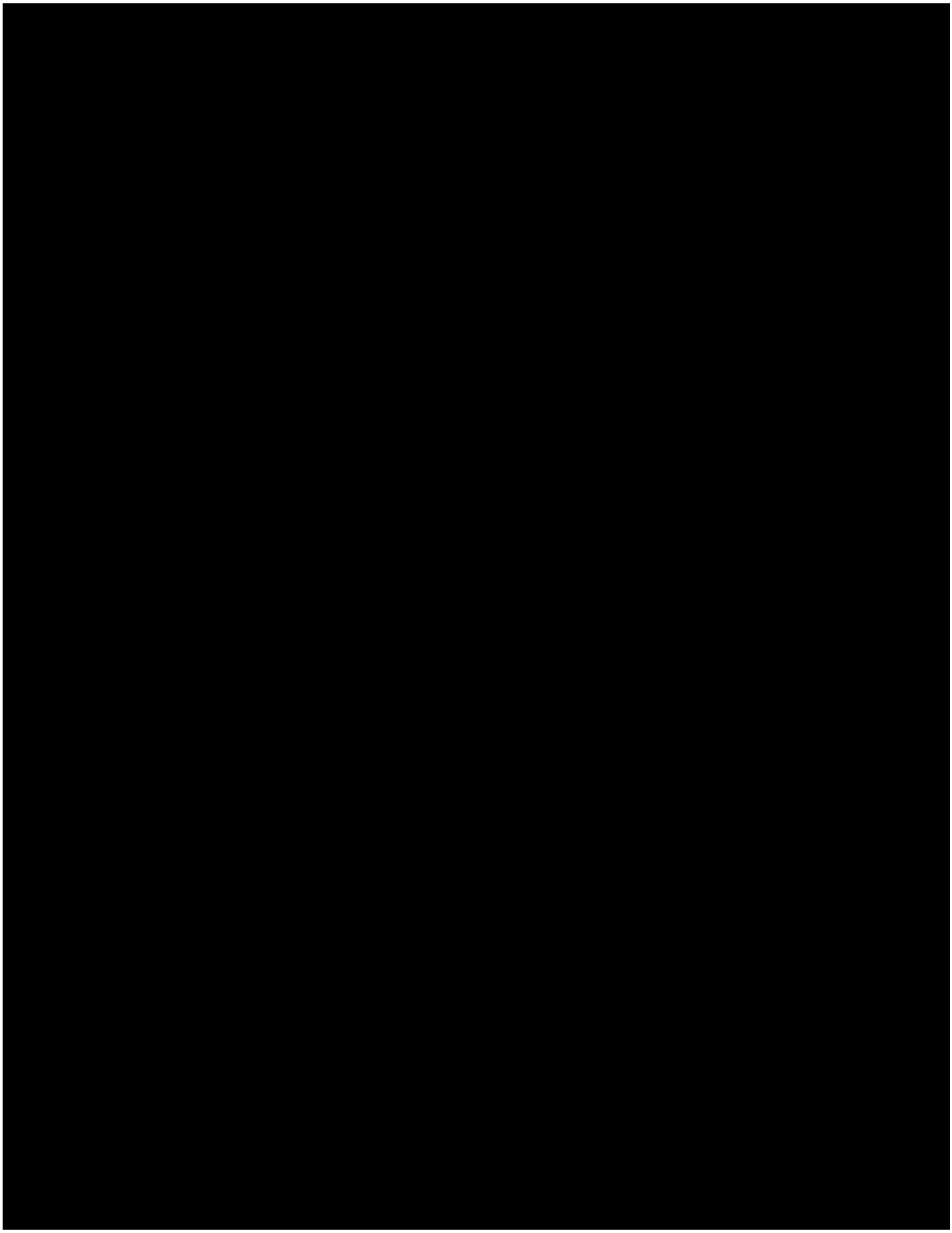

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Real Effects of Capital Inflows in Emerging Markets

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Abstract

We examine the association between capital inflows and industry growth in a sample of 22 emerging market economies from 1998 to 2010. We expect more external finance dependent industries in countries that host more capital inflows to grow disproportionately faster. This is indeed the case in the pre-crisis period of 1998–2007, and is driven by debt, rather than equity, inflows. We also observe a reduction in output volatility but this association is more pronounced for equity, rather than debt, inflows. These relationships, however, break down during the crisis, hinting at the importance of an undisrupted global financial system for emerging markets to harness the growth benefits of capital inflows. In line with this observation, we also document that the inflows-growth nexus is stronger in countries with well-functioning banks.

JEL Classification Numbers: F30, L6, G20, G01

Keywords: Capital flows, financial dependence, industry growth, emerging economies

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I. INTRODUCTION

Do international capital inflows enhance growth? A potentially important benefit of capital inflows to emerging markets is the relaxation of credit constraints, augmentation of investment resources, and, accordingly, the facilitation of growth (Harrison et al., 2004). Foreign capital brings credit, knowledge, and discipline to the host countries, which are thought to be essential for economic growth (Tong and Wei, 2011). In addition, access to foreign funds can enhance capital allocation efficiency and productivity, and thus growth in recipient countries (Ahmed and Zlate, 2014). Yet, a number of recent studies argue against such and other positive benefits of capital inflows. For example, capital inflows can cause a transfer of economic resources from tradable to nontradable sectors, which are often subject to slow productivity growth (Benigno and Fornaro, 2014; Reis, 2013). In addition, episodes of large capital inflows increase the probability of a sudden stop—which hurt economic performance (Calvo and Reinhart, 2000; Gourinchas and Obstfeld, 2012)—and may trigger a shift of capital and labor out of the manufacturing sector to non-manufacturing sectors (Beningo et al., 2015). All in all, the jury is still out on whether capital inflows are associated with better economic growth performance.

Indeed, a number of empirical studies investigate whether international capital flows can contribute to economic growth, but they usually report a complex and mixed picture on the real effects of capital flows (see, among many others, Reisen and Soto, 2001, and Aizenman et al., 2013). In addition to differences in sample coverage and methodology, the mixed picture could be attributable to a number of gaps in the literature. First, most studies tend to focus only on one component of capital flows (that is, foreign direct investment or FDI) or use aggregate flows, and hence neglect the heterogeneous nature of capital flows. Foreign capital reaches emerging market economies through not only FDI but also other types of flows, such as portfolio investment and bank lending. Second, most studies use aggregate output growth indicators. The responses of different economic sectors to international capital flows may vary considerably. Aggregate growth data do not allow one to control for such sector-specific factors and distinguish the causal impact of international capital flows.

The main purpose of this paper is to examine the association between capital inflows and industry growth in emerging economies, as measured by output and value added growth. Capital inflows increase access to finance (quantity) and reduce interest rates (cost of borrowing), and hence we expect that industries more dependent on external finance (e.g., chemical industry) grow disproportionately faster than their counterparts (e.g., textile industry) if they are located in countries hosting more capital inflows. The paper also goes beyond the existing literature by shedding light on the potential tradeoffs associated with capital inflows by investigating their impact on both growth and growth volatility in industrial sectors. In addition, we break down the total capital inflows to sub-components and test whether there are heterogenous effects across different forms of capital flows. And finally, we explore to what extent the performance of domestic financial markets shape the real effects of foreign capital inflows and what happens when there are large shocks to financial markets. To summarize, this paper aims to adress the following questions:

1. Is there a differential, positive association between capital inflows and industry growth? Does this entail a trade-off with growth volatility?

2. Do these associations differ based on the composition of capital inflows (e.g., equity-based vs. debt-based capital inflows)?
3. Do these associations vary across countries depending on the financial sector characteritics?
4. Was the capital inflows – industry growth nexus, if it exists, maintained during the global financial crisis?

To address these research questions, we use a panel dataset covering 28 industries in 22 emerging market economies over the period 1998–2010. Integration of emerging markets into world financial markets on the one hand and the fast-growing process of industrialization in these economies on the other hand, make emerging markets a good laboratory to test to what extent capital inflows contribute to industry growth.[1] Our use of industry-level data allows us to examine whether the relationship between capital inflows and growth differs across industries and link such differences to the external finance dependence. Given the meltdown of the global financial system and the unprecedented capital flow reversal during the global financial crisis, we distinguish between the pre-crisis period up to 2007 and the crisis period afterwards.

Our paper makes a number of contributions to the literature. First, by moving away from aggregate growth dynamics, we offer a way to address the reverse causality and omitted variable concerns. As Li and Liu (2005) and Igan and Tan (2015) point out, cross-country analyses are commonly subject to endogeneity and omitted variable problems and hence have a difficult time in establishing the direction of causality. Economies with superior growth prospects attract more inflows; in other words, the economy leads, and capital follows. Unobserved industry or country characteristics related to both capital inflows and growth could also bias the estimation and statistical inferences from traditional cross-country regressions.

Our identification strategy uses a panel-based fixed effects approach that studies a specific economic mechanism through which capital inflows affect growth. Specifically, we investigate how capital inflows affect growth of industries *differentially* in those industries that are more dependent on external finance. This is an important channel linking capital inflows and growth because a main obstacle for firm investment and growth is financing constraints (Harrison et al., 2004). Foreign capital brings scarce capital to recipient countries and hence may loosen such constraints to growth. Our panel-based approach captures both times series and cross-sectional dynamics between capital inflows and industry growth, allowing for more reliable statistical inferences.

Second, financial resources may reach emerging economies through different forms. Some might be more desirable for growth than others. We use a unique dataset that breaks capital flows into two main components, and further to subcomponents within each: equity (FDI and portfolio investment) vs. debt (bank lending and non-bank lending). We, therefore, contribute to the literature by exploring whether growth *and* growth volatility of industrial sectors in

[1] Several studies highlight the importance of international capital on the industrialization process (e.g., Markusen and Venables, 1999; Barrios et al., 2005; Gui-Diby and Renard, 2015). Nevetheless, none studies the impact of capital inflows on industry growth with special attention on emerging market economies.

emerging market economies is systematically linked to the volume and composition of international capital inflows. To the best of our knowledge, there are no studies examining the potential tradeoffs between growth and growth volatility effects of disaggregated capital inflows data—a curious gap considering the widely-drawn links between capital inflow surges and domestic credit growth on the one hand and that between credit booms and the likelihood of crises/recessions on the other.[2]

Finally, we examine whether the potential impact of capital inflows on economic growth remains intact when the financial system suffers from large negative shocks. This is not as obvious as it may seem because one could argue that financial disruptions would mostly affect short-term flows and not necessarily have an impact on more stable, growth-enhancing flows. Tong and Wei (2011) examine this channel thoroughly but for stock returns of listed firms and not industry growth.

The baseline findings can be summarized as follows. Over the pre-crisis period 1998–2007, private capital inflows are associated with stronger growth in industries that are more dependent on external finance. This association is driven by debt, rather than equity, inflows. We also observe a reduction in output volatility but this association is more pronounced for equity, rather than debt, inflows. Our results are robust to the inclusion of a profusion of fixed effects, additional controls, alternatives for external dependence measures, and alternative dataset of capital inflows. These relationships do break down during the crisis. Interestingly, our results also show that inflows channeled through equity flows could result in industry growth if the recipient country has a well-functioning banking sector.

The differential effects of capital inflows on industry growth are economically relevant. Relative to financially less dependent industries (in the 25^{th} percentile level), external finance dependent industries (in the 75^{th} percentile level) grow around 1.58 percent faster in a country that is host to a significant amount of private capital inflows (in the 75^{th} percentile) than in a country receiving a limited amount of foreign capital (in the 25^{th} percentile). This accounts for approximately 14 percent of the observed sample mean of 11 percent during the pre-crisis period. Similarly, an industry at the 75^{th} percentile level of external finance dependence grows 1.71 percent faster than an industry at the 25^{th} percentile when it is domiciled in a country at the 75^{th} percentile of debt capital inflows rather than in one at the 25^{th} percentile. This translates to about 16 percent of the observed sample mean during the pre-crisis period.

The findings point to the need to take the composition of capital inflows into account when assessing their costs and benefits. They also hint at the importance of an undisrupted global financial system and a well-functioning domestic banking system for emerging markets to harness the growth benefits of capital inflows.

The rest of the paper is organized as follows. Section II provides a brief theoretical overview of the relationship between foreign capital and growth, lays out the hypotheses to be tested,

[2] Such tradeoffs have been highlighted in the literature given the documented association between capital inflows, credit and asset price booms, and financial instability episodes that follow. See, for instance, Dell'Ariccia et al (2016) and the references therein.

and describes the empirical approach and discusses the data used in the analysis. In Section III, we present the results. Section IV concludes.

II. BACKGROUND, HYPOTHESES, AND APPROACH

A. Related Literature

This paper is linked to several strands of the international finance literature. We briefly summarize a few here, as a background to develop our hypotheses rather than a comprehensive review.

Economic studies at the aggregate level have long argued that countries benefit from foreign investment but the debate is far from settled.[3] Javorcik (2004) document considerable productivity gains from FDI and show various channels of productivity spillovers from multinational companies to domestic firms. Li and Liu (2005) find that FDI tends to affect growth directly as well as indirectly through its interaction with human capital. Kose et al (2009) find robust evidence that portfolio equity inflows and FDI improves total factor productivity growth (TFP), but foreign debt has a negative impact on TFP growth. Choong et al (2010) also examine the impact of different forms of private capital flows on economic growth. Using data from both advanced and developing countries over 1988–2002, they find that while both portfolio investment and foreign debt have a negative effect on growth, FDI has a positive effect on growth. Using data on 100 countries over the period 1990–2010, Aizenman et al (2013) find that there is a strong positive nexus between FDI inflows and economic growth, but the relationship between other types of capital inflows and growth is less robust or even negative. Contrary to these findings, however, some other studies report no impact of FDI and/or equity-based inflows on growth. Davis (2015) finds that changes in debt-based, not equity-based, capital inflows has a significant effect on short-run macroeconomic variables. Using data on 80 countries over the period 1979–1998, Durham (2004) investigates the impact of FDI and equity portfolio investment on economic growth and does not find a positive effect of either FDI or equity portfolio on growth. Gui-Diby and Renard (2015) find that international capital inflows in the form of FDI had no impact on the industrialization of African countries during the period 1980–2009. They argue that this failure of industrial development using foreign capital could be because of weak government policies in providing an environment where FDI could drive industrialization.

In a closely related strand of literature, researchers have used disaggregated industrial data in order to test the impact of capital flows (mainly FDI) on industry performance.[4] In their study for Irish manufacturing firms, Barrios et al (2005) find that an increasing presence of FDI in an industry is associated with a decline in that industry. Using industry-level data for 29 countries over the period 1985–2000, Alfaro and Charlton (2007) re-examine the relationship

[3] See, for instance, Rodriguez-Clare (1996) and Markusen and Venables (1999) for theoretical arguments and Borensztein et al (1998) and Akkemik (2009) for empirical findings.

[4] Theoretically, Markusen and Venables (1999) show that FDI could be a catalyst for industrialization.

(continued…)

between FDI and growth by distinguishing different qualities of FDI.[5] They find that the real effects of FDI are more pronounced after accounting for the quality of FDI. Using manufacturing data for 17 countries over 1973–2001, Bitzer and Görg (2009) find that FDI has a general positive impact on industrial productivity, although with some heterogeneity across countries. Using sectoral data, Vu and Noy (2009) find that FDI is positively associated with economic growth but the association is again heterogenous across countries and industries.

The paper is also related to those studies that look into the costs and benefits associated with capital inflows. However, there is no consensus on this issue. While some found that FDI is a more stable source of international capital flows (e.g. Berg, 2004) than portfolio and bank lending, others have not reached to the same conlusion (e.g., Claessens et al, 1995; Levchenko and Mauro, 2007). Aizenman et al (2010) show that while there is no relationship between FDI flows and output volatility, portfolio flows and debt flows tend to be associated with increased volatility. Bordo et al (2010) find that more dependency on foreign currency debt is associated with higher risk of currency and debt crises, leading to significant decline in output growth. In addition, a small literature analyzes the role of capital flows in intensifying the effects of financial crisis on the real sector. For instance, Tong and Wei (2011) find that greater dependence on FDI capital inflows before the crisis enhanced the resilience of countries during the crisis. Furthermore, Calderon and Kubota (2005) investigate the effect of disaggregated capital flows on the likelihood of a financial crisis. They find that, following a surge in capital inflows, FDI can mitigate a potential credit boom and thus crisis while debt inflows are unstable and associated with crises.

Another set of literature highlights the role of recipient countries' financial aspects in shaping the impact of international capital flows on economic growth. Hermes and Lensink (2003) find that it is only countries with well-developed financial systems that gain significantly from FDI. Using data on 80 countries over the period 1979–1998, Durham (2004) finds that the impact of equity portfolio investment and FDI on economic growth is dependent on the level of financial and institutional development in host countries. Alfaro et al (2004) find that FDI brings significant gains for recipient countries with well-developed financial systems. Choong et al (2010) find that capital flows affect economic growth through the stock market channel. Agbloyor et al (2014) reports similar results on the moderating role of recipient countries' financial market development on the capital flows – growth nexus for African countries. Prasad et al (2006) find that, if financial systems in recipient countries are weak, financially vulnerable industries will not grow fast. These studies are complimentary to the strand of literature that examines the relation between the level of domestic financial development and financing constraints across countries, and finds that firms grow faster if they are located in countries with developed financial markets (e.g., Rajan and Zingales, 1998; Demirguc-Kunt and Maksimovic, 1998; and Love, 2003).

Our paper extends these studies in several aspects: (i) by providing a more granular analysis of capital inflows and industry growth in emerging economies, (ii) by breaking down capital flows to equity-based and debt-based flows; (ii) by exploring the tradeoffs of capital flow

[5] They differentiate "quality FDI" based on several measures, including industry characteristics such as skill intensity and reliance on external capital.

compositions; (iii) by taking into account the role of financial markets of host countries in channeling foreign capital; and (iv) by comparing the potential impact of capital inflows during the pre-crisis period and during the recent global financial crisis.

B. Hypotheses

Firms need routine access to capital. They usually rely heavily on both domestic and foreign funds. Emerging economies receive a considerable amount of foreign funds in many ways (Madura, 2012). First is FDI to build manufacturing plants, acquiring existing firms, and other types of real investment. Second, foreign investors purchase equity and debt securities issued by existing firms in emerging economies and thus serve as creditors to these firms. Third, foreign banks extend loans to local firms for financing new investment and working capital needs. Foreign capital inflows could, thus, provide additional capital to host countries (Borensztein et al. 1998).

As Prasad et al (2007) argue, when an economy is closed to foreign capital, the interest rate is high. When the capital account is liberalized, the interest rate falls. Significant international capital inflows into the country lead the domestic interest rate to move toward world interest rates, and therefore enhance economic growth. Harrison et al (2004) analyze the relationship between capital flows and financing constraints and find that FDI is associated with a reduction in financial constraints, especially for domestically owned firms and in less developed countries. Henry (2000) and Bekaert et al (2005) find that financial liberalizations are negatively associated with the cost of equity capital.

However, the growth impact of capital flows may vary across industries (Alfaro and Charlton, 2007). Consider two industries, A and B, located in country X. Assume that industry A is more dependent on external finance (e.g., chemical industry) while industry B is less dependent on external finance (e.g., tobacco industry). Industry A issues more debt and/or applies for more bank loans to finance its investment opportunities than industry B, because industry B can finance its investment projects by internal cash flows. What would happen if country X starts to get more foreign capital inflows? The answer probably depends on whether the external capital comes through debt or through equity channels. Consider first the case where country X hosts more capital inflows in the form of debt. Then foreign investors either purchase bonds issued by or extend loans to firms in industry A. Therefore, one would expect that industries more reliant on external finance, such as industry A, to grow disproportionately faster than their counterparts that are less dependent on external finance. Now, assume that country X attracts capital inflows more in the form of equity. Under this scenario, it is not obvious that industry A benefits more than industry B. Mody and Murshid (2005) argue that, even if the rate of return in country X is lower than the world rate of return or the rate of return in the foreign country from where capital comes, foreign equity capital may still flow to country X but to achieve diversification. In an empirical analysis of 60 countries during the 1990s, they show that increases in capital flows were indeed driven by diversification motives. If diversification is the main motive, foreigners will likely choose to invest in a range of industries giving industry B the same, or even more if investors prefer less leveraged firms, chance to benefit from higher capital inflows. In addition, equity flows may be through acquisition of existing firms, which does not necessarily improve industry growth. Under these circumstances, equity inflows may not stimulate economic growth in country X. In sum, if

increasing quantity of finance and decreasing cost of capital are beneficial effects of capital inflows, we expect that the relationship between industry growth and capital flows to be stronger in industries that are more dependent on external finance, yet the strength of the relationship to depend on the form of foreign capital. Thus, our first two hypotheses are:

H1. *Capital inflows increase industry growth more in external finance dependent industries.*

H2. *Composition of capital inflows matters for growth.*

International capital flows bring both a range of benefits and possible risks to host countries (Koepke, 2015). The latter most frequently involve sudden stops (Caballero, 2014; Ghosh et al, 2016; and references therein). Conventional wisdom may suggest that FDI is a more stable source of foreign capital for recipient countries. Accordingly, FDI tends to reduce macroeconomic volatility because it is more stable than other forms of capital inflows, while portfolio investment may increase growth volatility (even as it tends to be associated with a more diversified investment). Empirical evidence supporting these arguments usually comes from crisis episodes such as the Latin American debt crisis, East Asian financial crisis, and the recent global financial crisis, although Albuquerque (2003) shows that this is the case also outside crisis periods and posits that FDI is more difficult to expropriate than portfolio investment, and hence financially less developed countries would receive capital more through FDI. Goldstein and Razin (2006) propose a model of a tradeoff between portfolio investment and FDI, showing the greater volatility of FDI net inflows relative to portfolio investment. Levchenko and Mauro (2007) investigate the behavior of different types of capital flows to a large sample of countries over 1970–2003. They observe that FDI is the most stable type of capital flows, followed by portfolio equity, portfolio debt, and other types of flows. In a different approach, Claessens et al. (1995) fail to find significant differences across forms of capital flows but observe that long-term debt flows are often as volatile as short-term flows. As Ahmed and Zlate (2014) mention, large but volatile capital inflows may lead to economic distortions.

Related to our work, we expect that some forms of capital flows (such as equity inflows) may reduce growth volatility of industries that are more reliant on external finance, as they are deemed to be a more stable source of external finance. When stable forms of capital inflows increase, these companies may be able to better plan their investment activities and other corporate decisions or make plans for longer horizons, decreasing fluctuations in output and value added. We expect that other types of capital flows (such as debt inflows) could be beneficial for growth, but not necessarily for dampening growth volatility because they are susceptible to volatility themselves. The association documented between domestic credit booms—which sometimes are followed by busts—and capital inflow surges—especially those dominated by debt inflows—supports this expectation: if capital inflows fuel financial imbalances, the reversal of these imbalances could manifest themselves in growth boosts and growth halts.[6] Capitals inflows in that case could help raise growth rates on average but not necessarily reduce their volatility. Thus our next hypothesis is:

[6] See, among others, Lane and McQuade (2014) and Dell'Ariccia et al (2016).

H3. *Certain forms of capital inflows may reduce growth volatility.*

The effect of international capital flows on economic growth might be conditional on the 'absorptive capacity' of recipient countries. Research has highlighted the role of financial and institutional development (Durham, 2004), trade policy (e.g., Balasubramanyam et al, 1996), and human capital development (Borensztein et al, 1998). Here we focus on the role of domestic financial markets by analyzing whether well-functioning financial systems can improve the economy's ability to benefit from hosting capital inflows, at least in terms of industry growth. Developed financial markets may promote capital accumulation, foster technological innovation, reduce transaction costs, and increase capital allocation efficiency, and therefore, stimulate economic growth. Thus, well-functioning financial systems in host countries could more effectively utilize foreign capital, by improving the absorptive capacity of the country and enhancing allocation of resources. While banking performance may matter for FDI and debt inflows, the stock market may particularly matter for portfolio investment. That said, a well-developed stock market can also facilitate FDI inflows through mergers and acquisitions. In addition, with an efficient and competitive banking sector in host countries, firms could better utilize foreign capital inflows to expand their businesses, which would further enhance economic growth. Indeed, Alfaro et al (2004) find that the effect of FDI on growth is contingent on the quality of financial markets in host countries: the more developed the financial system, the stronger is the growth-enhancing effect of FDI. Choong et al (2010) find that the development of the stock market in host countries can transform the negative impact of private capital flows (e.g., foreign debt and portfolio investment) on economic growth to a positive one. Igan and Tan (2015) find that, in addition to the composition of capital inflows, the structure of financial systems also matters for corporate credit growth. Overall, we hypothesize that the performance of domestic banking sector helps increase the absorptive capacity of recipient countries so that they can better exploit capital inflows toward enhancing industry growth. It follows that our next hypothesis is:

H4. *The impact of capital inflows on industry growth may depend on the characteristics of the host countries' banking sector.*

C. Methodology and Data Sources

Methodology

Identifying the causal effects of capital inflows on growth is challenging. Our main empirical strategy, in the spirit of Rajan and Zingales (1998), is to examine whether industries that are financially more dependent on external finance grow disproportionately faster if they are located in countries that host more capital inflows. Thus, our model specification is given by the following equation:

$$Growth_{i,c,t} = \omega_0 + \omega_1.Share_{i,c,t-1} + \omega_2.Capital\_Inflow_{c,t} + \omega_3.Capital\_Inflow_{c,t} * Dependence_i + \omega_4.Credit_{c,t} + \omega_5.Credit_{c,t} * Dependence_i + \theta_i + \theta_c + \theta_{ic} + \theta_t + \varepsilon_{i,c,t} \quad (1)$$

$Growth$ is industry growth measured by the growth of real output in industry i, country c in year t computed as $Growth_{i,c,t} = (Output_{i,c,t} - Output_{i,c,t-1})/Output_{i,c,t-1}$. As a

robustness check, we also compute industry growth using real value added[7]. Furthermore, to examine the tradeoffs between growth and growth volatility impact of capital inflows, we follow Larrain (2006) and Raddatz (2006) and use the standard deviation of industry growth as the dependent variable. $Share$ is the share of value added by each industry to total value added by all industries in a country and comes in with a one-period lag. We control for the industrial share of total value added to capture the heterogeneous degrees of importance and development across different industries within a country. $Dependence$ is Rajan and Zingales (1998) measure of industry dependence on external finance. $Capital\_Inflow$ is a vector of private capital inflow variables. To check how the pattern of capital inflows affects growth of industries that are financially dependent, we use interaction terms between a proxy for capital inflows variable and a proxy for external dependence (i.e., $Capital\_Inflow * Dependence$). We use five variables as proxies for capital inflows variable: total private capital inflows, their two main components, and their four major subcomponents. Total private capital inflows are made up of equity inflows and debt inflows. Equity inflows consist of both FDI and portfolio (equity) investment. Debt inflows consist of bank loans and nonbank lending (e.g., portfolio debt inflows). In short, $Total\ private\ capital\ inflows = Equity\ inflows\ (FDI + Portfolio\ investment) + Debt\ inflows\ (Bank\ lending + Nonbank\ lending)$. Equity- and debt-based capital inflows are derived from different (push and pull) factors (Davis, 2015), and thus different types of capital inflows may have non-identical effects on the real sector of host countries.

According to the literature (e.g., Rajan and Zingales, 1998), financial development of a country affects industry growth through the channel of firm financial dependence. Thus, besides capital inflows that we expect to have an impact on growth, we must also include a proxy for financial development (shown as $Credit$) and its interaction with external financial dependence ($Credit * Dependence$) into the model.[8] $Credit$ is sum of domestic credit to the private sector and stock market capitalization. Following existing studies (e.g., Rajan and Zingales, 1998; Hsu et al., 2014), we calculate credit as $Credit_{c,t} = Private\ Credit_{c,t} + Equity_{c,t}$, where $Private\ Credit$ is defined as $Private\ Credit_{c,t} = Domestic\ Credit_{c,t}/GDP_{c,t}$ i.e., the ratio of country c's domestic credit to the private sector in year t over its GDP in year t. Domestic credit to the private sector refers to financial resources provided to the private sector by financial institutions. $Equity$ is defined as $Equity_{c,t} = Stock\ Market\ Capitalization_{c,t}/GDP_{c,t}$, i.e., the ratio of country c's stock market capitalization in year t over its GDP in year t. Stock market capitalization is defined as the summation of share price times the number of shares outstanding for each listed stock.

We include a plethora set of industry, country, industry-country, and year dummies: θ_i refers to industry dummies to capture industry-specific factors that influence cross-industry growth differentials, such as industrial R&D and global shocks to the industry; θ_c are country dummies

[7] Since foreign capital brings technology, skills and capital to host countries that are essential for productivity growth, we use output growth as our main dependent variable that arguably better captures increases in productivity (Rajan and Zingales, 1998) than value added growth does. The latter is used as an alternative.

[8] By including a proxy for financial development, we examine whether for a given level of financial development, capital inflows improve the growth of financially dependent industries.

that capture time invariant country-specific factors that might drive cross-country differences in growth, such as the characteristics of the institutional, cultural, and legal environment; θ_{ic} are industry-country dummies to catch cross-industry cross-country fixed effects, such as industrial policies in each country; and finally θ_t denote year dummies to account for global shocks, such as world economic growth and oil prices. Therefore, one key advantage of our three-dimensional (industry–country–year) panel is that it allows us to use interacted fixed effects to control for a wide array of omitted variables (Hsu et al, 2014). We cluster standard errors by country and industry and confirm the robustness of the results to clustering at the country or industry level only.

Eq. (1) assists in testing our first three hypotheses. However, the association between capital flows and growth of financially dependent industries could vary systematically with a country's financial sector characteristics. Thus, to test our last hypothesis, split the sample based on certain banking system characteristics.[9, 10] We include a range of variables capturing competition, stability, profitability, and ownership structure.

Before proceeding, we should emphasize that one issue with finance and growth nexus is the well-known problem of endogeneity.[11] Capital flows may increase industrial growth leading to enlarged industrial sectors in emerging economies, which in turn attract more foreign capital. We address this issue by using differences-in-differences models applied to industry-level data, developed by Rajan and Zingales (1998). The model takes account of the varying degrees of external finance dependence across industrial sectors, and has been widely applied in the literature (e.g., Cetorelli and Gamberra, 2001; Claessens and Laeven, 2003 and 2005; Hsu et al., 2014). Since external finance dependence was measured using data from U.S.-listed firms, it is unlikely that U.S. financial dependence responds to output growth elsewhere (Fernández et al., 2013). As Igan and Tan (2015) argue, capital inflows could be regarded as exogenous to firm-level (and perhaps to industry-level) financing decisions, as country-level capital inflows are beyond the control of individual firms. In addition, we include an array of fixed effects that may mitigate omitted variable and endogeneity problems. That said, the endogeneity problem may still remain. Thus, as a robustness test, we check whether our results are similar if we exclude top five largest industries in each country in each year. For example, by excluding electrical machinery industry (ISIC 383) in South Korea and petroleum refineries industry (ISIC 353) in Russia, it is less likely that other small industries will be the pull factors of attracting foreign funds.

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[9] An alternative would be to use additional interaction terms and estimate the following specification: $Growth_{i,c,t} = \omega_0 + \omega_1 . Share_{i,c,t-1} + \omega_2 . Capital\_Inflow_{c,t} + \omega_3 . Capital\_Inflow_{c,t} * Dependence_i + \omega_4 . Characteristics_{c,t} + \omega_5 . Characteristics_{c,t} * Capital\_Inflow_{c,t} * Dependence_i + \omega_6 . Credit_{c,t} + \omega_7 . Credit_{c,t} * Dependence_i + \theta_i + \theta_c + \theta_{ic} + \theta_t + \varepsilon_{i,c,t}$, where $Characteristics$ represents different features of domestic banking systems. We do this as well but report the results obtained by splitting the sample as it is easier to interpret the findings.

[10] In unreported results, we also explore whether the relationship between capital inflows and industry growth is different with respect to the characteristics of stock markets (e.g., turnover and volatility). We do not find any robust and statistically significant results.

[11] Previous studies that use aggregate data have attempted to deal with endogeneity problem using different techniques including simulation equations and bilateral causality testing (Li and Liu, 2005).

In addition, admittedly, while our analysis is conducted at an industry level to deal with the standard criticism in the literature on reverse causality (i.e., that capital flows go to countries with higher growth), we acknowledge that even industry-level specifications may have omitted variable bias that may not be fully controlled by the industry effect. For example, more productive industries might, even without capital flows, have better output growth. Data limitations prevent us from including additional alternative controls beyond industry effect. Yet, as a robustness check, we confirm that the results hold when alternative fixed effects—in particular, industry-year interaction terms—are considered.

Data

We compile a rather comprehensive dataset of capital inflows for 22 emerging market economies at an annual frequency, using the statistics reported by the Institute of International Finance (IIF). The IIF divides total private capital inflows into four categories: FDI, portfolio investment, bank lending, and other private capital (or nonbank lending). FDI and portfolio investment are combined to form equity capital inflows, and bank lending and other capital inflows are combined to form debt capital inflows. Total capital inflows are then the sum of these two. In fact, similar to Davis (2015), we divide capital flows into equity-based capital flows (FDI and portfolio investment) and debt-based capital flows (bank lending and nonbank lending). Furthermore, private capital inflows and their components are reported in nominal U.S. dollars. Following Bluedorn et al (2013), we normalize capital inflows data by nominal GDP in U.S. dollars in order to capture their macroeconomic relevance. The latter series is taken from the World Development Indicators (WDI) database of the World Bank. Capital inflows refer to flows of capital from foreign private sector investors and lenders to emerging economies. Note also that we include only private inflows and exclude official inflows.

Capital inflows to emerging market economies were significant during the early 1990s, but decreased in the late 1990s (Figure 1). Starting again in 1998, capital inflows increased remarkably and peaked in 2007 when net capital inflows reached about $400 billion. After dropping sharply during the global financial crisis, capital inflows to emerging market economies have recovered and reached new highs against the backdrop of sluggish growth and very low interest rates in advanced economies.[12] Historically, FDI was the main channel through which foreign capital reached emerging economies (Table 1). More recently, and especially over the pre-crisis period 1998–2007, other types of capital flows such as bank lending have increased substantially. Interestingly, the share of value added of the manufacturing sector in many emerging market economies also increased over the same period from 1998 to 2007 (as illustrated for four individual countries in Figure 2). Is this a statistically and economically meaningful relationship? We seek to answer this question by looking at industry growth dynamics.

[12] As growth continues to recover and monetary policy normalizes in advanced economies, a reversal of capital flows—as illustrated in the "taper tantrum" of spring 2013 and China-related events in the summer of 2015—is likely. While our regression results could shed some light on the possible implications of such reversal on industrial growth in emerging markets, we leave a thorough statistical analysis of this period for future research.

The industry data are taken from the UNIDO Industrial Statistics Database, which contains highly disaggregated yearly data on the manufacturing sectors. These cover 73 industries of 3- and 4-digit codes. In order to be able to combine with the external finance dependence data, we regroup these 73 industries of ISIC Rev. 3 data into 28 industries of ISIC Rev. 2. Note that there are 30 countries included in the IIF capital flows database, however, we remove 8 countries because data for the main industry performance variable (i.e., output growth) are not available. External finance dependence of each industry is taken from Rajan and Zingales (1998). External finance dependence reflects technological characteristics of an industry that are relatively stable across space and time. Rajan and Zingales (1998) argue that the degree of U.S. firms' dependence on external finance is a good proxy for the demand for external funds in other countries because capital markets in the United States are the most advanced, letting industry constraints from the demand side rather than financial market constraints from the supply side speak. See also Hsu et al (2014), among others.

Table 2 provides detailed definitions of all variables used in the analysis.[13] The time span of the data is 1998−2010.[14] The start date of 1998 allows us to assess both a decade of surge in inflows to emerging economies prior to the global financial crisis and the sharp decline experienced during the crisis.

Table 3 presents the averages for capital inflows, industry growth, and other variables by country (Panel A), by industry (Panel B), and the summary statistics for the regression sample covering the period 1998–2010 (Panel C). Panel A indicates that total private capital inflows range from 0.7 percent of GDP (Indonesia) to 15.7 percent (Bulgaria), and Panel C shows that total private capital inflows in the pooled sample have a mean of 5.7 percent with a standard deviation of 5.8 percent. Panel A also shows that industry growth (real output growth) ranges from a within-country average of -20 percent (in Argentina) to a within-country average of 24 percent (in China), and Panel B shows that industry growth ranges from 3 percent (Leather and fur products, ISIC 323) to 16 percent (Misc. petroleum and coal products, ISIC 354). Panel C reports the pooled mean and standard deviation of industry growth, which are 10 percent and 32 percent, respectively.[15]

Figure 3 shows the trend of aggregate as well as disaggregated components of private capital inflows. Our sample of 22 emerging economies experienced a significant increase in capital inflows from 1998 to 2007, with a remarkable surge during pre-crisis years between 2002 and 2007. Inflows dropped dramatically at the onset of the global financial crisis in 2008, but recovered as early as 2010. The rebound in debt inflows exceeded that in equity inflows, which in part reflects the sharper increase in debt inflows right before the crisis. Figure 4 ranks our

[13] In the Appendix, we report the composition of our sample by country and by industry.

[14] UNIDO data comes with a significant lag, this is the reason we cannot use the latter years of capital inflows data in the regression analysis.

[15] Note that, during our sample period, industries that are more dependent on external finance (with index value above median) grew, on average, each year 2 percent more than industries less in need of external finance (with index value below median).

(continued…)

sample of countries based on aggregate private capital inflows (as percent of GDP) in year 2007, when the surge reached its peak. Ecuador, Indonesia, Morocco, and Mexico experienced relatively little capital inflows (in the bottom 10th percentile). At the other end of the spectrum, Eastern European countries such as Bulgaria, Hungary, Romania, and Russia underwent unprecedented booms (in the top 90th percentile).[16]

Do such phenomenal international capital inflows to emerging economies stimulate industry growth in recipient countries? Figure 5 displays the trend of capital inflows and aggregate industry growth in our sample of 22 emerging economies during the 1998–2010 period. Industry growth moves closely in tandem with capital inflows. Furthermore, since our empirical strategy is to examine whether industries more in need of external finance grow disproportionately faster than their peers if they happened to be located in countries with higher amount of capital inflows, we first check what our raw data say about this. We average the industry output growth rate across four sub-samples: industries highly dependent on external finance located in countries with low and high capital inflows, and industries less dependent on external finance located in, again, countries with low and high capital inflows. The three types of capital inflows—total, equity, and debt inflows—are presented in the three panels A, B, and C, respectively (Table 4). It is evident that output growth rate is different across industries: industries more dependent on external finance grew disproportionately faster over the sample period 1998–2010 if they were located in countries hosting more total (Table 4, Panel A) or debt (Table 4, Panel C) capital inflows. In the next section, we examine whether these relationships are statistically significant after industry and country effects are purged out.

III. Empirical Findings

A. Main Results

We start our analysis by examining how industry growth behaves in relation to capital inflows. Table 5 reports the results from estimating Eq. (1) using the whole sample period (1998–2010) as well as splitting the sample period to pre- (1998–2007) and post-crisis (2008–2010). The estimation is carried out separately for different types of flows. The coefficients on the interaction terms between capital inflows and external finance dependence are identified from the cross-industry variation within a country and capture the differential effects of capital inflows on growth across industries. Put in a more intuitive way, these coefficients represent the difference in growth among industries that are dependent on external finance at varying degrees and those that are in countries with varying degrees of capital inflows.

Our first main finding is that private capital inflows were associated with higher output growth during the pre-crisis years in industries more dependent on external finance (revealed by the positive and statistically significant coefficient on the interaction term between the capital

[16] The latter phenomenon has been widely studied not only from an academic point of view but also from a policymaker's perspective with vulnerability to a sudden stop in mind. See, for instance, Lane and Milesi-Ferretti (2007) and the references therein.

(continued…)

inflow and external finance dependence variables in Table 5, Panel B, Columns 1 and 2).[17] This association breaks down during the crisis (Table 5, Panel C). This finding is consistent with H1 articulated in Section II.B.

Splitting capital inflows to equity and debt inflows reveals that this association is only significant for debt inflows and not equity inflows (Table 5, Panel B, Columns 3 to 6). Breaking down inflows further shows that the distinction between equity and debt inflows remain and that the association between debt inflows and industry growth is significant both for banks and for nonbanks (Table 6). This confirms that composition of capital inflows matters for growth, as H2 states in Section II.B, and shows that debt inflows positively affect growth.

Are the coefficients of interest we obtain, which measure the differential effect of capital inflows in external-finance-dependent industries, economically meaningful? Consider an industry such as electrical machinery (ISIC 383) that is at the 75th percentile of external dependence and an industry such as leather and fur products (ISIC 323) that is at the 25th percentile of external dependence. Focusing on Table 5, Panel B, Columns 2 and 6, the coefficient estimate indicates that the difference in output growth rates between electrical machinery and leather and fur products in Bulgaria—a country situated at the 75th percentile in terms of total (debt) capital inflows—is 1.58 (1.71) percentage points higher than the difference in output growth rate between the same industries in Indonesia—a country situated at the 25th percentile in terms of total (debt) capital inflows. To confirm that these figures are economically significant, we compare them to the average output growth rate over the period 1998–2007. We observe that the effect of total (debt) capital inflows accounts for about 14 percent (16 percent) of the sample growth mean of 11 percent.

Note also that our results are consistent with experiences in individual countries. For example, Bulgaria experienced huge increases in total (debt) capital inflows from 6.3 percent (2.9 percent) in 1999 to as high as 47.4 percent (27.3 percent) in 2007. The country also enjoyed a sharp bounce in its industry output growth from -15 percent to 27 percent over the same period. However, the growth experience is heterogeneous across industries: sectors more dependent on external finance (index greater than median) grew 4 percentage points faster on average than the industries that are less dependent. For instance, non-electrical machinery (ISIC 382) with high dependence on external finance grew about 20 percent more than leather and fur products (ISIC 323) with low dependence on external finance.

Turning to growth volatility, equity inflows seem to reduce industry growth volatility (Table 7). Looking into the breakdown, this appears to be the case for FDI but not for portfolio investment. As for debt inflows, we find very little evidence that this type of flows—either through commercial banks or through nonbank financial institutions—are associated with a reduction in output growth volatility. The coefficients on the interaction term between capital

[17] As a side note, the coefficient on the capital inflow variable is also positive and significant throughout the sample period. This, however, is subject to reverse causality concern: rather than capital inflows enhancing growth, it is quite likely that higher growth attracts more capital inflows.

(continued…)

inflows and external finance dependence are negative but not statistically significant. These findings are consistent with H3.[18]

Moving from an industry at the 25th percentile to an industry at the 75th percentile of external dependence, industry growth volatility declines by about 1 percent if it is located in a country at the 75th percentile rather than in a country at the 25th percentile of equity inflows.

Finally, we investigate whether the performance of the banking sector in the host country plays a role in channeling foreign capital inflows to economic growth. We focus on three dimensions of bank performance: competition, stability and profitability, and ownership structure. In Table 8, Panels A, B, and C show the results for each dimension, respectively. Competition is proxied by the Boone indicator and with an index that summarizes the restrictions on financial conglomerates. Stability is measured by the nonperforming loan ratio while profitability is measured by return on assets. Ownership structure is captured by foreign bank and government bank asset shares. In each panel, we present the regression results for two subsamples: below the median of each variable versus above the median.

The results support the view that the better-functioning financial markets increase the capacity of host countries in shaping the real effects of foreign capital inflows. Specifically, the results suggest that, based on the comparison of the coefficient on the capital-inflow-dependence interaction term: (i) a more competitive banking sector is a catalyst in reaping the benefits of capital inflows by external finance dependent firms, and, interestingly, this is the case for both equity and debt inflows, (ii) a more stable and more profitable banking system is instrumental for these firms' ability to convert debt inflows into stronger growth, and (iii) existence of foreign and government banks seem to strengthen the capital inflows – growth nexus for debt inflows.

B. Robustness Checks

We do a battery of robustness checks to ensure that our results are not driven by the choice of variables or of the econometric specification.

Starting with the dependent variable, using value added growth rates instead of industrial output growth rates does not alter the main message that debt inflows are associated with stronger growth in the pre-crisis years (Table 9, Panel A). Similarly, the results are robust when we use the share of value added as the dependent variable (Table 9, Panel B).

Furthermore, employing alternative measures of external finance dependence or correlates such as R&D intensity deliver comparable results (Table 9, Panels C and D). The first of these alternative measures follows Laeven and Valencia (2013), which in turn applies the Rajan-

[18] One can argue that FDI tends to be more stable than debt flows but volatility in all types of flows may rise during large global shocks and undo any volatility-reducing effects of FDI. In results not reported for the sake of brevity, we examine the extent this negative relationship survives during the global financial crisis and find that external-finance-dependent industries in countries that received more FDI flows in the pre-crisis period experienced less growth volatility during the crisis.

Zingales methodology to compute external finance dependence (that is, calculating dependence as capital expenditures minus cash flow from operations divided by capital expenditures) to the sample period. In other words, we compute this measure using the same formula but for the period 1998–2010, as an industry's intrinsic need for external finance may have changed over time due to changes in technology. The idea behind the second alternative of using R&D intensity as a proxy comes from the observation that these companies tend to be younger firms with more growth potential but less internal resources to finance investment and output. An influx of capital and a relaxation of financing constraints could help them more than it would others. A similar argument could also be made based on the ratio of tangible to intangible assets in more R&D-intensive firms compared to less R&D-intensive companies. The former tends to have more intangible assets and find it more difficult to pledge these as collateral, and hence, are more credit-constrained.

Turning to the left-hand-side variables in our regressions, we next look at what happens when we use alternative series for capital inflows. Using net instead of gross inflows does not alter the findings (Table 10).[19] In a related but different exercise, we use gross capital inflows data put together by Bluedorn et al. (2013) instead of those reported by the IIF and again we get a similar picture (Table 11). The only notable difference is the now marginally significant coefficient on gross FDI inflows and external finance dependence interaction term.

Finally, we confirm the robustness of our results to different choices on econometric modelling and sampling. Specifically, we estimate the coefficients using error terms clustered at the industry or country level alone (rather than at the industry-country level), employing different sets of fixed effects, excluding the top 5 industries in a particular country in a given year, and introducing a term with the squared value of capital inflows to capture any nonlinear dynamics. The results are shown in Table 12, Panels A, B, and C, respectively.[20] They confirm the findings from our baseline regressions.[21]

IV. CONCLUDING REMARKS

The risks associated with capital inflows (and their sudden stop) have been studied extensively in the literature. In this paper, we look at the other side of the coin, that is, the possible benefits of capital inflows in the form of stronger growth.

[19] The IIF does not report bank lending (outward) and non-bank lending (outward) and, hence, it is not possible to split the net debt inflows further into bank versus nonbank flows.

[20] Note that in all of these robustness tests we also examine the effect of equity inflows on growth but again we do not find any significant results. Thus, we present the results only for total capital inflows and debt inflows.

[21] We also check the robustness of the results to adding more explanatory variables. Our baseline specification already controls for a range of fixed effects, so not surprisingly controlling for a battery of country characteristics such as trade openness and economic freedom does not alter the findings either. The results of these additional robustness checks are not reported for the sake of brevity but are available from the authors upon request.

Our identification strategy exploits any cross-industry differentials in the association between different types of capital inflows and growth. Specifically, capital inflows are likely to increase availability of credit (quantity) and reduce interest rates (cost of borrowing), and hence we expect that industries more dependent on external finance grow disproportionately faster if they are located in countries that host more capital inflows. We find that to be the case in the pre-crisis period of 1998–2007: private capital inflows are associated with stronger growth in industries that are more dependent on external finance. This association is driven by debt, rather than equity, inflows. We also observe a reduction in output volatility but this association is more pronounced for equity, rather than debt, inflows. These relationships break down during the crisis, however. We also document that the inflows-growth nexus is stronger in countries with well-functioning banks. These findings point to the need to take the composition of capital inflows into account when assessing their costs and benefits. They also hint at the importance of an undisrupted global financial system for emerging markets to harness the growth benefits of capital inflows.

We acknowledge that the findings from the post-crisis period have limitations as we have used only three years of data after the crisis. Future studies should use longer data to further examine whether the positive relationship between debt-creating inflows and growth indeed breaks down after the crisis, or may even have reversed itself. This is an important issue as the findings have important policy implications for designing growth strategies. For example, policymakers could accordingly decide between an external-finance driven growth model with long periods of strong growth but subject to large negative shocks and high growth volatility versus a growth model that targets a lower level of growth and volatility.

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Table 1. Private Capital Inflows to 30 Emerging Market Economies

	Panel A. Value (billion dollars)				
	1998	2007	2008	2010	2014
Total private capital inflows	153,953	1,261,256	682,401	1,213,139	1,048,077
Total equity inflows	156,648	574,313	452,794	668,262	687,187
FDI	141,115	490,750	535,367	521,227	585,971
Portfolio investment	15,533	83,563	-82,573	147,035	101,216
Total debt inflows	-2,694	686,943	229,607	544,877	360,891
Bank lending	-89,175	442,352	74,880	171,503	175,075
Non-bank lending	86,481	244,591	154,727	373,374	185,816
	Panel B. In percentage of total				
	1998	2007	2008	2010	2014
Total private capital inflows	100	100	100	100	100
Total equity inflows	102	46	66	55	66
FDI	92	39	78	43	56
Portfolio investment	10	7	-12	12	10
Total debt inflows	-2	54	34	45	34
Bank lending	-58	35	11	14	17
Non-bank lending	56	19	23	31	18
	Panel C. Average growth (%)				
	1998-2007		2008	2010- 2014	
Total private capital inflows	22		-46	12	
Total equity inflows	15		-21	6	
FDI	16		9 ^	10	
Portfolio investment	34		-199	380	
Total debt inflows	587		-67	38	
Bank lending	-1 ^^		-83	315	
Non-bank lending	25		-37	13	

Sources: IIF and own calculations.

^ FDI dropped in 2009 by 28 percent.

^^ We observe negative bank lending inflows during 1998-2002. However, these inflows increased significantly over 2003-2007, and the average growth over this period is 127 percent.

Table 2. Definitions and Sources of Variables

Variable	Definition	Source
Industry Growth		
Output growth	Growth rate of real output in a particular sector in each country. UNIDO reports nominal data in U.S. dollars. Nominal value added deflated using producer price index of finished goods index (taken from Economic Research, Federal Reserve Bank of St. Louis).	UNIDO database, and own calculations
Value added growth	Growth rate of real value added in a particular sector in each country. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. Nominal value added deflated using producer price index of finished goods index.	UNIDO database, and own calculations
Growth Volatility		
Output volatility	Standard deviation of the annual growth rate of real output in a particular sector in each country, using a five-year rolling window.	UNIDO database, and own calculations
Value added volatility	Standard deviation of the annual growth rate of real value added in a particular sector in each country, using a five-year rolling window.	UNIDO database, and own calculations
Industry Characteristics		
Dependence	Measure of an industry's dependence on external finance, defined as 1 minus industry cash flow over industry investment of large publicly traded U.S. firms.	Rajan and Zingales (1998)
Capital Inflows		
Private capital inflows	Flows of capital (both equity and debt) from foreign private sector investors and lenders to emerging economies, as % of GDP. Note that foreign investors' withdrawals of capital are subtracted.	Institute of International Finance
Equity inflows	Net inflows of direct and portfolio equity capital, including reinvestment of earnings on equity investment, as % of GDP.	Institute of International Finance
Direct investment	Net inflows of direct equity capital, including reinvestment of earnings on direct equity	Institute of International Finance
Portfolio investment	Net inflows of portfolio equity capital, including reinvestment of earnings on portfolio equity investment, as % of GDP.	Institute of International Finance
Debt inflows	Sum of commercial bank lending and lending from non-bank sources.	Institute of International Finance
Commercial banks	Net disbursements from commercial banks (excluding credits guaranteed or insured under credit programs of creditor governments), as % of GDP. This generally includes bond purchases by commercial banks.	Institute of International Finance
Non-banks	Net external financing provided by all other private creditors, as % of GDP. This includes flows from nonbank sources into bond markets, as well as deposits in local banks by nonresidents other than banks.	Institute of International Finance
Controls		
Share	The value added of each sector divided by the total value added of all sectors in a country in each year.	UNIDO database, and own calculations
Credit	Sum of the ratio of domestic credit to private sector to GDP and the ratio of stock market capitalization of listed companies to GDP of a country in a given year.	World Bank: World Development Indicators Database
Banking System Characteristics		
Boone indicator	A measure of degree of competition based on profit-efficiency in the banking market. It is calculated as the elasticity of profits to marginal costs. An increase in the Boone indicator implies a deterioration of the competitive conduct of financial intermediaries.	World Bank: Global Financial Development Database
Restrictions on financial conglomerate	A variable that ranges from zero to twelve, with twelve indicating the highest restrictions on bank conglomerate. The financial conglomerate includes the extent to which banks may own and control nonfinancial firms, the extent to which nonfinancial firms may own and control banks, and the extent to which nonbank financial firms may own and control banks.	World Bank surveys on bank regulation
NPLs	Ratio of defaulting loans (payments of interest and principal past due by 90 days or more) to total gross loans (total value of loan portfolio).	World Bank: Global Financial Development Database
ROA	Commercial banks' net income to yearly averaged total assets.	World Bank: Global Financial Development Database
Foreign bank penetration	The extent to which the banking system's assets are foreign owned.	World Bank surveys on bank regulation
Government bank penetration	The extent to which the banking system's assets are government owned.	World Bank surveys on bank regulation

Table 3. Descriptive Statistics, 1998-2010

Panel A. Average by Country

			Equity Inflows			Debt Inflows			Industry Growth			
Code	Country	Total	Total	Direct Investment	Portfolio Investment	Total	Commercial Banks	Non-Banks	Output	Value Added	Credit (%)	Share
1	Argentina	3.455	2.193	2.543	-0.350	1.261	-0.459	1.721	-0.20	-0.18	53.94	0.04
2	Brazil	3.962	3.277	2.573	0.704	0.685	0.076	0.610	0.08	0.08	86.88	0.04
3	Bulgaria	15.734	7.949	7.797	0.152	7.785	1.759	6.026	0.07	0.10	53.33	0.04
4	Chile	9.673	6.992	6.679	0.313	2.681	1.343	1.337	0.04	0.03	175.02	0.05
5	China	4.678	4.011	3.532	0.480	0.666	0.313	0.353	0.24	0.27	176.31	0.04
6	Colombia	3.736	3.287	3.215	0.072	0.449	-0.428	0.877	0.09	0.08	60.67	0.04
7	Czech Republic	8.791	5.405	5.149	0.256	3.386	0.639	2.747	0.11	0.12	67.52	0.04
8	Ecuador	3.113	2.166	2.160	0.006	0.947	0.706	0.241	0.09	0.18	28.61	0.04
9	Egypt	3.925	2.931	3.087	-0.156	0.994	1.013	-0.019	0.16	0.21	98.19	0.04
10	Hungary	13.791	3.564	3.417	0.147	10.226	4.532	5.695	0.10	0.10	73.21	0.04
11	India	3.670	2.358	1.402	0.955	1.313	0.586	0.727	0.13	0.12	96.14	0.04
12	Indonesia	0.710	1.810	1.467	0.343	-1.100	-1.400	0.300	0.17	0.20	56.14	0.04
13	Korea	2.636	1.948	1.193	0.754	0.688	0.096	0.591	0.07	0.05	188.56	0.04
14	Malaysia	5.506	3.559	3.743	-0.184	1.947	-0.370	2.316	0.07	0.06	259.22	0.04
15	Mexico	2.939	2.081	2.000	0.082	0.858	0.376	0.482	0.09	0.11	44.05	0.04
16	Morocco	3.157	2.822	2.743	0.079	0.335	0.317	0.018	0.08	0.07	101.89	0.04
17	Peru	4.826	3.665	3.619	0.046	1.161	0.164	0.997	0.07	0.07	63.53	0.04
18	Poland	8.657	3.260	3.033	0.227	5.397	2.504	2.893	0.09	0.08	59.43	0.04
19	Romania	8.589	3.787	3.646	0.141	4.801	3.043	1.759	0.06	0.06	35.57	0.04
20	Russia	5.689	2.077	1.861	0.216	3.612	0.971	2.641	0.22	0.22	79.03	0.04
21	South Africa	4.851	3.492	1.026	2.467	1.359	-0.051	1.410	0.07	0.06	334.75	0.05
22	Turkey	4.021	1.719	1.401	0.319	2.302	1.056	1.245	0.13	0.09	52.11	0.04

Table 3: Continued …

Panel B. Average by Industry

Row	Industry	ISIC Rev. 2	ISIC Rev. 3	Output	Value Added	Dependence	Share
1	Food products	311	151, 1520, 153, 154	0.13	0.15	0.14	0.14
2	Beverages	313	155	0.06	0.07	0.08	0.05
3	Tobacco	314	1600	0.04	0.05	-0.45	0.02
4	Textiles	321	171, 172, 1730	0.06	0.03	0.40	0.04
5	Wearing apparel, except footw ear	322	1810	0.04	0.05	0.03	0.04
6	Leather and fur products	323	1820, 191	0.03	0.04	-0.14	0.00
7	Footw ear, except rubber or plastic	324	1920	0.05	0.08	-0.08	0.01
8	Wood products, except furniture	331	2010, 202	0.10	0.10	0.28	0.02
9	Furniture and fixtures, excel. metal	332	3610	0.11	0.10	0.24	0.02
10	Paper products	341	210	0.08	0.10	0.18	0.03
11	Printing and publishing	342	2211, 2212, 2219, 222	0.07	0.07	0.20	0.02
12	Industrial chemicals	351	2330, 241, 2421, 2430	0.15	0.14	0.25	0.06
13	Other chemical product	352	2422, 2423, 2424, 2429	0.08	0.09	0.22	0.06
14	Petroleum refineries	353	2320	0.18	0.18	0.04	0.10
15	Misc. petroleum and coal products	354	2310	0.16	0.18	0.33	0.01
16	Rubber products	355	251	0.11	0.10	0.23	0.01
17	Plastic products	356	2520	0.11	0.11	1.14	0.03
18	Pottery, china, earthenw are	361	2691	0.11	0.09	-0.15	0.00
19	Glass and products	362	2610	0.09	0.10	0.53	0.01
20	Other non-metallic mineral products	369	2692, 2693, 2694, 2695, 2696, 2699	0.12	0.15	0.06	0.05
21	Iron and steel	371	2710, 2731	0.11	0.14	0.09	0.05
22	Non-ferrous metals	372	2720, 2732	0.12	0.14	0.01	0.04
23	Fabricated metal products	381	281, 289	0.11	0.11	0.24	0.05
24	Non-electrical machinery	382	291, 292, 2930, 3000	0.09	0.11	0.45	0.06
25	Electrical machinery	383	2213, 2230, 3110, 3120, 3130, 3140, 3150, 3190,	0.10	0.07	0.77	0.07
26	Transport equipment	384	3410, 3420, 3430, 351, 3520, 3530, 359	0.14	0.12	0.31	0.08
27	Professional and scientific equipment	385	331, 3320, 3330	0.10	0.10	0.96	0.01
28	Other manufacturing	390	369	0.08	0.07	0.47	0.01

Table 3: Concluded

Panel C. Summary Statistics

Variable	N	Mean	S.D.	Min	25th percentile	Median	75th percentile	Max
Private Capital Inflow $_{ct}$	286	5.730	5.820	-7.900	2.630	4.700	8.120	47.380
Equity Inflow $_{ct}$	286	3.380	2.590	-2.420	1.750	2.950	4.500	20.110
Direct Investment$_{ct}$	286	3.060	2.510	-2.090	1.450	2.490	3.980	19.880
Portfolio Investment$_{ct}$	286	0.320	1.150	-4.640	-0.050	0.090	0.530	6.590
Debt Inflow $_{ct}$	286	2.350	4.410	-9.910	0.100	1.570	4.020	27.270
Commercial Banks$_{ct}$	286	0.760	2.860	-14.760	-0.370	0.550	1.680	12.520
Non-Banks$_{ct}$	286	1.590	2.750	-7.280	0.000	0.900	2.480	17.920
Output Growth$_{ict}$	5649	0.10	0.32	-0.80	-0.04	0.08	0.21	1.81
Value Added Growth$_{ict}$	5496	0.10	0.40	-0.85	-0.07	0.06	0.21	2.24
Credit$_{ct}$	286	102.00	82.10	10.06	46.23	73.58	136.26	458.81
Share$_{ict}$	6113	0.04	0.05	-0.01	0.01	0.02	0.05	0.60
Dependence$_{i}$	28	0.24	0.32	-0.45	0.05	0.23	0.37	1.14

Table 4. Industry Growth at times of Low vs High Capital Inflows

Panel A. Total Capital Inflows

	Countries with low capital inflows (25th p.)	Countries with high capital inflows (75th p.)	Difference
(1) High dependent industries (75th p.)	0.08	0.12	0.04
(2) Less dependent industries (25th p.)	0.07	0.10	0.03
Difference-in-difference =	0.01	0.02	0.01

Panel B. Equity Capital Inflows

	Countries with low capital inflows (25th p.)	Countries with high capital inflows (75th p.)	Difference
(3) High dependent industries (75th p.)	0.12	0.10	-0.02
(4) Less dependent industries (25th p.)	0.09	0.10	0.01
Difference-in-difference =	0.03	0.00	-0.03

Panel C. Debt Capital Inflows

	Countries with low capital inflows (25th p.)	Countries with high capital inflows (75th p.)	Difference
(5) High dependent industries (75th p.)	0.04	0.12	0.08
(6) Less dependent industries (25th p.)	0.05	0.11	0.06
Difference-in-difference =	-0.01	0.01	0.02

Table 5. Capital Flows and Industry Growth

This table reports the results estimating $Growth_{ict} = \omega_0 + \omega_1.Share_{i,c,t-1} + \omega_2.Capital\_Inflow_{c,t} + \omega_3.Capital\_Inflow_{c,t} * Dependence_i + \omega_4.Credit_{c,t} + \omega_5.Credit_{c,t} * Dependence_i + \theta_i + \theta_c + \theta_{ic} + \theta_t + \varepsilon_{i,c,t}$ where i, c and t denote industry i in country c in year t. $Growth$ is industry growth: growth in real output. $Share$ is the share of value added of each industry to total value added of all industries in a country, one period lag. $Dependence$ is Rajan and Zingales' (1998) measure of industries' dependence on external finance. $Capital\_Inflow$ is a vector of private capital inflow variables. $Credit$ is sum of domestic credit to private sector and stock market capitalization. See Table 2 for detailed definition of variables. θ_i, θ_c, θ_{ic} and θ_t denote the dummies for industry, country, industry*country, and year respectively. Regressions are estimated using OLS. The statistical inferences are based on robust standard errors (associated t-values reported in parentheses) clustered by industry-country level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Our sample includes 28 industries with three-digit ISIC, Rev.2 for 22 emerging economies over 1998-2010. In Panel A, $Crisis$ is a dummy variable that takes the value of 1 for the global financial crisis period 2008-09, and 0 otherwise.

	Total Inflows		Equity Inflows		Debt Inflows	
	[1]	[2]	[3]	[4]	[5]	[6]
Panel A. Whole sample period: 1998-2010						
Crisis	-0.100	-0.086	-0.090	-0.076	-0.100	-0.096
	(-1.28)	(-1.09)	(-1.15)	(-0.96)	(-1.28)	(-1.21)
Share (t-1)	-4.421***	-4.423***	-4.442***	-4.445***	-4.417***	-4.418***
	(-5.31)	(-5.31)	(-5.37)	(-5.38)	(-5.28)	(-5.28)
Capital_Inflow	0.008***	0.008***	0.008***	0.008***	0.010***	0.010***
	(7.24)	(7.28)	(3.65)	(3.95)	(6.04)	(5.96)
*Capital_Inflow * Dependence*	0.002	0.002	0.002	0.002	0.003	0.002
	(0.80)	(0.64)	(0.52)	(0.41)	(0.69)	(0.54)
Credit		-0.000		-0.000		-0.000
		(-1.45)		(-1.48)		(-0.59)
*Credit * Dependence*		0.000		0.000		0.000
		(0.55)		(0.75)		(0.55)
Constant	0.725***	0.747***	0.718***	0.739***	0.740***	0.748***
	(3.52)	(3.62)	(3.50)	(3.60)	(3.58)	(3.61)
N	5524	5524	5524	5524	5524	5524
R^2	0.245	0.245	0.237	0.237	0.245	0.245
Panel B. Pre-crisis period: 1998-2007						
Share (t-1)	-5.002***	-5.008***	-5.018***	-5.019***	-5.009***	-5.015***
	(-5.33)	(-5.35)	(-5.40)	(-5.40)	(-5.33)	(-5.35)
Capital_Inflow	0.004**	0.004**	0.003	0.003	0.005**	0.005**
	(2.52)	(2.35)	(1.03)	(1.27)	(2.51)	(2.25)
*Capital_Inflow * Dependence*	0.008**	0.009**	0.004	0.003	0.013***	0.014***
	(2.34)	(2.35)	(0.73)	(0.63)	(2.93)	(2.90)
Credit		-0.000		-0.000		-0.000
		(-0.89)		(-1.38)		(-0.36)
*Credit * Dependence*		-0.000		0.000		-0.000
		(-0.71)		(0.60)		(-0.81)
Constant	0.856***	0.877***	0.853***	0.876***	0.867***	0.879***
	(3.75)	(3.83)	(3.76)	(3.84)	(3.79)	(3.83)
N	4396	4396	4396	4396	4396	4396
R^2	0.257	0.258	0.252	0.252	0.259	0.259

	Total Inflows		Equity Inflows		Debt Inflows	
	[1]	[2]	[3]	[4]	[5]	[6]
Panel C. Crisis period: 2008-2010						
Share (t-1)	-8.956***	-8.953***	-8.848***	-8.881***	-8.950***	-8.932***
	(-6.97)	(-6.98)	(-6.95)	(-7.05)	(-6.94)	(-6.92)
Capital_Inflow	0.015**	0.015**	0.037**	0.046**	0.017**	0.016**
	(2.35)	(2.27)	(2.17)	(2.34)	(2.15)	(2.06)
*Capital_Inflow * Dependence*	-0.021	-0.023	-0.029	-0.051	-0.029	-0.028
	(-1.44)	(-1.54)	(-0.75)	(-1.19)	(-1.52)	(-1.52)
Credit		-0.000		-0.002*		0.000
		(-0.49)		(-1.83)		(0.70)
*Credit * Dependence*		0.004**		0.005**		0.003**
		(2.38)		(2.17)		(2.11)
Constant	1.509***	1.502***	1.466***	1.573***	1.541***	1.463***
	(7.56)	(7.28)	(7.34)	(7.64)	(7.69)	(7.08)
N	1128	1128	1128	1128	1128	1128
R^2	0.535	0.542	0.528	0.536	0.531	0.538
All panels:						
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry*Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
# Countries	22	22	22	22	22	22
# Industries	28	28	28	28	28	28

Table 6. Capital Flows and Industry Growth: Breaking Down Equity and Debt Inflows

This table reports the results estimating $Growth_{ict} = \omega_0 + \omega_1.Share_{i,c,t-1} + \omega_2.Capital\_Inflow_{c,t} + \omega_3.Capital\_Inflow_{c,t} * Dependence_i + \omega_4.Credit_{c,t} + \omega_5.Credit_{c,t} * Dependence_i + \theta_i + \theta_c + \theta_{ic} + \theta_t + \varepsilon_{i,c,t}$ where i, c and t denote industry i in country c in year t. $Growth$ is industry growth: growth in real output. $Share$ is the share of value added of each industry to total value added of all industries in a country, one period lag. $Dependence$ is Rajan and Zingales' (1998) measure of industries' dependence on external finance. $Capital\_Inflow$ is a vector of private capital inflow variables. $Credit$ is sum of domestic credit to private sector and stock market capitalization. See Table 2 for detailed definition of variables. θ_i, θ_c, θ_{ic} and θ_t denote the dummies for industry, country, industry*country and year respectively. Regressions are estimated using OLS. The statistical inferences are based on robust standard errors (associated t-values reported in parentheses) clustered by industry-country level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Our sample includes 28 industries with three-digit ISIC, Rev.2 for 22 emerging economies over 1998-2007.

	Equity Inflows				Debt Inflows			
	Direct Investment		Portfolio Investment		Commercial Banks		Non-Banks	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Share (t-1)	-5.022***	-5.023***	-5.020***	-5.021***	-5.012***	-5.017***	-5.020***	-5.022***
	(-5.40)	(-5.40)	(-5.41)	(-5.42)	(-5.36)	(-5.38)	(-5.35)	(-5.36)
Capital_Inflow	0.002	0.002	0.007	0.009	0.005	0.004	0.007*	0.007*
	(0.58)	(0.69)	(1.24)	(1.60)	(1.34)	(1.14)	(1.85)	(1.82)
*Capital_Inflow * Dependence*	0.005	0.004	0.001	-0.001	0.020***	0.022***	0.014**	0.014*
	(0.80)	(0.69)	(0.05)	(-0.04)	(2.71)	(2.67)	(2.02)	(1.91)
Credit		-0.000		-0.000		-0.000		-0.000
		(-1.13)		(-1.49)		(-0.32)		(-0.85)
*Credit * Dependence*		0.000		0.000		-0.000		0.000
		(0.64)		(0.73)		(-0.76)		(0.01)
Constant	0.852***	0.871***	0.868***	0.898***	0.866***	0.876***	0.862***	0.879***
	(3.75)	(3.82)	(3.82)	(3.94)	(3.79)	(3.82)	(3.78)	(3.84)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# Countries	22	22	22	22	22	22	22	22
# Industries	28	28	28	28	28	28	28	28
N	4396	4396	4396	4396	4396	4396	4396	4396
R^2	0.252	0.252	0.252	0.252	0.256	0.256	0.256	0.256

Table 7. Capital Flows and Industry Growth Volatility

This table reports the results estimating $Volatility_{ict} = \omega_0 + \omega_1.Share_{i,c,t-1} + \omega_2.Capital\_Inflow_{c,t} + \omega_3.Capital\_Inflow_{c,t} * Dependence_i + \omega_4.Credit_{c,t} + \omega_5.Credit_{c,t} * Dependence_i + \theta_i + \theta_c + \theta_{ic} + \theta_t + \varepsilon_{i,c,t}$ where i, c and t denote industry i in country c in year t. $Volatility$ is industry growth volatility: standard deviation of growth in real output or real value added. $Share$ is the share of value added of each industry to total value added of all industries in a country, one period lag. $Dependence$ is Rajan and Zingales' (1998) measure of industries' dependence on external finance. $Capital\_Inflow$ is a vector of private capital inflow variables. $Credit$ is sum of domestic credit to private sector and stock market capitalization. See Table 2 for detailed definition of variables. θ_i, θ_c, θ_{ic} and θ_t denote the dummies for industry, country, industry*country and year respectively. Regressions are estimated using OLS. The statistical inferences are based on robust standard errors (associated t-values reported in parentheses) clustered by industry-country level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Our sample includes 28 industries with three-digit ISIC, Rev.2 for 22 emerging economies over 1998-2007.

		Equity Inflows			Debt Inflows		
	Total	Total	Direct Investment	Portfolio Investment	Total	Commercial Banks	Non-Banks
	[1]	[2]	[3]	[4]	[5]	[6]	[7]
			Panel A. Output volatility				
Share (t-1)	0.406	0.403	0.409	0.408	0.408	0.418	0.395
	(1.56)	(1.54)	(1.58)	(1.55)	(1.57)	(1.62)	(1.52)
Capital_Inflow	0.000	0.001	0.002	-0.005	0.000	0.004*	-0.003
	(0.21)	(0.38)	(0.96)	(-1.22)	(0.06)	(1.83)	(-1.24)
*Capital_Inflow * Dependence*	-0.003**	-0.007**	-0.007**	-0.004	-0.003	-0.006	-0.003
	(-1.99)	(-2.12)	(-2.00)	(-0.38)	(-1.43)	(-1.48)	(-0.81)
Credit	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.53)	(0.72)	(0.60)	(1.30)	(0.54)	(0.65)	(0.59)
*Credit * Dependence*	-0.000	-0.001	-0.001	-0.001*	-0.001	-0.001	-0.001*
	(-1.26)	(-1.42)	(-1.49)	(-1.92)	(-1.52)	(-1.50)	(-1.77)
Constant	0.033	0.032	0.029	0.023	0.031	0.042	0.039
	(0.50)	(0.50)	(0.45)	(0.34)	(0.49)	(0.65)	(0.60)
N	3057	3057	3057	3057	3057	3057	3057
R^2	0.770	0.770	0.770	0.770	0.770	0.770	0.770
			Panel B. Value added volatility				
Share (t-1)	0.441	0.432	0.438	0.439	0.443	0.445	0.431
	(0.88)	(0.86)	(0.87)	(0.87)	(0.88)	(0.89)	(0.86)
Capital_Inflow	0.001	0.002	0.004	-0.007	0.001	0.004	0.000
	(0.74)	(0.68)	(1.16)	(-1.56)	(0.67)	(1.19)	(0.03)
*Capital_Inflow * Dependence*	-0.004*	-0.007	-0.010*	0.010	-0.004*	-0.007	-0.005
	(-1.86)	(-1.40)	(-1.93)	(1.36)	(-1.83)	(-1.51)	(-1.32)
Credit	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(-0.89)	(-0.76)	(-0.82)	(-0.24)	(-0.74)	(-0.66)	(-0.69)
*Credit * Dependence*	0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.25)	(-0.16)	(-0.08)	(-0.95)	(-0.02)	(-0.13)	(-0.37)
Constant	0.103	0.101	0.096	0.095	0.104	0.113	0.105
	(0.83)	(0.81)	(0.77)	(0.76)	(0.84)	(0.91)	(0.84)
N	3026	3026	3026	3026	3026	3026	3026
R^2	0.789	0.789	0.789	0.789	0.789	0.789	0.789
All panels:							
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# Countries	22	22	22	22	22	22	22
# Industries	28	28	28	28	28	28	28

Table 8. Capital Flows and Industry Growth: Role of the Banking System

This table reports the results estimating $Growth_{ict} = \omega_0 + \omega_1 . Share_{i,c,t-1} + \omega_2 . Capital\_Inflow_{c,t} + \omega_3 . Capital\_Inflow_{c,t} * Dependence_i + \omega_4 . Credit_{c,t} + \omega_5 . Credit_{c,t} * Dependence_i + \theta_i + \theta_c + \theta_{ic} + \theta_t + \varepsilon_{i,c,t}$ where i, c and t denote industry i in country c in year t. Each panel displays the results obtained by running the regression in a subsample determined by the median value of various banking system characteristics. $Growth$ is industry growth: growth in real output. $Share$ is the share of value added of each industry to total value added of all industries in a country, one period lag. $Dependence$ is Rajan and Zingales' (1998) measure of industries' dependence on external finance. $Capital\_Inflow$ is a vector of private capital inflow variables. $Credit$ is sum of domestic credit to private sector and stock market capitalization. See Table 2 for detailed definition of variables. θ_i, θ_c, θ_{ic} and θ_t denote the dummies for industry, country, industry*country and year respectively. Regressions are estimated using OLS. The statistical inferences are based on robust standard errors (associated t-values reported in parentheses) clustered by industry-country level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Our sample includes 28 industries with three-digit ISIC, Rev.2 for 22 emerging economies over 1998-2007.

Panel A. Competition

	<Median							>Median						
		Equity Inflows			Debt Inflows				Equity Inflows			Debt Inflows		
	Total	Total	Direct Investment	Portfolio Investment	Total	Commercial Banks	Non-Banks	Total	Total	Direct Investment	Portfolio Investment	Total	Commercial Banks	Non-Banks
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]
Boone indicator														
Share (t-1)	-3.345***	-3.335***	-3.343***	-3.316***	-3.336***	-3.361***	-3.318***	-6.339***	-6.444***	-6.424***	-6.415***	-6.339***	-6.335***	-6.387***
	(-3.31)	(-3.33)	(-3.33)	(-3.39)	(-3.28)	(-3.31)	(-3.28)	(-6.14)	(-6.19)	(-6.18)	(-6.16)	(-6.22)	(-6.23)	(-6.19)
Capital_Inflow	0.000	-0.003	-0.004	0.012	0.002	-0.004	0.005	0.011***	0.001	0.000	0.003	0.012***	0.021***	0.007
	(0.10)	(-0.84)	(-1.28)	(1.06)	(0.77)	(-0.99)	(1.54)	(2.90)	(0.23)	(0.00)	(0.38)	(2.94)	(3.80)	(0.58)
*Capital_Inflow * Dependence*	0.012***	0.015**	0.010*	0.047	0.015***	0.025***	0.016**	0.004	-0.020	-0.018	-0.022	0.015	0.024	0.017
	(2.75)	(2.20)	(1.76)	(1.23)	(3.15)	(2.99)	(2.08)	(0.46)	(-1.64)	(-1.29)	(-1.32)	(1.57)	(1.42)	(0.72)
Credit	0.000	0.000	0.000	-0.000	0.000	0.000	0.000	-0.001	-0.001	-0.001*	-0.001	-0.000	-0.001	-0.001
	(0.80)	(0.31)	(0.30)	(-0.97)	(1.10)	(0.97)	(0.29)	(-1.62)	(-1.59)	(-1.67)	(-1.55)	(-1.47)	(-1.64)	(-1.51)
*Credit * Dependence*	-0.001**	-0.001	-0.000	-0.001	-0.001**	-0.001*	-0.001	0.000	0.000	0.001	0.000	0.000	0.000	0.001
	(-2.11)	(-1.20)	(-0.82)	(-0.90)	(-2.04)	(-1.89)	(-1.25)	(0.88)	(0.80)	(0.98)	(0.82)	(0.41)	(0.11)	(0.92)
Constant	0.427**	0.429**	0.433**	0.449***	0.429**	0.425**	0.435**	1.180***	1.208***	1.208***	1.198***	1.224***	1.233***	1.200***
	(2.54)	(2.57)	(2.58)	(2.69)	(2.53)	(2.51)	(2.57)	(4.36)	(4.43)	(4.41)	(4.36)	(4.56)	(4.60)	(4.41)
N	2189	2189	2189	2189	2189	2189	2189	2207	2207	2207	2207	2207	2207	2207
R^2	0.275	0.269	0.269	0.273	0.276	0.271	0.276	0.473	0.468	0.468	0.468	0.476	0.480	0.469
Restrictions on financial conglomerate														
Share (t-1)	-6.244***	-6.311***	-6.348***	-6.251***	-6.234***	-6.307***	-6.170***	-4.072***	-4.105***	-4.099***	-4.071***	-4.085***	-4.064***	-4.064***
	(-5.15)	(-5.25)	(-5.21)	(-5.16)	(-5.07)	(-5.19)	(-5.09)	(-2.78)	(-2.80)	(-2.78)	(-2.85)	(-2.83)	(-2.78)	(-2.88)
Capital_Inflow	0.004	-0.015***	-0.017***	0.018	0.011***	0.015***	0.009*	0.003	0.018***	0.015*	0.035***	-0.007	-0.005	-0.017
	(1.31)	(-2.70)	(-3.24)	(0.97)	(3.46)	(2.88)	(1.89)	(0.62)	(3.05)	(1.92)	(3.20)	(-1.42)	(-0.63)	(-1.52)
*Capital_Inflow * Dependence*	0.015**	0.026**	0.019*	0.043	0.017**	0.019*	0.022*	-0.000	-0.020	-0.028	-0.006	0.012	0.030	-0.006
	(2.06)	(2.00)	(1.92)	(0.71)	(2.30)	(1.67)	(1.89)	(-0.00)	(-1.54)	(-1.63)	(-0.26)	(0.89)	(1.26)	(-0.24)
Credit	-0.002***	-0.002***	-0.002***	-0.003***	-0.002***	-0.002***	-0.002***	0.001	0.001*	0.001	0.001**	0.001*	0.001*	0.001
	(-4.91)	(-5.57)	(-6.26)	(-4.61)	(-4.47)	(-4.70)	(-5.45)	(1.63)	(1.96)	(1.62)	(2.12)	(1.83)	(1.86)	(1.62)
*Credit * Dependence*	-0.000	-0.000	0.000	-0.000	-0.000	0.000	-0.000	-0.001	-0.001	-0.000	-0.001	-0.001	-0.001	-0.001
	(-0.99)	(-0.34)	(0.77)	(-0.27)	(-0.60)	(0.01)	(-0.03)	(-0.83)	(-0.96)	(-0.62)	(-0.98)	(-1.19)	(-1.59)	(-0.99)
Constant	1.273***	1.346***	1.416***	1.418***	1.273***	1.314***	1.270***	0.786**	0.775**	0.774**	0.805**	0.777**	0.770**	0.841**
	(4.71)	(4.98)	(5.07)	(4.51)	(4.62)	(4.82)	(4.68)	(2.12)	(2.10)	(2.09)	(2.23)	(2.11)	(2.03)	(2.47)
N	1662	1662	1662	1662	1662	1662	1662	1697	1697	1697	1697	1697	1697	1697
R^2	0.417	0.408	0.409	0.408	0.427	0.418	0.416	0.467	0.470	0.468	0.471	0.467	0.468	0.469
All panels:														
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# Countries	22	22	22	22	22	22	22	22	22	22	22	22	22	22
# Industries	28	28	28	28	28	28	28	28	28	28	28	28	28	28

Panel B. Stability & Profitability

	<Median							>Median						
		Equity Inflows			Debt Inflows				Equity Inflows			Debt Inflows		
	Total	Total	Direct Investment	Portfolio Investment	Total	Commercial Banks	Non-Banks	Total	Total	Direct Investment	Portfolio Investment	Total	Commercial Banks	Non-Banks
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]
NPLs														
Share (t-1)	-4.512**	-4.454**	-4.460**	-4.413**	-4.512**	-4.444**	-4.488**	-5.899***	-5.934***	-5.925***	-5.934***	-5.924***	-5.894***	-5.959***
	(-2.32)	(-2.28)	(-2.29)	(-2.26)	(-2.34)	(-2.28)	(-2.35)	(-5.15)	(-5.20)	(-5.19)	(-5.16)	(-5.26)	(-5.19)	(-5.26)
Capital_Inflow	-0.007***	-0.009**	-0.007*	-0.013*	-0.008***	-0.004	-0.012***	0.013***	-0.003	-0.003	-0.001	0.016***	0.014**	0.023***
	(-3.21)	(-2.41)	(-1.83)	(-1.87)	(-3.10)	(-0.72)	(-3.13)	(4.65)	(-0.46)	(-0.46)	(-0.06)	(4.82)	(2.15)	(3.71)
*Capital_Inflow * Dependence*	0.009**	0.009	0.008	0.009	0.012**	0.014	0.013*	0.008	-0.011	-0.002	-0.050*	0.013	0.026	0.010
	(2.32)	(1.43)	(1.30)	(0.51)	(2.43)	(1.42)	(1.90)	(1.08)	(-0.78)	(-0.16)	(-1.96)	(1.65)	(1.53)	(0.70)
Credit	0.001	0.000	0.000	0.000	0.001	0.000	0.000	-0.000	-0.001	-0.001	-0.001	-0.000	-0.001	-0.001
	(1.62)	(1.22)	(0.77)	(1.18)	(1.42)	(0.97)	(1.13)	(-0.49)	(-1.46)	(-1.39)	(-1.15)	(-0.37)	(-0.90)	(-0.62)
*Credit * Dependence*	-0.001	-0.000	-0.000	0.000	-0.001	-0.000	-0.000	0.000	0.001	0.000	0.001	0.001	0.000	0.001
	(-1.12)	(-0.18)	(-0.07)	(0.12)	(-1.13)	(-0.63)	(-0.48)	(0.23)	(0.41)	(0.26)	(0.71)	(0.37)	(0.29)	(0.34)
Constant	1.017**	1.043**	1.023**	1.040**	0.994**	1.007**	1.010**	1.075***	1.152***	1.160***	1.111***	1.103***	1.128***	1.100***
	(2.14)	(2.20)	(2.15)	(2.14)	(2.09)	(2.11)	(2.13)	(3.69)	(3.92)	(3.87)	(3.70)	(3.84)	(3.88)	(3.81)
N	2322	2322	2322	2322	2322	2322	2322	2023	2023	2023	2023	2023	2023	2023
R^2	0.322	0.320	0.319	0.319	0.321	0.318	0.322	0.376	0.363	0.363	0.364	0.381	0.371	0.377
ROAA														
Share (t-1)	-3.725***	-3.848***	-3.819***	-3.752***	-3.778***	-3.805***	-3.748***	-5.289***	-5.301***	-5.308***	-5.297***	-5.289***	-5.271***	-5.315***
	(-3.41)	(-3.41)	(-3.41)	(-3.37)	(-3.43)	(-3.47)	(-3.32)	(-3.79)	(-3.80)	(-3.79)	(-3.81)	(-3.79)	(-3.78)	(-3.82)
Capital_Inflow	0.015***	0.008	0.001	0.023***	0.010**	0.008	0.018***	0.002	0.004	0.003	0.007	0.002	0.006	-0.000
	(4.10)	(1.23)	(0.15)	(2.63)	(2.57)	(0.96)	(2.79)	(0.82)	(0.89)	(0.68)	(0.62)	(0.61)	(1.11)	(-0.09)
*Capital_Inflow * Dependence*	0.003	-0.025	-0.028*	-0.006	0.011	0.025	0.006	0.011**	0.011	0.010	0.016	0.017**	0.022*	0.019**
	(0.33)	(-1.50)	(-1.67)	(-0.33)	(1.08)	(1.38)	(0.35)	(2.10)	(1.37)	(1.22)	(0.58)	(2.38)	(1.80)	(2.03)
Credit	-0.000	-0.000	-0.001	-0.001	-0.000	-0.000	-0.000	0.000	-0.000	0.000	-0.000	0.000	0.000	0.000
	(-0.09)	(-0.73)	(-0.90)	(-0.99)	(-0.31)	(-0.40)	(-0.41)	(0.32)	(-0.01)	(0.14)	(-0.00)	(0.59)	(0.51)	(0.42)
*Credit * Dependence*	-0.000	-0.000	-0.000	-0.000	-0.000	-0.001	-0.000	-0.001	0.000	0.000	0.001	-0.001	-0.000	-0.000
	(-0.12)	(-0.22)	(-0.15)	(-0.13)	(-0.37)	(-0.72)	(-0.07)	(-0.86)	(0.39)	(0.49)	(0.94)	(-0.93)	(-0.32)	(-0.09)
Constant	0.623***	0.712***	0.746***	0.748***	0.699***	0.725***	0.668***	0.789***	0.779***	0.779***	0.781***	0.793***	0.784***	0.787***
	(2.59)	(2.85)	(2.96)	(3.02)	(2.87)	(2.99)	(2.68)	(2.98)	(2.96)	(2.95)	(2.97)	(2.97)	(2.95)	(2.96)
N	1920	1920	1920	1920	1920	1920	1920	2476	2476	2476	2476	2476	2476	2476
R^2	0.330	0.319	0.320	0.320	0.328	0.323	0.327	0.370	0.366	0.365	0.365	0.370	0.369	0.367
All panels:														
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# Countries	22	22	22	22	22	22	22	22	22	22	22	22	22	22
# Industries	28	28	28	28	28	28	28	28	28	28	28	28	28	28

Panel C. Ownership Structure

	<Median							>Median						
		Equity Inflows			Debt Inflows				Equity Inflows			Debt Inflows		
	Total	Total	Direct Investment	Portfolio Investment	Total	Commercial Banks	Non-Banks	Total	Total	Direct Investment	Portfolio Investment	Total	Commercial Banks	Non-Banks
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]
Foreign Banks Penetration														
Share (t-1)	-6.435***	-6.390***	-6.381***	-6.373***	-6.486***	-6.439***	-6.449***	-5.153***	-5.173***	-5.179***	-5.174***	-5.156***	-5.154***	-5.178***
	(-5.97)	(-6.07)	(-6.03)	(-6.07)	(-6.02)	(-6.07)	(-5.99)	(-3.62)	(-3.65)	(-3.64)	(-3.64)	(-3.60)	(-3.62)	(-3.62)
Capital_Inflow	0.004	-0.007	-0.005	-0.010	0.007**	0.009	0.007	0.003	0.004	0.004	-0.000	0.004	0.006	0.005
	(1.34)	(-1.12)	(-0.87)	(-0.75)	(2.04)	(1.18)	(1.18)	(1.51)	(1.15)	(1.11)	(-0.00)	(1.44)	(1.22)	(0.98)
*Capital_Inflow * Dependence*	0.007	-0.005	0.001	-0.020	0.010	0.011	0.015	0.010**	0.007	0.005	0.016	0.015**	0.024**	0.016*
	(0.80)	(-0.29)	(0.07)	(-0.80)	(1.19)	(0.73)	(1.07)	(2.05)	(1.09)	(0.72)	(0.71)	(2.41)	(2.40)	(1.72)
Credit	-0.001**	-0.001**	-0.001**	-0.001	-0.001**	-0.001**	-0.001**	0.000	0.000	0.000	0.000	0.001	0.001	0.000
	(-2.07)	(-2.37)	(-2.36)	(-1.59)	(-2.10)	(-2.20)	(-2.17)	(0.60)	(0.35)	(0.55)	(0.64)	(1.14)	(1.23)	(0.87)
*Credit * Dependence*	-0.000	-0.000	-0.000	0.000	-0.000	-0.000	-0.000	-0.001	0.000	0.000	0.000	-0.001	-0.001	-0.000
	(-0.56)	(-0.09)	(-0.24)	(0.20)	(-0.54)	(-0.51)	(-0.32)	(-0.93)	(0.24)	(0.33)	(0.37)	(-1.08)	(-0.78)	(-0.42)
Constant	1.038***	1.076***	1.068***	1.035***	1.075***	1.065***	1.060***	0.809**	0.802**	0.790**	0.799**	0.802**	0.793**	0.802**
	(5.74)	(6.09)	(5.97)	(5.85)	(5.92)	(5.99)	(5.83)	(2.45)	(2.44)	(2.40)	(2.43)	(2.41)	(2.40)	(2.42)
N	1784	1784	1784	1784	1784	1784	1784	2480	2480	2480	2480	2480	2480	2480
R^2	0.306	0.304	0.304	0.305	0.309	0.306	0.307	0.371	0.365	0.365	0.364	0.372	0.370	0.368
Government Banks Penetration														
Share (t-1)	-3.507**	-3.492**	-3.510**	-3.521**	-3.546**	-3.540**	-3.538**	-5.763***	-5.728***	-5.739***	-5.753***	-5.742***	-5.747***	-5.740***
	(-2.07)	(-2.07)	(-2.07)	(-2.12)	(-2.10)	(-2.08)	(-2.09)	(-5.53)	(-5.72)	(-5.67)	(-5.65)	(-5.60)	(-5.64)	(-5.60)
Capital_Inflow	0.001	0.005*	0.003	0.021**	-0.002	-0.005	-0.001	0.007**	-0.010	-0.007	-0.015	0.010***	0.013**	0.013**
	(0.33)	(1.70)	(0.93)	(2.04)	(-0.77)	(-0.96)	(-0.27)	(2.28)	(-1.49)	(-1.01)	(-1.33)	(3.45)	(2.50)	(1.99)
*Capital_Inflow * Dependence*	0.007*	0.008	0.003	0.036	0.010*	0.015	0.009	0.017***	-0.001	0.009	-0.035	0.019***	0.028**	0.025*
	(1.72)	(1.10)	(0.49)	(1.06)	(1.96)	(1.63)	(1.39)	(2.86)	(-0.07)	(0.67)	(-1.64)	(3.18)	(2.49)	(1.80)
Credit	0.000	0.000	0.000	-0.000	0.000	0.000	0.000	-0.000	-0.000	-0.001	-0.000	-0.000	-0.000	-0.000
	(1.08)	(0.23)	(0.80)	(-0.89)	(1.45)	(1.30)	(1.12)	(-0.99)	(-1.10)	(-1.37)	(-0.99)	(-0.55)	(-0.67)	(-1.03)
*Credit * Dependence*	-0.001	-0.000	0.000	-0.000	-0.001	-0.000	-0.000	-0.000	0.000	0.000	0.001	-0.000	-0.000	0.000
	(-0.93)	(-0.20)	(0.13)	(-0.18)	(-0.95)	(-0.59)	(-0.38)	(-0.64)	(0.44)	(0.33)	(0.92)	(-0.40)	(-0.61)	(0.25)
Constant	0.394*	0.360	0.392*	0.410*	0.430*	0.426*	0.424*	1.111***	1.144***	1.152***	1.097***	1.113***	1.135***	1.106***
	(1.80)	(1.60)	(1.71)	(1.85)	(1.96)	(1.87)	(1.94)	(4.14)	(4.37)	(4.37)	(4.08)	(4.19)	(4.28)	(4.17)
N	1848	1848	1848	1848	1848	1848	1848	2436	2436	2436	2436	2436	2436	2436
R^2	0.249	0.251	0.248	0.256	0.248	0.248	0.248	0.373	0.366	0.365	0.367	0.378	0.374	0.373
All panels:														
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# Countries	22	22	22	22	22	22	22	22	22	22	22	22	22	22
# Industries	28	28	28	28	28	28	28	28	28	28	28	28	28	28

Table 9. Capital Flows and Industry Growth: Robustness to Alternative Measures

This table reports the results estimating $Growth_{ict} = \omega_0 + \omega_1.Share_{i,c,t-1} + \omega_2.Capital\_Inflow_{c,t} + \omega_3.Capital\_Inflow_{c,t} * Dependence_i + \omega_4.Credit_{c,t} + \omega_5.Credit_{c,t} * Dependence_i + \theta_i + \theta_c + \theta_{ic} + \theta_t + \varepsilon_{i,c,t}$ where i, c and t denote industry i in country c in year t. $Growth$ is industry growth: growth in real output (or value added in Panel A). $Share$ is the share of value added of each industry to total value added of all industries in a country, one period lag. $Dependence$ is Rajan and Zingales' (1998) measure of industries' dependence on external finance (Panels A and B), Laeven and Valencia (2013) measure (Panel C), or R&D intensity from Kroszner et al. (2007) (Panel D). $Capital\_Inflow$ is a vector of private capital inflow variables. $Credit$ is sum of domestic credit to private sector and stock market capitalization. See Table 2 for detailed definition of variables. θ_i, θ_c, θ_{ic} and θ_t denote the dummies for industry, country, industry*country and year respectively. Regressions are estimated using OLS. The statistical inferences are based on robust standard errors (associated t-values reported in parentheses) clustered by industry-country level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Our sample includes 28 industries with three-digit ISIC, Rev.2 for 22 emerging economies over 1998-2007.

		Equity Inflows			Debt Inflows		
	Total	Total	Direct Investment	Portfolio Investment	Total	Commercial Banks	Non-Banks
	[1]	[2]	[3]	[4]	[5]	[6]	[7]
			Panel A. Value added growth				
Share (t-1)	-7.327***	-7.349***	-7.352***	-7.360***	-7.340***	-7.337***	-7.353***
	(-5.91)	(-5.96)	(-5.96)	(-5.99)	(-5.93)	(-5.94)	(-5.95)
Capital_Inflow	0.006***	0.009**	0.007*	0.019**	0.006**	0.010*	0.006
	(3.00)	(2.49)	(1.66)	(2.33)	(2.14)	(1.90)	(1.31)
*Capital_Inflow * Dependence*	0.006	-0.002	0.000	-0.015	0.011*	0.021*	0.010
	(1.32)	(-0.32)	(0.06)	(-1.09)	(1.84)	(1.96)	(1.06)
Credit	0.000	0.000	0.000	-0.000	0.000	0.000	0.000
	(0.36)	(0.02)	(0.36)	(-0.05)	(0.81)	(0.89)	(0.55)
*Credit * Dependence*	-0.000	0.000	0.000	0.000	-0.000	-0.000	-0.000
	(-0.52)	(0.20)	(0.15)	(0.20)	(-0.71)	(-0.78)	(-0.19)
Constant	1.465***	1.459***	1.449***	1.499***	1.470***	1.472***	1.467***
	(5.06)	(5.08)	(5.04)	(5.20)	(5.07)	(5.08)	(5.09)
N	4398	4398	4398	4398	4398	4398	4398
R^2	0.249	0.245	0.245	0.245	0.249	0.248	0.246
			Panel B. Share of value added				
Share (t-1)	0.351***	0.352***	0.352***	0.352***	0.351***	0.352***	0.351***
	(3.16)	(3.16)	(3.16)	(3.15)	(3.16)	(3.15)	(3.16)
Capital_Inflow	-0.000	-0.000	-0.000	0.000	-0.000	-0.000	-0.000
	(-1.04)	(-0.50)	(-0.86)	(1.29)	(-1.05)	(-0.72)	(-1.07)
*Capital_Inflow * Dependence*	0.000	-0.000	0.000	-0.001	0.0004**	0.0005**	0.001**
	(1.65)	(-0.20)	(0.21)	(-1.44)	(2.39)	(2.09)	(2.03)
Credit	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(-0.11)	(-0.38)	(-0.41)	(-0.55)	(-0.07)	(-0.21)	(-0.23)
*Credit * Dependence*	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(-0.96)	(-0.24)	(-0.35)	(-0.19)	(-1.17)	(-0.91)	(-0.82)
Constant	0.157***	0.157***	0.158***	0.158***	0.157***	0.157***	0.157***
	(6.56)	(6.56)	(6.58)	(6.56)	(6.54)	(6.53)	(6.58)
N	4420	4420	4420	4420	4420	4420	4420
R^2	0.933	0.933	0.933	0.933	0.933	0.933	0.933

		Equity Inflows			Debt Inflows		
	Total	Total	Direct Investment	Portfolio Investment	Total	Commercial Banks	Non-Banks
	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Panel C. Alternative dependence measure							
Share (t-1)	-5.022***	-5.032***	-5.036***	-5.030***	-5.021***	-5.021***	-5.031***
	(-5.33)	(-5.41)	(-5.40)	(-5.43)	(-5.31)	(-5.38)	(-5.32)
Capital_Inflow	0.006***	0.004**	0.003	0.009*	0.008***	0.009***	0.010***
	(4.85)	(1.97)	(1.25)	(1.72)	(4.63)	(3.02)	(3.56)
*Capital_Inflow * Dependence*	0.006**	0.005	0.004	0.005	0.007**	0.012**	0.007
	(2.41)	(1.15)	(0.97)	(0.63)	(2.36)	(2.21)	(1.45)
Credit	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(-1.39)	(-1.35)	(-1.06)	(-1.44)	(-0.85)	(-0.77)	(-1.03)
*Credit * Dependence*	-0.000	0.000	0.000	0.000	-0.000	-0.000	0.000
	(-0.10)	(0.94)	(1.04)	(1.15)	(-0.04)	(-0.04)	(0.67)
Constant	0.880***	0.873***	0.866***	0.896***	0.885***	0.885***	0.877***
	(3.83)	(3.84)	(3.81)	(3.95)	(3.84)	(3.88)	(3.82)
N	4396	4396	4396	4396	4396	4396	4396
R^2	0.258	0.253	0.252	0.252	0.258	0.255	0.256
Panel D. R&D intensity							
Share (t-1)	-4.988***	-5.014***	-4.998***	-5.023***	-4.996***	-5.015***	-5.005***
	(-5.34)	(-5.40)	(-5.38)	(-5.41)	(-5.34)	(-5.38)	(-5.34)
Capital_Inflow	0.004**	0.002	-0.003	0.010	0.005**	0.003	0.007*
	(2.24)	(0.90)	(-1.06)	(1.47)	(2.22)	(0.84)	(1.93)
*Capital_Inflow * Dependence*	0.147**	0.102	0.240***	-0.035	0.211***	0.380***	0.198*
	(2.39)	(1.10)	(3.85)	(-0.13)	(3.01)	(2.60)	(1.80)
Credit	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(-1.09)	(-1.35)	(-0.63)	(-1.48)	(-0.61)	(-0.51)	(-0.98)
*Credit * Dependence*	-0.000	0.000	-0.000	0.000	-0.000	-0.000	0.000
	(-0.31)	(0.55)	(-0.97)	(0.73)	(-0.33)	(-0.39)	(0.30)
Constant	0.875***	0.876***	0.881***	0.899***	0.877***	0.876***	0.876***
	(3.83)	(3.84)	(3.86)	(3.93)	(3.82)	(3.83)	(3.83)
N	4396	4396	4396	4396	4396	4396	4396
R^2	0.258	0.253	0.257	0.252	0.259	0.256	0.256
All panels:							
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# Countries	22	22	22	22	22	22	22
# Industries	28	28	28	28	28	28	28

Table 10. Net Capital Flows and Industry Growth

This table reports the results estimating $Growth_{ict} = \omega_0 + \omega_1.Share_{i,c,t-1} + \omega_2.Capital\_Inflow_{c,t} + \omega_3.Capital\_Inflow_{c,t} * Dependence_i + \omega_4.Credit_{c,t} + \omega_5.Credit_{c,t} * Dependence_i + \theta_i + \theta_c + \theta_{ic} + \theta_t + \varepsilon_{i,c,t}$ where i, c and t denote industry i in country c in year t. $Growth$ is industry growth: growth in real output. $Share$ is the share of value added of each industry to total value added of all industries in a country, one period lag. $Dependence$ is Rajan and Zingales' (1998) measure of industries' dependence on external finance. $Capital\_Inflow$ is a vector of net private capital inflow variables. $Credit$ is sum of domestic credit to private sector and stock market capitalization. See Table 2 for detailed definition of variables. θ_i, θ_c, θ_{ic} and θ_t denote the dummies for industry, country, industry*country and year respectively. Regressions are estimated using OLS. The statistical inferences are based on robust standard errors (associated t-values reported in parentheses) clustered by industry-country level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Our sample includes 28 industries with three-digit ISIC, Rev.2 for 22 emerging economies over 1998-2007.

	Net Private Capital Inflows (Net Inflows - Net Outflows)				
		Net Equity Inflows			Net Debt Inflows
	Total	Total	Net Direct Investment	Net Portfolio Investment	Total
	[1]	[2]	[3]	[4]	[5]
Share (t-1)	-5.014***	-5.021***	-5.021***	-5.028***	-5.017***
	(-5.38)	(-5.40)	(-5.39)	(-5.40)	(-5.39)
Capital_Inflow	0.001	0.000	0.002	-0.009*	0.002
	(0.69)	(0.10)	(0.86)	(-1.71)	(0.78)
*Capital_Inflow * Dependence*	0.006**	0.004	0.004	0.005	0.009**
	(2.01)	(0.74)	(0.74)	(0.38)	(2.24)
Credit	-0.000	-0.000	-0.000	-0.000	-0.000
	(-0.65)	(-1.05)	(-1.09)	(-0.73)	(-0.48)
*Credit * Dependence*	-0.000	0.000	0.000	0.000	-0.000
	(-0.57)	(0.46)	(0.55)	(0.60)	(-0.58)
Constant	0.867***	0.875***	0.869***	0.864***	0.868***
	(3.80)	(3.84)	(3.81)	(3.76)	(3.81)
Industry FE	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes
Industry*Country FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
# Countries	22	22	22	22	22
# Industries	28	28	28	28	28
N	4396	4396	4396	4396	4396
R^2	0.254	0.252	0.252	0.252	0.255

Table 11. Gross Capital Flows and Industry Growth

This table reports the results estimating $Growth_{ict} = \omega_0 + \omega_1.Share_{i,c,t-1} + \omega_2.Capital\_Inflow_{c,t} + \omega_3.Capital\_Inflow_{c,t} * Dependence_i + \omega_4.Credit_{c,t} + \omega_5.Credit_{c,t} * Dependence_i + \theta_i + \theta_c + \theta_{ic} + \theta_t + \varepsilon_{i,c,t}$ where i, c and t denote industry i in country c in year t. $Growth$ is industry growth: growth in real output. $Share$ is the share of value added of each industry to total value added of all industries in a country, one period lag. $Dependence$ is Rajan and Zingales' (1998) measure of industries' dependence on external finance. $Capital\_Inflow$ is a vector of private capital inflow variables. $Credit$ is sum of domestic credit to private sector and stock market capitalization. See Table 2 for detailed definition of variables. θ_i, θ_c, θ_{ic} and θ_t denote the dummies for industry, country, industry*country and year respectively. Regressions are estimated using OLS. The statistical inferences are based on robust standard errors (associated t-values reported in parentheses) clustered by industry-country level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Our sample includes 28 industries with three-digit ISIC, Rev.2 for 22 emerging economies over 1998-2007.

	Total Gross Inflows							
	Total	Total Gross Private Inflows						
		Total	Gross FDI Inflows	Gross Other Inflows to Banks	Gross Other Inflows to Private Non-Bank Sector	Gross Portfolio Inflows		
						Total	Gross Debt Inflows	Gross Equity Inflows
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Share (t-1)	-5.021***	-5.021***	-5.026***	-5.042***	-5.022***	-5.025***	-5.139***	-5.045***
	(-5.39)	(-5.38)	(-5.40)	(-5.34)	(-5.40)	(-5.45)	(-5.31)	(-5.39)
Capital_Inflow	0.000	0.001	-0.000	0.012**	0.017***	-0.008**	-0.011**	0.005
	(0.36)	(0.64)	(-0.28)	(2.11)	(3.25)	(-2.19)	(-2.50)	(0.89)
*Capital_Inflow * Dependence*	0.006**	0.007**	0.005*	0.020*	0.025**	0.017**	0.021**	0.001
	(2.30)	(2.49)	(1.71)	(1.73)	(2.30)	(2.01)	(2.18)	(0.08)
Credit	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(-0.54)	(-0.48)	(-0.85)	(-0.84)	(-0.50)	(-0.71)	(-1.55)	(-1.21)
*Credit * Dependence*	-0.000	-0.000	0.000	-0.000	-0.000	0.000	0.000	0.000
	(-0.65)	(-0.76)	(0.33)	(-0.32)	(-0.45)	(0.14)	(0.63)	(0.70)
Constant	0.873***	0.878***	0.875***	0.898***	0.906***	0.859***	0.902***	0.893***
	(3.82)	(3.84)	(3.83)	(3.88)	(3.98)	(3.74)	(3.80)	(3.88)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# Countries	22	22	22	22	22	22	22	22
# Industries	28	28	28	28	28	28	28	28
N	4396	4396	4396	4369	4369	4396	4117	4369
R^2	0.254	0.255	0.252	0.254	0.259	0.253	0.255	0.251

Table 12. Additional Robustness Checks

This table reports the results estimating $Growth_{ict} = \omega_0 + \omega_1.Share_{ict-1} + \omega_2.Capital\_Inflow_{ct} + \omega_3.Capital\_Inflow_{ct} * Dependence_i + \omega_4.Credit_{ct} + \omega_5.Credit_{ct} * Dependence_i + \theta_i + \theta_c + \theta_{ic} + \theta_t + \varepsilon_{ict}$ where i, c and t denote industry i in country c in year t. $Growth$ is industry growth: growth in real output. $Crisis$ is a dummy variable that takes value 1 for the global financial crisis period 2008-09, and 0 otherwise. $Share$ is the share of value added of each industry to total value added of all industries in a country, one period lag. $Dependence$ is Rajan and Zingales' (1998) measure of industries' dependence on external finance. $Capital\_Openness$ is a vector of capital account openness or capital inflow restriction variables. $Credit$ is sum of domestic credit to private sector and stock market capitalization. See Table 2 for detailed definition of variables. θ_i, θ_c, θ_{ic} and θ_t denote the dummies for industry, country, industry*country and year respectively. Regressions are estimated using OLS. The statistical inferences are based on robust standard errors (associated t-values reported in parentheses) clustered by industry-country (or country or industry-country level in Panel A). ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Our sample includes 28 industries with three-digit ISIC, Rev.2 for 22 emerging economies over 1998-2007.

Panel A. Robustness to different clustering

	Debt Inflows			Debt Inflows		
	Total	Commercial Banks	Non-Banks	Total	Commercial Banks	Non-Banks
	[1]	[2]	[3]	[4]	[5]	[6]
Share (t-1)	-5.015***	-5.017***	-5.022***	-5.015***	-5.017***	-5.022***
	(-5.86)	(-5.83)	(-5.90)	(-4.55)	(-4.56)	(-4.57)
Capital_Inflow	0.005***	0.004	0.007**	0.005	0.004	0.007
	(2.82)	(1.52)	(2.19)	(1.12)	(0.49)	(0.98)
*Capital_Inflow * Dependence*	0.014***	0.022***	0.014**	0.014***	0.022***	0.014***
	(3.21)	(2.81)	(2.32)	(4.42)	(3.31)	(3.31)
Credit	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(-0.36)	(-0.32)	(-0.84)	(-0.16)	(-0.15)	(-0.38)
*Credit * Dependence*	-0.000	-0.000	0.000	-0.000	-0.000	0.000
	(-0.85)	(-0.81)	(0.01)	(-1.23)	(-0.90)	(0.01)
Constant	0.879***	0.876***	0.879***	0.879***	0.876***	0.879***
	(3.60)	(3.59)	(3.60)	(3.25)	(3.13)	(3.26)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry*Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Industry	Industry	Industry	Country	Country	Country
# Countries	22	22	22	22	22	22
# Industries	28	28	28	28	28	28
N	4396	4396	4396	4396	4396	4396
R^2	0.259	0.256	0.256	0.259	0.256	0.256

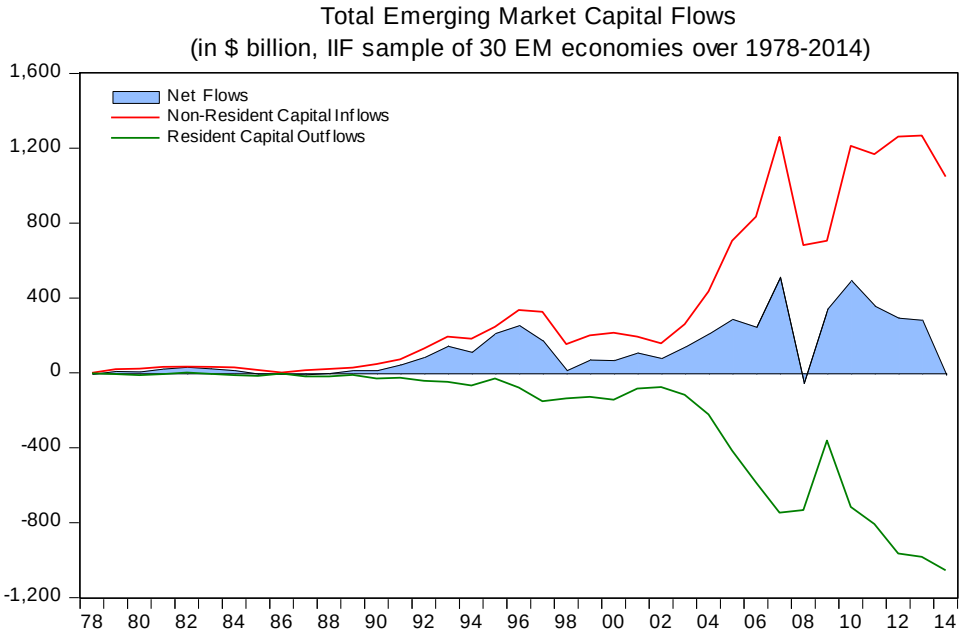
Panel B. Robustness to different econometric specifications

	Debt Inflows			Debt Inflows			Debt Inflows			Debt Inflows		
	Total	Commercial Banks	Non-Banks	Total	Commercial Banks	Non-Banks	Total	Commercial Banks	Non-Banks	Total	Commercial Banks	Non-Banks
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Share (t-1)	-4.739***	-4.736***	-4.754***	-0.494***	-0.497***	-0.490***	-0.829***	-0.831***	-0.822***	-3.819***	-3.798***	-3.799***
	(-5.38)	(-5.40)	(-5.40)	(-2.87)	(-2.90)	(-2.85)	(-3.57)	(-3.56)	(-3.55)	(-4.24)	(-4.21)	(-4.22)
Dependence	0.258	0.235	0.235	-3.736***	-3.705***	-3.640***				0.073	0.049	0.133
	(0.61)	(0.54)	(0.58)	(-3.65)	(-3.51)	(-3.58)				(0.24)	(0.16)	(0.43)
Capital_Inflow	0.005**	0.004	0.007**	0.007***	0.008***	0.009***						
	(2.46)	(1.18)	(2.05)	(4.25)	(2.82)	(3.13)						
*Capital_Inflow * Dependence*	0.013***	0.021**	0.013*	0.006**	0.011**	0.006	0.007***	0.013***	0.007*	0.015***	0.023***	0.015**
	(2.74)	(2.56)	(1.78)	(2.07)	(2.05)	(1.43)	(2.87)	(2.89)	(1.94)	(3.47)	(2.97)	(2.17)
Credit	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000						
	(-0.73)	(-0.69)	(-1.16)	(-1.35)	(-1.22)	(-1.42)						
*Credit * Dependence*	-0.000	-0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.000
	(-0.39)	(-0.33)	(0.34)	(0.35)	(0.37)	(0.16)	(0.56)	(0.49)	(0.60)	(0.05)	(0.20)	(-0.02)
Constant	0.783***	0.780***	0.786***	1.731***	1.727***	1.705***	-0.022	-0.017	-0.025	2.351***	2.371***	2.328***
	(3.66)	(3.65)	(3.68)	(3.63)	(3.52)	(3.59)	(-0.48)	(-0.37)	(-0.53)	(12.87)	(12.94)	(12.70)
Industry FE	No	No	No	No	No	No	Yes	Yes	Yes	No	No	No
Country FE	No	No	No	Yes	Yes	Yes	No	No	No	No	No	No
Year FE	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No
Industry*Country FE	Yes	Yes	Yes	No	No	No	No	No	No	Yes	Yes	Yes
Industry*Year FE	No	No	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
Country*Year FE	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
# Countries	22	22	22	22	22	22	22	22	22	22	22	22
# Industries	28	28	28	28	28	28	28	28	28	28	28	28
N	4396	4396	4396	4396	4396	4396	4396	4396	4396	4396	4396	4396
R^2	0.252	0.249	0.250	0.300	0.298	0.298	0.325	0.326	0.325	0.559	0.558	0.558

Panel C. Robustness to excluding top 5 largest industries and nonlinear dynamics

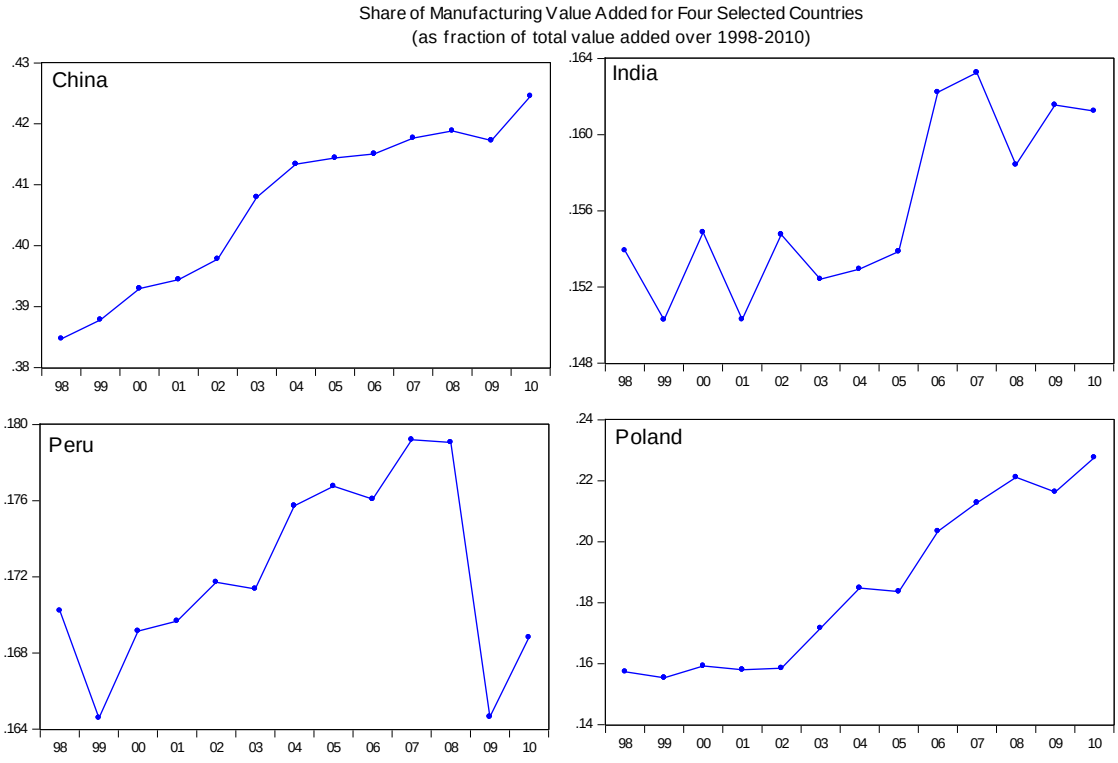
		Debt Inflows				Debt Inflows		
	Total	Total	Commercial Banks	Non-Banks	Total	Total	Commercial Banks	Non-Banks
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Share (t-1)	-8.356***	-8.332***	-8.239***	-8.288***	-5.016***	-5.028***	-5.017***	-5.034***
	(-5.74)	(-5.82)	(-5.73)	(-5.79)	(-5.34)	(-5.34)	(-5.38)	(-5.36)
Capital_Inflow	0.007***	0.009***	0.011***	0.011***	0.004**	0.005**	0.004	0.007*
	(5.08)	(4.87)	(3.31)	(3.70)	(2.37)	(2.26)	(1.10)	(1.79)
*Capital_Inflow * Dependence*	0.008***	0.010***	0.015***	0.011**	0.019***	0.024***	0.031***	0.025***
	(3.07)	(3.13)	(2.74)	(2.11)	(3.74)	(4.31)	(3.16)	(2.67)
*Capital_Inflow^2 * Dependence*					-0.000***	-0.001***	-0.002**	-0.001***
					(-3.54)	(-4.26)	(-2.46)	(-2.70)
Credit	-0.000*	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(-1.77)	(-1.10)	(-1.00)	(-1.30)	(-0.78)	(-0.35)	(-0.42)	(-0.83)
*Credit * Dependence*	-0.000	-0.000	0.000	0.000	-0.000	-0.000	-0.000	0.000
	(-0.20)	(-0.08)	(0.00)	(0.77)	(-0.85)	(-0.47)	(-0.42)	(0.27)
Constant	0.485**	0.522**	0.496**	0.476**	0.876***	0.884***	0.880***	0.880***
	(2.35)	(2.54)	(2.38)	(2.34)	(3.81)	(3.84)	(3.85)	(3.84)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# Countries	22	22	22	22	22	22	22	22
# Industries	23	23	23	23	28	28	28	28
N	3535	3535	3535	3535	4396	4396	4396	4396
R^2	0.291	0.291	0.287	0.288	0.259	0.261	0.257	0.257

Figure 1. Total Emerging Market Capital Flows, 1978–2014



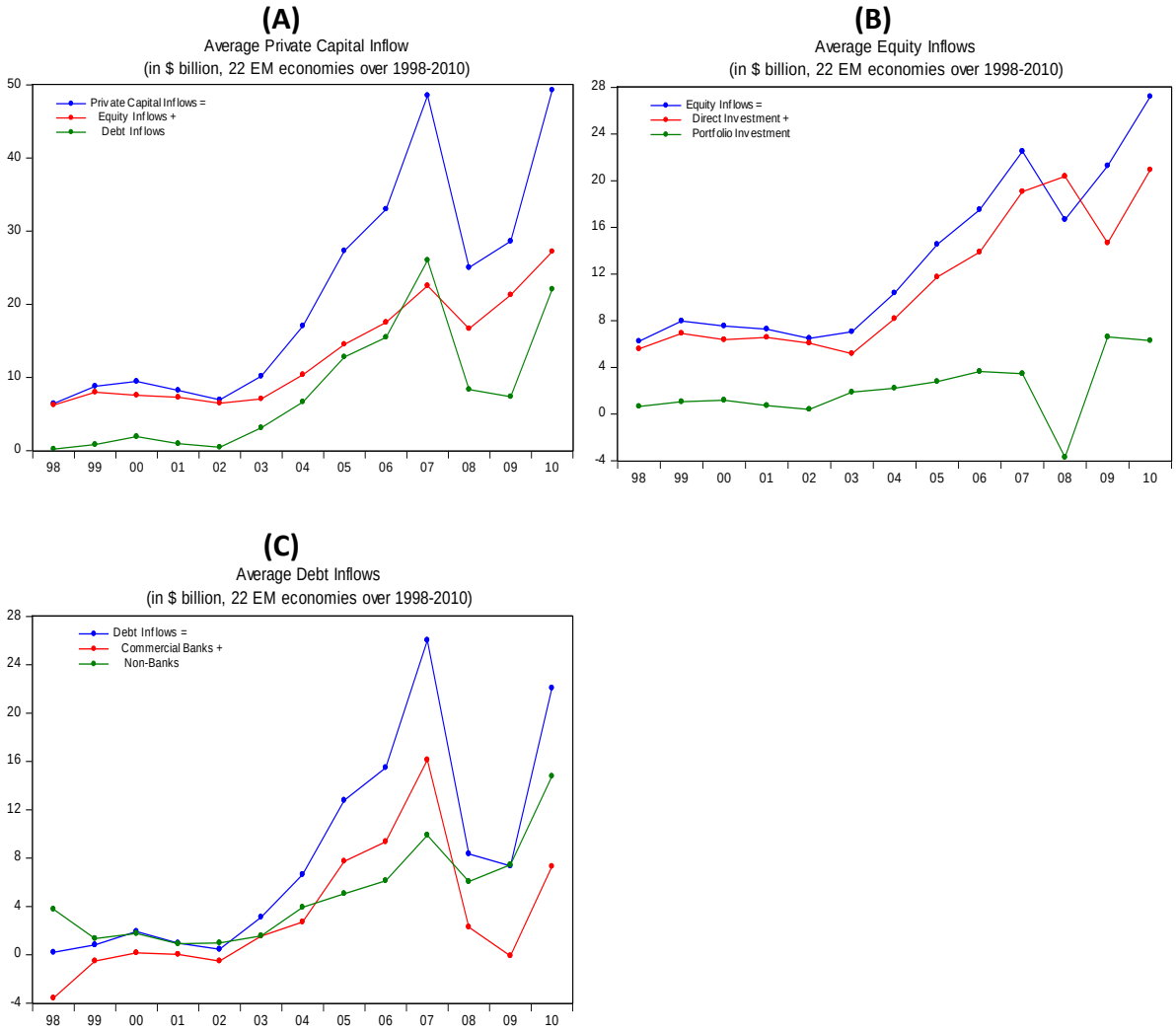
Source: IIF and own calculation.

Figure 2. Share of Manufacturing Value Added to Total Value Added, 1978–2014



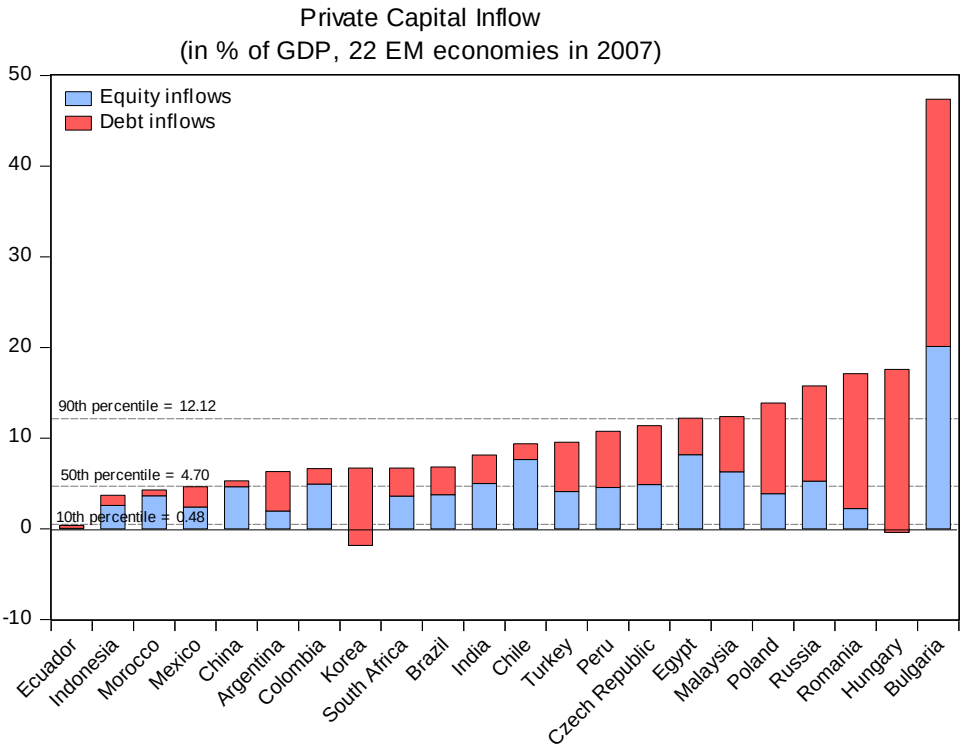
Source: World Bank and own calculation.

Figure 3. Disaggregated Capital Inflows, 1998–2010



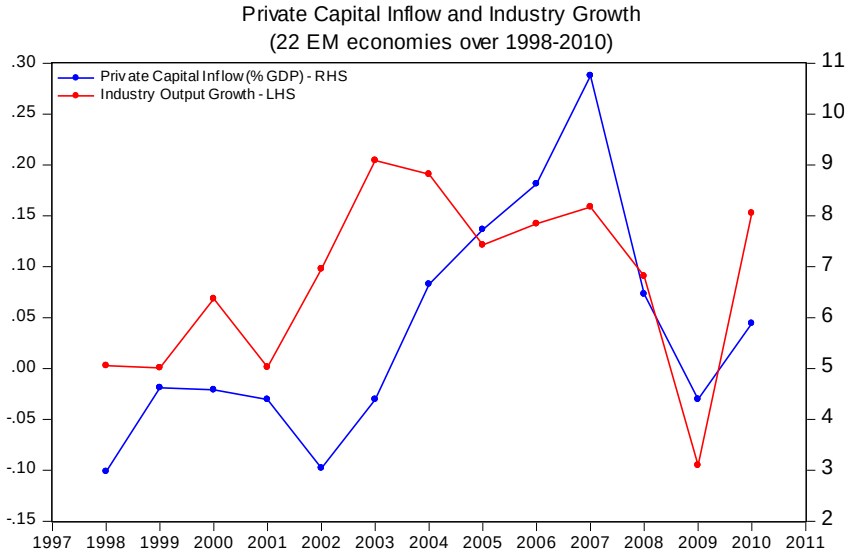
Source: IIF and own calculation.

Figure 4. Private Capital Inflows by Country, 2007



Source: IIF and own calculation.

Figure 5. Private Capital Inflows and Industry Growth, 1998–2010



Source: IIF and UNIDO and own calculation.

Appendix. Composition of Sample

By country

Row	Country	Number of Industries with Data
1	Argentina	26
2	Brazil	26
3	Bulgaria	28
4	Chile	23
5	China	28
6	Colombia	28
7	Czech Republic	26
8	Ecuador	28
9	Egypt	28
10	Hungary	28
11	India	28
12	Indonesia	28
13	Korea	28
14	Malaysia	28
15	Mexico	28
16	Morocco	28
17	Peru	27
18	Poland	28
19	Romania	28
20	Russia	27
21	South Africa	22
22	Turkey	28

By industry

ISIC	Industry	Number of Countries with Data
311	Food products	22
313	Beverages	22
314	Tobacco	20
321	Textiles	22
322	Wearing apparel, except footwear	22
323	Leather and fur products	22
324	Footwear, except rubber or plastic	22
331	Wood products, except furniture	22
332	Furniture and fixtures, excel. metal	22
341	Paper products	22
342	Printing and publishing	21
351	Industrial chemicals	22
352	Other chemical product	20
353	Petroleum refineries	19
354	Misc. petroleum and coal products	21
355	Rubber products	22
356	Plastic products	22
361	Pottery, china, earthenware	16
362	Glass and products	22
369	Other non-metallic mineral products	18
371	Iron and steel	22
372	Non-ferrous metals	22
381	Fabricated metal products	22
382	Non-electrical machinery	22
383	Electrical machinery	22
384	Transport equipment	22
385	Professional and scientific equipment	22
390	Other manufacturing	22