressions tell us whether within-firm changes in investability over time are associated with within-firm changes in share issuance. As we mention above, we use two different investability measures. The first is a binary measure (IFCI) that is equal to 1 if the firm's shares can be held by foreigners and zero otherwise. The second is a continuous measure (IWF), which reflects the maximum percentage of a firm's shares that can be held by foreigners. We measure share issuance from year t to t+1 and regress it on the investability variables measured at time t, along with control variables.

The findings in Table 2 cast doubt on the idea that investability reduces financial constraints. In regressions 1 and 2, which include only the investability measures along with the firm and year fixed effects, both investability measures are negative and statistically significant.

The coefficient for the binary investability measure in regression 1 is -0.022 (t-statistic = -4.76). The average firm fixed effect is about 0.064, so this represents a sizeable decline in share issuance during the years when a firm is investable compared to years when it is not investable. This finding is reinforced in Figure 1, which plots share issuance on and around the year that when firms become investable. Figure 1 shows that share issuance is highest 2 years before the investability year, and then declines once the firm is investable.

Regressions 3 and 4 include several control variables. If firms are either too small or illiquid, IFCI denotes them as uninvestable. Hence, we use the binary variables *Size Criterion* and *Liquidity Criterion* to control for these effects. We also control for growth opportunities (q), leverage, and cash flow. Once these controls are added, the investability measures are still negative, although the continuous investability measure is insignificant.

The results in Table 2 are inconsistent with the idea that equity market liberalization promotes growth by reducing financial constraints among already public firms. The financial constraints hypothesis predicts that the investability coefficients are positive and significant. In contrast, the results in Table 2 show that the coefficient is negative; firms issue less equity during the years that they are investable as compared to the years that they are uninvestable. These findings go against the idea that the growth effects associated with investability and liberalization are the result of reduced financial constraints from equity finance among public firms.

2.2 Investability and Share Issuance: The Effects of External-Dependence

The results in Table 2 show that investability is not associated with greater share issuance. However, not all firms are in need of equity finance. Perhaps investability is associated

with greater share issuance, but only among firms that are more dependent on equity finance. To investigate this hypothesis we assign each firm an equity dependence value based on its industry's equity dependence ranking.

To measure external dependence we follow Rajan and Zingales (1998) and create industry-level measures of equity dependence using U.S firms, and then assign the dependence values to each of the firms in our 24 emerging markets. This method is also used in Gupta and Yuan (2009), Brown, Martinson, and Petersen (2012), and Hsu, Tian, and Xu (2013). The idea is that the U.S. capital market has the least amount of frictions, so measuring equity dependence with U.S. data ought to reveal which industries are the most externally dependent. Another advantage of using U.S. data is that the resulting external dependence measures are exogenous with respect to the firms in our sample.

We measure *equity dependence* as the dollar amount of net equity issues scaled by capital expenditure (dollar value equity issues / capex). We take the median value of this measure for each U.S. industry-year, using 2-digit SIC codes to define industries. We then take the average of the yearly medians, and compute a single industry-value. We estimate the measure during the period 1980-2012.

The regressions in Table 3 are similar to those in Table 2, only in Table 3 we include an interaction between the investability measures and the equity dependence measure. If investability promotes growth by reducing financial constraints, then the investability-equity dependence interactions should be positive and significant.

In each of the regressions in Table 3, the interactions are insignificant. Hence, investability does not have a disproportionate effect on firms from industries that rely more on equity finance, which contradicts the idea that investability promotes growth by relaxing

financial constraints. The results in Table 3 are therefore inconsistent with the idea that investability promotes growth because it makes equity finance more available; if this were the case, then we would observe a disproportionately positive effect on the share issuance of more dependent firms. The findings here instead suggest that if liberalization causes growth, then it must do so by some other channel besides the reduction of financial constraints in publicly traded firms.

2.3. Investability and Investment

In this section of the paper we ask whether investability is associated with higher investment. The idea is that if equity market liberalization causes more investment and growth, then we should observe higher investment in firms that are investable to foreigners. The results from these tests are reported in Table 4. We define investment as the log change in total assets (Panel A) and capital expenditures scaled by property, plant, and equipment at the beginning of the year (Panel B). We regress these two investment measures on the same set of independent variables that were used in Table 2. The results are similar with each of the investment measures, so we limit our discussion to the results in in Panel A.

Column 1 shows that asset growth is significantly lower during the years in which firms are investable. The investability coefficient is -0.032 (t-statistic = 2.58), showing that asset growth is lower after a firm becomes investable as compared to before it was investable. The average firm fixed effect in this regression is 0.456, so asset growth is on average 7% lower during the years in which a firm is investable as compared to the years in which it was uninvestable. The effect is even stronger in column 3, which includes the firm-level controls along with the binary investability measure. In this regression the investability coefficient

is -0.035 (t-statistic = 3.49), while the average firm fixed effect is 0.187, suggesting that asset growth is on average 19% lower during the years in which a firm is investable as compared to the years in which a firm is uninvestable.

Columns 2 and 4 of Panel A report results with the investable weight factor (IWF), and the effects are similar. In column 2 the IWF coefficient is negative and statistically significant, while in column 4, which includes the firm-level controls, the coefficient is negative, but not statistically significant.

The regressions in Panel B use capital expenditure as the dependent variable. All four of the investability coefficients are negative and three are significant, showing that like asset growth, capital expenditures are also significantly lower for investable years. Taken together, the results in Table 4 show that the ability to sell shares to foreign shareholders does not lead to more investment among publicly traded firms in emerging markets.

2.4. A Closer Look Around the Event Year

In this section of the paper we take a closer look at the evolution of share issuance and investment around the year in which the firm first becomes investable. We limit our sample period to the three years before, the year of, and five years after a firm becomes investable. This framework follows Henry (2000), who shows that at the country-level private investment spikes during the year and few years that follow a country's liberalization of its stock market. In this spirit, we test for spikes in share issuance and investment in the year of and right after the firm switches from uninvestable to investable.

$$Share\ Issuance_{i,t} =$$

$$\alpha_i + Investable_{i,t} + Investable1_{i,t} + Investable2_{i,t} + Investable3_{i,t} + \varepsilon_{i,t} \qquad (1)$$

In Eq. (1) the dependent variable is share issuance, and the investable indicator reflects whether the firm was investable during year *t*, i.e., *Investable* is equal to 1 if the firm became investable in year *t*, and zero otherwise. *Investable1* is equal to 1 during the first year following the year that the firm became investable, and zero otherwise, and so on for *Investable2* and *Investable3*.

In our setting spikes in share issuance and investment during the year that the firm switches from uninvestable to investable are difficult to interpret (in the previous tables we label the switching year as investable). As we explain previously, IFC only includes a firm in its investable index if both the firm's size and liquidity pass certain thresholds.. Hence, it can be the case that *because* a firm invested and grew during a certain year that IFC began to label it as investable during that year. Put differently, year *t* investment could *cause* the firm to switch from uninvestable to investable during year *t*. For this reason, we not only look for increases in share issuance and investment during the switching year, but also during the three years that follow.

The regressions in the first three columns of table 5 ask whether share issuance and the two investment variables are on average higher during years 0, 1, 2 and 3 as compared to the other five years in the sample. Consistent with our previous tables, the results here show that this is not case, as all three coefficients are negative, and two of the three are significant. Hence, share issuance and investment do not spike during the four years that include the switching year and the three years that follow.

In the next three regressions we examine the effect of investability in years 0, 1, 2, and 3 separately. With share issuance, the coefficient is insignificant in the first year, and then negative in the three years that follow. Asset growth is significantly higher in year zero, but then declines in the subsequent years. Similarly, capital expenditures are significantly higher during years 0 and 1, but then decline in years three and four. The overall net effects for both investment measures are negative but not significant, as shown in columns 2 and 3.

The results here are also displayed in Figures 1 and 2. The figures show increases in share issuance and investment before and during the year that a firm becomes investable, and then declines afterwards. These results are in line with the idea that growth causes the firm to increases in size, which in turn causes IFC to switch its designation for the firm from uninvestable to investable.

Mitton (2006) provides some evidence that capital expenditures increase following investability. Our sample includes similar countries as Mitton's, however we have 10 more years of data (our results do not change if we end our sample 2000 as Mitton's does). In our sample the only observable increase in investment comes during and perhaps right after the year that the firm becomes investable. As we explain above, it is difficult to interpret this effect as investability causing higher investment, because IFC uses size as a criterion to define a firm as investable, so it is plausible that the causality runs in the opposite direction; investment is causing investability. Moreover, if we include the few years after a firm switches and examine the total effect, we find that investment is in total lower. If we include all firm-years, as was done in Table 4, we find that investment is much lower. Regardless of specification, we never find evidence that share issuance is higher, even during the switching year.

2.5 Foreign Ownership, Share Issuance, and Investment

In table 6 we continue to study the effects of foreigner investability, and use actual foreign institutional ownership instead of the IFC indices that we use the previous tables. We are able to obtain foreign institution ownership data for a subsample of firms during the period 2000-2010 from Factset. We measure foreign ownership as shares held by foreign institutions divided by shares outstanding.

In table 6 all of the foreign ownership coefficients are negative and insignificant. Hence, our best guess is that foreign ownership is associated with less share issuance and investment in emerging markets, although the standard errors are too large to provide significance at standard levels. None of the effects suggest that foreign ownership leads to more share issuance and investment. The results here are consistent with the earlier results in that they do not support the idea that foreign portfolio investment leads to greater externally financed growth in publicly traded emerging market firms.

2.6. Investability and Debt Issuance

In Table 7, we ask whether investability is associated with greater debt issuance. The investability measure that we use reflects whether the firm's equity can be purchased by foreigners, and therefore has no direct link to debt issuance. However, it could be that lenders are more willing to lend to firms that have foreign shareholders, so for completeness we test for a link between investability and debt issuance. Similar to share issuance, we measure debt issuance as the change in the log of total debt, where the change is measured over a 1-year period. We use the same control variables that were used in the share issuance regressions in Table 2.

In the first two regressions that do not include the control variables the coefficients are both positive and insignificant. However, in regressions 3 and 4, which include the control variables, both investability coefficients are insignificant and one is negative. Hence, firms do not issue more debt during years in which they are investable as compared to years in which they are uninvestable. The results in Table 7 therefore do not suggest that investability leads to more externally financed investment, as investable firms do not issue more debt than uninvestable firms, once firm-level traits are controlled for.

Taken together with the previous tables, the results here suggest that investability does not contribute to growth by reducing financial constraints. The results instead suggest that when firms become investable they tend to have entered a more mature period, during which they are less dependent on external finance.

2.7. Investability and Foreign Ownership

In this section we ask whether foreign institution ownership increases after the firm becomes investable to foreigners, and if so whether the economic significance is such that there should be any real effects. The independent variables are the same as those used in the last table, and in tables 2 and 4, while the dependent variable is percentage of foreign institution shareholdings.

We report these findings in Table 8. In the first two columns, we focus on the investability dummy variable. Not surprisingly, foreign institution ownership significantly increases after the firm becomes investable to foreigners. However, the economic significance is quite low. On average, the increase in foreign institution ownership is 2% (in column 1). After controlling for other firm variables, the increase in foreign institution ownership is 1.8% (in

column 3). The small magnitude suggests that foreign institution equity market investment plays a very insignificant role in firm's equity financing and investment decisions.

Figure 3 confirms that regression results in Table 8. Figure 3 shows the mean (3.A) and median (3.B) percentage of foreign institution ownership three years before and five years after the investable year. The graph shows an increase in foreign ownership around the investable year in both mean and median percentages; however, the economic magnitude of the increase is quite small. The median foreign institution ownership is low in all years with highest number less than 5%. The results are consistent with the previous tables, and suggest that it is unlikely that foreign institutions provide a significant equity capital to investable firms.

Figure 3 shows that there is some foreign ownership before a firm becomes investable, albeit at trivial levels. Recall that IFC only denotes a firm as investable if it passes certain size and liquidity thresholds, which make it feasibly investable to foreigners along with being legally investable. Our results in Figure 4 show that at least some institutions can own a small amount of shares in uninvestable firms. However, the index seems to capture what it is supposed to, as foreign ownership is significantly higher in investable firms.

3. Country-Liberalization Years

In this Section of the paper we focus on the *country's* equity market liberalization date. The framework here is similar to Henry (2000), who tests for an increase in private investment using a similar regression to the one that we describe below. Henry's private investment data reflects the total private investment in the country, whereas we will focus on the share issuance and investment of publicly traded firms. Bekeart and Harvey (2000) and Henry (2003), Kim and Singal (2000), and Chari and Henry (2004) provide evidence that stock prices increase and the

cost of capital falls as a result of liberalization. We build on their findings and test whether these effects resulted in more share issues and investment in public firms. Our tests revolve around estimating the following firm fixed effect regression equation:

$$Share\ Issuance_{i,t} = \alpha_i + Lib_{i,t} + Lib1_{i,t} + Lib2_{i,t} + Lib3_{i,t} + \varepsilon_{i,t} \qquad (2)$$

In Eq. (1) the dependent variable is share issuance, and the liberalization indicator (*Lib*) reflects whether the country's stock market was liberalized during year *t*; e.g., *Lib* is equal to 1 if the country liberalized its stock market in year *t*, and zero otherwise. *Lib1* is equal to 1 during the first year following a country's liberalization, and zero otherwise, and so on for *Lib2* and *Lib3*. In these regressions the sample period is nine years; three years before, the year of, and five years after the official liberalization year. We only include firms that have share issuance data for each of the nine years. We cluster our standard errors on both year and country.

In Panel A of Table 9 we estimate six regressions, each with a different dependent variable. The first four regressions are for (i) share issuance; (ii) share issuance of investable firms; (iii) Asset growth; and (iv) Capex/PPE. Regressions 5 and 6 examine changes in the number of listed firms.

With respect to share issuance, the results in Table 9 show that equity market liberalization is not associated with a significant increase in share issuance among public firms. In both the first regression that includes the full sample of firms, and in the second regression that only includes the investable firms, neither of the coefficients is positive and significant. In each regression at least one coefficient is negative and significant. Hence, liberalization at the country-level is not associated with an increase in equity finance.

The regressions reported in columns 3 and 4 show similar effects for asset growth and capital expenditures. In the asset growth regression, three of the four coefficients are negative, and none is significant. In the capital expenditure regression, three of the coefficients are negative and one is positive and marginally significant. The regressions in the last two columns examine whether there is an increase in the number of public listed firms on and around the country's equity market liberalization year. We obtain data on the number of public listed firms from World Bank. The coefficients in both regressions are positive, but none is significant.

Panel B reports the results from similar regression as panel A, but instead compares share issuance, investment, and listed firms before and after the stock market liberalization year. The results are essentially the same as panel A. Post-liberalization, there is not a significant increase in either share issuance or investment, nor is there a significant increase in the number of publicly listed firms. Taken in their entirety, the results in Table 9 fail to find increases in investment and share issuance among public listed firms on and around a country's liberalization year. The findings are therefore inconsistent with the idea that equity market liberalization causes the increases in growth and investment documented in previous studies.

4. Foreign Direct Investment

In this section of the paper we focus on the idea that confounding factors cause the growth effects associated with equity market liberalization. Given the similarities in foreign direct investment liberalization years and equity market liberalization years discussed in the paper's Introduction, we tests whether foreign direct investment increases on and around equity market liberalization years. As we mention previously, equity market liberalization does not

affect foreign direct investment per se, but it could be the case that other barriers to foreign investment are also eased around the time that the equity market is first liberalized.

To test for this effect we collect data on foreign direct investment (FDI) from the United Nations and test whether it increases during and after the year that a country liberalizes its stock market. We measure both gross and net FDI inflows, and scale these flows by either GDP or capital stock measured at the beginning of the year. In Figure 3 we plot net FDI scaled by GDP (Panel A) and net FDI scaled by capital stock (Panel B). These graphs clearly show that FDI begins to significantly increase during the equity market liberalization year, and this increase continues during the five years that follow the liberalization year.

The effects displayed in the figures are tested statistically in the regression in table 10. In these regressions a dummy variable tests whether FDI is greater during the liberalization year and years after liberalization than before. The results show that FDI is significantly higher afterwards. In all of the regressions the coefficient for the post-liberalization dummy variable is positive and statistically significant. The results are significant economically as well. As an example, in column 1 the dependent variable is FDI scaled by GDP. In this regression the intercept is 0.758, while the post-liberalization dummy coefficient is 1.076. Hence, FDI is on average more than twice as large during the years after a country liberalizes its equity markets as compare to the years before.

The results in Table 10 suggest that in general foreign investment restrictions eased in emerging markets during and after the years in which these countries decided to liberalize their equity markets. As a result of this, foreign direct investment increased significantly. The results in Table 8 shows that although foreign portfolio investment may have also increased as a result

of equity market liberalization, it did not have any real effects, as neither share issuance nor investment increased following the liberalization year.

5. Conclusions

In this paper we examine whether equity market liberalization leads to lower capital costs and reductions in financial constraints, by relating both firm-year measures of foreigner-investability and country-year measures of equity market liberalization to share issuance, investment, and related effects. We find that foreigner-investability is associated with lower share issuance and lower investment. These findings are inconsistent with the idea that equity market liberalization causes growth, as investable firms seem to rely less on external finance and invest less. With respect to country liberalization years, firms generally do not issue more equity or investment more during the few years after a country liberalizes its stock market.

We then explore the idea that confounding effects could play an important role in explaining the growth effects that have been associated with equity market liberalization. There is a good deal of overlap between equity market liberalization and foreign direct investment (FDI) liberalization dates. We therefore test whether foreign direct investment increases when a country liberalizes its stock market. Consistent with this idea, we find large increases in FDI during and after the years that follow the liberalization of a country's stock market. It is thus plausible that FDI and other confounding factors play prominent roles in promoting the macroeconomic investment and growth that have been associated with equity market liberalizations.

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Figure 1: Share Issuance on and around the Investable Year (Year 0)

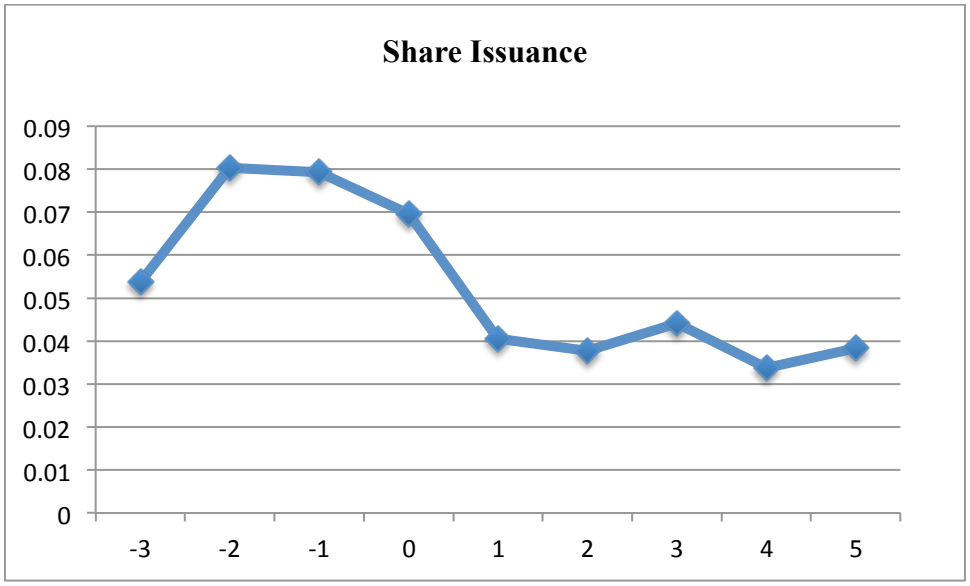

Figure 2: Capital Expenditure on and around the Investable Year (Year 0)

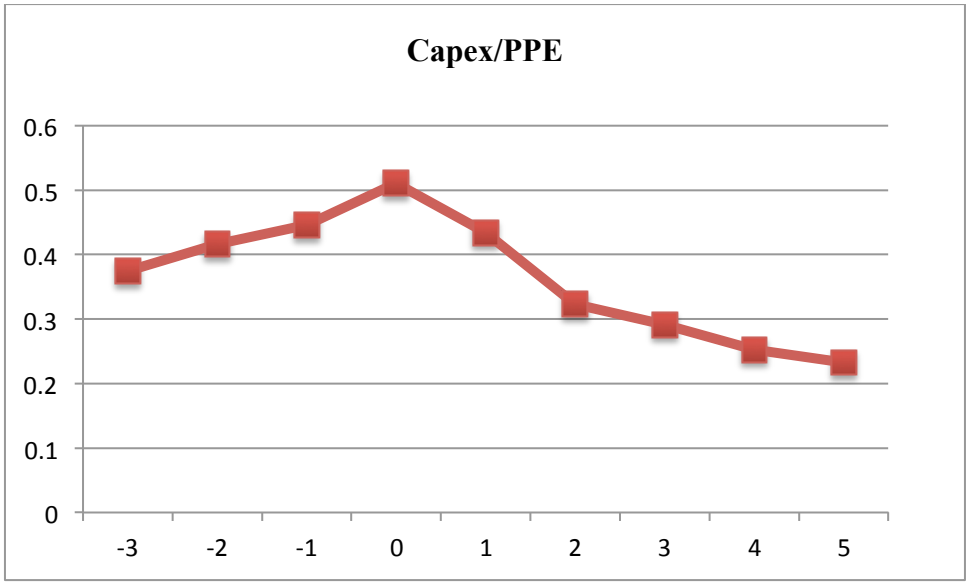

Figure 3: Foreign Institution Ownership

Figure 3.A Mean Foreign Institution Ownership around Event year

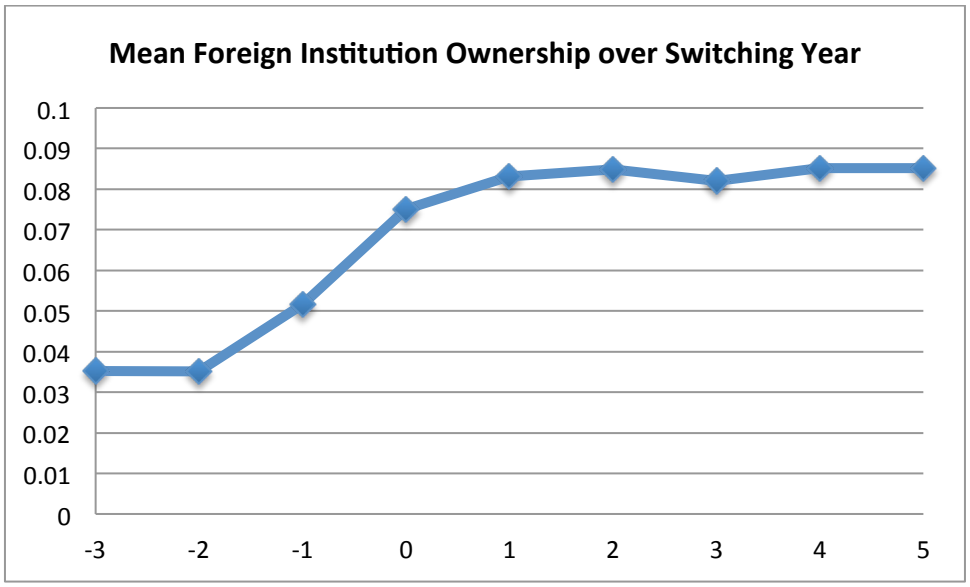

Figure 3.B Mean Foreign Institution Ownership around Event year

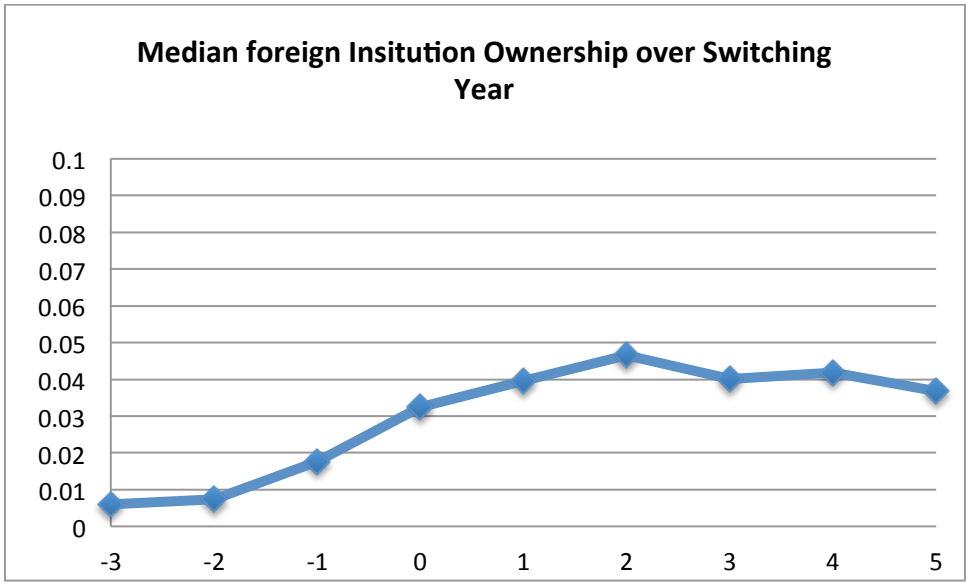

Figure 4: Foreign Direct Investment (FDI) on and around the Investable Year (Year 0)

Figure 4.A

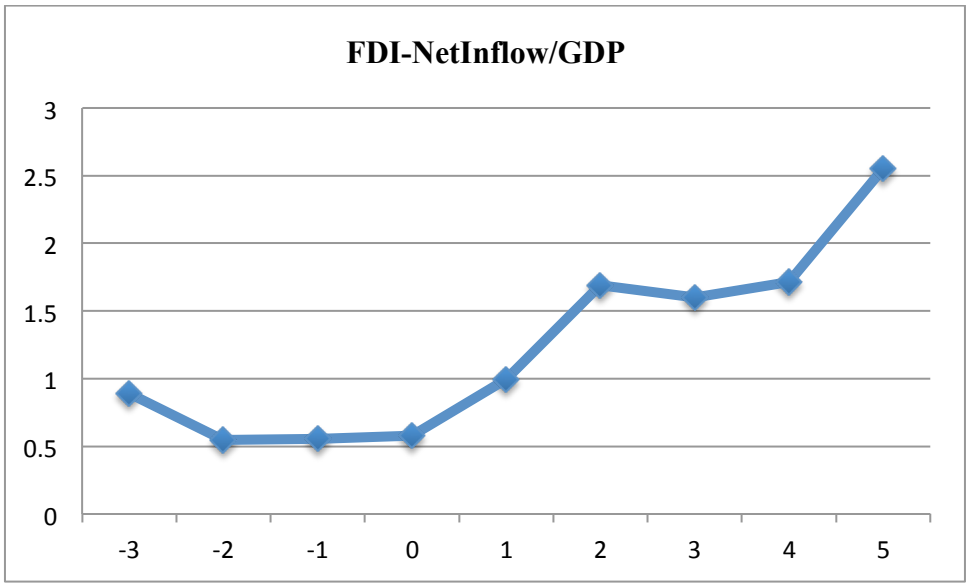

Figure 4.B

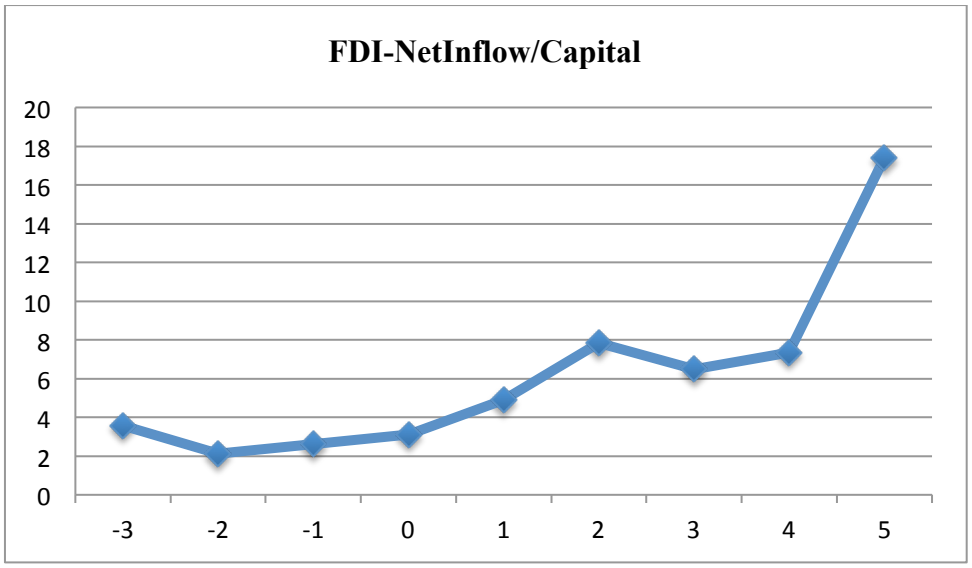

Table 1: Sample Distribution and Description

Panel A of this table describes the sample distribution among the 24 emerging markets. Official liberalization date of each country is taken from Bekaert, Harvey, and Lundblad (2005). % of Investable Firm Years is the total number of firm years that are covered by IFC investable index divided by the total number of firm years. Investable Weight Factor is the maximum percentage of shares that can be held by foreigners. Panel B reports summary statistics of the main variables in the paper. Share issuance is measured as the log change of real shares outstanding. Asset growth is the log growth of book value of assets. Capex/PPE is capital expenditure divided by fixed assets at the beginning of the year. Debt issuance is measured as the log change of total debt. Cash flow is net income plus depreciation, all scaled by lagged total assets. Debt is total debt scaled total assets. Tobin's q is estimated as the market value of equity, minus the book value of equity, plus the book value of assets, all scaled by the book value of assets. We use the log of this q measure.

Panel A: Sample distribution by country

Country	Official Liberalization Year	Number of Firms	Total Number of Firm Years	% of Investable Firm Years	Investable Weight Factor
Argentina	1989	24	424	0.427	0.359
Brazil	1991	126	1247	0.611	0.390
Chile	1992	46	812	0.557	0.311
Colombia	1991	6	107	0.318	0.270
Egypt, Arab	1992	37	377	0.475	0.221
Greece	1987	41	734	0.293	0.279
India	1992	72	1055	0.529	0.292
Indonesia	1989	234	3360	0.468	0.135
Israel	1993	50	708	0.508	0.300
Jordan	1995	7	47	0.255	0.123
Korea, Rep.	1992	285	4344	0.480	0.295
Malaysia	1988	147	2598	0.427	0.292
Mexico	1989	59	847	0.673	0.481
Pakistan	1991	33	557	0.206	0.184
Peru	1992	20	277	0.394	0.288
Philippines	1991	36	514	0.411	0.201
Portugal	1986	1	22	0.318	0.309
South Africa	1996	107	1740	0.442	0.319
Sri Lanka	1991	11	222	0.126	0.125
Taiwan	1991	343	4495	0.462	0.278
Thailand	1987	79	1216	0.485	0.179
Turkey	1989	52	806	0.582	0.308
Venezuela	1990	6	106	0.377	0.370
Zimbabwe	1993	12	152	0.171	0.060
Total		1,834	26,767	0.416	0.265

Table 1: Sample Distribution and Description (Continued)

Panel B: Summary Statistics

Stats	*Share Issuance*	*Debt Issuance*	*Asset Growth*	*Capex/PPE*	*Cash Flow*	*Debt/Assets*	*q*
Mean	0.048	0.152	0.158	0.294	0.113	0.273	0.245
Stdev	0.166	1.960	0.306	0.466	0.137	0.212	0.557
P25	0.000	-0.126	0.006	0.071	0.048	0.100	-0.099
Median	0.000	0.050	0.102	0.161	0.099	0.254	0.160
P75	0.009	0.358	0.236	0.326	0.163	0.405	0.544
N	26,767	25,856	25,659	24,998	25,205	27,659	25,924

Table 2: Firm-Level Regressions of Share Issuance and Investability

This table reports results for regressions in which the dependent variable is share issuance. Share issuance is measured as the log change of real shares outstanding. "IFCI" is a dummy variable equal to one if at the beginning of year the firm is included in S&P IFCI index, i.e. in that firm year, the firm is both legally and feasibly investable to foreigners, and zero otherwise. "IWF" is the foreign investable weight factor; it is the maximum percentage of shares that can be held by foreigners. "Mktcapcrit" equals to one if the beginning of year market capitalization is at least $50M USD. "Liquidcrit" equals to one if the dollar trading value in the previous 12 months is at least $20M USD. "Cash Flow" is net income plus depreciation scaled by lagged assets. "q" is Tobin's q. "Debt/Assets" is total debt scaled by total assets. All regressions include firm and year fixed effects. Standard errors are clustered both at country and year level as recommended by Peterson (2009). * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

	(1)	(2)	(3)	(4)
IFCI	-0.022***		-0.011**	
	(-4.76)		(-2.49)	
IWF		-0.021***		-0.005
		(-3.72)		(-0.72)
Mktcapcrit			-0.044***	-0.047***
			(-3.35)	(-3.30)
Liquidcrit			-0.021***	-0.022***
			(-3.13)	(-2.94)
Cash Flow			-0.060	-0.060
			(-1.31)	(-1.32)
q			0.028***	0.027***
			(2.77)	(2.75)
Debt/Assets			0.104***	0.104***
			(2.93)	(2.89)
Observations	26,767	26,767	15,834	15,834
R-squared	0.126	0.124	0.175	0.174

Table 3: Share Issuance, Investability, and Equity Dependence

This table reports results for regressions in which the dependent variable is share issuance. Share issuance is measured as the log change of real shares outstanding. "IFCI" is a dummy variable equal to one if at the beginning of year if the firm is included in S&P IFCI index, i.e. in that firm year, the firm is both legally and feasibly investable to foreigners, and zero otherwise. "IWF" is the foreign investable weight factor; it is the maximum percentage of shares that can be held by foreigners. "Mktcapcrit" equals to one if the beginning of year market capitalization is at least $50M USD. "Liquidcrit" equals to one if the dollar trading value in the previous 12 months is at least $20M USD. "Cash Flow" is net income plus depreciation scaled by lagged assets. "q" is Tobin's q. "Debt/Assets" is total debt scaled by total assets. Panels A and B include financial dependence and equity dependence interactions respectively. "Eq. Dep". is the average industry-year median of equity dependence based on U.S. industry data over the same sample period. Eq. Dep. is measured as the dollar amount of share issuance scaled by capital expenditures. All regressions include firm and year fixed effects. Standard errors are clustered both at country and year level as recommended by Peterson (2009). * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

	(1)	(2)	(3)	(4)
IFCI	-0.024***		-0.013***	
	(-4.94)		(-2.69)	
IFCI*Eq. Dep.	0.007		0.009	
	(0.91)		(0.76)	
IWF		-0.023***		-0.005
		(-3.17)		(-0.54)
IWF*Eq. Dep.		0.005		0.002
		(0.36)		(0.07)
Mktcapcrit			-0.045***	-0.047***
			(-3.36)	(-3.31)
Liquidcrit			-0.021***	-0.022***
			(-3.11)	(-2.92)
Cash Flow			-0.059	-0.060
			(-1.29)	(-1.30)
q			0.027***	0.027***
			(2.70)	(2.70)
Debt/Assets			0.105***	0.105***
			(2.97)	(2.94)
Constant	0.057***	0.058***	0.003	0.005
	(10.42)	(10.95)	(0.22)	(0.36)
Observations	26,666	26,666	15,760	15,760
R-squared	0.126	0.125	0.174	0.174

Table 4: Firm-Level Regressions of Investments and Investability

This table reports results for regressions in which the dependent variables are log of asset growth in Pane A and capital expenditure divided by fixed assets at the beginning of the year (Capex/PPE) in Panel B. "IFCI" is a dummy variable equal to one if at the beginning of year the firm is included in S&P IFCI index, i.e. in that firm year, the firm is both legally and feasibly investable to foreigners, and zero otherwise. "IWF" is the foreign investable weight factor; it is the maximum percentage of shares that can be held by foreigners. "Mktcapcrit" equals to one if the beginning of year market capitalization is at least $50M USD. "Liquidcrit" equals to one if the dollar trading value in the previous 12 months is at least $20M USD. "Cash Flow" is net income plus depreciation scaled by lagged assets. "q" is Tobin's q. "Debt/Assets" is total debt scaled by total assets. All regressions include firm and year fixed effects. Standard errors are clustered both at country and year level as recommended by Peterson (2009). * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

Panel A: Asset Growth

	(1)	(2)	(3)	(4)
IFCI	-0.032**		-0.035***	
	(-2.58)		(-3.49)	
IWF		-0.037*		-0.028
		(-1.90)		(-1.56)
Mktcapcrit			0.001	-0.005
			(0.05)	(-0.27)
Liquidcrit			-0.001	-0.002
			(-0.05)	(-0.09)
Cash Flow			0.233***	0.231***
			(2.89)	(2.89)
q			0.116***	0.114***
			(4.07)	(4.04)
Debt/Assets			-0.215***	-0.218***
			(-10.55)	(-11.33)
Observations	25,659	25,659	15,662	15,662
R-squared	0.296	0.295	0.299	0.298

Table 4: Firm-Level Regressions of Investments and Investability (Continued)

Panel B: Capex/PPE

	(1)	(2)	(3)	(4)
IFCI	-0.037***		-0.025*	
	(-2.93)		(-1.68)	
IWF		-0.047**		-0.036
		(-2.51)		(-1.64)
Mktcapcrit			0.002	0.001
			(0.15)	(0.08)
Liquidcrit			-0.000	0.001
			(-0.03)	(0.05)
Cash Flow			0.288*	0.285*
			(1.93)	(1.91)
q			0.114***	0.114***
			(3.73)	(3.75)
Debt/Assets			-0.241***	-0.244***
			(-7.87)	(-7.95)
Observations	24,998	24,998	15,561	15,561
R-squared	0.318	0.318	0.362	0.362

Table 5: Share issuance and Investment on and around the Event Year

This table reports regression results for share issuance and investment around the years when firms become investable to foreigners. We only include three years before, the year of, and five years after the firm becomes legally and feasibly investable to foreigners, i.e. is included in S&P IFCI index. "IFCI" is a dummy variable equal to one for all the investable years and zero otherwise. Investable_Year0 is a dummy variable equal to one for the event year, i.e. the year when the firm becomes investable to foreigners, zero otherwise; Investrable_Year1 is equal to one for the first year after the event, zero otherwise; Investable_Year2 is equal to one for the second year after the event, zero otherwise; Investable_Year3 is a dummy variable equal to one for the third year after the event year, and zero otherwise. All regressions include firm fixed effect and standard errors clustered at both country and year. Share issuance and investment variables are defined the same as those in previous tables. * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

	(1)	(2)	(3)	(4)	(5)	(6)
	Share Issuance	Asset Growth	Capex/PPE	Share Issuance	Asset Growth	Capex/PPE
IFCI	-0.019***	-0.036*	-0.029			
	(-3.34)	(-1.87)	(-1.52)			
Investable_Year0				0.009	0.062***	0.096***
				(1.03)	(2.84)	(3.38)
Investable_Year1				-0.016***	-0.011	0.039*
				(-2.89)	(-0.61)	(1.88)
Investable_Year2				-0.014***	-0.031**	-0.033*
				(-2.91)	(-2.26)	(-1.90)
Investable_Year3				-0.001	-0.008	-0.025**
				(-0.19)	(-0.80)	(-2.15)
Observations	9,193	9,577	9,256	9,193	9,577	9,256
R-squared	0.217	0.370	0.416	0.217	0.374	0.420

Table 6: Foreign Institution Ownership, Share Issuance, and Investment

This table reports regression results in which share issuance and investment are the dependent variables and the main independent variable is the percentage of foreign institution shareholdings. Share issuance and investment are measured the same as previous tables. "Foreign%" is the percentage of shareholdings by foreign institutions at the beginning of the year. "Mktcapcrit" equals to one if the beginning of year market capitalization is at least $50M USD. "Liquidcrit" equals to one if the dollar trading value in the previous 12 months is at least $20M USD. "Cash Flow" is net income plus depreciation scaled by lagged assets. "q" is Tobin's q. "Debt/Assets" is total debt scaled by total assets. All regressions include firm and year fixed effects. Standard errors are clustered both at country and year level as recommended by Peterson (2009). * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

	(1)	(2)	(3)	(4)	(5)	(6)
	Share Issuance	Share Issuance	Asset Growth	Asset Growth	Capex/PPE	Capex/PPE
Foreign%	-0.019	0.010	0.093	0.098	0.083	0.045
	(-0.54)	(0.19)	(0.77)	(0.83)	(1.32)	(1.08)
Mktcapcrit.		-0.026***		-0.010		-0.007
		(-4.95)		(-0.92)		(-0.81)
Liquidcrit.		-0.017**		-0.016		-0.009**
		(-2.47)		(-1.18)		(-2.06)
Cash Flow		-0.016		-0.006		0.043
		(-0.55)		(-0.14)		(0.65)
q		0.014**		0.064***		0.085***
		(2.32)		(3.65)		(4.34)
Debt/Assets		0.107***		-0.197***		-0.267***
		(3.02)		(-5.21)		(-6.11)
Observations	23,037	16,083	23,242	15,698	23,102	15,756
R-squared	0.24	0.26	0.32	0.32	0.43	0.44

Table 7: Debt Issues and Investability

This table reports regression results in which the dependent variable is firms' debt issuance. "IFCI" is a dummy variable equal to one if at the beginning of year if the firm is included in S&P IFCI index, i.e. in that firm year, the firm is both legally and feasibly investable to foreigners, and zero otherwise. "IWF" is the foreign investable weight factor; it is the maximum percentage of shares that can be held by foreigners. "Mktcapcrit" equals to one if the beginning of year market capitalization is at least $50M USD. "Liquidcrit" equals to one if the dollar trading value in the previous 12 months is at least $20M USD. "Cash Flow" is net income plus depreciation scaled by lagged assets. "q" is Tobin's q. "Debt/Assets" is total debt scaled by total assets. All regressions include firm and year fixed effects. Standard errors are clustered both at country and year level as recommended by Peterson (2009). * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

	(1)	(2)	(3)	(4)
IFCI	0.051		0.030	
	(1.41)		(0.89)	
IWF		0.070		-0.006
		(1.25)		(-0.10)
Mktcapcrit.			0.099*	0.110**
			(1.94)	(2.19)
Liquidcrit.			-0.002	0.002
			(-0.03)	(0.04)
Cash Flow			0.053	0.053
			(0.18)	(0.18)
q			0.049	0.052
			(0.96)	(1.04)
Debt/Assets			-2.025***	-2.026***
			(-6.92)	(-6.82)
Observations	25,856	25,856	15,757	15,757
R-squared	0.049	0.049	0.081	0.081

Table 8: Investability and Foreign Institution Ownership

This table reports the regression results of foreign institution ownership on investability. The dependent variable is the percentage of foreign institution shareholdings. "IFCI" is a dummy variable equal to one for all the investable years and zero otherwise. "IWF" is the foreign investable weight factor; it is the maximum percentage of shares that can be held by foreigners. "Mktcapcrit" equals to one if the beginning of year market capitalization is at least $50M USD. "Liquidcrit" equals to one if the dollar trading value in the previous 12 months is at least $20M USD. "Cash Flow" is net income plus depreciation scaled by lagged assets. "q" is Tobin's q. "Debt/Assets" is total debt scaled by total assets. All regressions include firm and year fixed effects. Standard errors are clustered both at country and year level as recommended by Peterson (2009). * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

	(1)	(2)	(3)	(4)
IFCI	0.020***		0.018***	
	(5.91)		(5.04)	
IWF		0.039***		0.034***
		(3.88)		(3.22)
Mktcapcrit			0.000	-0.000
			(0.03)	(-0.08)
Liquidcrit			0.008	0.008
			(0.92)	(0.88)
Cash Flow			0.051	0.052
			(1.34)	(1.36)
q			0.018*	0.019*
			(1.87)	(1.91)
Debt/Assets			-0.015	-0.016
			(-1.61)	(-1.63)
Observations	27,474	27,474	18,231	18,231
R-squared	0.72	0.72	0.74	0.74

Table 9: Share Issuance and Investment on and around the Country Liberalization Year

This table reports regression results for share issuance, investment, and number of public listed firms on and around the country liberalization year. Share issuance measured as the real change in shares outstanding. Investment is measured as log growth of total assets (Asset Growth) and capital expenditure divided by fixed assets at the beginning of the year (Capex/PPE). Log(chglisted) is the log change in the number of public listed firms in each country. Chglisted% is the percentage change in the number of public listed firms. The sample period is the three years before, the year of, and five years after the country's official liberalization year. Lib. Year is a dummy variable equal to one during the liberalization year, and zero otherwise. The subsequent indicator variables reflect years +1, +2, and +3 relative to the liberalization year. Post Lib. is a dummy variable equal to one for years of and after the official liberalization year. The regression is estimated in the full sample of firms for which we have data in each of the 9 years surrounding the liberalization years. We also estimate the regression for investable firms. We define investable firms as those that are investable in at least one of the post-liberalization years. The regressions include firm fixed effects and standard errors clustered on both country and year. * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

Panel A: On and Around the Country Liberalization Year

	Share Issuance	Share Issuance	Asset Growth	Capex/PPE	Log(chglisted)	Chglisted%
	All Firms	Investable Firms	All Firms	All Firms	All Firms	All Firms
Lib. Year	-0.011*	-0.009	-0.029	-0.025	0.042	0.058
	(-1.70)	(-0.78)	(-0.58)	(-0.41)	(0.95)	(0.85)
Lib. Year +1	0.006	-0.020*	-0.076	-0.032	0.066	0.094
	(0.27)	(-1.67)	(-1.01)	(-0.42)	(1.25)	(1.22)
Lib. Year +2	0.006	0.006	-0.028	-0.044	0.028	0.019
	(0.23)	(0.18)	(-0.62)	(-0.93)	(0.82)	(0.52)
Lib. Year +3	0.012	0.003	0.005	0.053*	0.027	0.016
	(0.51)	(0.16)	(0.30)	(1.82)	(0.98)	(0.55)
Observations	4,239	2,139	1,530	1,499	167	167
R-squared	0.172	0.254	0.245	0.362	0.261	0.297

Panel B: Pre and Post the Country Liberalization Year

	Share Issuance	Share Issuance	Asset Growth	Capex/PPE	Log(chglisted)	Chglisted%
	All Firms	Investable Firms	All Firms	All Firms	All Firms	All Firms
Post Lib	0.005	-0.016**	-0.054	-0.054	0.024	0.014
	(0.55)	(-2.01)	(-1.15)	(-1.15)	(0.574)	(0.356)
Observations	4,239	2,139	1,530	1,530	167	167
R-squared	0.171	0.254	0.243	0.243	0.245	0.275

Table 10: Foreign Direct Investment on and around the Country Liberalization Year

This table reports regression results for country-level foreign direct investment (FDI) on and around the country liberalization year. The dependent variables are: FDI inflow as a percentage of GDP (FDIIn_GDP%), FDI net inflow as a percentage of GDP (FDINet_GDP%), FDI inflow as a percentage of total capital (FDIIn_Capital%), FDI net inflow as a percentage of total capital (FDINet_Capital%), and log change of the level of FDI inflow (Log(chgFDIIn). The sample period is the three years before, the year of, and five years after the country's official liberalization year. Post Lib. is a dummy variable equal to one for years of and after the official liberalization year. The regressions include country fixed effects and standard errors clustered on both country and year. * Significant at 10%; ** Significant at 5%; *** Significant at 1%.

	FDIIn_GDP%	FDINet_GDP%	FDIIn_Capital%	FDINet_Capital%	Log(chgFDIIn)
Post Lib	0.994***	0.858***	5.577**	5.080**	0.008***
	(3.459)	(2.898)	(2.762)	(2.520)	(4.107)
Observations	207	207	207	207	207
R-squared	0.445	0.380	0.267	0.209	0.123