# Cronies, Capitalists, and Control: How the Financing Environment Shapes Firms' Strategies over Foreign Direct Investment

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What explains liberalization of foreign direct investment (FDI)? Standard Political Economy models of deregulation argue economic liberalization occurs when incumbent firms lose political power vis-à-vis groups that generally benefit from open markets. This has led to the popularity of models that place democratization, and the empowerment of labor, at the center of explanations of economic liberalization. In the particular case of FDI, however, prominent firms have often supported openness while anti-FDI coalitions frequently consist of small firms, state-owned enterprise, and labor groups. I argue theories of political economy must do more to explain the conditions under which insiders will support regulatory reform. Movements toward FDI openness through the latter part of the 20th century can be explained as resulting from a series of economic shocks that forced governments to fundamentally reform their banking sectors and in the process reoriented local firms' financing strategies. While politically connected domestic enterprises can easily finance operations and investment through state-subsidized loans during times of financial repression, banking sector reforms raise the cost of borrowing sufficiently to induce firms to look to equity finance. FDI, particularly in the form of joint venture, provides local firms with access to foreign capital while also allowing them to maintain private benefits to control. Using large-n statistical techniques to model FDI openness, I show support for this explanation of regulatory change.

Keywords: FDI, Liberalization, Capital Flows, Domestic Firms

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## Introduction

Today, most countries have relatively open policy environments toward FDI that include relaxed equity restrictions, guarantees of national treatment, legal protection through international treaties, and investment incentives (UNCTAD 2012, Elkins et al. 2006). The tenor of these policies stand in stark contrast to dominant opinions of FDI just thirty or forty years ago when most developing countries were largely statutorily closed to FDI and many advanced economies also placed targeted restrictions on domestic activities of multinational firms. The extent of anti-FDI rhetoric is best illustrated by the push by developing countries in the 1970's to adopt a new international economic order (NIEO) that would establish states' rights to expropriate and regulate transnational investments. While FDI was previously considered exploitative of development countries, today such investment flows are often considered vital components of economic development and poverty reduction strategies.

However, while very few countries still impose outright bans on FDI, the freedom to invest directly in foreign jurisdictions is far from complete. Limitations on foreign equity participation remain common, particularly for investments in natural resources and services that display non-competitive market structures (UNCTAD 2012, 79). Many states maintain screening authority over larger investment proposals, and require such projects to demonstrate their positive economic effects on employment, local business, and the national account in order to gain entry. Most governments have maintained the authority to block incoming FDI for national security concerns, and regulatory trends indicate countries are taking increasingly expansive views on what constitutes a threat to national security (UNCTAD 2012, 79-80). Thus, while average levels of FDI openness have increased overtime, the extent of liberalization remains varied.

In contrast to previous research that emphasizes democratization and the changing nature of FDI to explain patterns of increased FDI openness, I argue higher levels of FDI liberalization occur when structural conditions at the global and local levels reduce domestic firms' access to alternative sources of investment finance. As the availability other sources of investment declines and the costs of such capital increases, powerful local business elites will be more willing to support policies that open the local economy to foreign owners. They will do so in order to gain greater access to foreign firms' investment financing. If this is true, we should expect alternative financing constraints to be associated with FDI liberalization, while access to other forms of investment will impede reform.

Dramatic changes to the way in which capital is intermediated domestically can shift elite lobbying strategies toward favoring more liberal FDI policy environments. Banking sector reforms, often pursued in response to external pressures and financial crises, can substantially disrupt elite access to and costs of credit. When governments exhibit high levels of control over the financial sector through interest rate controls, directed credit requirements, and large state-owned banks; lending decisions are based on political calculus and therefore provide powerful firms with preferential access to subsidized credit. Under such conditions, business elites most likely to be able to effectively pressure governments for their preferred policies will be happy to restrict FDI. With access to subsidized credit, these firms will not view foreign direct equity necessary to fuel their growth. At the same time, the certain costs of FDI liberalization – mainly higher labor costs and demands for increased productivity – will outstrip the possible benefits of foreign firm entry since gains from affiliation and linkage are firm specific and difficult to predict ex ante. However, when the banking sector undergoes substantial reform, the link between politically powerful firms and subsidized credit diminishes. Under tighter local

financing constraints, large and powerful firms will be more willing to bear the costs associated with foreign entry in order to gain access to investment financing through foreign direct equity.

Thus, the central argument of this paper is that transformations in the way credit is intermediated in local financial markets disrupt elite access to capital and therefore create incentives for local industrial interests to support loosening restrictions on foreign equity ownership. Access to cheap alternative sources of capital makes elites likely to block regulatory reform. Policy developments that limit access to short-term investment and debt financing will cause elites to re-evaluate the costs and benefits of openness. In particular, banking sector liberalization reorients powerful societal and state interests from restricting to encouraging foreign entry.

In the sections that follow, I first situate my research within a broader literature on theories of economic policy change. Next, I establish how local firms' strategies toward FDI policy depend upon the cost of debt finance and derive testable hypotheses. The fourth section presents my empirical strategy and discusses results. The final section concludes.

**Understanding Economic Transformation and FDI Policy Reform**

The last quarter of the twentieth century saw a distinct trend toward decreased restrictions on inward foreign equity investment. Restrictions on FDI inflows have declined worldwide through the 1970s-1990s as countries have largely abandoned central planning and indigenous development models in favor of economic liberalization and structural adjustment. Moves toward openness are not confined to developing countries. Many advanced European economies entered the period with specific restrictions on cross border mergers and acquisitions. For example, Sweden made all foreign acquisitions subject to government review in 1973 and also

required foreign investors to source at least 50 percent of capital overseas (Blomström and Kokko 1997, 367). France had similar investment screening provisions that were only relaxed for non-EU originating FDI in 1992 (Michalet 1997, 330). Japan also greatly restricted inward FDI for much of this period. Figure 1 illustrates the average level of foreign equity openness, defined as the percentage of industries that restrict FDI to minority ownership, as well as the sample standard deviation for the time period 1973 through 2000.[1] Over this time, FDI policies across developed and developing countries experienced convergence toward a policy environment more statutorily open to direct investment by foreigners.

*** FIGURE 1 ABOUT HERE ***

Despite this macro-level convergence, variation continues to persist. Most countries pursue a complex of investment policies designed to attract certain types of FDI inflows, particularly manufacturing, while repelling foreign investment in other areas of the economy (Golub 2009; UNCTAD 2013). Since 2000, the percentage of yearly changes in national investment policies that are more restricting has steadily risen from 6 percent to 25 percent. Restrictive investment policy changes are not isolated to developing countries. In 2012, the largest share of restrictive policy changes occurred in developed countries (UNCTAD 2013, 93). Countries also vary in the extent to which they use centralized screening mechanisms to approve investment projects with foreign participation; such approval processes tend to have a chilling effect on cross border mergers and acquisitions (Taylor 2000; UNCTAD 2013, 98). Figure 2 shows how screening processes had progressively liberalized through the early 1990s, but experienced a reversal in the second half of the decade. Since 2000, many governments have further tightened investment approval requirements. UNCTAD estimates 30 percent of all cross

[1] These data are from Pandya (2014).

border M&As withdrawn after announcement in 2010 were due to restrictive investment policies (UNCTAD 2013, 97). The total value of M&As withdrawn for regulatory reasons between 2008 and 2012 approximated $265 billion, or about 10 percent of cross border deals concluded over the same time period (UNCTAD 2013, 8, 97).

*** FIGURE 2 ABOUT HERE ***

These stylized facts pose at least two questions: what explains a general trend toward increased FDI policy liberalization and what explains the remaining variation in levels of openness across countries? From a policy standpoint, restrictions on FDI are non-trivial since policy restrictiveness is statistically significantly and negatively correlated with FDI stocks (Kalinova, Palerm, and Thomsen 2010, 7) and policy liberalization is associated with increases in FDI inflows (Taylor 2000). Moreover, FDI that is established in joint venture with local firms are more likely to generate many of the positive spillovers frequently associated with FDI inflows (Abraham, Konings, and Slootmaekers 2007; Blomström and Sjöholm 1999; Dimelis and Louri 2002; Javorcik 2004; Javorcik and Spatareanu 2008; Smeets 2008). Countries that are able to attract foreign partners for their domestic firms will be more likely to create economic benefits that are shared with local enterprises. Therefore, FDI policies affect both the patterns of global FDI inflows and the distribution of gains from the activities of multinational firms. What explains cross country variation in these policy choices?

Political economy accounts of economic liberalization have long emphasized the role of vested interests in perpetuating protectionist policies that function to distribute rents to local and politically connected capital. Existing explanations of FDI liberalization tend to follow this tradition. Since domestic firms benefit from competition-reducing policies of economic repression, foreign entry deregulation must occur when some shock disrupts special interests'

ability to block reform. Punctuated equilibrium can come from two primary developments. The first is external. Economic crisis can reduce the bargaining power of governments and local firms vis-à-vis reform-oriented international financial institutions and cash-rich multinational enterprises. As domestic economies becoming increasingly dependent on foreign direct capital they become more sensitive to peers' investment policies and begin to compete with similar economies for mobile capital, and therefore must reduce remaining restriction as well as streamline investment approval and provide generous tax and legal incentives to multinationals. The second development that could disrupt blocking coalitions is democratization (Pandya 2014; Pinto 2013; Pinto and Pinto 2008). Changes in domestic political institutions that empower workers over capital may make economic blocking more difficult as voters demand higher economic growth, better jobs, and higher wages.[2] Under such conditions, local firms have less leverage vis-à-vis the government to extract regulatory rents, and electoral pressures will lead governments to liberalize foreign investment inflows.

Undoubtedly, economic crisis as well as domestic institutional change can create powerful catalysts for reform. However, just because policy change *often* occurs despite insider protest to it (and at the expense of incumbents) does not means that policy change *always* occurs due to shocks that dislodge vested interests. Instead, it may be the case that policies sometimes change because structural conditions shift in ways that induce incumbents to alter strategies. Under such conditions, incumbents may both desire and stand to benefit from policy change. Additionally, if incumbents realize the status quo is unsustainable, they may decide to "get

[2] Starting from a Hecksher-Ohlin/Stopler-Samuelson model of preference formation, workers in developing countries should view capital inflows positively. Survey data from developed and developing countries tends to support this intuition, though attitudes toward foreign investment during times of structural adjustment and privatization are less sanguine (EBRD 2005; Pandya 2010; PAIZ 2006; Rohrscheider and Whitefield 2004).

ahead" of the problem by setting the agenda for reforms. In this way, they can decrease rent erosion or even increase their share of the distributive pie. This is not a minor quibble; if particular articulations of reforms are supported by incumbent firms, than liberalization may not transform power structures as much as existing models suggest. Whether reforms are the product of creative destruction or of elite realignment has implications for the promise that reforms will empower out-groups or primarily benefit incumbents with the political capital to shape the rules of financial integration in their favor.

What then might shape and shift incumbent strategies toward regulation? A rich tradition in the finance-growth nexus literature considers the ways in which the legal environment surrounding company law both structures firm strategies and is shaped by a political process.[3] This literature emphasizes the problem of agency costs that arise when *insiders* (entrepreneurs or managing owners) seek financing from *outsiders* (financers or minority shareholders). Firms develop strategies over how they structure finance and ownership based on the laws that govern protection of creditors and minority shareholders. Simultaneously, firms use their political influence to push for investor protection laws that maximize the utility of controlling owners.

Most of this literature emphasizes the complementarities and tradeoffs between investor protections and the private benefits that accrue to owner-managers. Standard models consider how shifts in minority investor protections influence the amount of equity entrepreneurs decide to issue. Access to debt finance is either ignored or treated as a constant. However, insights from these models have bearing on explaining the decision to finance firms' capital needs through debt or equity, which in turn should depend on the relative cost of different financing options. Local firms' policy preferences toward foreign direct investors will rest fundamentally on this

[3] For overview, see Claessen 2006. For seminal work, see La Porta et al. 1998. For detailed political economy treatment, see Gourevitch and Shinn (2005).

decision. Whether firms pursue debt or equity financing will in turn depend on the rules that govern the domestic banking sector and the role the state plays in the credit allocation process. When financial markets are thin and characterized by state repression, powerful firms benefit from unequal access to debt finance at subsidized terms (Haber 1991). Under these conditions, they can easily finance expansion without selling cash-flow rights or relinquishing managerial control. However, as the banking sector is liberalized and prominent firms no longer have preferential access to debt finance, the costs associated with limiting foreign invested partners increases. Under such conditions, prominent firms will become more willing to support liberalization of foreign equity restrictions. This suggests liberalized banking sectors should be positively and dynamically associated with liberalized investment environments. Figure 3 plots the relationship between banking sector openness in 2000 and FDI policy openness ten years later in a sample of 54 countries; the bivariate relationship is striking.

*** FIGURE 3 ABOUT HERE ***

**Elites Who Reform**

Under what conditions might powerful firms embrace investment policy reform rather than lobby for continued protection against foreign entrants? As economic agents, local firm seek to maximize wealth. More specifically, they maximize the value of their ownership stake in their company (which is the market value of the firm multiplied by their equity stake) plus any resources they are able to divert for personal use (private benefits of control). For simplicity, I treat local owners as a unity actor. While in reality management is often comprised of multiple individuals, this simplification is justified for several reasons. First, the firm can agree upon arrangements to distribute private benefits among managers. Second, concentrated ownership

patterns are far more prevalent globally than diffuse ownership structures typical of Anglo-American firms (La Porta et al. 1999); concentrated ownership is often associated with family control (Pagano and Volpin 2006). It is more plausible that firms owned by a single family or firms owned by groups that are highly interconnected will be able to reach agreements about how to distribute private benefits across individuals. Third, in treating local owners as unitary, I follow a large formal literature in the law and finance literature (Haber and Perotti 2007).

The value of local firms depends on a complex set of factors ranging from macroeconomic factors such as local economic growth prospects and exchange rates, to firm-specific assets such as technology and managerial acuity. However, all firms' values rely fundamentally on their ability to raise external finance such that operations and investment activities can exceed the wealth of owners. Firms can raise finance through debt or equity. Equity investment can be raised through portfolio or direct investment. The distinction between these types is that portfolio equity investment is merely a claim on future cash flow, while direct investment also entails some amount of managerial control. Thus, portfolio investors are by definition "outsiders" while direct investors become "insiders."

The value of private benefits of control depends upon the local legal environment. Where there exist high levels of minority stockholder protection, private benefits are lower because the probability that managing owners will be detected and prosecuted for asset stripping is higher. This assumption is robustly supported empirically. Investors routinely discount their valuation of firms located in countries with poor minority investor protections (Doidge, Karolygi, and Stulz 2004; McKinsey & Company 2002). Investors value controlling block shares more highly in countries with poor minority investor protections, as measured by the price premium afforded to controlling shares (Dyck and Zingales 2004; Nenova 2003).

A mathematical representation of an owner's utility function is:

$$U_e = \beta_e V + D$$

where $\beta_e$ is the owner's equity stake in the firm, $V$ is the value of the firm, which is a function of profits minus private benefits of control, and $D$ is the value of private benefits of control. Profits equal sales minus expenses, some of which include cost of any debt financing.

This simple equation helps highlight the way in which financing affects a local firm's maximization problem. First, debt financing costs decrease profits. This indicates that as firm borrowing costs cross some threshold, local firms will begin to view equity financing more favorably. A substantial literature on corporate governance reforms establishes theoretically and empirically that firms often must strengthen minority shareholder protections in order to raise adequate capital. Without such protections, equity valuations are low and therefore owner-managers must relinquish more equity in order to raise substantial funds (La Porta et al. 2000, 2002; Claessen et al. 2002). Strengthening corporate governance decreases $D$, since such protections make owner-managers more accountable to minority investors. Firms could also raise equity through direct investment. Direct investors may not require stronger minority shareholder protections since they will take a management stake. However, owner-managers will need to share in $D$ with direct investors.

Thus, firms face trade-offs with regard to financing decisions. They can borrow, which allows them to raise capital without relinquishing future cash flow rights or the private benefits of control, but at the expense of firm value since borrowing comes at a cost. They can raise equity diffusely through stock offerings, which does not decrease $V$, but does decrease insiders' ownership stake and will probably also require some decrease in $D$ in order to attract potential investors. They can take on directly invested partners, who partake in management and therefore

will also demand some portion of $D$. It is the choice over this last potential financing source on which I focus because relaxing barriers to entry in order to facilitate direct lending also raises the possibility that foreign firms with superior technology and scale will enter the local market, thereby eroding rents. Below, I explain why foreign entry may hurt local firms.

Incumbent Firms and the Threat of Multinational Entry

Incumbent firms face identifiable and universal costs but uncertain and firm-specific benefits to multinational entry. FDI inflows entail certain, economy-wide costs to indigenous firms by placing upward pressure on wages. There is robust evidence that foreign-owned firms pay higher wages than their domestic-owned counterparts. This is true in both developed and developing countries, and studies typically find a wage premium of around 10 to 30 percent. There is also ample evidence that these wage effects permeate the broader economy. Several studies have found evidence of positive wage spillovers from FDI in the United States (Feliciano and Lipsey 1999; Figlio and Blonigen 2000). Similar spillover effects exist in other developed economies, the extent of wage "bid up" depends on skill levels and is often regionally contained. Studies of wage spillovers in developing countries also find consistent evidence that FDI inflows lead to increased wages across the local economy, especially for highly skilled workers (Aiken, Harrison, and Lipsey 1996; Feenstra and Hanson 1997; Lipsey and Sjöholm 2003). In sum, the empirical record shows foreign firms pay wage premiums in local labor markets and contribute to broad-based wage increases.

Foreign entry also creates wide-scale productivity pressures that erode incumbent firms' rents. Firms that choose to engage in FDI are more highly productive than other firms in their home and host country (Helpman 2006). This productivity gap is more pronounced when

multinationals locate in previously protected industries since rents accrued from protection reduce the propensity to invest in productivity-enhancing technology (Schwab and Werker 2014). Multinational entry, by increasing competition in host country product and labor markets, also forces less efficient domestic firms to exit (Alfaro and Chen 2013; Caves 1996). The superior access to finance and technological sophistication that characterize MNEs also make them better able to overcome natural entry barriers in concentrated markets and to significantly reduce incumbents' market share (Aitken and Harrison 1999; Caves 1996). For these reasons, inefficient domestic firms will view FDI as a threat to their survival.

Indigenous firms are less certain about the potential benefits they may realize from foreign entry. A local firm is most likely to profit from FDI inflows when it joins a multinational in a joint venture. Local participants benefit from capital injections, risk-sharing, procurement contracts with parents, and technology and knowledge spillovers (Blomström and Sjöholm 1999; Javorcik and Spatareanu 2005; UNCTAD 2003). Research on the effect of FDI on local firms consistently finds vertical integration through foreign-domestic equity partnerships that develop backward linkages with multinational parents are most likely to increase local firms' productivity and profits of local firms (Blalock and Gertler 2009; Havranek and Irsova 2011; Javorcik and Spatareanu 2005). Conversely, competition effects disadvantage domestic enterprises when foreign investors establish wholly owned subsidiaries (Aitken and Harrison 1999; Djankov and Hoekman 2000; Javorcik and Spatareanu 2008; Konings 2001). Local firms may wish to restrict FDI to minority shares in order to ensure FDI inflows will benefit them. However, such restrictions often reduce foreign firm willingness to engage in joint venture activity and impede technology transfer and industrial upgrading in the joint ventures foreign firms do establish (Moran 2005, Qui and Wang 2011). Therefore, reducing equity restrictions on foreign

participation can lead to more extensive partnership agreements with domestic firms.[4] Since FDI inflows benefit local firms that become partners with foreign firms but disadvantage domestic enterprises that do not, local firms will only want to liberalize FDI policy if they believe doing so will result in foreign firms creating local partnerships with them.

The known costs and uncertain benefits of FDI liberalization create opposition to reform since incumbent firms face identifiable and universal costs but uncertain and firm-specific benefits to multinational entry. Foreign entry projects known costs through upward pressure on wages and increased competition in product markets that decrease producer surplus. The potential benefits to individual firms from foreign entry, however, are difficult to identify because firms do not know if they will secure lucrative partnerships with foreign firms. Therefore, incumbents will view unrestricted FDI with caution. This will be especially true of small and medium size firms who typically have higher labor costs, lower capital investments, lower productivity, and lower access to investment financing (Rajan and Zingales 2003). Such firms are most in danger of failing to remain competitive in a sector with foreign firms and also, due to their size, capacity constraints, and low productivity, are least likely to benefit from affiliation and lucrative procurement contracts (Brown 2002; Crespo and Fontoura 2006; Damijan, Rojec, Majcen, and Knell 2013; Helpman 2006).

The Dynamics of Owner Strategies

[4] The experience of India is illustrative. When the economy initially opened to majority-owned FDI in the 1990s, most multinationals entered the country through joint ventures (Chari and Gupta 2008). About 80% of these joint venture projects involved private domestic partners while state-owned firms were rarely seen by multinationals as beneficial investment partners (Chari and Gupta 2008; SDC Thomson Database).

When local manager-owners enjoy preferential access to subsidized debt financing, they do not need to raise equity and will often prefer regulations that restrict FDI from the local economy because foreign entrant create competition in product and labor markets that reduce rents. However, as the cost to debt financing rises, local firms will begin to shift capital raising strategies toward equity, which may lead firms to support more openness for foreign investment sources. This suggests dynamics in foreign investment policies may result from both global financing conditions and from changes in domestic banking regulation that disrupts access to debt finance on preferential terms.

When local firms have easy access to state-subsidized credit, they are likely to advocate for restrictions on FDI. Foreign entry pushes up wage costs, forces local firms to sacrifice rents for increasing in productivity, and is generally disruptive to existing market structures. Therefore, domestic firms will support restrictive policies toward FDI so long as their access to operations and investment financing is sufficient. Under the terms of financial repression, large and politically important firms can easily finance operation and expansion through subsidized debt. They will support policies that restrict foreign entry outright or to minority joint ventures. This allows them to maintain ownership and accrue private benefits to control, while also limiting competition in product and labor markets. While repressed financial systems ration credit, the losers of financial repression – small, weakly organized firms – are poorly situated to pressure governments to reform (Rajan and Zingales 2003). Moreover, such firms are the least likely to benefit from FDI liberalization since foreign entry typically increases drop out rates among small and inefficient firms (Alfaro and Chen 2013). Because financial repression channels cheap credit to politically powerful firms, such systems also tend to consolidate industries into large and closely held industrial-financial conglomerates. Conglomeration

intensifies market-distortions in credit markets as the financial arm of these groups loan to connected corporations at below market rates (Akerlof and Romer 1993; La Porta et al. 2000). The rise of powerful conglomerates thus further entrenches local firms' capacity to use domestically intermediated sources of finance. Thus, financial repression can ossify incumbent opposition to foreign entry.

When governments pursue banking sector reforms, often in response to financial crisis, firm strategies toward financing and therefore FDI may shift dramatically. When governments privatize state-owned banks and eliminate subsidized credit schemes, politically influential firms no longer have preferential access to debt finance and therefore their lending costs will increase (Rajan and Zingales 2003). In response, firms will look to equity arrangements for finance. Financing operations and expansion through equity has drawbacks, as discussed in section x.x. Equity finance requires diluting ownership. To achieve high valuations from diffuse investors, firms will also need to cede private benefits to control. If firms attract investing partners, they will need to share private benefits of control. However, as debt financing becomes more difficult and expensive to obtain, large firms may increasingly be willing to sacrifice some claims on cash flow and to reduce or share in the private benefits of control. This will be particularly true of firms in capital-intensive industries since finance is more constraining for them. Additionally, concentrated and conglomerated firms may be particularly amenable to supporting FDI liberalization because they would be more likely to hold on to the ability to extract private benefits of control if they obtained management partners than if they had to pursue corporate governance reform in order to raise portfolio capital. On the other hand, since state owned enterprises have soft budget constraints, they are more likely to oppose FDI liberalization. They do not face the same financing constraints as private firms and they are among the least likely

enterprises to benefit from foreign partners (Chari and Gupta 2008). Small firms may also be more likely to oppose FDI openness since they are least likely to be reasonable targets for acquisition or partnership by foreign firms. However, larger and more politically influential firms are most likely to benefit from foreign partners, and these firms will have greater capacity for successfully influencing policy.

The shifting financing options available to influential firms in states of financial repression and financial reform therefore suggests large and politically powerful firms will lobby for protection against FDI under conditions of financial repression and support policy liberalization under conditions of banking sector openness. However, this prediction is difficult to directly test since firm attitudes toward FDI are difficult to observe. Instead, I focus on policy outcomes and assume FDI policy outcomes reflect the preferences of politically influential firms. This assumption allows me to establish a clear connection between banking sector policies and FDI regulation for a large sample of countries across a long period of time. This leads to the following hypothesis:

> *Banking sector reforms should be positively and dynamically associated with FDI policy liberalization.*

## Data, Methods, and Empirical Strategy

To test the above hypothesis, I employ a dataset of banking sector and FDI policy reforms in as many as 68 countries from 1973-2000. This time period includes most of the movements toward FDI openness in the developing world.

### Outcome Variables

Policies toward FDI are multifaceted and encompass a diverse set of rules regarding equity restrictions, screening requirements, licensing laws, and legal provisions regarding profit repatriation, export balancing requirements, nationalization, and legal recourse for aggrieved firms. The complexity of FDI policy has been a contributing factor to the under study of this topic, as measurement remains a challenge to researchers. I focus specifically on two measures of FDI openness: equity restrictions and screening requirements. This choice is partially one of practicality; data for these FDI rules are more widely available than more comprehensive indices of FDI openness, which are available for limited time frames or cover single regions.[5] However, there are several theoretical reasons why it may be most appropriate to test this particular theory on variables that measure government control directly over foreign equity entry. First, equity restrictions are part of the long-term capital account position. Because I place FDI liberalization within the analytical context of capital account openness more generally, it is appropriate to focus on entry restrictions because these policies are most analogous to measures on restrictions on flows of short-term investment. Second, equity restrictions are the cornerstone of a government's policy stance toward FDI. Even if a government has an expansive network of international treaties designed to provide legal protections to foreign investors, equity restrictions can prevent MNEs from entering specific industries either at all or as fully owned foreign subsidiaries. Thus, the importance of any other FDI policy depends on whether foreign firms are

[5] There exist at least six indices of FDI openness. The Heritage Foundation Index of investment freedom begins in 1995, which is after much of the movement toward FDI liberalization. The Frazer Institute has some measures extending back to 1970 on a five year basis, but in early years concentrates mainly on advanced industrial economies. Furthermore, its coding scheme conflates FDI policy with locational attractiveness. Hardin and Holmes (2002, 1997) develop a methodology for a comprehensive index of investment policy in APEC countries. Golub (2003) and Dorobantu (2010) use variations of these coding decisions to measure investment policy in OECD and transition economies respectively. UNCTAD (2012) counts the number of FDI regulatory changes since 1992, but does not measure the relative importance of these changes.

allowed to enter a given industry and, if so, to what extent. Finally, when governments retain screening authority over FDI entrance, they are able to discriminate against projects that may potentially harm domestic industrial constituents. Screening can create investment environments in which economies are statutorily open to FDI but foreign firms remain largely excluded from participation.

I use Pandya's measure of equity restrictions and screening requirements, which covers 94 countries between 1970 and 2000 (2014). The equity restriction index was constructed by first identifying the number of all manufacturing and service industries that limit foreign firms to a minority share or ban foreign ownership outright in each country year. Then, the number of limiting industries were summed and divided by the number of industries at the ISIC two digit level for which there was any domestic employment in the given country year. The screening index follows the same methodology by counting the number of industries for which FDI requires government approval. This weighting system corrects for the possibility that some industries simply do not exist in particular countries. Because this measure likely over counts service sector industries and does not include the primary sector, it potentially understates restrictions on foreign entry (Pandya 2014, 17). Furthermore, it does not weight for importance of individual sectors in terms of economic output or share of domestic employment. However, these coding decisions compress the distribution of equity restrictions, making it more difficult to obtain statistically significant results, and thereby create a conservative test of my theory. To aid in interpretation and discussion, I recode both of these variables so that higher values indicate greater liberalization and lower scores indicate more restrictions.

Explanatory variables and controls

My primary hypothesis is that banking sector liberalization will induce loosening of foreign equity restrictions. To measure *Banking Sector Reform,* I use modified version of Abiad et al.'s index (2008). This measure has broad temporal and cross-sectional coverage, including 103 countries from 1973-2005. This index compiles qualitative judgments over liberalization in five aspects of banking sector policy: credit controls and excessively high reserve requirements, interest rate controls, state ownership in the banking sector, prudential regulations and supervision of the banking sector, and securities market policies.[6]

I include a variety of other variables to account for alternative explanations of FDI liberalization. First, I control for a variety of factors that influence the cost and benefit of opening. Countries with fixed exchange rates (*Fixed XR*) may find liberalization costly as increased capital flows may require costly interventions into foreign exchange markets to maintain a peg.[7] Conversely, a fixed exchange rate may make a country a more attractive target for MNEs by decreasing uncertainty over the future value of any fixed investment. Additionally, fixed exchange rates may induce balance of payment crises and therefore lead to structural reforms. Therefore, the relationship between fixed exchange rates and FDI policy is most likely complex and consequently I have no expectation about the direction of any effect. Countries with high levels of domestic liquidity (*M2/GDP*) may find FDI less necessary for development, and therefore less beneficial.[8] Short-term capital account openness (*KA Open*) may signal a generally

[6] The original index also includes judgments over restrictions on the short-term capital account and foreign equity participation in the banking sector. I remove these measures from the index because 1) I prefer to use a more widely accepted measure for capital account openness (discussed further below) and 2) foreign equity restrictions in the banking sector are also included in Equity Liberalization. All results are robust to the full index, available upon request.
[7] This measure is from Levy-Yeyati and Sturzenegger (2005).
[8] To correct for skew, this variable is log transformed. Source: World Development Indicators.

economically liberal stance, making FDI liberalization more likely.[9] However, I argue access to international portfolio investment decreases domestic firms' demand for access to finance through FDI while strengthening the political position of the most ardent anti-FDI actors. Therefore, I expect KA Open to be negatively associated with FDI liberalization. Access to domestic lending (*Domestic Credit*) may operate similarly as the availability of domestic finance will decrease the benefits of FDI openness.[10] The level and trajectory of development (*GDP Per Capita*) may influence the extent to which liberalizing FDI policy will actually result in MNE activity.[11] Because I employ an error correction modeling strategy, I also include a differenced GDP Per Capita, which measures economic growth.

I also control for a variety of rival explanations of economic liberalization. Existing literature on FDI policy formation emphasizes the causal role of regime type. Following convention, I measure regime type using *Polity2* from the Polity IV measure of democracy and autocracy.[12] In the reform sequencing literature, FDI policy is often assumed to follow real sector reforms (Johnston, Darbar and Echeverria 1997). Therefore, I include a measure of de facto trade openness (*(Imports+Exports)/GDP*) to control for FDI openness following trade liberalization.

Another common explanation of the timing of economic liberalization is that financial crises provide a "window of opportunity" for reform either by providing political space for

[9] Source: Brune and Guisinger (forthcoming). This measures is an additive index of the presence of controls in twelve components of the capital account, as identified by the IMF's AREAER Report. I modify this measure by subtracting two subcomponents related to restrictions on FDI inflows and outflows and removing a measure for controls over operations of banking and financial institutions. The resulting index can vary from 0 to 9 and is an improvement over more widely used measures such as Karcher and Steinberg (2013) and Chinn and Ito (2006), which combine short-term and long-term restrictions on the capital account.

[10] To correct for skew, this variable is log transformed. Source: WDI.
[11] To correct for skew, this variable is log transformed. Source: WDI.
[12] Source: Marshall, Gurr, and Jagger (2012).

technocratic decision-making, by making political leaders realize their current growth models are no longer viable, or by pressure from international financial institutions that have increased power over states during economic crisis. Therefore, I include indicators for *Banking Crisis*, *Currency Crisis*, and *Debt Crisis*.[13] Each measure indicates whether a particular crisis began in a particular country year. Currency and debt crises may induce liberalization, but since banking sector reforms are less likely in the aftermath of banking crises, I anticipate banking crises to either be unrelated to or negatively correlated with FDI liberalization. The literature on capital account openness more generally has emphasized the coercive role of the IMF in the implementation of neoliberal economic reforms. Therefore, I include an indicator variable *Under IMF* to account for countries subject to an IMF loan program.[14]

Finally, because many policy liberalizations exhibit wave-like patterns of implementation, it may be the case that decisions to liberalize FDI follow mechanisms of policy diffusion across peer groups (Simmons and Elkins 2004). Accordingly, I control for the FDI policies for both regional and income peers by constructing variables that measure the average equity liberalization and screening liberalization score in each country year for a country's regional[15] (*Regional Restrictions*) and income peers[16] (*Income Restrictions*).

Case Selection and Data Coverage

Conceptually, I expect my theory to apply broadly. However, my statistical analysis covers a limited number of countries due to issues of data availability. The most inclusive empirical models cover sixty-eight developing and advanced economies, while models with

[13] Source: World Bank Dataset on Financial Crisis.
[14] Source: Pandya (2014), originally from Dreher (2006).
[15] I use UN subregional categories.
[16] I use World Bank income categories.

additional controls often restrict the sample further. I run a variety of robustness checks to be sure results are not driven by a particular sample. Table 1 provides a list of countries included in each of the main estimations. Table 2 provides descriptive statistics. To aid in the interpretation of relative effects, I standardize all non-indicator variables.

*** TABLE 1 ABOUT HERE ***

*** TABLE 2 ABOUT HERE ***

Modeling Technique

My theory argues banking sector reform creates a policy environment more conducive to FDI liberalization. Because interest realignment takes time to transfer into policy change, the causal process should display temporal lags rather than instantaneous change. Moreover, modeling the precise timing of reform is particularly important in this case because doing so helps attenuate concerns that reforms of FDI and financial sector policies may be linked through common reform packages rather than through a truly causal process. I choose to employ a single equation error correction model to estimate these dynamics. Such models are useful for several reasons. First, SECMs are particularly suited for integrated time series; diagnostics confirm both measures of FDI openness as well as banking sector reform conform to a first order integration. Second, unlike estimation models that include each explanatory variable lagged by a predetermined amount, SECMs remain agnostic to the length of time it takes for the effect of explanatory variables to fully transfer into outcomes of interest. SECMs estimate three qualitatively important quantities of interest - the average instantaneous change in $Y$ as a result of $x$, the average long-term effect of $x$ on $Y$, and the rate at which the long term effects of $x$ change $Y$. Third, SECMs are accommodating of many problems typical with running dynamic models.

These models can handle both integrated and stationary explanatory variables within the same equation (Engle and Granger 1987; Keele and DeBoef 2008), and they also are robust to weak endogeneity (DeBoef 2001).

Results and Interpretation

Table 3 reports the main results for *Equity Restrictions*. Recall that all non-indicator variables are standardized to aid in interpreting relative effects. The primary finding of these empirical models is measures of financial sector reform are consistently statistically significantly related to FDI liberalization, and these results are robust to both fixed and random effects modeling, multicollinearity concerns, and measurement choice.[17] Because measures of trade, M2, and domestic credit are often unavailable for many country years in my dataset, I exclude these variables in models that include measures of diffusion. Inclusion of trade and money supply variables reduce my country year observations by almost half and also disproportionately drop developing countries from the sample. Post-estimation diagnostic assessment indicates a fixed-effects model is the appropriate modeling choice.[18]

*** TABLE 3 ABOUT HERE ***

Table 4 reports results of a similar set of models that substitute *Screening Requirements* for *Equity Restrictions*. Interestingly, banking sector reforms do not have consistently statistically significant effects on the liberalization of screening requirements. Moreover, the sign

[17] Results of random effects models are substantively similar to fixed effects models. Results are also robust to other common measures of short-term capital account openness. Results of these robustness checks are available upon request.

[18] A Hausman specification test rejects the null hypothesis that the coefficient estimates of the random effects model do not systematically differ from the parameter estimates of the fixed effects model at p=0.000 (Hausman, 1976).

of the coefficient estimate for banking reforms in these models is negative. While data availability restrict the *Screening* models, these findings do suggest the political processes that lead to removal of screening requirements is different from the mechanisms that lead to decreased equity restrictions on direct foreign investors. This interpretation is further supported by fact that the screening policies of geographic and income peers seems to have a divergent rather than convergent effect on local regulatory changes. I discuss these findings further below.

*** TABLE 4 ABOUT HERE ***

Interpreting SECMs requires separating the short-term effects of explanatory variables from the long-term effects, which transfer into the data through an equilibrating process. The intuition behind error correction models is if two or more time series are cointegrated, they should share a stochastic trend that moderates toward an equilibrium relationship. First, note that for all models, the coefficient estimate for the lagged dependent variable is negative and statistically significant. This finding provides evidence that an error correction model is indeed appropriate for the data; the differenced level of FDI openness is stationary and trends back toward an equilibrium value. Interpreting the short-term effects of the explanatory variables is straightforward; the coefficient estimate of the differenced value of an explanatory variable represents the average instantaneous change in FDI openness. Interpretation of long-term effects requires dividing the coefficient estimate for the lagged explanatory variable by the coefficient estimate for the lagged dependent variable. Since all variables have been standardized, the resulting coefficient estimate represents the average total effect of a standard deviation change in the explanatory variable; the coefficient estimate for the lagged dependent variable provides an indication for how quickly the total long term effect transfers into the data.

What becomes immediately clear is financial reform has no instantaneous effect on FDI liberalization, but instead influences openness to foreign investment through a longer temporal process. This finding establishes that the correlation between FDI and financial sector liberalization is not driven by contemporaneous reforms in both policy areas. The substantive long-term effect of financial sector reform on liberalization of equity restrictions is quite large. Figure 4 illustrates the average predicted long-term effect of banking reforms on FDI liberalization for Model 2. Overall, Model 2 predicts a standard deviation change in banking sector liberalization leads to an average increase in FDI openness equal to 36.68 per cent of its standard deviation. Model 3 predicts an effect of similar magnitude. Model 1 predicts a larger effect, but is also estimated on a smaller sample. Figure 4 illustrates the temporal dimension of this predicted change in FDI openness; most of the effects of banking reform transfer into the data within five years.

*** FIGURE 4 ABOUT HERE ***

A few other explanatory variables are consistently significantly associated with liberalization of equity restrictions. In Model 1, trade openness is positive and statistically significant association with decreases in equity restrictions, but not with liberalization of screening requirements. It bears mention that trade openness has the largest substantive effect on changes in equity restrictions, which corroborates Kobrin (2005) who argues FDI liberalization follows the logic of economic opportunity costs of closure. However, other economic variables such as level of development and economic growth are not statistically significant.

Perhaps most interestingly, short-term capital account openness is consistently statistically significantly negatively associated with equity restriction liberalization and displays predicted substantive effects around the same magnitude as banking sector liberalization. This

finding quite clearly shows that the decision to pursue short-term capital account liberalization is quite distinct from decisions to liberalize long term flows and is also consistent with the above theory that emphasizes different interest coalitions with respect to each policy area. The above theory emphasizes the importance of access to and costs of alternative investment in explaining patterns of FDI liberalization, and specifically argues FDI reform is more likely when access to domestic credit sources is limited. Domestic credit as a percentage of GDP is not a statistically significant predictor of FDI openness, but this variable suffers from a large amount of missingness, which may be driving that result.

There is also evidence that economic crises have long-term negative effects on FDI liberalization. Debt crisis, and to a lesser extent, currency crisis is statistically significantly related to decreased FDI openness for measures of equity restrictions but not for screening requirements. These variables exhibit statistically significant short-term effects, though these predicted effects are not as large as those for financial reform. Banking crisis is not consistently associated with changes in FDI policy. This finding is unsurprising within the theoretical framework sketched above because banking sector reform, which significantly drives movements toward FDI liberalization, is less likely in the wake of banking crises (Abiad and Mody 2005). Contrary to arguments that loan conditionality forced FDI liberalization, there is no evidence that being under an IMF program drives FDI policy reform.

These models also provide an important correction to two most prominent theories of liberalization. First, democracy is not consistently statistically significantly associated with reform. In most models, the coefficient estimate is negative and even reaches significance in Model 4. The sign for democracy is particularly interesting because it contradicts previous findings that democracy drives FDI openness (Pandya 2014; Dorobantu 2010). In a large cross-

sectional analysis, it is not clear of this negative association is due to democracies blocking reform or because countries typically open to FDI before they transition to democracy. Regardless, the results do call in to question theories of FDI reform that emphasize democratic transition.

Another typical theory of liberalization is that FDI policies diffuse across countries in competition for capital. The models presented here provide a partial confirmation of this expectation. For equity restrictions, FDI liberalization among geographically proximate and economically similar states has a large and statistically significant positive effect on a country's subsequent propensity to liberalize. However, the coefficient estimates for models of screening requirements are statistically significant and negative. This finding is rather puzzling and further suggests the politics surrounding screening requirements are different from those that drive policies toward foreign equity ceilings. The negative relationship between screening liberalization and regime type in Model 4 indicates that screening requirements may be more associated with the way political power is organized domestically. Another possibility is that the politics surrounding the liberalization of screening requirements might play out at the bureaucratic level since rescinding screening authorization amounts to a dramatic decrease in power of whichever ministry administers investment project requests.

**Sensitivity Analysis and Alternative Explanations**

First, one of the more surprising results of Models 1-6 is that level of democracy is either not associated or negatively associated with FDI liberalization. To ensure this finding does not rest on measurement choice, I use an indicator for democracy. Model 7 shows that an indicator of democracy further undermines claims that democratization leads to FDI liberalization – in this

model, democracy has a statistically significant and negative effect on lifting equity restrictions. Another alternative explanation for FDI liberalization is the proliferation of bilateral investment treaties (BITs) compelled developing countries to open their borders to FDI (Elkins, Guzman and Simmons 2006). Model 8 includes a count of *BITs*, and again my results are robust to this alternative explanation.[19] Figure 5 illustrates the average predicted change in FDI openness over time for Model 8. The curve is similar to Figure 4, indicating the temporal dynamics of reform follow a similar trajectory. Additionally, it is worth noting that the substantive effects are larger in the restricted sample; a one standard deviation change in banking reform is associated with a increase in FDI openness equal to about 75% of a standard deviation change in the outcome variable. Finally, to ensure that my results are robust to alternative estimation techniques, Model 9 uses a standard time series cross sectional estimation with all explanatory variables lagged one period and with fixed effects. Again, my main results remain robust.

*** TABLE 5 ABOUT HERE ***

*** FIGURE 5 ABOUT HERE ***

It may be that liberalizing reforms may generate additional liberalizing forms more generally. If this is true, the causal mechanism linking banking reforms with FDI liberalization may be growing ideational propensities toward economic liberalism rather than anything particular to how changes in credit allocation processes may shift elite preferences. Therefore, I run a series of error correction, pooled time series, and granger causality models to probe the statistical relationship between trade liberalization, measured by applied tariff rates, and banking sector reforms. Across model outputs, there is no consistent statistical relationship between

[19] Because BITs are typically considered to constrain developing countries rather than advanced industrial countries, the easiest test of the hypothesis that BITs increase FDI openness would only apply to developing countries. Therefore, Model 7 is restricted to the developing world.

reforms in the banking sector and trade liberalization. In particular, error correction specifications reveal little evidence that banking sector reforms are systematically linked to tariff reforms in either direction. Jointly, these tests provide additional evidence that the statistical relationship between banking reforms and FDI liberalization are more than just an artifact of a virtuous circle of liberalizing reforms.

## Conclusion

Over the past thirty years, states have generally opened their long-term capital account by loosening the restrictions on foreign equity ownership in a number of industries. Instead of converging on a particular level of openness, however, states retain a non-trivial degree of variation in their statutory position toward FDI. Previous research on the determinants of FDI liberalization has focused largely on variations in domestic political institutions to explain disparate levels of openness. Such analyses largely ignore the broader macroeconomic context in which governments make decisions about FDI policy, place great confidence in the constraining function of institutions within the context of institutional instability, leave little room for autonomous state preferences, and do not consider how domestic firms may face changing preferences over time. In contrast, I develop a theory that considers how banking sector reform over time induces changes in the political economy of FDI in developing countries. As governments liberalize the domestic financial sector, often in response to balance of payment crises, they lose their ability to use tools of financial repression to maintain regime support. When governments are no longer able to channel investments toward politically important development projects, they must look to alternate sources of investment to fuel economic growth. At the same time, banking sector reform breaks down traditional coalitions that

previously lobbied to maintain high restrictions on FDI while fostering new coalitions of industrial and financial interests that benefit from FDI inflows.

As the results reported above show, there is robust support for the proposition that banking sector reform leads to FDI liberalization, at least in terms of equity restrictions. However, changes screening requirements are not consistently associated with banking sector reforms, nor measures of short-term capital account openness, IMF coercion, or political institutions. Several important implications emerge from these findings. First, they provide a useful corrective to theories of FDI policy orientation that emphasize democratic institutions. Once controlling for banking sector reform, level of democracy is not statistically significantly associated with FDI liberalization. Second, these findings reiterate the importance of considering ways in which global factors influence government policymaking while still retaining explanatory space for domestic level political struggles. Banking sector reform, often induced by external pressures, consequently changed preferences over FDI policy both at the societal level and within the state apparatus itself. Third, the theory these findings support places great emphasis on disentangling the causal logic that underlies decisions to liberalize different "types" of financial flows. In particular, the policy preferences of domestic actors over short-term and long-term capital account openness are not always united and sometimes countervail each other.

These findings open up multiple directions for future research. First, while the statistical analysis here provides evidence of the temporal sequencing of banking sector reform and FDI liberalization, it does not directly test how firms' policy preferences are affected by access to subsidized debt financing. One possible avenue for future research would be to exploit stock market data to see how investors react to passage of FDI policy liberalizations; if firms oppose such reforms we should expect stock prices to decline while we would expect valuations to rise if

firms view FDI liberalization as beneficial. Beyond empirical research to establish firm strategies, future work could focus instead on the political processes through which investment policies are created and changed. What domestic institutional factors affect the likelihood that large firms will be successful at pushing through their preferred policy? Third, the results of the models presented here suggest liberalization of equity restrictions and screening requirements follow different pathways and that the mechanisms commonly thought to induce greater openness to FDI do not apply to the lifting of screening requirements. Future research should explore this finding more fully.

Similarly, while this paper focused on equity restrictions and screening requirements, which are central to governments' long-term capital account position, policies toward FDI are multifaceted. It would be helpful to think about how a theory that takes the temporal sequencing of reform seriously may augment understanding of the political determinants of other facets of FDI policy. For example, when do governments enact new FDI incentive policies? To what extent does the creation of special economic zones speed up or stall FDI liberalization? Finally, these findings place great emphasis on how domestic firms' strategies with respect to foreign investment changed as global conditions changed. Future research might consider more fully the conditions under which the distinction between domestic and multinational firms breaks down. As foreign firms enter host markets and develop both arms-length and intra-firm relationships with domestic incumbents, how do the policy preference orientations of incumbents change and how do firms adapt their lobbing strategies in the context of a breakdown in distinction between domestic and foreign firms?

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Figure 1: FDI Policy Over Time

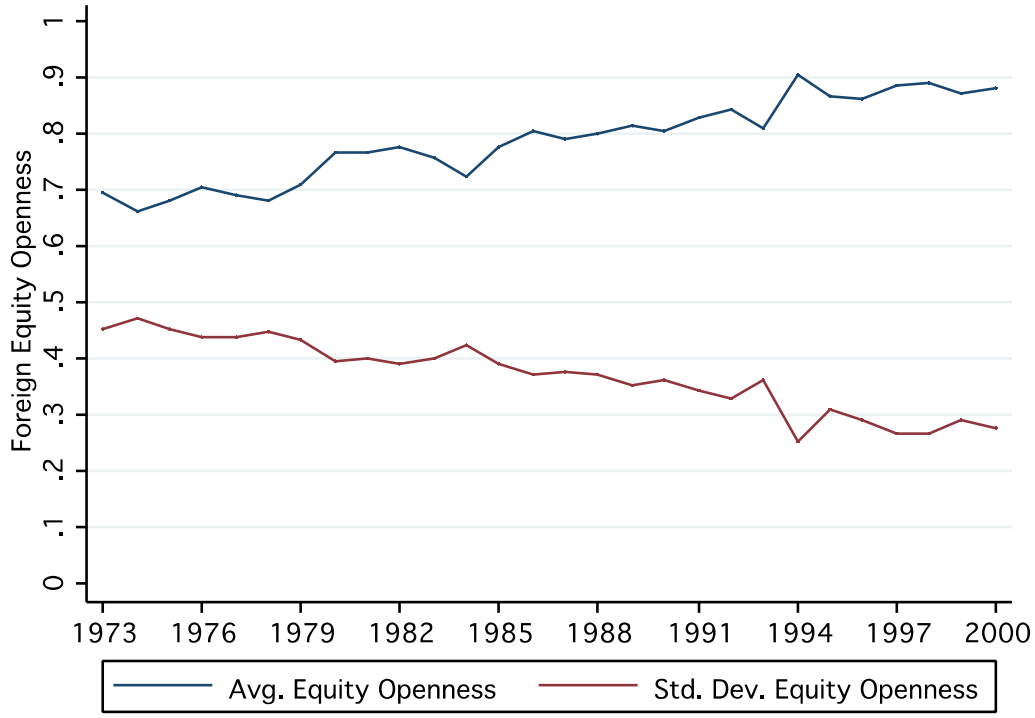

Figure 2: Investment Screening Liberalization Over Time

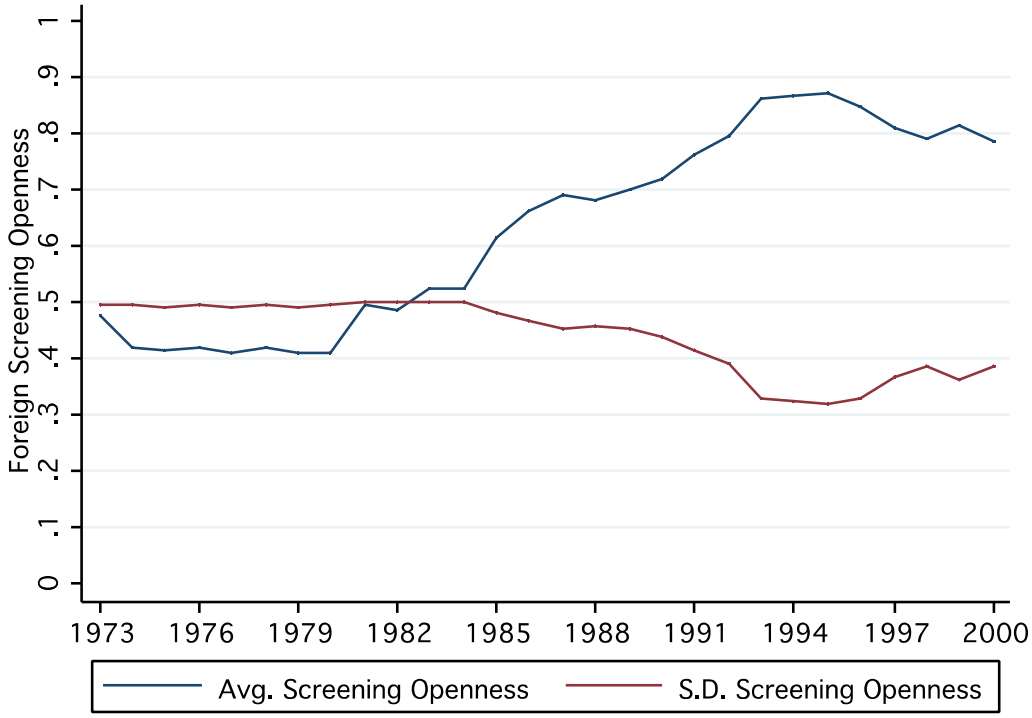

Figure 3: Banking Sector Reform and FDI Openness

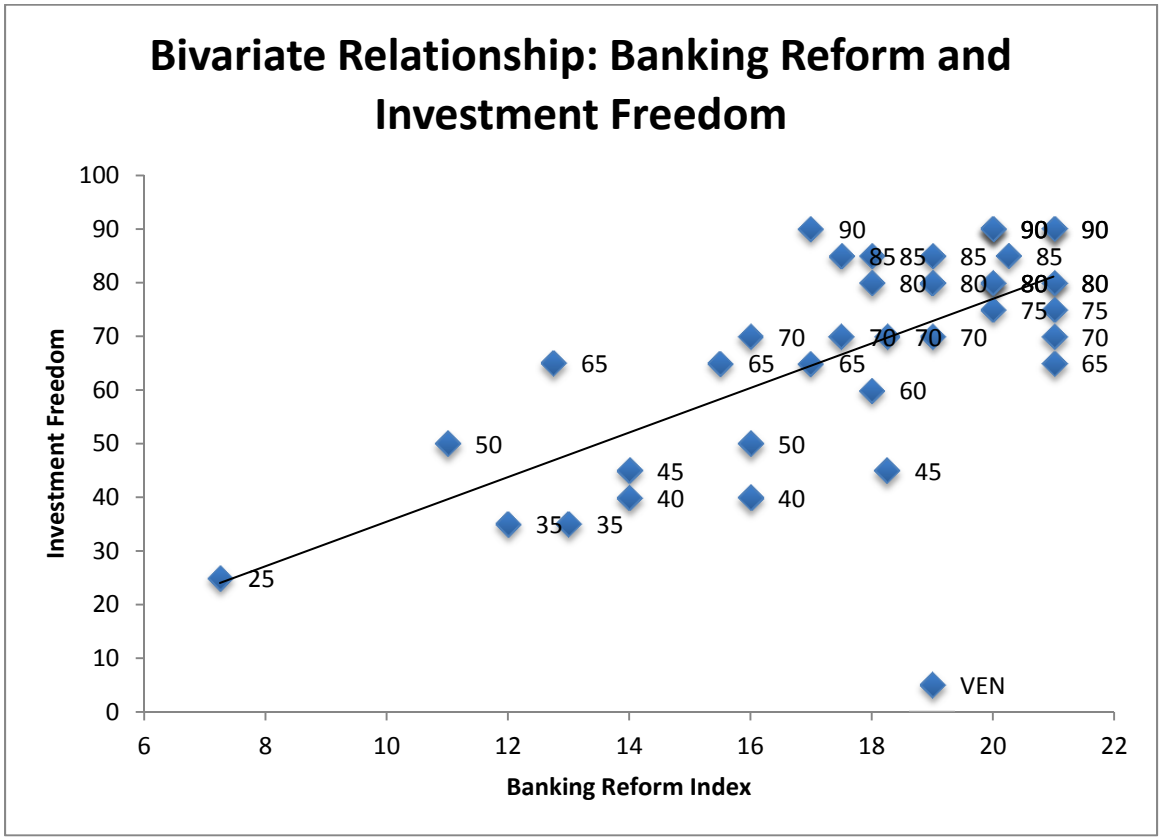

Figure 4: Long-Term Effects of Banking Reform on FDI Policy

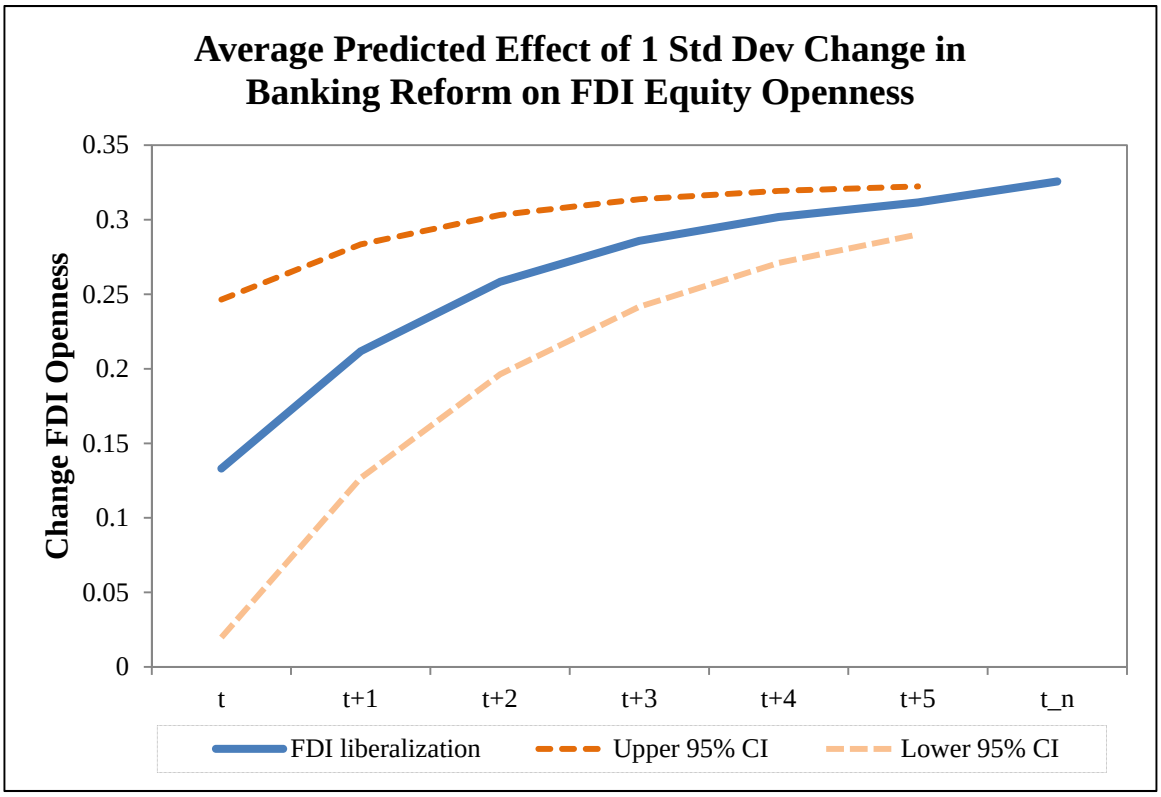

Figure 5: Effect of Banking Reform on FDI Policy, Developing Countries

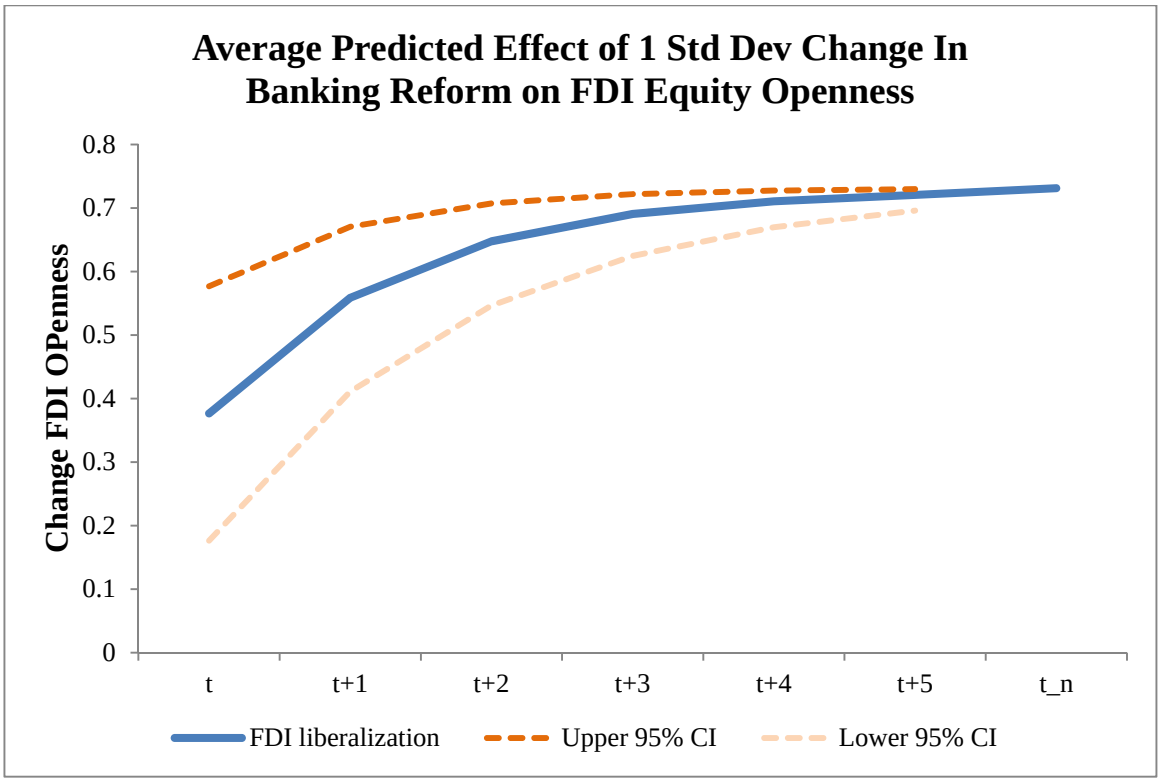

Table 1: Country Coverage, Main Models

| | | | | |
|---|---|---|---|---|
| Algeria | Denmark | Indonesia | New Zealand | Sri Lanka |
| Argentina | Dominican Republic | Israel | Nicaragua | Sweden |
| Australia | Ecuador | Italy | Nigeria | Switzerland |
| Austria | Egypt | Japan | Norway | Tanzania |
| Belgium | El Salvador | Jordan | Pakistan | Thailand |
| Bolivia | Ethiopia | Kazakhstan | Paraguay | Tunisia |
| Brazil | Finland | Kenya | Peru | Turkey |
| Cameroon | France | Madagascar | Philippines | Uganda |
| Canada | Germany | Malaysia | Portugal | UK |
| Chile | Ghana | Mexico | Singapore | Uruguay |
| China | Greece | Morocco | South Africa | Uzbekistan |
| Colombia | Guatemala | Mozambique | South Korea | Venezuela |
| Cote d'Ivoire | India | Netherlands | Spain | Zimbabwe |

Table 2: Descriptive Statistics

| Variable | Obs | Mean | Std. Dev. | Min | Max | Source |
|---|---|---|---|---|---|---|
| FDI Equity Openness | 2255 | 0.8044 | 0.3673 | 0 | 1 | Pandya (2014) |
| FDI Screening Openness | 1461 | 0.6662 | 0.4607 | 0 | 1 | Pandya (2014) |
| Banking Reform | 1564 | 6.6148 | 4.3917 | 0 | 15 | Abiad *et al.* (2008) |
| Fixed Exchange Rate | 2340 | 0.4047 | 0.4909 | 0 | 1 | Levy-Yeyati and Sturzenegger (2005) |
| Capital Account Openness | 2303 | 3.01433 | 3.0578 | 0 | 9 | Brune and Guisinger (n.d.) |
| Ln GDP/PC ($US) | 2177 | 8.1539 | 1.6239 | 4.823 | 11.3138 | World Development Indicators |
| ln Trade/GDP | 1644 | 2.2398 | 1.4179 | -4.3283 | 4.5762 | World Development Indicators |
| ln M2/GDP | 2014 | 3.06017 | 0.6417 | 1.4035 | 6.428 | World Development Indicators |
| Currency Crisis | 2340 | 0.0474 | 0.2126 | 0 | 1 | Claeseens and Kose (2013) |
| Banking Crisis | 2340 | 0.0274 | 0.1631 | 0 | 1 | Claeseens and Kose (2013) |
| Debt Crisis | 2340 | 0.015 | 0.1214 | 0 | 1 | Claeseens and Kose (2013) |
| Polity | 2258 | 1.2759 | 7.8212 | -10 | 10 | Marshall, Gurr,and Jaggers (2012) |
| IMF Program | 2279 | 0.3054 | 0.4667 | 0 | 1 | Pandya (2014) |
| BITs | 1595 | 2.9085 | 3.4462 | 0 | 15 | Büthe and Milner (2008) |
| Region Equity Openness | 2340 | 0.082 | 0.176 | 0.3316 | 0.9972 | Author Calculation |
| Income FDI Openness | 2340 | 0.802 | 0.1057 | 0.5364 | 0.9381 | Author Calculation |
| Region Screening Openess | 2335 | 0.7119 | 0.1767 | 0.3192 | 1 | Author Calculation |
| Income Screening Openness | 2340 | 0.6761 | 0.0788 | 0.5838 | 0.806 | Author Calculation |

Table 3: Equity Restrictions Models

| | Equity Restrictions FE Model 1 | | Equity Restrictions FE Model 2 | | Equity Restrictions FE Model 3 | |
|---|---|---|---|---|---|---|
| | Coef | SE | Coef | SE | Coef | SE |
| LDV | -0.4110 | 0.0298*** | -0.4146 | 0.0218*** | -0.4186 | 0.0220*** |
| Banking Sector Reform | | | | | | |
| Lag | 0.1595 | 0.0576*** | 0.0730 | 0.0324** | 0.0575 | 0.0351* |
| Change | 0.0354 | 0.1047 | -0.0109 | 0.0683 | -0.0337 | 0.0710 |
| Capital Account Openness | | | | | | |
| Lag | -0.1283 | 0.0484*** | -0.0524 | 0.0307* | -0.0607 | 0.0316* |
| Change | -0.0779 | 0.0871 | -0.0213 | 0.0574 | -0.0286 | 0.0593 |
| Fixed Exchange Rate | | | | | | |
| Lag | -0.0837 | 0.0833 | -0.0527 | 0.0469 | -0.0607 | 0.0484 |
| Change | -0.0120 | 0.0673 | 0.0010 | 0.0409 | -0.0108 | 0.0422 |
| ln GDP/PC ($US) | | | | | | |
| Lag | -0.0260 | 0.3009 | -0.0386 | 0.1611 | 0.1085 | 0.1656 |
| Change | -1.5198 | 1.0318 | -0.8225 | 0.6947 | -0.8055 | 0.7177 |
| ln Trade/GDP | | | | | | |
| Lag | 0.3220 | 0.1503** | | | | |
| Change | 0.5905 | 0.4195 | | | | |
| ln M2 | | | | | | |
| Lag | -0.0277 | 0.0767 | | | | |
| Change | 0.1056 | 0.1162 | | | | |
| Currency Crisis | | | | | | |
| Lag | -0.3850 | 0.1532** | -0.1056 | 0.0984 | -0.1088 | 0.1018 |
| Change | -0.2124 | 0.1004** | -0.0904 | 0.0667 | -0.0945 | 0.0690 |
| Banking Crisis | | | | | | |
| Lag | -0.1475 | 0.1812 | -0.0827 | 0.1096 | -0.0380 | 0.1132 |
| Change | -0.0423 | 0.1235 | -0.0048 | 0.0724 | 0.0093 | 0.0748 |
| Debt Crisis | | | | | | |
| Lag | -0.3719 | 0.2328 | -0.2125 | 0.1593 | -0.1573 | 0.1645 |
| Change | -0.2575 | 0.1562* | -0.2428 | 0.1101** | -0.1947 | 0.1137* |
| Under IMF | | | | | | |
| Lag | -0.0379 | 0.0733 | -0.0122 | 0.0454 | -0.0081 | 0.0470 |
| Change | 0.0350 | 0.0799 | 0.0012 | 0.0495 | -0.0012 | 0.0511 |
| Polity | | | | | | |
| Lag | -0.0247 | 0.0550 | -0.0626 | 0.0354 | -0.0370 | 0.0358 |
| Change | 0.0359 | 0.1054 | -0.0283 | 0.0641 | -0.0357 | 0.0662 |
| ln Domestic Credit/GDP | | | | | | |
| Lag | -0.0613 | 0.0861 | | | | |
| Change | -0.0537 | 0.1352 | | | | |
| Regional Mean Policy | | | | | | |
| Lag | | | 0.2293 | 0.0332*** | | |
| Change | | | 0.5094 | 0.0412*** | | |
| Income Peers Policy | | | | | | |
| Lag | | | | | 0.1497 | 0.0291*** |
| Change | | | | | 0.2727 | 0.0351*** |
| Constant | -0.0094 | 0.0740 | 0.0616 | 0.0383 | 0.0771 | 0.0410* |
| $R^2$ | 0.1442 | | 0.1789 | | 0.1593 | |
| N | 57 | | 66 | | 66 | |
| n | 746 | | 1386 | | 1386 | |

* p<0.1, ** p<0.05; *** p<0.01; two-tailed tests. Analysis covers 1973-2000, subject to data availability

Table 4: Screening Models

| | Screening FE Model 4 | | Screening FE Model 5 | | Screening FE Model 6 | |
|---|---|---|---|---|---|---|
| | Coef | SE | Coef | SE | Coef | SE |
| LDV | -0.2783 | 0.0313*** | -0.2661 | 0.0217*** | -0.2689 | 0.0218*** |
| Banking Sector Reform | | | | | | |
| Lag | -0.1016 | 0.0693 | -0.0594 | 0.0348* | -0.0511 | 0.0375 |
| Change | -0.0733 | 0.1173 | 0.0237 | 0.0725 | 0.0142 | 0.0762 |
| Capital Account Openness | | | | | | |
| Lag | 0.0091 | 0.0502 | 0.0217 | 0.0324 | 0.0119 | 0.0332 |
| Change | -0.0656 | 0.0971 | -0.1115 | 0.0589* | -0.1225 | 0.0611 |
| Fixed Exchange Rate | | | | | | |
| Lag | 0.1163 | 0.0910 | 0.0243 | 0.0469 | 0.0546 | 0.0486 |
| Change | 0.0990 | 0.0730 | 0.0268 | 0.0413 | 0.0460 | 0.0428 |
| ln GDP/PC ($US) | | | | | | |
| Lag | -0.3495 | 0.3371 | -0.0365 | 0.1730 | -0.0150 | 0.1796 |
| Change | -0.0910 | 1.1589 | -0.1132 | 0.7318 | -0.1735 | 0.7591 |
| ln Trade/GDP | | | | | | |
| Lag | -0.985 | 0.1735 | | | | |
| Change | 0.3870 | 0.4948 | | | | |
| ln M2 | | | | | | |
| Lag | -0.1113 | 0.1101 | | | | |
| Change | 0.0102 | 0.1416 | | | | |
| Currency Crisis | | | | | | |
| Lag | -0.0966 | 0.1763 | 0.0354 | 0.1065 | 0.0645 | 0.1106 |
| Change | -0.0372 | 0.1142 | -0.0108 | 0.0725 | 0.0071 | 0.0753 |
| Banking Crisis | | | | | | |
| Lag | -0.3506 | 0.1935* | -0.1279 | 0.1135 | -0.1359 | 0.1178 |
| Change | -0.2037 | 0.1313 | -0.0735 | 0.0753 | -0.0752 | 0.0782 |
| Debt Crisis | | | | | | |
| Lag | -0.1016 | 0.2802 | -0.1924 | 0.1749 | -0.1535 | 0.1817 |
| Change | -0.1029 | 0.1925 | -0.1182 | 0.1193 | -0.1138 | 0.1239 |
| Under IMF | | | | | | |
| Lag | -0.0251 | 0.0798 | 0.0005 | 0.0472 | -0.0179 | 0.0490 |
| Change | 0.0405 | 0.0832 | 0.0449 | 0.0504 | 0.0265 | 0.0523 |
| Polity | | | | | | |
| Lag | 0.0029 | 0.0651 | 0.0022 | 0.0361 | 0.0124 | 0.0376 |
| Change | -0.1985 | 0.1090* | -0.0137 | 0.0643 | -0.0061 | 0.0667 |
| ln Domestic Credit/GDP | | | | | | |
| Lag | 0.1574 | 0.1182 | | | | |
| Change | -0.0775 | 0.1675 | | | | |
| Regional Mean Policy | | | | | | |
| Lag | | | -0.1423 | 0.0288*** | | |
| Change | | | -0.5470 | 0.0416*** | | |
| Income Peers Policy | | | | | | |
| Lag | | | | | -0.1411 | 0.0275*** |
| Change | | | | | -0.4399 | 0.0524*** |
| Constant | 0.1329 | 0.0970 | 0.0076 | 0.0508 | 0.0075 | 0.0523 |
| R2 | 0.0477 | | 0.1992 | | 0.1516 | |
| N | 48 | | 55 | | 55 | |
| n | 612 | | 1147 | | 1147 | |

* p<0.1, ** p<0.05; *** p<0.01; two-tailed tests. Analysis covers 1973-2000, subject to data availability

Table 5: Robustness Models

| | Democracy Model 7 | | BITs Model 8 | | TSCS Model 9 | |
|---|---|---|---|---|---|---|
| | Coef | SE | Coef | SE | Coef | SE |
| LDV | -0.4182 | 0.0217*** | -0.4464 | 0.0282 | 0.5834 | 0.0229*** |
| Banking Sector Reform | | | | | | |
| Lag | 0.0684 | 0.0320** | 0.1395 | 0.0488 | 0.1158 | 0.0322*** |
| Change | -0.0141 | 0.0681 | -0.0790 | 0.0953 | | |
| Capital Account Openness | | | | | | |
| Lag | -0.0536 | 0.0306* | -0.1102 | 0.0568* | -0.0681 | 0.0308** |
| Change | -0.0240 | 0.0573 | -0.0368 | 0.0997 | | |
| Fixed Exchange Rate | | | | | | |
| Lag | -0.0580 | 0.0469 | -0.0737 | 0.0683 | -0.0664 | 0.0405 |
| Change | -0.0014 | 0.0408 | -0.0170 | 0.0581 | | |
| ln GDP/PC ($US) | | | | | | |
| Lag | -0.0230 | 0.1609 | 0.0899 | 0.2186 | 0.2237 | 0.1638 |
| Change | -0.8067 | 0.6935 | -1.0285 | 0.8867 | | |
| Currency Crisis | | | | | | |
| Lag | -0.1027 | 0.0983 | -0.1414 | 0.1266 | 0.0108 | 0.0659 |
| Change | -0.0880 | 0.0667 | -0.1105 | 0.0858 | | |
| Banking Crisis | | | | | | |
| Lag | -0.0815 | 0.1093 | -0.2315 | 0.1387* | -0.0400 | 0.0769 |
| Change | -0.0039 | 0.0722 | -0.1109 | 0.0907 | | |
| Debt Crisis | | | | | | |
| Lag | -0.2427 | 0.1598 | -0.2032 | 0.1889 | 0.0292 | 0.1103 |
| Change | -0.2568 | 0.1100** | -0.2434 | 0.1301* | | |
| Under IMF | | | | | | |
| Lag | -0.0217 | 0.0454 | -0.0262 | 0.0569 | 0.0094 | 0.0417 |
| Change | -0.0055 | 0.0494 | -0.0076 | 0.0622 | | |
| Democracy | | | | | | |
| Lag | 0.1796 | 0.0614*** | -0.1046 | 0.0442** | 0.0073 | 0.0350 |
| Change | -0.0396 | 0.0998 | -0.0364 | 0.0768 | | |
| BITs | | | | | | |
| Lag | | | -0.0922 | 0.1116 | | |
| Change | | | 0.0470 | 0.1086 | | |
| Regional Mean Policy | | | | | | |
| Lag | 0.2428 | 0.0332*** | 0.2911 | 0.0456*** | 0.0598 | 0.0314* |
| Change | 0.5154 | 0.0411*** | -0.540.608970 | 0.0575*** | | |
| Constant | 0.1466 | 0.0514*** | 0.1005 | 0.1097 | 0.0117 | 0.0353 |
| R2 | 0.1737 | | 0.1859 | | 0.6399 | |
| N | 66 | | 46 | | 66 | |
| n | 1386 | | 874 | | 1386 | |

* p<0.1, ** p<0.05; *** p<0.01; two-tailed tests. Analysis covers 1973-2000, subject to data availability