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CAPITAL INFLOWS, EQUITY ISSUANCE ACTIVITY, AND CORPORATE INVESTMENT

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ABSTRACT

We use issuance-level data to study how equity capital inflows that enter emerging market economies affect equity issuance and corporate investment. We show that foreign inflows are strongly correlated with country-level issuance. The relation reflects the behavior of large issuers issuing in domestic equity markets and that of firms issuing in international markets. Those larger, more liquid, and highly valued firms are the ones more likely to raise equity when their country receives capital inflows. To identify supply-side shocks, we instrument capital inflows into each country with exogenous changes in other countries' attractiveness to foreign investors. Shifts in the supply of foreign capital are important drivers of increased equity inflows. Instrumented inflows lead a subset of firms (large domestic issuers and foreign issuers) to raise new equity, which they use mainly to fund investment. Corporate investment increases between one-tenth and four-tenths the amount of foreign equity capital entering the country.

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I. Introduction

Capital inflows are prevalent in emerging market countries. In 2014, foreign investors invested more than one trillion U.S. dollars into emerging countries. Of those inflows, 90 billion U.S. dollars came in the form of equity, i.e., foreign investors' purchases of stocks of publicly traded emerging market firms.

In this paper, we study how those capital inflows affect the economies that receive them by analyzing their connection to equity financing and corporate investment. In particular, we investigate whether publicly traded firms in emerging countries issue more equity when their country receives inflows of foreign capital. Ours is the first study, of which we are aware, that examines the links between capital inflows and investment using issuance-level data. We distinguish between issuances in international and domestic equity markets. We also examine whether firms differ in the degree to which their issuance of new equity responds to increased funding by foreign equity investors. Lastly, we analyze the extent to which firms that raise new equity use the funds raised in the offerings to finance corporate investment. To implement our analysis, we assemble a granular dataset containing information on equity issuances and financial statements for 17,682 firms in 25 emerging market countries, in addition to capital inflows during the 25-year period 1990-2014.

Figure 1 presents the evolution of the aggregate amount of equity investing by foreign investors into our sample countries alongside the value of equity raised by firms in those countries, which provides a first pass at the aggregate evidence. The figure shows that periods of large capital inflows coincide with periods of active equity issuance activity. This suggests that inflows imply more than a simple transfer of equity ownership from domestic to foreign investors, and that issuances are not financed solely by domestic investors. In terms of causality, this correlation could reflect the role of foreign equity inflows (resulting, for example,

from greater global liquidity) that shift the supply of capital.¹ A shift in the supply of foreign participation implies a higher demand for equity, and lower required equity returns, which in turn, encourages destination countries' firms to issue shares. On the other hand, the positive correlation between inflows and issuance could reflect shifts in the demand for capital by firms (resulting, for example, from improvements in investment opportunities at the country or firm level). According to that view, better firms' prospects induce foreign investors to send more funds to the country.

In this paper, we use firm-level data together with a novel set of instrumental variables to distinguish between supply-side and demand-side influences. Before proceeding to the micro-level analysis, we first estimate the country-level relation between capital inflows and equity issuance. We regress each country's equity issuances on equity inflows, taking into account country and year fixed effects. We find a strong association between the two. For every million U.S. dollars foreign investors purchase of emerging market equity, the value of issuance proceeds increases by at least 0.18 million U.S. dollars (our point estimate is 0.48 million dollars). The results are the same for issuances that take place in domestic and international equity markets.

We then move to the micro-level analysis to better understand the mechanisms that drive these aggregate issuance patterns. We first regress firm-level issuance proceeds in both domestic and international markets on equity capital inflows, controlling for firm and year fixed effects. We find no significant correlation between capital inflows and the value of issuance proceeds for the typical emerging market firm. When we focus on only domestic

¹ Chari et al. (2012) document significant effects of U.S. monetary policy surprises around FOMC meetings on capital flows from the U.S. to a range of emerging markets as well as on the associated emerging market valuations. They find that equity positions and valuations are more sensitive to monetary policy shocks than debt positions and valuations.

issuances, again we find no influence of capital inflows on the typical firm's issuance. When we analyze issuances in international equity markets separately, we find a strong correlation between inflows and foreign issuances.

Because international equity issuances are, on average, 70% larger in value than domestic issuances, the differential response of equity issuances in the international market might reflect firm heterogeneity related to differences in issuance size. We thus explore that possibility by dividing our sample of domestic-issuing firms into two groups: those that issue a large amount of equity during our sample period and those issuing a small amount. We find a strong association between capital inflows and domestic issuance proceeds for large domestic issuers, indicating that only those firms respond to capital inflows. This result remains even after controlling for country-year fixed effects, which allows us to control for all time-varying country shocks. The large domestic and foreign issuers tend to be large firms, with liquid stocks, and high market-to-book equity ratios.

Next, we decompose the foreign and large domestic issuers' response to capital inflows into the extensive and intensive margins. We find that the response of issuances to capital inflows primarily reflects the extensive margin. Large domestic and foreign issuers both become more likely to issue positive amounts of equity upon the arrival of capital inflows, but the size of issuance is not affected by equity capital inflows. Because those firms are more likely to issue and capture a larger share of the total equity raised when more foreign capital enters the country, the composition of issuers and issuance activity changes in response to capital inflows. Issuance becomes more concentrated in larger firms.

Although the increase in issuance activity could reflect an increase in foreign equity supply by investors or greater domestic equity demand by firms, the fact that the response of issuances to equity inflows is concentrated in some firms suggests a supply-side channel. If

inflows were simply responding to improved economic conditions in the country, one might expect all firms, not just large issuers, to issue more equity at times of large capital inflows (our country-year fixed effects control for all shocks that affect all firms equally in a country). The finding that inflows prompt issuances by firms that tend to be attractive to foreign equity investors (e.g., large size and high turnover of shares) is therefore suggestive of a supply-side influence that is difficult to dismiss. But demand-side shocks that are heterogeneous across firms could also be present.

To further investigate the source of the variation in our estimates, we identify supply shocks with shifts in foreign investor interest unrelated to changes in domestic firms' prospects. In particular, we instrument equity inflows using various measures of the attractiveness of other countries' equity markets to foreign investors, which we argue are plausibly exogenous to demand-side shocks to the subject country. The idea is that for a given amount of total capital inflows to emerging markets as a whole, positive shocks to other countries' attractiveness to foreign investors constitute negative shocks to the subject country's supply of funds.

We provide three alternative instruments, which are strongly correlated with equity capital inflows. As our first instrument, we use the lagged weight of a country in the MSCI Emerging Markets stock index. The MSCI weight of a country is a function of the market capitalization of that country's stock market, relative to the global market capitalization of 25 emerging economies, in addition to sporadic decisions by MSCI on the index constitution. When institutional investors receive funds from their underlying investors, they tend to invest those funds into emerging economies' equity markets according to the weights of those economies in the MSCI index (Raddatz et al., 2017). The time variation of each country's

MSCI weight should primarily reflect shocks to the market values of the other 24 countries' stock markets.

Because the MSCI weights are partially affected by domestic shocks that change a country's relative market value, we use as alternative instruments the sum of other countries' total equity value and other countries' volume of equity issuances. Those two instruments depend exclusively on foreign shocks and are therefore plausibly exogenous to demand shocks of the subject country. Still, to control for common shocks affecting all countries, we also employ orthogonalized versions of those same instruments, where we orthogonalize the sum of equity values (the sum of issuances) with respect to the market value (the issuances volume) in the subject country. In all cases, we find that instrumented inflows lead large domestic issuers and foreign issuers combined to raise significantly more equity.

We complement the analysis of issuance activity by studying how large domestic issuers and foreign issuers use the funds raised in their equity offerings. First, we estimate the effect of capital inflows on a variety of potential uses of funds: capital expenditures (CAPEX), corporate acquisitions, research and development expenses (R&D), inventory accumulation, cash accumulation, and long-term debt reduction.² We find that issuers that respond to capital inflows tend to increase corporate investment (CAPEX, acquisitions, and R&D) significantly when they raise equity capital. They also tend to accumulate cash and inventories, and reduce their long-term debt. Second, we measure the increases in each use of funds over a variety of time intervals, ranging from one year to four years. Our estimates indicate that the largest use of funds is corporate investment, the sum of CAPEX, acquisitions, and R&D. For every million U.S. dollar raised in an offering, large domestic issuers and foreign issuers combined

² These are the six uses of funds analyzed by Kim and Weisbach (2008) and Erel et al. (2011).

spend on average at least 0.50 U.S. million dollars on investment four years after the issuance (our point estimate is 0.90 million).

Using a back-of-the-envelope calculation, our analysis indicates that every million U.S. dollar of foreign equity capital is associated with an increase of at least 100,000 U.S. dollars of corporate investment (one standard deviation below our point estimate of 400,000). That lower bound (point) estimate is the result of 0.18 (0.48) million U.S. dollars of additional issuance times 0.50 (0.90) million U.S. dollars of additional spending on investment. Capital inflows appear to reduce the cost of equity finance, allowing emerging market firms to finance new investments. In all, equity issuance seems to be an important channel through which capital inflows affect real economic activity.

Our paper is related to different strands of the literature. First, there is a literature on how aggregate economic activity is affected by the liberalization of equity capital flows (Henry, 2000a; Henry, 2000b; Bekaert et al. 2005; Kose et al. 2010). These papers show that equity inflows are associated with a boom in aggregate investment and higher economic growth of the recipient countries. However, we know relatively little about the channels through which equity inflows affect real economic activity.³ Our paper adds to this literature by studying for the first time the effects of capital inflows using issuance-level data. We show that supply-side changes in capital inflows allow some firms to raise new financing and expand investment, which might be behind the patterns documented in this literature. Moreover, our paper shows that the effects are not uniform across types of firms. Some firms issue new equity as capital inflows reduce the cost of equity finance, but other firms do not.

³ Mitton (2006), Gupta and Yuan (2009), Levchenko et al. (2009), and Igan et al. (2016) use industry- and firm-level data to study the effects of liberalizing equity markets on industry growth and firms' operating performance.

The literature has found it challenging to disentangle supply and demand influences when gauging the effects of capital inflows on financial and real economic activity in a multi-country setting. Examining the case of one country, using detailed firm-level data, Baskaya et al. (2017a) and Baskaya et al. (2017b) isolate supply-side influences on capital inflows. In this paper, we propose a novel set of instruments in a multi-country context to distinguish between supply-side and demand-side effects on capital inflows, and we find that the supply side is important.

Our paper also contributes to another literature that asks why firms issue equity and bonds geared toward foreign investors. Part of this literature has studied firms' issuance activity in international markets, characterizing which firms issue abroad and why. Foreign markets can offer benefits compared to domestic ones in terms of access to better financing conditions, greater visibility, and enhanced corporate governance, among others (Pagano et al., 2002; Benos and Weisbach, 2004; Doidge, 2004; Karolyi, 2006; Schmukler and Vesperoni, 2006; Claessens and Schmukler, 2007; Forbes, 2007; Doidge et al., 2009).⁴

Although this literature assumes that issuances abroad target foreign investors, it has not shown that facilitating foreign investor participation actually influences issuances.⁵ In practice, it is hard to track the influence of foreign investors on firm behavior because there are no data identifying the nationality of who buys each security. In fact, it is possible that foreign issuances of equity might be purchased by domestic residents. Data are available, however, on the change in net purchases by foreigners of each country's publicly traded firms' equity, which is our measure of equity capital inflows. Our approach to identification allows

⁴ Other papers argue that, as liquidity became more abundant in the aftermath of the global financial crisis of 2008-09, firms issued more foreign currency bonds to take advantage of carry-trade opportunities (Chui et al., 2014; Powell, 2014; Caballero et al., 2016; Bruno and Shin, 2017).

⁵ Forbes (2007) studies the effects of the "encaje" controls on capital inflows in Chile from 1991 to 1998. She finds evidence that imposing the encaje on equity inflows reduced aggregate equity issuances.

us to use those data to link foreign participation in equity markets with consequences for each country's equity issuances in domestic and foreign markets.

A separate literature (Pagano et al., 1998; Kim and Weisbach, 2008; Brown et al., 2009; Erel et al., 2011; Didier et al., 2015) analyzes how firms use new capital market financing from various sources. We complement this strand of the literature by linking the use of funds with inflows of foreign capital. In particular, we study how shifts in the supply of equity financing affect the use of funds by the emerging market firms that tend to raise capital when their country receives capital inflows. We also find that firms use the proceeds primarily to expand investment, aside from any activity geared toward retiring debt and accumulating cash.

The rest of this paper is organized as follows. Section II discusses the data sources. Section III explains our empirical strategy. Section IV reports country- and firm-level results linking capital inflows and issuance activity. Section V reports instrumented results for the responses of issuances to supply-side factors. Section VI reports the use-of-funds analysis. Section VII concludes.

II. Data

We collect data on equity capital inflows using balance of payments information from the International Monetary Fund (IMF). The IMF provides data on annual private gross capital inflows and outflows by category: foreign direct investment, portfolio equity, portfolio debt, bank credit, and others. We focus on portfolio equity inflows, defined as the difference between foreign purchases of domestic shares and foreign sales of domestic shares. Equity inflows are positive (negative) when foreign investors purchase more (less) domestic securities than what they sell. Foreign retail investors and foreign institutional investors (such as mutual funds, pension funds, hedge funds, and sovereign wealth funds) are often behind the foreign

purchases and sales of domestic shares. Those investors purchase both existing and newly issued shares.

Our sample consists of the 25 emerging market countries included in the MSCI Emerging Markets index (explained below) during the 25-year period 1990-2014. The countries are: Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Israel, Jordan, Malaysia, Mexico, Morocco, Pakistan, Peru, Philippines, Poland, Russia, South Africa, South Korea, Thailand, Turkey, and Venezuela.

We focus mainly on positive equity inflows, which represent more than 75% of all inflow observations. Our focus on positive inflows reflects our goal to analyze whether firms issue more equity after foreign capital arrives to their country, and how those equity proceeds are employed. Negative capital inflows, on the other hand, represent a departure of foreign capital. Although it is conceivable that firms might repurchase equity when foreign capital departs their country (a negative issuance), existing empirical evidence finds no connection between outflows and investment behavior by publicly traded firms, which suggests that negative issuance is not a common response to outflows.⁶ Our issuance data (explained below) do not provide information on stock repurchases, so we focus on the positive issuance implications of positive capital inflows. However, for robustness, we analyze the effects of negative inflows on equity issuance. Our findings confirm the view that negative equity inflows have no significant effects on equity issuance.⁷

⁶ Tong and Wei (2010) and Claessens et al. (2012) investigate stock price reactions and real investment changes associated with the large capital outflows produced by the global financial crisis. They find a significant negative effect on stock prices, but no effect on investment. That finding is consistent with firms not responding to capital outflows and lower stock prices with significant repurchases of their shares.

⁷ Specifically, we find that negative inflows tend to produce an asymmetric response in equity issuance. Because negative inflows reduce issuances only slightly, even large negative inflows are still associated with large positive issuances.

The data on equity issuance activity come from the Thomson Reuters Security Data Corporation Platinum database (SDC Platinum). This database provides transaction-level information on new issuances of common equity by publicly traded firms. The transactions include seasoned equity offerings and initial public offerings. The data distinguish between issuances in international and domestic equity markets. An issuance is classified as international if the firm's country of origin is different than the country where the equity is raised. SDC classifies the majority of newly issued shares that are destined to become depository receipts (including American Depositary Receipts and Global Depositary Receipts) as international issuances. Equity issuances are sold to a combination of domestic and foreign investors. We have data on a total of 17,682 issuing firms. We include both financial and non-financial firms. Each group has a significant share of the issuance activity. The issuance activity of financial firms is relevant for the financing of investment by non-financial corporations, although financial firms do not directly engage in capital investment. Our results on issuance activity are robust to excluding financial firms from our sample.

Table 1 reports summary statistics of issuance activity by country. Column 1 reports the number of firms included in the sample. Columns 2 and 3 show the average annual value of equity issuance proceeds for all firms in a country and the value of proceeds per firm, respectively. In a typical year, the average firm in the sample issues equity worth 9 million U.S. dollars. Column 4 reports the annual frequency of equity issuance, defined as the average fraction of firms that issue equity in a given year. On average, 16% of firms issue equity in a typical year. Columns 5 to 8 report separate statistics for domestic and international issuances. The average number of firms that issue in domestic markets is around 8 times larger than the number of firms that issue in international markets. However, the average issuance size of

firms that issue abroad is 70% larger than the average size of domestic issuances (12 vs. 7 million U.S. dollars).

For the use-of-funds analysis, we merge the SDC data with Worldscope data, which provide information on firms' financial statements (balance sheets, income statements, and cash flow statements). The Worldscope data are available for 54% of the firms contained in the SDC database, resulting in a merged dataset of 9,472 firms.

For the first of our three instrumental variables, we collect data from the MSCI Emerging Markets Index for the period 1996-2014.⁸ The MSCI index is a stock market index covering 25 emerging market countries representing 10% of global stock market capitalization. The index covers approximately 85% of the free float-adjusted market capitalization in each country. The index is maintained by MSCI Inc., formerly Morgan Stanley Capital International, and is used as a common benchmark for international equity mutual funds. Appendix Figure 1 plots the average weights of the 25 countries in the MSCI Index.

III. Empirical Strategy and Identification

Our presentation of empirical findings begins with ordinary least squares (OLS) results at the country level. The results show a strong empirical relation between country-level equity inflows and equity issuances. These results do not provide a causal interpretation of the links between issuances and equity inflows, but they do document an important new fact: increases in equity inflows are associated with increases in equity issuance, and that is true after controlling for country and time fixed effects.

⁸ The instrumental variable analysis that uses the MSCI is restricted to the sample 1997-2014 because the MSCI weights are available only from 1996 onwards and because we lag MSCI weights by one year. An advantage of the other two instruments (other countries' market value and issuance volume) is that they can be estimated over the whole sample period, 1990-2014. The results using the second and third instruments are robust to restricting the sample to 1997-2014.

The country-level results do not provide a causal interpretation because they do not distinguish between supply-side and demand-side influences. Supply-side factors include increased global liquidity or global appetite for risk (depending on each country's sensitivity to those global shocks), or idiosyncratic changes in foreign appetite for investing in particular countries, which could reflect changes in constraints on international investments, improvements in a destination country's property rights, or legal institutional improvements (Stulz, 2005; Karolyi, 2015). Demand-side factors are any changes that affect investment opportunities, such as changes in productivity, technology, or local economic conditions. For example, improvements in firm productivity within the subject country might drive both equity inflows and issuances. In that case, although foreign investors' willingness to provide equity inflows could facilitate adjustment to demand-side shocks (by reducing the cost of issuances), changes in foreigners' interest in investing might not be an important source of change in either inflows or issuances.

Forbes and Warnock (2012) and Fratzscher (2012) document that supply-side factors have been more important than demand-side factors in explaining capital inflow episodes in emerging economies. In this paper, we take two steps to disentangle demand-side from supply-side effects. First, we take advantage of our firm-level data. In our firm-level OLS analysis, which control for firm and year fixed effects, we establish another new fact: the strong aggregate association between equity inflows and issuance reflects the behavior of a subset of firms: large domestic and foreign issuers. By comparing the response of large and small issuers to equity inflows, we can account for country-year fixed effects in our estimation, which allows us to control for all time-varying country shocks. The fact that the response of issuance activity to equity inflows is concentrated in a subset of firms suggests a supply-side channel: if inflows were simply responding to improved economic conditions in the country, one would expect

all firms to issue more equity at times of large capital inflows, which is not what we observe. However, it is possible that economic conditions improve disproportionately for this subset of firms, in which case we cannot establish a causal connection between equity inflows and issuances.

To obtain a cleaner identification, we proceed with an instrumental variable estimation. We make use of the fact that, for a given amount of capital inflows to emerging markets as a whole, positive shocks to other countries' attractiveness to foreign investors constitute negative shocks to the subject country's supply of funds. Our instruments capture changes in the attractiveness to foreign investors of other emerging market countries (for a given total amount of inflows, which we capture by a time fixed effect). Valid instruments should be strongly correlated with capital inflows and should also satisfy the exclusion restriction that they are not correlated with demand-side influences within the subject country. We employ three alternative measures as instruments.

First, we instrument the equity inflows received by a country with the lagged weight of that country in the MSCI Emerging Markets stock index. The MSCI weight of a country depends primarily on the market capitalization of that country's stock market, relative to the global market capitalization of 25 emerging economies. The weight also depends, to a lesser extent, on MSCI's adjustments to country weights for factors that they regard as relevant to foreign investors. Because all country weights sum to 100 percent, variation in a country's weight in the MSCI index should primarily reflect shocks to the market values of the other 24 countries' stock markets (and to MSCI's adjustments to country weights), which are plausibly exogenous to subject country demand-side shocks. That should be especially true for small countries.

Changes in MSCI weights should affect capital inflows not only as an indicator of market value changes in other countries, but also because some foreign investors, such as emerging market mutual funds, follow closely the MSCI index when setting their portfolio holdings (Raddatz et al., 2017). When those investors receive funds from their ultimate fund suppliers, they invest those funds into emerging economies' equity markets according to the proportion of those economies in the MSCI index. For illustrative purposes, Panel A of Figure 2 shows the relation between Mexico's MSCI weight and its equity inflows (the correlation is positive and statistically significant at the 1% level). In robustness tests, we run the same instrumental variable regressions for a sample of emerging markets that excludes large countries (which should have greater effects on their own MSCI weights by virtue of their size).

Although the primary source of variation in MSCI weights is external to each country, MSCI weights are still partially affected by domestic shocks (including demand-side shocks to firms' productivity). For that reason, we also employ alternative instruments that do not suffer from that problem. Our alternative measures of the attractiveness of other countries are the aggregate value of equity in other emerging market countries, and the volume of equity issuances in other emerging markets.

Both of these instrumental variables will also affect the MSCI weights of a country, but only as the result of variation coming from outside the country. Whereas the market value of equity, or issuances, in other countries reflect a mix of supply- and demand-side influences within those other countries, from the standpoint of the subject country, they are plausibly exogenous influences on the supply of funding. If increases in the value or volume of issuances in other countries are associated with capital inflows into those other countries (as our aggregate results suggest), then from the standpoint of the subject country, the diversion of

capital inflows into other countries is a supply shock. For illustrative purposes, Panel B of Figure 2 plots Mexico’s equity inflows against the equity issuances of other countries (the correlation is negative and statistically significant at the 1% level).

Lastly, it is conceivable that market values of equity, or equity issuances, in other countries could be correlated with local economic conditions in the subject country in the case of common shocks. Such a correlation would violate the exclusion restriction. In our first-stage regression, we account for year fixed effects, which control for common shocks. That said, to be sure that we get rid of common-shock influences, we orthogonalize other countries’ equity value, or issuances, by removing any correlation between other countries’ equity value or issuances with the equity value or issuances in the subject country.

IV. Equity Inflows and Issuances

A. Capital Inflows and Issuance Activity in the Aggregate

As explained in the Introduction, Figure 1 displays the relation between global capital inflows and global equity issuance values. These two worldwide time series are significantly positively correlated: the correlation coefficient is 0.56 (statistically significant at the 1% level). In Figure 3, we alternatively plot the time series of global equity inflows scaled by GDP and global equity issuances scaled by GDP. The correlation coefficient between both variables is 0.43, which is significant at the 5% level.

To control for country and year effects, we estimate the following country-level panel regression:

$$\log(1 + Issuance)_{ct} = \alpha_c + \alpha_t + \beta \log(Inflows)_{ct} + \varepsilon_{ct}, \quad (1)$$

where $Issuance_{ct}$ denotes the value of equity issuance proceeds (in million U.S. dollars) by all firms of country c in year t and $Inflows_{ct}$ refers to equity capital inflows (in million U.S.

dollars) received by country c in year t . We use the log of issuance plus one (million U.S. dollars) to account for country-year observations with zero issuances (13% of the total). α_c and α_t capture country and year fixed effects, respectively. We cluster standard errors of this regression, and all other regressions reported below, by country and year.⁹

Table 2 shows a highly significant positive relation between capital inflows and country-level issuance proceeds in emerging markets. Column 1 shows that the elasticity of issuances to inflows is 0.55. Thus, a 60% increase in equity inflows (the average growth rate of inflows in our sample) is associated with a 33% increase in the value of equity issuance proceeds. This indicates that inflows imply more than a simple transfer of equity ownership from domestic to foreign investors. The result implies that for the typical country in a typical year, every million U.S. dollar of equity capital received from foreign investors is associated with an increase in the value of equity proceeds of at least 0.18 million U.S. dollars (using a standard error below the coefficient estimate to measure the effect). The point estimate implies an effect of 0.48 million U.S. dollars.¹⁰

Table 2, columns 2 and 3 show estimations of Equation (1) separately for issuances in domestic and foreign equity markets. The effect of capital inflows is statistically the same and quantitatively similar for both types of issuances. That is, issuances increase in both domestic and foreign markets when capital enters a country.

To make sure that our results are not affected by the log specification, which excludes negative inflows, we re-estimate Equation (1) scaling country issuances and all equity inflows

⁹ Our results remain unchanged if we cluster standard errors at the country level.

¹⁰ To calculate the dollar effects, we first calculate the predicted equity issued for each country-year pair by replacing the corresponding equity inflows into Equation (1) and using the estimated coefficients from the regression results. As fixed effects, we use the coefficients for each year and country for the corresponding country-year pair. We then increase equity inflows by one million U.S. dollars and repeat the procedure, which yields the new predicted issuance. Next, we compute the difference between the two predicted values. For each country, we average the differences across all years and report the value for the median country.

(positive and negative) by GDP. Table 3 reports the results of this alternative specification. Increases in capital inflows, relative to GDP, are strongly correlated with greater equity issuances, relative to GDP. This holds for all equity issuances, as well as for domestic and foreign issuances separately.

We also report results separately for positive and negative equity inflows relative to GDP in Table 3. Interestingly, the coefficient magnitude for negative inflows is much smaller and statistically insignificant, suggesting only a small reduction in issuances, which remain positive, even when capital inflows are highly negative. Given this asymmetry in the relation between equity inflows and aggregate issuances, we focus on positive equity inflows in our empirical analysis of the effects of equity inflows on issuance decisions at the firm level.¹¹

B. Capital Inflows and Firms' Issuance Activity

To analyze the impact of equity capital inflows on firms' issuance activity, we estimate a firm-level panel regression accounting for firm and year fixed effects:

$$\log(1 + Issuance)_{ict} = \alpha_i + \alpha_t + \beta \log(Inflows)_{ct} + \varepsilon_{ict}, \quad (2)$$

where $Issuance_{ict}$ is the value of equity raised (in million U.S. dollars) by firm i in country c in year t . Firms issue equity sporadically, so firm issuances exhibit lumpy behavior. As in the previous section, we add a one (million U.S. dollars) to the log of issuances to account for

¹¹ One can explain this finding from the perspective of corporate capital structure decisions: firms in emerging markets have strong incentives to issue equity when the cost of doing so is low, but they do not have to reduce outstanding equity when foreign withdrawals of equity cause prices to fall. Given the high costs of external finance in emerging markets, firms in these economies tend to have highly productive unrealized investment opportunities (from a Tobin's q perspective), which explains why issuances tend to be positive even when inflows are small or negative, and why repurchases of equity are rare.

firm-year observations with zero issuances.¹² α_i and α_t denote firm and year fixed effects, respectively.

Table 4 reports the results. Interestingly, column 1 shows that the effect of capital inflows on firm-level issuance is not statistically different from zero on average for the whole sample of firms. To explore this result further, we estimate Equation (2) separately for issuances in domestic and foreign equity markets (columns 2 and 3, respectively). We find a strong positive relation between capital inflows and foreign issuances, but no relation between inflows and domestic issuances. As documented above, the size of international issuances is 70% larger, on average, than the size of domestic issuances, suggesting that that the response to capital inflows might depend on issuance size. To analyze that possibility, we divide the sample of domestic equity issuers into two groups: large domestic issuers and small domestic issuers. We define a large domestic equity issuer dummy equal to one if the average domestic equity proceeds of a firm during our sample period is larger than the median average equity proceeds of all firms in the same country and sector, and zero otherwise.¹³

Column 4 augments Equation (2) with an interaction term between capital inflows and the large domestic issuer dummy.¹⁴ The interaction term is positive and highly significant. This implies that large domestic issuers drive the positive relation between inflows and country issuances documented in the previous section. The elasticity of 0.1 implies that a 60% increase in equity inflows (average growth rate of inflows) is associated with a 6% increase in the value

¹² We construct the firm-level panel dataset as follows. First, we define the starting year of a firm as the first year in which the firm appears in either the SDC or Worldscope databases. Next, we define the ending year of the firm as the last year in which the firm appears in SDC or Worldscope. Lastly, we construct the time series of issuances for each firm by filling in 0s between the starting and ending year for all years in which the firm does not issue equity.

¹³ We classify sectors into 10 broad SIC industries. The value of equity raised by large issuers in domestic equity markets is 7 times larger than the value raised by small issuers (=1,946,896/290,657).

¹⁴ We estimate the regression: $\log(1 + Issuance)_{ict} = \alpha_i + \alpha_t + \beta \log(Inflows)_{ct} + \gamma \log(Inflows)_{ct} \times LargeIssuer_{ic} + \varepsilon_{ict}$.

of equity proceeds raised by large domestic issuers, relative to small issuers. The elasticity of large domestic issuers to inflows is similar in size to the elasticity of foreign issuers (0.1 versus 0.09). That is not surprising given that foreign issuers also tend to issue similarly large amounts of equity. In column 5, we add interacted country-year fixed effects to the specification for large domestic equity issuers (α_{ct}).¹⁵ This specification allows us to control for all time-varying country shocks. The coefficient of interest is identified purely from the within-country variation between large domestic and small issuers. The interaction term remains highly significant.

Given the similarity in the magnitudes of the coefficients for large domestic issuers and foreign issuers, we pool the two groups into a single class of issuers, which we label “large equity issuers.” We report results for that group of issuers in columns 6 and 7, which are analogous to the results reported in columns 4 and 5. The elasticities in the various specifications, whether for large domestic issuers, foreign issuers, or the combined group of large equity issuers, using alternative fixed effect specifications, are nearly identical and range from 0.09 to 0.11.

To understand the mechanism connecting equity inflows and issuances, we study whether inflows operate on the “extensive” margin (more firms issuing equity), the “intensive” margin (more equity issued by issuing firms), or both. In decomposing the value of individual firm issuances into extensive and intensive margins, we use as the dependent variable for the extensive margin an indicator variable equal to one if the firm issued equity in a given year, and zero otherwise. For the intensive margin, we condition the sample to strictly positive issuances. Table 5 reports the results. Panel A shows the results of issuances by large domestic

¹⁵ The effect of capital inflows, which varies at the country-year level, is absorbed by the country-year fixed effects. The equation for the new specification with interacted country-year fixed effects is: $\log(1 + Issuance)_{ict} = \alpha_i + \alpha_{ct} + \gamma \log(Inflows)_{ct} \times LargeIssuer_{ic} + \varepsilon_{ict}$.

issuers for our preferred specification with firm and country-year fixed effects. Panel B shows the results for foreign issuers using only firm and year fixed effects. Panel C reports pooled results for the pooled sample of all large equity issuers. For reference, we re-display the previous results in column 1.

According to column 2 of Panel A in Table 5, a 60% increase in inflows is associated with a 1.1 percentage point increase in the probability that large domestic issuers will raise equity in that year, relative to small issuers ($=60 \times 0.0175$). This represents a 7% increase in the likelihood of issuing equity, relative to the average issuance probability ($=1.1\%/16\%$). From column 3, we observe that there is no statistically significant association between capital inflows and the amount of issuances, conditional on issuing. Panel B shows the same results for foreign issuers: the extensive margin drives the entire response of foreign issuers to capital inflows. The fact that the size of issuance is not affected by changes in capital inflows supports the assumption that the large issuer characteristic can be treated as a plausibly exogenous characteristic of the firm.¹⁶ Panel C reports results for the combined sample of issuers. All three sets of results display nearly identical coefficient values.

Lastly, in Table 6 we explore the characteristics of large domestic and foreign issuers. We collapse the sample into a single cross-section by taking the time average of all observations and regress the large issuer dummy on a series of firm characteristics, including

¹⁶ We also studied trends over time in the size of issuances for large and small issuers. 28% percent of the firms in our sample issued domestic equity more than once, accounting for roughly half of the observations. We compare the average of the first issuance between large domestic and small domestic issuers and then make the same comparison for subsequent issuances. We find that subsequent issuances are similarly larger than first issuances for both large domestic and small domestic issuers. The average values of the first and subsequent issuance of large domestic issuers are 163.04 and 210.18 million U.S. dollars, respectively. For the small domestic issuers, the average values of the first issuance and subsequent issuance are 22.65 and 33 million U.S. dollars, respectively. This evidence is consistent with the work of Didier et al. (2015), who find that firms grow faster after issuing securities. The growth of issuance size is 130% for large and 150% for small issuers. The fact that the size of issuance changes similarly over time for small and large domestic issuers further supports the assumption that the large issuer characteristic can be treated as a plausibly exogenous characteristic of the firm.

country and sector fixed effects.¹⁷ To perform this analysis, we need financial-statements information, so we use the merged SDC-Worldscope data. We consider three central firm-level attributes: size (measured by total assets), stock liquidity (measured by volume traded in a given year), and investment opportunities (measured by the market-to-book equity ratio). Column 1 estimates the extent to which large domestic issuers differ from small domestic issuers along each of the three dimensions, column 2 analogously captures the extent to which foreign issuers differ from small domestic issuers, and column 3 combines the two groups to investigate how large equity issuers differ from small domestic issuers.

We observe that large domestic and foreign issuers tend to be similarly large firms (measured by total assets) with relatively liquid stocks. However, large domestic issuers display higher investment opportunities than small domestic issuers, while foreign issuers do not. With respect to stock liquidity, both large domestic issuers and foreign issuers display greater volume traded than small domestic issuers. It is not surprising that firms with these characteristics are the ones that are associated with greater measured responsiveness to foreign investment, as reflected in the higher elasticities of issuances by these firms to capital inflows.

The fact that the response of issuance activity to equity inflows is concentrated in large issuing firms suggests a supply-side channel. If inflows were simply responding to improved economic conditions of firms in the country, one would expect all firms to issue more equity at times of large capital inflows. The heterogeneous results of capital inflows on large and small issuers can be explained by foreign investors having a preference for large issuers, in the domestic market or the international one. International institutional investors tend to be large relative to domestic ones and favor allocating their investments in few large companies that

¹⁷ In particular, we regress: $Y_{ics} = \alpha_s + \alpha_c + \beta \text{Characteristics}_{ics} + \varepsilon_{ics}$, where Y is a dummy variable equal to one if the firm is a large domestic issuer, or a foreign issuer, or (for the combined group) a large issuer, and zero otherwise.

are well known and liquid, so that they have less impact on prices when trading shares. Consequently, large issuances take place when those investors increase their appetite to invest in the country, whereas small issuances are not sensitive to foreign investors' behavior.

V. Instrumental Variables Approach

As discussed in the Introduction and in Section III, an increase in issuance activity could reflect an increase in foreign equity funding supply or domestic equity funding demand, or some combination of the two. This section analyzes the importance of the supply-side channel and whether it can explain the response, documented in the previous section, of the issuance activity of a subset of firms (large equity issuers) to equity inflows. To do so, it presents our instrumental variable (IV) regressions, which identify supply-side shocks affecting capital inflows. We report our IV results for issuances in Tables 7-9. For convenience, we report results pooling large domestic issuers and foreign issuers into large equity issuers. When the two groups are treated separately in the regressions, their responses are indistinguishable statistically. Standard errors are bootstrapped and clustered both by country and by year.¹⁸

In our first IV regressions, we instrument equity inflows with the lagged MSCI Emerging Market Index country weights. For the second-stage regressions, the relevant regressor is the interaction between equity inflows and the large issuer dummy, which we instrument with the interaction between the lagged MSCI weights and the large issuer dummy.

¹⁸ The structure of our model combines aggregate country-level data in the first-stage regression, and firm-level data in the second-stage regression. This requires us to estimate the model in two stages and bootstrap the standard errors to account for the fact that we use an estimated regressor in the second stage. We bootstrap both the first stage and second stage, clustering separately at the country and year level and then computing standard errors that take into account the two-way clustering. Our approach follows the methods outlined in Cameron et al. (2006), Cameron and Trivedi (2009), and Cameron et al. (2015) and adapts them to our data structure. We obtain similar results if we let Stata calculate the bootstrapped standard errors jointly for the entire model, based on the sample draws obtained in the second stage. We report results with 1000 sample draws in each stage and for each clustering level.

As explained in Section IV, the fact that large equity issuers respond to inflows through the extensive margin indicates that the large issuer dummy is a plausibly exogenous characteristic of the firm.

Table 7 reports the results of the first-stage and second-stage regressions.¹⁹ Column 1 reports the first-stage regression. It shows that the instrument is positively and highly correlated with equity capital inflows. The F-statistic is 19.8, indicating a powerful first-stage influence of the instrument.²⁰

Column 2 of Table 7 shows the results of the second-stage regression.²¹ Consistent with the OLS results reported in the previous section, we find that when a country receives a supply-driven capital inflow, large issuers issue more equity (column 2). As a robustness test, we exclude from the sample emerging market countries with the largest MSCI weights (Brazil, China, and South Korea) because the variation in their weights could be large enough that their own country's demand-side changes could produce much of the variation in their own country weights. The average MSCI weights for these three countries are 11.7%, 10.4%, and 13.6%, respectively. We find that the results, reported in Appendix Table 1, are similar to those in Table 7.²²

¹⁹ The first-stage regression is: $\log(\text{Inflows})_{ct} = \alpha_c + \alpha_t + \beta \log(\text{Weight}_{ct-1}) + \varepsilon_{ct}$.

²⁰ We also tried using two-year and three-year lagged weights of the MSCI, which should be even less related to contemporary demand shocks. Although the effect remains significant, the power of the instrument decreases with more lags, as one would expect. For this reason, we focus on the one-year-lag specification, which provides the strongest first-stage relation.

²¹ We estimate: $\text{IssuanceActivity}_{ict} = \alpha_i + \alpha_{ct} + \gamma \widehat{\text{Inflows}}_{ct} \times \text{LargeIssuer}_{ic} + \varepsilon_{ict}$, where $\widehat{\text{Inflows}}_{ct}$ denotes the fitted values of the first-stage regression.

²² We also considered specifications in which lagged MSCI weights substituted for current weights, or were added to current weights as an additional instrument. Results were similar to specifications with only the current value of the MSCI weight. In another robustness test, we substituted the log of the equity index value for the log of the MSCI weight. In this alternative specification, the instrument captures only the role of market value changes of other countries' indexes as an indicator of the subject country's attractiveness to foreign investors. Note that this specification does not capture any causal effect from investors' desires to track country weights. Results remained unchanged. In a final robustness test of this approach, the log of the market value of other countries' stock indexes was orthogonalized (regressed on the subject country's index to remove covariance). The results remained again unchanged.

As discussed in Section III, the market value of other countries' equity, and the equity issuances of other countries, offer alternative measures of the attractiveness of the subject country's equity market to foreign investors. The advantage of those alternative instruments is that both of them affect a country's MSCI weight exclusively through external influences. We report IV results using these measures in Table 8. The instruments both are powerful negative predictors of equity capital inflows in the first-stage regression. The results of the second-stage regressions are similar to but smaller than those reported in Table 7 (0.18 and 0.17 for other countries' equity value and equity issuance volume, respectively, relative to 0.29 for the MSCI weight).²³

Our third and final reported IV regression results employ, as instruments, orthogonalized market value of equity and orthogonalized equity issuances in other countries. We derive the orthogonalization by removing the covariance, that is, by regressing other countries' market value of equity (equity issuances) on the subject country's market value of equity (equity issuances). We report the results in Table 9. The coefficients for the two second-stage regressions in columns 3 and 4 are similar in value (0.21 and 0.22) and not statistically significantly different from the comparable coefficients in Table 8 (0.18 and 0.17).²⁴

The IV coefficients in Tables 7-9 are greater than the OLS coefficient of 0.10 reported in Table 4. Given that the country's MSCI weight is not as clean an instrument, we conclude that the better identified IV coefficient value likely lies somewhere between 0.17 and 0.22, as

²³ In unreported regressions, we also tried using lagged market value or lagged equity issuances of other countries as alternative instruments, either instead of contemporaneous values of those variables or in addition to contemporaneous values. The coefficient estimates for the second-stage regressions remain unchanged.

²⁴ Note that when using either the market value of other countries' equity, or other countries' issuances, as instruments, there is no need to exclude large countries from the sample. That exclusion was a robustness test when using the MSCI index as our instrument because large countries are likely to have a significant effect on their own country weights.

reported in Tables 8 and 9. The differences between those IV estimates and the OLS estimate are not highly statistically significant.

In the absence of measurement error of capital inflows, the OLS coefficient should be greater than or equal to the IV coefficient because OLS captures supply and demand effects and those effects are additive. However, there is reason to believe that equity inflows are measured with error, which biases the OLS coefficient downwards. As Lane and Milesi-Ferretti (2017, p. 21) note in their discussion of the capital inflow data: “One concern ... is the increasing difficulty in properly assessing external exposures ... particularly in light of the size of cross-border asset trade intermediated by financial centers [which complicates the measurement of inflows into a particular country] ... This difficulty affects virtually all categories of cross-border holdings ...” As a result, under the assumption that our identification is correct, the OLS coefficient in our setting could be larger or smaller than the IV estimate.

Overall, we find that whether one measures the attractiveness of other countries’ equity markets to foreign investors using the MSCI weights, other countries’ market value or other countries’ equity issuance volume, the results are similar: supply-side effects of instrumented equity inflows are large and statistically significant. Results are robust to using lagged or contemporaneous values of instruments, or to using orthogonalized or non-orthogonalized measures. We conclude that supply-side shocks are an important driver of equity capital flows, and that plausibly exogenous changes in the supply of foreign equity inflows have important consequences for equity issuances by large domestic and foreign issuers.

VI. Capital Inflows and Uses of Funds

Having established a connection between equity capital inflows and equity issuances, we now study the ways firms use the funds raised in the equity offerings. We perform the analysis using the merged SDC-Worldscope data. Following the approach of Kim and Weisbach (2008) and Erel et al. (2011), we focus on six uses of funds: CAPEX, acquisitions, R&D, inventory accumulation, cash accumulation, and long-term debt reduction.²⁵ We report results for all firms in Tables 10 and 11, but we obtain nearly identical results for a subsample that is restricted to non-financial issuers (Appendix Tables 2 and 3). This reflects the fact that non-financial issuers are the majority of our sample (representing more than four-fifths of our observations).

We report IV results, using other countries' equity issuance volume as an instrument for equity inflows, with each of the uses of funds treated as dependent variables. We obtain similar results using the other two instruments (other countries' market value and MSCI weights). We report those alternative results in Appendix Tables 4 and 5. Table 10 reports the results. Column 1 shows that a 60% increase in inflows (the average growth rate of inflows in our sample) leads large equity issuers to increase their capital expenditures by 11%, relative to small domestic issuers. Columns 2 and 3 of Table 10 show that, after the arrival of equity inflows, large equity issuers also tend to undertake more corporate acquisitions and invest more in R&D. The final three columns of Table 10 show that increased equity inflows lead to inventory accumulation, cash accumulation, and a reduction in long-term debt.²⁶

²⁵ We obtain the variables CAPEX, acquisitions, R&D, and long-term debt reduction from the income and cash flow statements and the variables inventory accumulation and cash accumulation from the balance sheets.

²⁶ When large domestic issuers and foreign issuers are considered separately, the coefficients for all the variables tend to be a bit larger for foreign issuers.

The previous results reveal the connections between capital inflows and different uses of funds, but those connections do not make use of the role played by equity issuances in connecting capital inflows and uses of funds. To analyze the linkages among inflows, issuances and uses of funds, we first adopt the methodology of Kim and Weisbach (2008) and Erel et al. (2011). We focus on the six uses of funds described above, measuring the change in each use of funds over a variety of time intervals, ranging from one year to four years. Following those authors, we begin by calculating the use of funds after each firm's equity offering (whether caused by capital inflows or something else) by estimating the following regression for the equity offerings of large equity issuers:

$$\begin{aligned}
Y_{ict} = & \alpha_c + \alpha_t + \beta \log \left[1 + \left(\frac{Issuance}{Assets} \right)_{ict} \right] \\
& + \gamma \log \left[1 + \left(\frac{OtherSources}{Assets} \right)_{ict} \right] + \delta \log[Assets_{ict}] + \varepsilon_{ict},
\end{aligned} \tag{5}$$

where $Y = \log[(\sum_{i=1}^n V_i / Assets) + 1]$ for the income- and cash flow-statement items ($V =$ CAPEX, acquisitions, R&D, long-term debt reduction), and $Y = \log[(V_t - V_0) / Assets] + 1$ for the balance-sheet items ($V =$ inventory, cash holdings). $N=1,2,3,4$ denotes the years following the issuance. *Assets* denotes total assets in the year just prior to the equity issuance ($n=0$). *Other sources* = $\log \left[\left(\frac{\sum_{i=1}^n (Total\ sources_i - Issuance)}{Assets} \right) + 1 \right]$, where total sources of funds represent the total funds generated by the firm internally and externally during a given year.

Table 11 reports the results of estimating Equation (5) separately for each use of fund, for each time interval considered. We report the estimated elasticities and also the dollar

effects, for the average firm of the typical country in a typical year.²⁷ The table shows that for every million U.S. dollar raised in an offering, large domestic and foreign issuers combined increase CAPEX on average by 0.15 million U.S. dollars in the year after the offering. The effect on CAPEX increases to 0.26 million U.S. dollars when the equation is estimated over a four-year period. After four years, issuers spend 0.38 million U.S. dollars in acquisitions and 0.26 million U.S. dollars in R&D. Overall, the largest use of funds is corporate investment (sum of CAPEX, acquisitions, and R&D): issuers invest between 0.50 and 0.90 million U.S. dollars of every million U.S. dollar raised in an equity offering.

Firms also spend important amounts of funds in accumulating cash and reducing long-term debt. After four years of an offering, issuers save in cash 0.34 million U.S. dollars of each million U.S. dollar raised and spend 0.34 million U.S. dollars to reduce or repay long-term debt. The fact that firms use a considerable fraction of funds for financial motives is consistent with a market timing channel. In particular, firms might take advantage of higher stock prices to issue equity (Baker and Wurgler, 2000). In fact, global equity inflows are positively correlated with global stock price returns in the time series.²⁸ However, the fact that firms spend a substantial amount of proceeds to fund corporate investment indicates that firms issue equity for additional reasons besides market timing. In particular, the results suggest that

²⁷ To calculate the dollar effects, we first calculate the predicted values of the dependent variables for each firm-year observation by plugging the actual values of firm issuances, other sources of funds, and total assets into Equation (5). For the fixed effects, we use the coefficients for each year and country of the corresponding country-year pair. We then re-calculate the predicted values of the dependent variables after adding one million U.S. dollars to the issuance value. Next, we calculate the difference of the two predicted values for each firm-year observation. To aggregate the differences, we first take the time-average of the differences per firm, we then take the median firm-average per country and subsequently the median country in our sample. We calculate a lower bound for the dollar effect by replacing the estimated beta coefficient from Equation (5) with the estimated beta coefficient minus its standard deviation.

²⁸ We collect data on countrywide stock price indices for each of the 25 countries in the sample. For each country, we calculate equity returns as the log ratio of stock price indices in two consecutive years. Then, for each year, we average equity returns across all countries. The coefficient of correlation between global equity issuances and global equity returns is 0.23, not statistically significant.

capital inflows reduce equity financing costs, which allows firms to raise equity to finance new investments.

Overall, our results indicate that equity issuance is an important channel through which capital inflows can affect real economic activity. In the aggregate analysis, we document that one million U.S. dollar of equity inflows is associated with an increase of at least 0.18 million U.S. dollars of country-level equity issuances. On the other hand, we show that domestic large issuers and foreign issuers combined invest at least 0.50 million U.S. dollars of each million raised in an equity offering, respectively. Combining both results, a back-of-the-envelope calculation indicates that for every million U.S. dollar of equity capital received from foreign investors, emerging market firms increase corporate investment by at least 100,000 U.S. dollars ($=0.18 \times 0.50$). Our point estimate of the combined effect is 400,000 U.S. dollars ($=0.48 \times 0.90$).

VII. Conclusions

There is a growing literature documenting that greater capital inflows are associated with important increases in aggregate investment and higher economic growth. A separate large literature studies the issuance activity of firms. This paper is the first study to examine the link between capital inflows and investment using issuance-level data. We seek to determine whether increases in equity capital inflows into emerging market countries are associated with increases in equity issuance and corporate investment by publicly traded firms, and whether any observed association can be attributed to supply-side influences from exogenous changes in international investors' interest in investing in particular countries.

We find that increases in equity inflows into emerging markets are associated with higher values of country-level equity issuance proceeds. This indicates that inflows imply more than a simple transfer of equity ownership from domestic to foreign investors. Using firm-

level data, we show that large issuers in domestic equity markets and issuers in international markets drive this relation. We find that those issuers, which tend to be large firms with liquid stocks, are more likely to issue equity in domestic and international markets when equity capital arrives from foreign investors wanting to acquire domestic shares. Instrumenting equity inflows with various alternative measures that capture the exogenous variation in other countries' attractiveness to foreign investors, we show that our results are driven in large part by variation in foreign equity capital supply.

Lastly, we find that large domestic and foreign issuers invest a substantial fraction of the funds raised in equity offerings. Using a back-of-the-envelope calculation, we find that every million U.S. dollar of foreign equity capital is associated with an increase of at least 100,000 U.S. dollars in corporate investment. The capital structure of the firms also changes significantly, as issuing firms reduce their debt and increase their cash. Our evidence is consistent with capital inflows lowering equity financing costs, which allows firms to raise funds to finance new investments. In all, our results indicate that equity issuance is an important channel through which capital inflows affect real economic activity.

Our work shows how micro data can provide unique insights into how subsets of firms drive aggregate relations. Our findings suggest that the issuance and investment behavior of some large firms in emerging markets is highly responsive to equity inflows. But apparently, many other emerging market firms are not the target of global market investors' share purchases. For those smaller firms, large flows of funds connecting their countries to global markets have little direct effect on their propensity to issue equity. This suggests that it can be useful to divide firms in emerging economies into two categories: those for which equity capital inflows have important direct effects on the cost of issuing capital, and those for which they do not.

To the extent that equity inflows lower the cost of finance for large issuers, that may create a competitive advantage for those firms. At the same time, it is possible that large issuers may share some of the benefits of their access to international investors with other firms. Other firms could benefit indirectly from more abundant trade credit, or increased demand for their products and services. Also, if equity issuances reduce issuers' demands for local bank debt, that could make it easier for non-issuers to borrow locally. Furthermore, financial firms might use their new equity issuance proceeds in support of greater lending to local firms. These two influences could be particularly beneficial for small and medium-sized firms (de la Torre et al., 2010). More broadly, future work could examine the extent to which the selective reductions in the cost of equity either promote greater efficiency in the economy (i.e., by reducing financing constraints for relatively productive firms, and by providing indirect benefits for other firms), or result in inefficiencies by increasing the market power of a small number of large firms.

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Figure 1
Global Equity Issuances and Equity Capital Inflows

This figure plots the total value of equity issued by firms in 25 emerging market countries (right axis) against total portfolio equity inflows to emerging markets (left axis). All values are reported in billions of constant 2011 US dollars. The time-series is reported for the period 1990-2014.

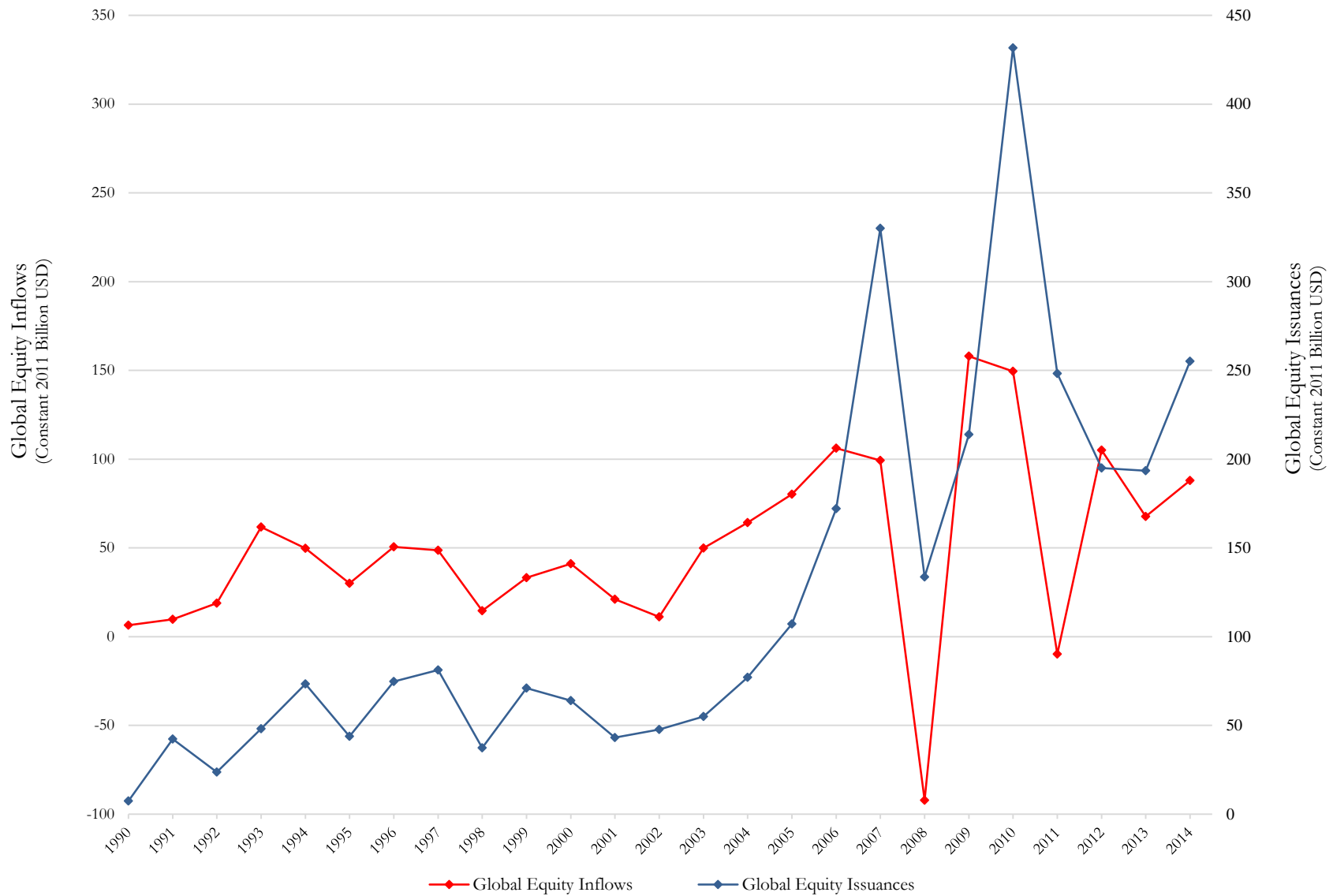
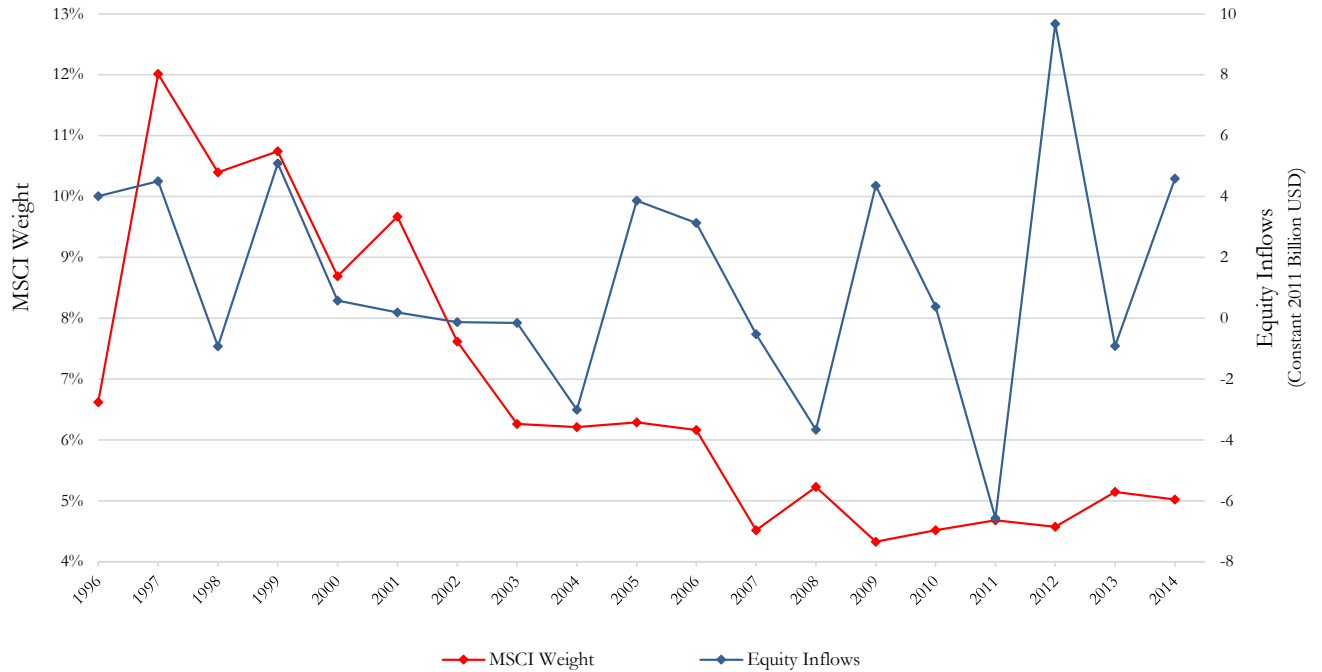


Figure 2
MSCI Weights, Other Countries' Issuance Volume, and Equity Capital Inflows for Mexico

Panel A of this figure plots the time series of MSCI weights (left axis) against equity inflows (right axis) for Mexico over the period 1996-2014. Panel B plots the time series of the sum of other countries' issuance volume (left axis) against equity inflows (right axis) for Mexico over the period 1990-2014. Equity Inflows and Issuances are reported in billions of constant 2011 US dollars.

Panel A. MSCI Weights and Equity Inflows for Mexico



Panel B. Other Countries' Issuance Volume and Equity Inflows for Mexico

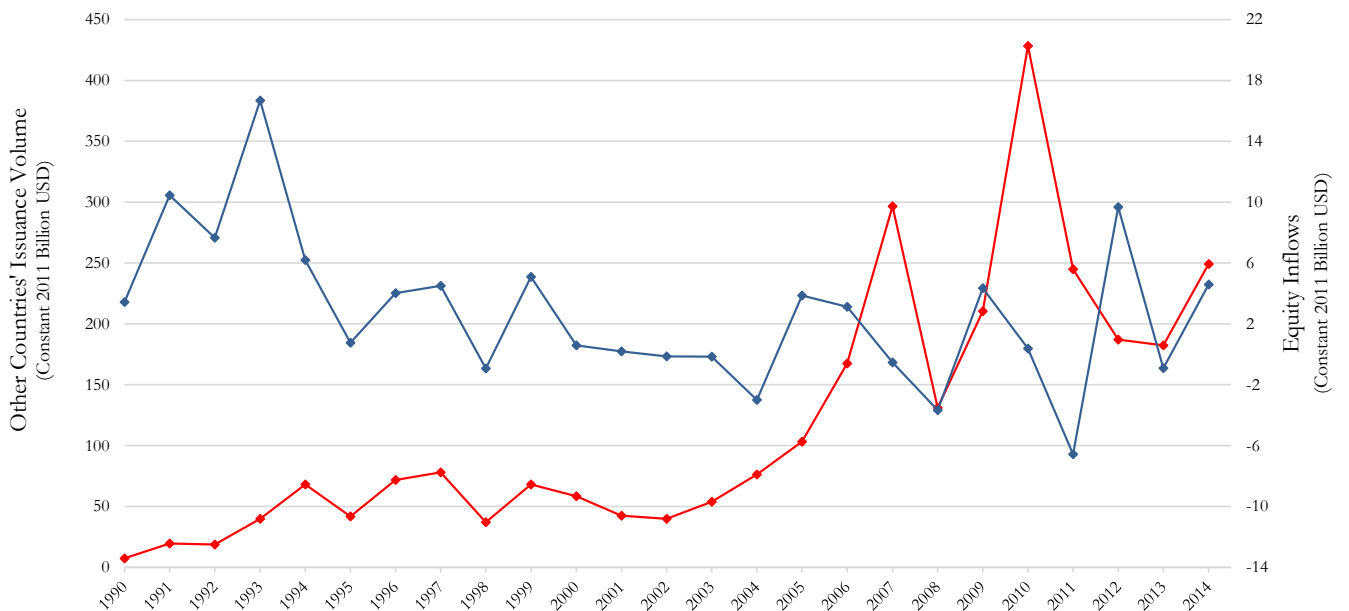


Figure 3
Global Equity Issuances and Equity Capital Inflows, Scaled by GDP

This figure plots the average value of equity issued by firms in 25 emerging market countries over GDP (right axis) against average value of portfolio equity inflows to emerging markets over GDP (left axis). We scale both equity issuances and inflows by each country's GDP, and then we average the ratios across countries. The time-series is reported for the period 1990-2014.

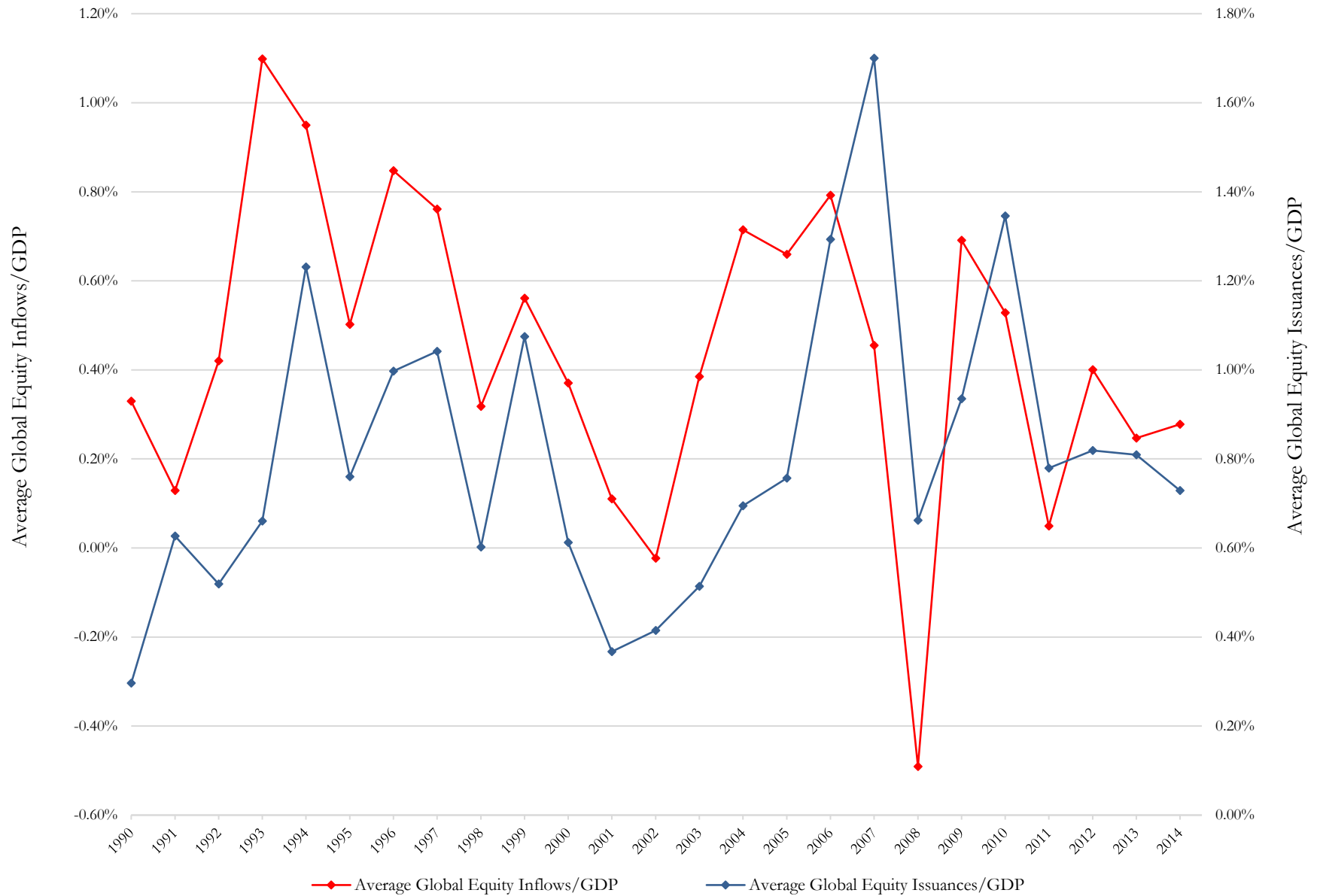


Table 1
Summary Statistics of Equity Issuance Activity by Country

This table provides summary statistics of firms' equity issuance activity, within each emerging market, for the period 1990-2014. Columns (1)-(4) report values for all equity issuances, while columns (5)-(6) and (7)-(8) report values only for domestic and foreign equity issuance, respectively. All issuance values are in millions of constant 2011 US dollars (USD).

Country	All Equity Issuance				Domestic Equity Issuance		Foreign Equity Issuance	
	Number of Firms	Average Annual Issuance Value (Million USD)	Average Annual Issuance Value / Number of Firms (Million USD)	Frequency of Issuance	Average Annual Issuance Value (Million USD)	Average Annual Issuance Value / Number of Firms (Million USD)	Average Annual Issuance Value (Million USD)	Average Annual Issuance Value / Number of Firms (Million USD)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Argentina	131	1,080	8	13.4%	636	6	444	12
Brazil	467	14,102	30	13.8%	11,872	27	2,230	33
Chile	247	2,350	10	17.3%	1,950	8	401	11
China	3,445	46,581	14	17.6%	27,085	11	19,496	19
Colombia	103	1,014	10	23.1%	905	9	110	9
Czech Republic	15	123	8	12.6%	74	7	55	9
Egypt	184	780	4	22.8%	691	4	93	9
Hungary	42	301	7	13.5%	273	7	29	4
India	6,081	8,834	1	23.4%	7,502	1	1,332	6
Indonesia	535	4,622	9	11.8%	4,421	8	201	10
Israel	314	1,418	5	19.7%	603	6	864	4
Jordan	127	269	2	17.5%	264	2	5	1
Malaysia	1,162	4,247	4	10.2%	4,080	4	167	4
Mexico	260	5,904	23	14.3%	3,236	13	2,668	39
Morocco	53	244	5	15.6%	234	5	13	3
Pakistan	312	305	1	17.8%	231	1	75	11
Peru	72	271	4	13.4%	194	3	76	5
Philippines	244	2,000	8	12.2%	1,884	8	116	6
Poland	473	2,326	5	11.0%	2,137	5	188	14
Russia	269	6,706	25	25.4%	4,490	20	2,396	35
South Africa	230	2,596	11	10.8%	1,953	10	643	16
South Korea	1,852	11,238	6	13.4%	9,831	5	1,408	20
Thailand	701	3,445	5	11.1%	3,301	5	144	8
Turkey	263	1,848	7	9.7%	1,739	7	109	12
Venezuela	100	327	3	24.0%	263	3	67	11
	17,682	4,917	9	15.8%	3,594	7	1,333	12

Table 2**Capital Inflows and Equity Issuance Activity: Aggregate Evidence**

This table presents country-level panel OLS regressions of the log of one plus aggregate equity issuance on the log of portfolio equity inflows. Column (1) reports the analysis for all equity issuances, while columns (2) and (3) report the analysis only for domestic and foreign equity issuances, respectively. All variables are winsorized at the 1% level. All regressions include country and year fixed effects. Standard errors are double clustered at the country and year levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. The regressions include 25 emerging market countries over the period 1990-2014.

	Log(1+All Equity Issuance)	Log(1+Domestic Equity Issuance)	Log(1+Foreign Equity Issuance)
	(1)	(2)	(3)
Log(Equity Inflows)	0.5477 *** (0.091)	0.5835 *** (0.090)	0.5011 *** (0.083)
Country FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Number of Observations	403	402	401

Table 3**Capital Inflows and Equity Issuance Activity: Aggregate Evidence, Alternative Specification**

This table presents country-level panel OLS regressions of the ratio of equity issuance to GDP on the ratio of portfolio equity inflows to GDP. Columns (1)-(3) run the regressions for all, domestic, and foreign equity issuances. Columns (4) and (5) run the regressions for all equity issuances, restricting the analysis to the observations with positive equity inflows and negative equity inflows, respectively. All variables are winsorized at the 1% level. All regressions include country and year fixed effects. Standard errors are double clustered at the country and year levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. The regressions include 25 emerging market countries over the period 1990-2014.

	All Equity Issuance / GDP	Domestic Equity Issuance / GDP	Foreign Equity Issuance / GDP	All Equity Issuance / GDP (Inflows > 0)	All Equity Issuance / GDP (Inflows < 0)
	(1)	(2)	(3)	(4)	(5)
Equity Inflows / GDP	0.2277 *** (0.064)	0.1595 *** (0.053)	0.0632 *** (0.016)	0.4969 *** (0.121)	0.0664 (0.061)
Country FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Number of Observations	543	541	539	403	140

Table 4
Capital Inflows and Firms' Equity Issuance Activity

This table presents firm-level panel OLS regressions of the log of one plus equity issuance value on the log of portfolio equity inflows and their interactions with the large domestic equity issuer or large equity issuer dummy variables. Large domestic equity issuer is a dummy variable equal to one if the time-average issuance value of a firm's domestic equity is greater than or equal to the median of all firms' average issuances, within a country-sector, and zero otherwise. Large equity issuer is a dummy variable equal to one if the firm is a large domestic equity issuer or a foreign equity issuer, and zero otherwise. Columns (1), (6), and (7) report the analysis for all equity issuances. Columns (2), (4), and (5) report the analysis only for domestic equity issuances. Column (3) reports the analysis only for foreign equity issuances. All variables are winsorized at the 1% level. Regressions in columns (1)-(4) and column (6) include firm and year fixed effects, while columns (5) and (7) include firm and country-year fixed effects. Standard errors are double clustered at the country and year levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. The regressions include 25 emerging market countries over the period 1990-2014.

	Log(1+ All Equity Issuance)	Log(1+ Domestic Equity Issuance)	Log(1+ Foreign Equity Issuance)	Log(1+ Domestic Equity Issuance)		Log(1+ All Equity Issuance)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Log(Equity Inflows)	0.0193 (0.018)	0.0161 (0.018)	0.0903 *** (0.016)	-0.0188 (0.020)		-0.0226 (0.021)	
Log(Equity Inflows)*Large Domestic Equity Issuer				0.1063 *** (0.033)	0.0910 *** (0.030)		
Log(Equity Inflows)*Large Equity Issuer						0.1084 *** (0.029)	0.0991 *** (0.028)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	No	Yes	No
Country-Year FE	No	No	No	No	Yes	No	Yes
Number of Observations	123,819	114,646	16,131	114,646	114,646	123,819	123,819

Table 5

Capital Inflows and Firms' Equity Issuance Activity: Extensive and Intensive Margin

Panel A presents firm-level panel OLS regressions of firms' domestic equity issuance activity on the interaction of the log of portfolio equity inflows with the large domestic equity issuer dummy. Large domestic equity issuer is a dummy variable equal to one if the time-average issuance value of a firm's domestic equity is greater than or equal to the median of all firms' average issuances, within a country-sector, and zero otherwise. Panel B presents firm-level panel OLS regressions of firms' foreign equity issuance activity on the log of portfolio equity inflows. Panel C presents firm-level panel OLS regressions of firms' all equity issuance activity on the interaction of the log of portfolio equity inflows with the large equity issuer dummy. Large equity issuer is a dummy variable equal to one if the firm is a large domestic equity issuer or a foreign equity issuer, and zero otherwise. The dependent variable in column (1) is the log of one plus equity issuance value. The dependent variable in column (2) is a dummy variable equal to one if a firm issued equity in a given year, and zero otherwise. The dependent variable in column (3) is the log of equity issuance value. All variables are winsorized at the 1% level. Regressions in panels A and C include firm and country-year fixed effects, while panel B includes firm and year fixed effects. Standard errors are double clustered at the country and year levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. The regressions include 25 emerging market countries over the period 1990-2014.

Panel A. Large Domestic Equity Issuers			
	Log(1+Domestic Equity Issuance)	Dummy=1 if Issued Domestic Equity	Log(Domestic Equity Issuance)
	(1)	(2)	(3)
Log(Equity Inflows)*Large Domestic Equity Issuer	0.0910 *** (0.030) .	0.0175 ** (0.007) .	0.1618 (0.114) .
Firm FE	Yes	Yes	Yes
Country-Year FE	Yes	Yes	Yes
Number of Observations	114,646	114,646	18,101
Panel B. Foreign Equity Issuers			
	Log(1+Foreign Equity Issuance)	Dummy=1 if Issued Foreign Equity	Log(Foreign Equity Issuance)
	(1)	(2)	(3)
Log(Equity Inflows)	0.0903 *** (0.016) .	0.0181 *** (0.004) .	0.0139 (0.058) .
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Number of Observations	16,131	16,131	2,807
Panel C. Large Equity Issuers			
	Log(1+All Equity Issuance)	Dummy=1 if Issued Any Equity	Log(All Equity Issuance)
	(1)	(2)	(3)
Log(Equity Inflows)*Large Equity Issuer	0.0991 *** (0.028) .	0.0212 ** (0.008) .	0.1449 (0.106) .
Firm FE	Yes	Yes	Yes
Country-Year FE	Yes	Yes	Yes
Number of Observations	123,819	123,819	20,655

Table 6
Characteristics of Large Domestic and Foreign Equity Issuers

This table presents firm-level cross-section OLS regressions of large equity issuers compared to small equity issuers. In column (1), the dependent variable is the large domestic equity issuer dummy, which is equal to one if the time-average issuance value of a firm's domestic equity is greater than or equal to the median of all firms' average issuances, within a country-sector, and zero otherwise. In column (2), the dependent variable is the foreign equity issuer dummy, which is equal to one if the firm is a foreign equity issuer, and zero if the firm is a small domestic equity issuer. A firm is classified as a small domestic equity issuer if its time-average issuance value of domestic equity is less than the median of all firms' average issuances, within a country-sector. In column (3), the dependent variable is the large equity issuer dummy, which is equal to one if the firm is a large domestic equity issuer or a foreign equity issuer, and zero otherwise. All variables are winsorized at the 1% level. All regressions include country and sector (broad SIC divisions) fixed effects. Standard errors are clustered at the country level. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. The regressions include 25 emerging market countries over the period 1997-2012.

	Large Domestic Equity Issuers	Foreign Equity Issuers	Large Equity Issuers
	(1)	(2)	(3)
Log(Total Assets)	0.1007 *** (0.009)	0.0639 *** (0.008)	0.1025 *** (0.008)
Log(Volume Traded)	0.0521 *** (0.016)	0.0336 *** (0.011)	0.0515 *** (0.016)
Log(Market/Book Ratio)	0.0812 *** (0.019)	0.0086 (0.017)	0.0722 *** (0.024)
Country FE	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes
Number of Observations	5,472	2,924	5,472

Table 7
Capital Inflows and Firms' Equity Issuance Activity, Instrumental Variable Approach
Instrument: Lagged MSCI Weight

This table presents the first- and second-stage regressions for the instrumental variable approach. Column (1) presents country-level panel OLS regression of the log of portfolio equity inflows on the log of the one-year lag of MSCI emerging market weights. Column (2) presents firm-level panel OLS regression of the log of one plus equity issuance value on the interaction of the log of portfolio equity inflows (predicted from the first stage) with the large equity issuer dummy. Large equity issuer is a dummy variable equal to one if the firm is a large domestic equity issuer or a foreign equity issuer, and zero otherwise. A firm is classified as a large domestic equity issuer if its time-average issuance value of domestic equity is greater than or equal to the median of all firms' average issuances, within a country-sector. All variables are winsorized at the 1% level. First-stage standard errors are double clustered at the country and year levels. Second-stage standard errors are block bootstrapped with 1000 repetitions, double clustering at the country and year levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. The regressions include 25 emerging market countries over the period 1997-2014.

	First Stage	Second Stage
	Log(Equity Inflows)	Log(1+All Equity Issuance)
	(1)	(2)
Log(MSCI Weight) _{t-1}	0.5243 *** (0.118)	
Log(Equity Inflows)*Large Equity Issuer		0.2890 *** (0.027)
Firm FE	No	Yes
Country FE	Yes	No
Year FE	Yes	No
Country-Year	No	Yes
Number of Observations	273	81,433
Kleibergen-Paap Wald F-Stat	19.77	..

Table 8
Capital Inflows and Firms' Equity Issuance Activity, Instrumental Variable Approach
Instruments: Other Countries' Equity Value and Issuance Volume

This table presents the first- and second- stage regressions for the instrumental variable approach. Columns (1) and (3) present country-level panel OLS regressions of the log of portfolio equity inflows on the log of the sum of other countries' equity value and equity issuance volume, respectively. Columns (2) and (4) present firm-level panel OLS regressions of the log of one plus equity issuance value on the interaction of the log of portfolio equity inflows (predicted from the first stage) with the large equity issuer dummy. Large equity issuer is a dummy variable equal to one if the firm is a large domestic equity issuer or a foreign equity issuer, and zero otherwise. A firm is classified as a large domestic equity issuer if its time-average issuance value of domestic equity is greater than or equal to the median of all firms' average issuances, within a country-sector. All variables are winsorized at the 1% level. First-stage standard errors are double clustered at the country and year levels. Second-stage standard errors are block bootstrapped with 1000 repetitions, double clustering at the country and year levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. The regressions include 25 emerging market countries over the period 1990-2014.

	Other Countries' Equity Value		Other Countries' Equity Issuance Volume	
	First Stage	Second Stage	First Stage	Second Stage
	Log(Equity Inflows)	Log(1+All Equity Issuance)	Log(Equity Inflows)	Log(1+All Equity Issuance)
	(1)	(2)	(3)	(4)
Log(Other Countries' Equity Value)	-4.0115 *** (1.208)			
Log(Other Countries' Equity Issuance)			-4.4638 *** (1.220)	
Log(Equity Inflows)*Large Equity Issuer		0.1842 *** (0.037)		0.1675 *** (0.035)
Firm FE	No	Yes	No	Yes
Country FE	Yes	No	Yes	No
Year FE	Yes	No	Yes	No
Country-Year	No	Yes	No	Yes
Number of Observations	404	123,819	404	114,646
Kleibergen-Paap Wald F-Stat	10.97	..	13.35	..

Table 9
Capital Inflows and Firms' Equity Issuance Activity, Instrumental Variable Approach
Instruments: Other Countries' Equity Value and Issuance Volume, Orthogonalized

This table presents the first- and second- stage regressions for the instrumental variable approach. Columns (1) and (3) present country-level panel OLS regressions of the log of portfolio equity inflows on other countries' orthogonalized equity value and equity issuance volume, respectively. We compute orthogonalized equity value (equity issuance volume) for each country as the residual of time-series regressions, of the log of total market capitalization (equity issuances) of emerging markets on the log of one plus own-country market capitalization (equity issuances). Columns (2) and (4) present firm-level panel OLS regressions of the log of one plus equity issuance value on the interaction of log of portfolio equity inflows (predicted from the first stage) with the large equity issuer dummy. Large equity issuer is a dummy variable equal to one if the firm is a large domestic equity issuer or a foreign equity issuer, and zero otherwise. A firm is classified as a large domestic equity issuer if its time-average issuance value of domestic equity is greater than or equal to the median of all firms' average issuances, within a country-sector. All variables are winsorized at the 1% level. First-stage standard errors are double clustered at the country and year levels. Second-stage standard errors are block bootstrapped with 1000 repetitions, double clustering at the country and year levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. The regressions include 25 emerging market countries over the period 1990-2014.

	Other Countries' Equity Value		Other Countries' Equity Issuance Volume	
	First Stage	Second Stage	First Stage	Second Stage
	Log(Equity Inflows)	Log(1+All Equity Issuance)	Log(Equity Inflows)	Log(1+All Equity Issuance)
	(1)	(2)	(3)	(4)
Log(Other Countries' Equity Value, Orthogonalized)	-0.6079 *** (0.175)			
Log(Other Countries' Equity Issuance, Orthogonalized)			-1.0038 *** (0.190)	
Log(Equity Inflows)*Large Equity Issuer		0.2135 *** (0.065)		0.2151 *** (0.038)
Firm FE	No	Yes	No	Yes
Country FE	Yes	No	Yes	No
Year FE	Yes	No	Yes	No
Country-Year	No	Yes	No	Yes
Number of Observations	300	98,443	403	123,819
Kleibergen-Paap Wald F-Stat	12.06	..	27.81	..

Table 10
Real Economic Effects, Instrumental Variable Approach
Instrument: Other Countries' Equity Issuance Volume

This table presents the second stage of firm-level panel instrumental variable regressions of the log of one plus firm characteristics on the interaction of log of portfolio equity inflows with the large equity issuer dummy. Large equity issuer is a dummy variable equal to one if the firm is a large domestic equity issuer or a foreign equity issuer, and zero otherwise. A firm is classified as a large domestic equity issuer if its time-average issuance value of domestic equity is greater than or equal to the median of all firms' average issuances, within a country-sector. We use the sum of other countries' equity issuance volumes as the instrumental variable for portfolio equity inflows. The dependent variable firm characteristics are capital expenditures, acquisitions, research and development expenditure, inventory, cash and short-term investments, and reduction of long-term debt. All variables are winsorized at the 1% level. All Regressions include firm and country-year fixed effects. Standard errors are block bootstrapped with 1000 repetitions, double clustering at the country and year levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. The regressions include 25 emerging market countries over the period 1990-2012.

	Log(1+CAPEX)	Log(1+Acquisitions)	Log(1+R&D)	Log(1+Inventory)	Log(1+Cash)	Log(1+LT Debt Red.)
	(1)	(2)	(3)	(4)	(5)	(6)
Log(Equity Inflows)*Large Equity Issuer	0.1800 *** (0.033)	0.0690 *** (0.023)	0.0498 * (0.026)	0.1134 *** (0.027)	0.2048 *** (0.039)	0.1164 *** (0.042)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Country-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	48,452	37,604	15,342	45,634	46,441	39,266

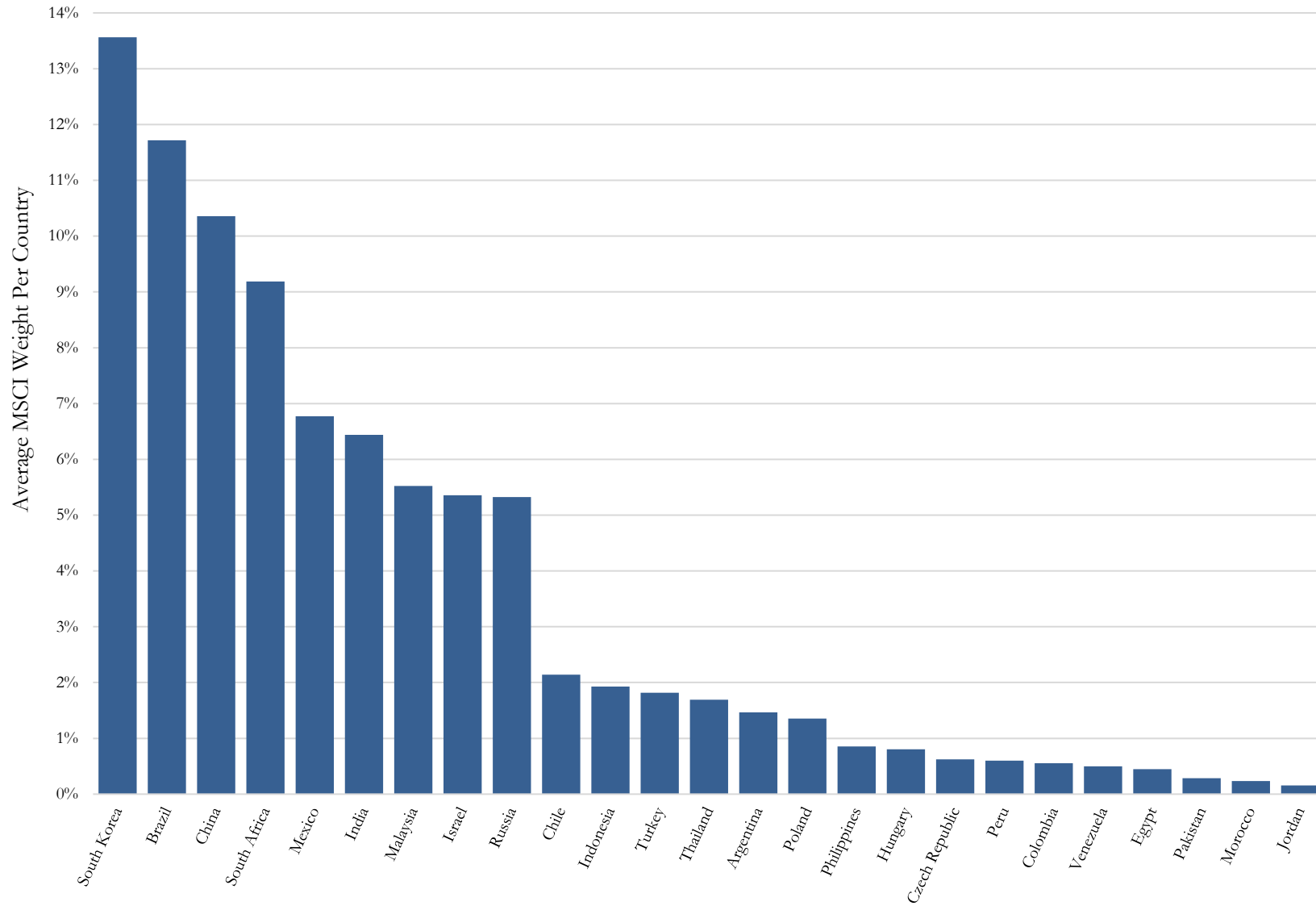
Table 11
Equity Issuances and Subsequent Use of Funds

This table presents firm-level panel OLS regressions for the use-of-funds analysis for the pooled sample of issuances by large domestic and foreign equity issuers. Large domestic equity issuers are firms whose time-average domestic equity issuance value is greater than or equal to the median of all firms' average issuances, within a country-sector. The analysis follows the specification of Kim and Weisbach (2008). The dependent variable for balance-sheet variables (inventory or cash and short-term investments) is $Y = \log[(V_i - V_0)/\text{Assets}] + 1$. The dependent variable for cash-flow statement and income statement variables (capital expenditure, acquisitions, research and development expenditure, or reduction of long-term debt) is $Y = \log[(\sum V_i)/\text{Assets}] + 1$. Independent variables are equity issuance value and other sources of funds, normalized by total assets, in addition to the log of total assets. Total assets are taken at the value of the year just before the issuance. Dollar changes capture the change in the dependent variable resulting from a one-million-dollar increase in a firm's equity issuance. All variables are winsorized at the 1% level. All regressions include country and year fixed effects. Standard errors are clustered at the industry (two-digit SIC) level. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. The regressions include 25 emerging market countries over the period 1990-2012.

	t	N	Log $\left(\frac{\text{Issuance}}{\text{Assets}_0} + 1\right)$		\$ Change	R ²
			β_1	t-stat		
Σ CAPEX	1	2,569	0.1499 **	2.151	0.1462	0.181
	2	2,820	0.2956 ***	3.981	0.3006	0.260
	3	2,486	0.2901 ***	3.316	0.3108	0.335
	4	2,102	0.2597 ***	2.739	0.2959	0.370
Σ Acquisitions	1	2,417	0.1483 ***	2.823	0.1347	0.184
	2	2,636	0.1648 **	2.136	0.1460	0.142
	3	2,309	0.2617 **	2.632	0.2278	0.203
	4	1,897	0.3776 ***	3.859	0.3208	0.229
Σ R&D	1	958	0.0785	1.654	0.0695	0.316
	2	1,001	0.1804 ***	3.579	0.1508	0.404
	3	825	0.1689 ***	3.382	0.1365	0.411
	4	651	0.2587 **	2.651	0.2058	0.402
Δ Inventory	1	2,151	0.1090 ***	2.661	0.0979	0.140
	2	2,423	0.2013 ***	2.695	0.1765	0.172
	3	2,127	0.1607 *	1.705	0.1356	0.149
	4	1,780	0.1091	1.131	0.0942	0.157
Δ Cash	1	2,208	0.3079 ***	3.903	0.2800	0.257
	2	2,490	0.3842 ***	4.523	0.3373	0.272
	3	2,193	0.4033 ***	4.619	0.3440	0.289
	4	1,846	0.3471 ***	3.949	0.2984	0.297
Σ LT Debt Reduction	1	2,556	0.5148 ***	3.670	0.4875	0.564
	2	2,857	0.3450 ***	3.296	0.3332	0.493
	3	2,529	0.3918 ***	4.233	0.3757	0.494
	4	2,118	0.3429 ***	3.350	0.3536	0.453

Appendix Figure 1 Average MSCI Emerging Market Index Weights by Country

This figure plots the average weights of the 25 countries included in the MSCI Emerging Market Index on the vertical axis. We show country names on the horizontal axis.



Appendix Table 1
Capital Inflows and Firms' Equity Issuance Activity, Instrumental Variable Approach
(Excluding China, Brazil, and South Korea)
Instrument: Lagged MSCI Weight

This table presents the first- and second- stage regressions for the instrumental variable approach. Column (1) presents country-level panel OLS regression of the log of portfolio equity inflows on the log of the one-year lag of MSCI emerging market weights. Column (2) presents firm-level panel OLS regression of the log of one plus equity issuance value on the interaction of the log of portfolio equity inflows (predicted from the first stage) with the large equity issuer dummy. Large equity issuer is a dummy variable equal to one if the firm is a large domestic equity issuer or a foreign equity issuer, and zero otherwise. A firm is classified as a large domestic equity issuer if its time-average issuance value of domestic equity is greater than or equal to the median of all firms' average issuances, within a country-sector. All variables are winsorized at the 1% level. First-stage standard errors are double clustered at the country and year levels. Second-stage standard errors are block bootstrapped with 1000 repetitions, double clustering at the country and year levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. The regressions include 22 emerging market countries, excluding China, Brazil, and South Korea, over the period 1997-2014.

	First Stage	Second Stage
	Log(Equity Inflows)	Log(1+All Equity Issuance)
	(1)	(2)
Log(MSCI Weight) _{t-1}	0.6939 *** (0.221)	
Log(Equity Inflows)*Large Equity Issuer		0.2626 *** (0.052)
Firm FE	No	Yes
Country FE	Yes	No
Year FE	Yes	No
Country-Year	No	Yes
Number of Observations	225	38,799
Kleibergen-Paap Wald F-Stat	9.83	..

Appendix Table 2
Real Economic Effects, Instrumental Variable Approach
(Excluding Financial Firms)
Instrument: Other Countries' Equity Issuance Volume

This table presents the second stage of firm-level panel instrumental variable regressions of the log of one plus firm characteristics on the interaction of log of portfolio equity inflows with the large equity issuer dummy. Large equity issuer is a dummy variable equal to one if the firm is a large domestic equity issuer or a foreign equity issuer, and zero otherwise. A firm is classified as a large domestic equity issuer if its time-average issuance value of domestic equity is greater than or equal to the median of all firms' average issuances, within a country-sector. We use the sum of other countries' equity issuance volumes as the instrumental variable for portfolio equity inflows. The dependent variable firm characteristics are capital expenditures, acquisitions, research and development expenditure, inventory, cash and short-term investments, and reduction of long-term debt. All variables are winsorized at the 1% level. All Regressions include firm and country-year fixed effects. Standard errors are block bootstrapped with 1000 repetitions, double clustering at the country and year levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. The regressions include 25 emerging market countries over the period 1990-2012. Only non-financial firms are considered in this analysis.

	Log(1+CAPEX)	Log(1+Acquisitions)	Log(1+R&D)	Log(1+Inventory)	Log(1+Cash)	Log(1+LT Debt Red.)
	(1)	(2)	(3)	(4)	(5)	(6)
Log(Equity Inflows)*Large Equity Issuer	0.1843 *** (0.032)	0.0585 *** (0.021)	0.0505 * (0.027)	0.1129 *** (0.025)	0.2019 *** (0.037)	0.1146 *** (0.044)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Country-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	41,189	30,813	14,991	41,052	41,341	32,140

Appendix Table 3
Equity Issuances and Subsequent Use of Funds
(Excluding Financial Firms)

This table presents firm-level panel OLS regressions for the use-of-funds analysis for the pooled sample of issuances by large domestic and foreign equity issuers. Large domestic equity issuers are firms whose time-average domestic equity issuance value is greater than or equal to the median of all firms' average issuances, within a country-sector. The analysis follows the specification of Kim and Weisbach (2008). The dependent variable for balance-sheet variables (inventory or cash and short-term investments) is $Y = \log[(V_i - V_0)/\text{Assets}] + 1$. The dependent variable for cash-flow statement and income statement variables (capital expenditure, acquisitions, research and development expenditure, or reduction of long-term debt) is $Y = \log[(\sum V_i/\text{Assets}) + 1]$. Independent variables are equity issuance value and other sources of funds, normalized by total assets, in addition to the log of total assets. Total assets are taken at the value of the year just before the issuance. Dollar changes capture the change in the dependent variable resulting from a one-million-dollar increase in a firm's equity issuance. All variables are winsorized at the 1% level. All regressions include country and year fixed effects. Standard errors are clustered at the industry (two-digit SIC) level. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. The regressions include 25 emerging market countries over the period 1990-2012. Only non-financial firms are considered in this analysis.

	t	N	Log $\left(\frac{\text{Issuance}}{\text{Assets}_0} + 1\right)$		\$ Change	R ²
			β_1	t-stat		
Σ CAPEX	1	2,014	0.1357 *	1.848	0.1319	0.187
	2	2,279	0.2731 ***	3.473	0.2825	0.260
	3	2,014	0.2742 ***	2.820	0.3040	0.349
	4	1,685	0.2275 **	2.087	0.2709	0.381
Σ Acquisitions	1	1,864	0.1214 **	2.317	0.1092	0.149
	2	2,095	0.1249	1.644	0.1069	0.128
	3	1,852	0.2350 **	2.263	0.1974	0.183
	4	1,516	0.3567 ***	3.294	0.2975	0.210
Σ R&D	1	933	0.0788	1.640	0.0696	0.318
	2	977	0.1792 ***	3.572	0.1477	0.406
	3	807	0.1684 ***	3.366	0.1344	0.411
	4	638	0.2627 ***	2.710	0.2085	0.405
Δ Inventory	1	1,949	0.1135 **	2.584	0.1020	0.155
	2	2,195	0.1794 **	2.277	0.1555	0.178
	3	1,931	0.1358	1.332	0.1138	0.153
	4	1,611	0.1040	0.923	0.0872	0.167
Δ Cash	1	1,965	0.3032 ***	3.997	0.2742	0.276
	2	2,216	0.4028 ***	4.151	0.3519	0.290
	3	1,951	0.4316 ***	4.350	0.3617	0.314
	4	1,633	0.3881 ***	4.235	0.3271	0.327
Σ LT Debt Reduction	1	1,972	0.4052 ***	3.238	0.3859	0.620
	2	2,274	0.2619 **	2.625	0.2463	0.520
	3	2,031	0.3303 ***	3.457	0.3160	0.521
	4	1,713	0.2971 **	2.658	0.3036	0.472

Appendix Table 4
Real Economic Effects, Instrumental Variable Approach
Instrument: Lagged MSCI Weight

This table presents the second stage of firm-level panel instrumental variable regressions of the log of one plus firm characteristics on the interaction of log of portfolio equity inflows with the large equity issuer dummy. Large equity issuer is a dummy variable equal to one if the firm is a large domestic equity issuer or a foreign equity issuer, and zero otherwise. A firm is classified as a large domestic equity issuer if its time-average issuance value of domestic equity is greater than or equal to the median of all firms' average issuances, within a country-sector. We use the one-year lag of MSCI emerging market weights as the instrumental variable for portfolio equity inflows. The dependent variable firm characteristics are capital expenditures, acquisitions, research and development expenditure, inventory, cash and short-term investments, and reduction of long-term debt. All variables are winsorized at the 1% level. All Regressions include firm and country-year fixed effects. Standard errors are block bootstrapped with 1000 repetitions, double clustering at the country and year levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. The regressions include 25 emerging market countries over the period 1997-2012.

	Log(1+CAPEX)	Log(1+Acquisitions)	Log(1+R&D)	Log(1+Inventory)	Log(1+Cash)	Log(1+LT Debt Red.)
	(1)	(2)	(3)	(4)	(5)	(6)
Log(Equity Inflows)*Large Equity Issuer	0.1988 *** (0.046)	0.0997 *** (0.026)	0.1217 *** (0.035)	0.1263 *** (0.026)	0.2435 *** (0.048)	0.1381 *** (0.045)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Country-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	37,223	27,350	11,966	34,936	35,566	28,858

Appendix Table 5
Real Economic Effects, Instrumental Variable Approach
Instrument: Other Countries' Equity Value

This table presents the second stage of firm-level panel instrumental variable regressions of the log of one plus firm characteristics on the interaction of log of portfolio equity inflows with the large equity issuer dummy. Large equity issuer is a dummy variable equal to one if the firm is a large domestic equity issuer or a foreign equity issuer, and zero otherwise. A firm is classified as a large domestic equity issuer if its time-average issuance value of domestic equity is greater than or equal to the median of all firms' average issuances, within a country-sector. We use the log of the sum of other countries' equity value as the instrumental variable for portfolio equity inflows. The dependent variable firm characteristics are capital expenditures, acquisitions, research and development expenditure, inventory, cash and short-term investments, and reduction of long-term debt. All variables are winsorized at the 1% level. All Regressions include firm and country-year fixed effects. Standard errors are block bootstrapped with 1000 repetitions, double clustering at the country and year levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. The regressions include 25 emerging market countries over the period 1990-2012.

	Log(1+CAPEX)	Log(1+Acquisitions)	Log(1+R&D)	Log(1+Inventory)	Log(1+Cash)	Log(1+LT Debt Red.)
	(1)	(2)	(3)	(4)	(5)	(6)
Log(Equity Inflows)*Large Equity Issuer	0.2079 *** (0.038)	0.0734 *** (0.025)	0.0534 * (0.030)	0.1124 *** (0.031)	0.2252 *** (0.047)	0.1166 ** (0.054)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Country-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	48,452	37,604	15,342	45,634	46,441	39,266