# Democratic Politics in an Age of Globalization: The Impact of Political Skills and Institutions on Barriers to Foreign Direct Investment

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# ABSTRACT

Foreign direct investment (FDI) is a driving force behind globalization; in the last 20 years, growth in FDI flows has outpaced growth in international trade. Although developed democracies are generally open to FDI, levels of restrictions vary within and across countries because governments restrict some industries and not others. I argue that variation in barriers to FDI in developed democracies is a function of the interaction of economic and political skills and electoral rules. Because the entry of foreign firms through FDI increases competition in the market of the host country, the distributional consequences of FDI determine who supports and opposes barriers to investment. I argue that this market competition tends to set up political competition between economically skilled and unskilled labor, because inward FDI tends to benefit the former over the latter. However, the distribution of economic skills alone cannot explain the emergence of barriers to FDI. Groups that are politically skilled, that is, informed and organized, are more likely to achieve favorable policy outcomes. I expect that when economically unskilled workers are highly politically skilled, we are likely to see more barriers to investment than when they are not politically skilled. Barriers to investment are also shaped by electoral rules, which determine the extent to which politicians will cater to narrow versus broad interests. I expect that proportional representation systems will be more open to FDI overall and also that political skills play a smaller role in proportional representation systems than majoritarian ones. In analyses of barriers at the industry-level in the United States, as well overall openness cross-nationally, I find strong support for the hypothesis that the effect of economic skill on barriers to FDI depends on political skills. Furthermore, I find that countries with proportional representation have both lower overall levels of protection, and also a smaller role for political skills than majoritarian systems.

# Acknowledgements

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# Chapter 1

# Introduction

Increased capital mobility is perhaps the most important change in the structure of the international economy in the last 25 years. Flows of foreign direct investment (FDI) grew 32.9 percent from 1980 to an all-time high of $1.83 million in 2007.[1]  Economic theory heralds the free flow of capital as the best means to achieving efficient allocation of resources. Yet it is more than just the transfer of capital; it involves the transfer of technical skills, management styles and brand-power for instance (Vernon, 1971). FDI is often cited as a key agent in facilitating national economic growth, through the transfer of technology and know-how and increases in productivity. Nonetheless, opening up to international capital flows has domestic distributional consequences; although FDI may lead to innovation and growth, it can lead to job loss and greater job insecurity by increasing the elasticity of labor demand. The costs and benefits of inward FDI are not shared equally in the host country. Therefore, even if FDI is economically efficient, the decision to liberalize, that is remove barriers to foreign direct investment, is a political one.

Industrial democracies, led by the United States, have opened up to capital flows the most quickly and extensively. They have the lowest levels of explicit barriers to

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[1]  UNCTAD FDI database.

inward capital flows, that is, policies designed specifically to limit inward investment. Figure 1.1 presents the average level of inward restrictions on the capital account collected by Quinn and Toyoda (Forthcoming) from 1960-2000, where higher values suggest more restrictions on inward investment.[2]     There is a clear downward trajectory in the amount and intensity of restrictions on investment in all countries, although the developed democracies have the lowest levels of formal restrictions. This supports the widely held perception that the world is moving toward greater financial openness.

Recent trends in the global economy, however, are creating pressures for stricter restrictions on foreign investment, even in these industrial countries that have long advocated economic liberalization. Public opinion polls show declining support for various aspects of globalization, including foreign direct investment. The view of multinationals and their effect on the local economy varies widely across countries as shown in Figure 1.2. That large portions of the population believe that multinational corporations hurt local firms suggests that people perceive that multinationals have competitive advantages over domestic firms.

Just as tariffs and non-tariff barriers pose obstacles to free trade, restrictions on inward direct investment can take many forms. Explicit restrictions on investment are one possible tool used to restrict direct investment flows, however trade and industrial policy as well as cultural factors also pose barriers to inward FDI. Although investment deals are typically low profile, recent deals in several countries have been the subject of intense media attention and scrutiny. Such cases highlight the role of informal barriers to investment that are not captured by the measures report in Figure 1.1. In chapter 4, I discuss three recent examples from the United States where the outcome of proposed investments by foreign firms were affected by informal barriers to investment. For example, when a Chinese oil company attempted to acquire a US firm, Unocal, in 2005, a domestic competitor in the United States, Chevron was able to lobby Congress to

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[2]  The scale is reversed from the original coding so that higher values indicate higher levels of barriers to inward capital flows.
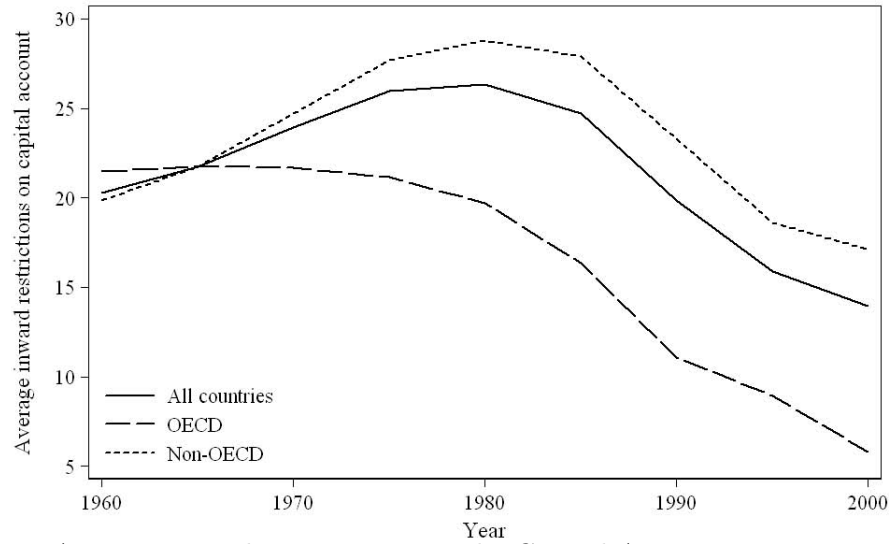
Figure 1.1: Average Inward Restrictions on the Capital Account: 1960-2000
Source: Quinn and Toyoda capital account openness scores
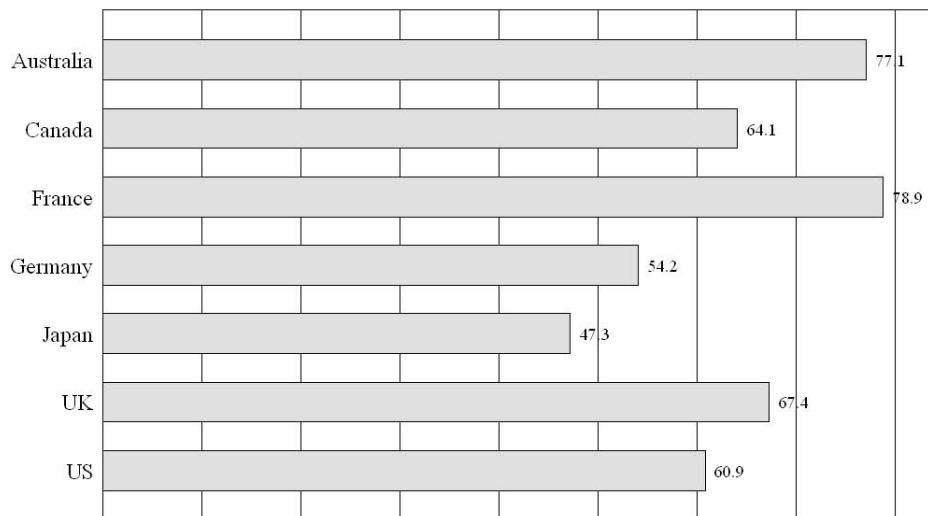


Percent of Respondents Agreeing that MNCs bad for local businesses

Figure 1.2: Hostility toward Multinational Corporations
Source: ISSP 2003; Do you agree that multinational corporations damage local business?

erect obstacles to the Chinese takeover. Eventually the Chinese firm withdrew the bid and Chevron itself was able to acquire Unocal. Similarly, when unions protested the acquisition of Maytag, a US appliance manufacturer, another Chinese firm was forced to withdraw its bid due to political opposition. This is not limited to the United States however. For example, in France, the proposed takeover of Danone (known as Dannon in the United States) by Pepsi Co. led to a protectionist legislative proposal similar to that introduced in the US following the DPW case. This goal of this legislation, known as the "Danone Law," is to protect domestic firms in strategic sectors from takeover. Prime Minister Dominique de Villepin stated that "[a] group like Danone is obviously one of our industrial treasures and we will of course defend the interests of France."[3]

Such cases are suggestive of the political nature of FDI into developed countries. Although inward FDI is often thought of as an issue for developing countries, these examples demonstrate that foreign investment into developed countries is also highly political. Often it seems that most concern about FDI in developed countries revolves around outward direct investment by multinationals, e.g. 'exporting jobs to China.' However, inward FDI is a source of competition for domestic producers akin to that of trade. It is not uncommon for national protection to trump competition and these obstacles to competition result in higher prices for consumers than if a foreign firm was allowed to enter through FDI (Altman, 2007).

Foreign direct investment is a significant force in the world economy as evidenced by the sheer volume and growth in inflows, yet the politics of FDI are not well understood. Many scholars have shown that interest groups are able to influence trade policy (e.g. Grossman and Helpman, 1994; Grossman and Helpman, 2002; McGillivray, 2004; Busch and Reinhardt, 1999; Busch and Reinhardt, 2000). and other factors that influence openness to trade, including domestic institutional context. The corresponding literature on FDI is thin. There is an emphasis on the benefits of FDI to the economy as a whole, but only recently has work begun to examine the distributional consequences.

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[3] "French fear eye of 'ogre' is Danone," *New York Times,* 21 July 2005.

As a result, the ways in which different groups are affected by inflows of FDI and how they attempt to secure favorable policies is less well-understood. In the developed world in particular, FDI has complex effects in the host economy. Restrictions on cross-border capital flows have the potential to be more damaging than trade barriers as they affect not only investment flows, but also trade flows. Given the total volume of FDI flows, restrictions on investment or a lack thereof have significant economic consequences. The world economy would slow dramatically in the face of a new wave of protectionism. Such a wave would swamp both trade and investment, as evidenced by the devastating consequences of protectionism during the Great Depression. Although the inability of popular opinion against FDI to sway politicians has troubling implications for representative democracy, the implications of such a backlash are arguable far worse for aggregate societal welfare and political stability, even in the world's wealthiest democracies.

My dissertation provides an original theory of the democratic politics of FDI which highlights the role of political skill in determining which groups are able to successfully able to influence policy. The distributional consequences of investment determine economic interests, but interests alone cannot explain variation in policy outcomes. We can understand the distribution of barriers to inward foreign direct investment only by considering whether the winners and losers of FDI are able to exert influence in the democratic political process. Politicians have few electoral incentives to cater to the interests of those who are not politically skilled, that is, informed about policy and organized. I therefore distinguish for the first time between economic and political skills, that is those skills which are rewarded by the economic market and those rewarded by the political process, and suggest that different combinations of these two factors produce different FDI policy outcomes.

# The Politics of Protection

Countries can limit inflows of foreign direct investment in a variety of ways. Explicit restrictions on investment include limitations on foreign ownership, like requiring a joint venture, or a screening mechanism in which potential transactions must be reviewed by a committee. Post-entry restrictions, like requirements about the composition of the board according to nationality of the members are another kind of explicit restrictions on FDI inflows. Formal or explicit restrictions discriminate on the basis of the nationality of the owner. I refer to barriers to FDI that exist for other reasons as informal barriers to FDI. There are many different forms these barriers can take. Furthermore, I use the terms FDI and investment interchangeably throughout unless otherwise noted. Investment flows can be affected by industrial policy and other factors that affect market entry. Public or political opposition also shapes the investment climate. Although the risk of expropriation in developed countries is low, other political factors can create a hostile environment for foreign investment. It is important to consider all possible sources of barriers to investment in order to have a clear understanding of the politics of FDI.

Study of trade policy in political science has dwarfed the study of the domestic politics of barriers foreign direct investment. There is an extensive literature on which countries attract foreign investment in terms of policies and institutions, but in terms of limitations on FDI, most work has focused on liberalization of the capital account from the perspective of international diffusion. Although useful insights can be drawn from studies of trade politics, there are important differences between trade and FDI. Consequently, theories of trade policy-making without alteration cannot help us understand the domestic political economy of FDI. FDI has different distributional consequences than the trade in goods, which in turn has important implications for the coalitions that form in favor of and in opposition to inward direct investment. Furthermore, international efforts to create multilateral trade agreements are more extensive than similar

ones for FDI, thus cooperation in the area of FDI policy is more fragmented and less cohesive. Additionally, because there is no international institution tracking restrictions, it is more difficult to determine what restrictions are in place. Without a clear picture of existing barriers to FDI, it is difficult for countries to cooperate to reduce them.

The literature on opposition to FDI has is somewhat fragmented as I discuss in more detail in the following chapter. Vernon (1971) argues that certain non-economic factors like cultural differences create 'tension' about inward direct investment. Work by Edward Graham and various co-authors are representative of work that looks at the national security aspect of FDI and cases in which this is used as a reason to restrict inflows.[4]   Recent work in political science has begun move away from national security explanations to look at the distributional consequences of FDI. Pandya (2007) and Pinto (2004) argue that because labor benefits from FDI, democracies will be more open to FDI. Pandya finds that democracies have fewer restrictions on FDI because democratic governments give more weight to the preferences of labor (as voters). Similarly, Pinto finds that governments supported by labor, e.g. Left parties, have fewer restrictions on investment. However, these models do not accurately portray the distributional consequences of FDI in advanced economies which result from a more complex structure of factors of production; in particular the distinction between skilled and unskilled labor has significant implications for the cleavages that result from FDI. By distinguishing between economically skilled and unskilled labor, I get a more accurate description of the distributional consequences in developed democracies. Furthermore, I move theory forward by taking into consideration the ability to to influence policy outcomes.

In building on existing political economy approaches, I focus on the differences in barriers to FDI between and within the developed democracies. The distributional consequences of FDI within a country differ vastly between developed and developing countries due to differences in endowments. Thus, it is necessary, at least initially, to consider

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[4]  See for example Graham and Krugman (1994), Graham (2000),Graham and Marchick (2006).

policy-making in developed and developing countries separately. Furthermore, the impact of institutional differences across democracies on the investment policy-making process and outcomes has not been explored; yet we know from previous research that it plays an important role in the politics of trade protection/liberalization. Although the developed democracies have liberalized the most extensively with respect to inflows of FDI in terms of formal barriers and the perception is that they are completely open to investment, significant variation exists in terms of the ways in which and how much they restrict investment (Golub, 2003). I look at several different types of barriers, both formal and informal, to account for multiple channels that can be used to create barriers to FDI. In the next section, I introduce a skill-based theory of the politics of FDI that looks how economic and political skills combine to produce different levels of barriers to FDI at the industry- and national-level.

## The Political Economy of Inward Direct Investment

The motivations for and types of foreign direct investment into the developed countries are multifaceted, and as a result, the politics which produce FDI policy are complex. Because factors of production in developed economies cannot be reduced to land, labor and capital, simple factor models yield incorrect inferences about distributional consequences and subsequent political cleavages (Midford, 1993). Existing research provides suggestions about the kinds of coalitions that form, but ignores the heterogenous nature of the labor force in developed economies. When we allow for labor to be comprised of different economic skill levels, those inflows of capital or people that benefit one skill level necessarily leads to a relative decline in position of other skill levels (Borjas, 2008). More critically, previous work ignores the role of political skills, that is, whether or not different factor or industry groups are able to influence the policy outcomes. Busch and Reinhardt (1999; 2000) argue that geographic concentration facilitates collective action, however actual political factors remain a blackbox in

their analysis; geographic concentration proxies for other factors like communication. There is a large literature which demonstrates that economic skill shapes preferences (e.g Scheve and Slaughter, 2001; Pandya, 2010), but these analyses do not move beyond individual-level analysis. They do not explore the implications of these findings at the policy-level. I use insights from their findings in developing my theory. I therefore distinguish between economic and political skills and argue, for the first time, that is the combination of the two that can explain FDI policy outcomes.

First, I discuss the distributional consequences of inward FDI to establish the interests of different actors. FDI can lead to a redistribution of income within an industry in the short-run and within a country in the long-run through two mechanisms. First, FDI is often a source of competition in the domestic market as it necessarily entails the entrance of a new (foreign) competitor into the domestic market. Second, affiliates of multinationals have different labor demands than purely domestic firms. A large empirical literature suggests that MNCs demand more skilled labor relative to purely domestic firms and have a more elastic demand for labor. Thus within an industry, domestic capital and economically unskilled labor will both be in favor of restrictions on investment, while skilled labor, which benefits from FDI, will be opposed to barriers on investment. In the long-run, inward FDI will benefit economically skilled labor at the expense of unskilled labor and domestic capital. Economic skill therefore determines who will favor and oppose barriers to FDI.

Economic skills alone, however, do not determine the level of protection. Political skills, that is the ability of individuals or groups to know how a policy affects their welfare and to act to advocate their interests, shape which interested are best represented. Individual citizens and citizens organized into groups alike can possess political skills. In both cases, information is crucial and is the precursor to action, whether that is voting or letter writing by an individual, or a campaign contribution by an interest group. An individual may write a letter, while interest groups are one of the primary

sources of information for policy-makers. Organizational skills are captured by indicators like unionization or campaign contributions. However, not all citizens or groups have the same information or organizational skills. Economically skilled workers do not necessarily have politically skills, just as it is possible to be economically unskilled but politically skilled. Preferences based on economic skill level alone do not tell us about influence and the ability to have an influence does not tell us about preferences over FDI policy. It is interaction between economic skills and political skills that explains the distribution of FDI policy outcomes within and between countries.

Although economic skills determine the coalitions that form and political skills affect which groups are the most politically influential, the outcome of political debate on FDI protection is also contingent on the domestic institutions like electoral rule. Electoral rules determine politicians' strategies for gaining or retaining office, because the identity of key constituencies varies depending on electoral rules. Proportional representation (PR) systems typically have multi-member districts where the constituency size is larger. As a result, it is harder to target specific constituencies. In the case of majoritarian systems, existing literature is split on the direction of the effect on trade protection. Some argue that because in a majoritarian system, politicians have incentives to cater to the median voter, regulatory policy will benefit the consumer,[5] while others suggest that the more particularistic institutions of majoritarian systems led to greater influence of narrow interests and thus more protection.[6] In the case of FDI, however, inflows hurt the median voter in terms of labor as he is unskilled. Thus we would expect more protection in majoritarian systems in either case.

I propose a new political economy theory of the politics of FDI that emphasizes the role of political and economic skills. It is a theory of the domestic politics of barriers to inward FDI. I leave a discussion of the international component to conclusion; before a two-level game that integrates the domestic and international levels can be developed,

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[5] Rogowski and Kayser (2002).
[6] For example, see Ehrlich (2007) or McGillivray (2004).

it is necessary to have a clear picture of the domestic distributional consequences and resulting political competition. This research contributes to the literature on the politics of FDI as well as the literature on globalization more generally. Although a large number of scholars study the relationship between international capital flows and the distribution of economic skills and who benefits from such flows, my theory is unique in that it introduces political skills in tandem with the distribution of economic skills. Doing so leads to new predictions about differences in barriers to FDI between democracies. For the first time, my thesis combines economic and political skills within the context of domestic political institutions, providing deep insight into the tradeoff between efficiency and accountability in policy-making. It provides a rich account of the democratic politics of FDI and explores the many different tools that may pose an obstacle to inward direct investment. Furthermore, by taking into consideration the differences between economically and politically skilled and unskilled labor, my dissertation has important implications for the politics of globalization and the sort of domestic policies it will take in order to maintain support for further international economic integration.

## Research Design

In the empirical tests of my theory, I give a lot of attention to the issue of measurement of the dependent variable: barriers to foreign direct investment. In particular, I examine both *de jure* and *de facto* measures of FDI protection. The former measures formal policies on FDI, such as restrictions on investment in an industry by foreign firms. *De facto* measures, on the other hand, are more comprehensive in that they capture informal barriers in addition to formal policies. For instance, *de facto* measures would capture domestic political hostility toward FDI that could potentially deter investment. This allows me to consider that possibility democracies appear more open in terms of formal barriers, if formal restrictions have been replaced with less transparent barriers; Kono (2006) suggests that this is the case with trade barriers.

## Outline

The remainder of the dissertation consists of five chapters. Chapter 2 sets the stage for my theory by discussing the history FDI flows and attempts to regulate them, as well as reviewing theoretical work on the motivations of firms to engage in FDI. I conclude this chapter by reviewing existing works on the politics of FDI in political science. In Chapter 3, I develop the theory by first detailing the distributional consequences of inward FDI for each factor of production in the host economy. I then discuss the role of political skills and integrate them with the role of economic skills to derive testable hypotheses about industry-level barriers to FDI. I hypothesize that economic skills alone cannot explain barriers to FDI, but that the effect is dependent on the level of political skill of different groups: groups that are more politically skilled will be able to achieve more favorable policy outcomes regardless of economic skills. In Chapter 4, I use a comparison of investment transactions to illustrate the interaction of economic and political skills and their effect on policy outcomes in the United states. I then test my hypotheses systematically at the industry-level using data from the United States. In Chapter 5, I look at barriers to investment at the national-level, using a measure of overall barriers to investment as the dependent variable, to examine the effect of institutional context on barriers to FDI. Chapter 6 concludes and discusses my future research agenda.

To preview my main findings, I find strong support for the hypothesis that economic skills alone cannot explain variation in barriers to FDI at both the industry- and national-level. Furthermore, I find that the effect of economic skill on FDI policy is dependent on political skills - in particular, unless economically skilled workers are politically skilled, FDI inflows are restricted and, concomitantly, as unskilled labor becomes more politically skilled, barriers to investment increase. Finally, I find that proportional representation systems have lower barriers to FDI overall, as well as smaller role for political skills than majoritarian countries. This is because PR systems have

fewer channels for influence by interest groups than in majoritarian ones, and therefore, politically skilled groups are not more likely to have influence than politically unskilled groups in PR systems.

# Chapter 2

# Inward Direct Investment in Developed Democracies

Before introducing my theory of the politics of foreign direct investment, it is necessary to set the stage by discussing the nature of and dynamics of FDI and FDI policy in the developed countries. Therefore, I first discuss different theories regarding the motivation of firms that decide to establish a subsidiary abroad. This provides insight into the goals of foreign multinationals that may affect distributional consequences in the host country. Second, I discuss recent trends in FDI and how the nature of FDI is changing. Inward direct investment in developed countries no longer primarily involves establishment of new production facilities, but rather the acquisition of existing firms. An understanding of these stylized facts provides the context in which we can understand the politics of FDI in developed countries. Third, I discuss the different tools or policies pose as a barrier FDI and argue that it is necessary to consider a variety in order to get an accurate picture of barriers to FDI. This especially important in developed countries where there are few remaining formal restrictions. I then briefly review past and current attempts at international cooperation on FDI and compare to the case of trade. Finally, I review existing work on the politics and foreign direct investment.

# Motivations for FDI

The motivations of firms that engage in foreign direct investment are complex. However, "the different motivations bear on how multinational activity affects factor incomes within and across countries" (Alfaro and Charlton, 2009, 2131). Consequently, there is a large literature that explores the various motivations that might lead a firm to establish or acquire a subsidiary abroad. These theories must account for the fact that there are significant costs associated with doing business in another country; thus the multinational enterprise (MNE) must have significant advantages over purely domestic firms to make such investment worthwhile.

Dunning's (1981) theory of ownership, locational and internationalization advantages is among the most prominent theories of multinational firms. He argues that these advantages allow firms to become multinational; in other words, these factors allow them to bear the additional costs of doing business internationally while remaining profitable. Ownership advantages refer to firm-specific advantages like technology, brand name, and economies of scale that are easily transferable abroad. Locational advantages or country-specific advantages are those associated with being located in a particular country, such as the costs of factors of production, the size of the host country market, etc. Finally, internalization advantages must be such that it is more profitable to create a subsidiary, rather than allowing another firm to utilize firm-specific ownership advantages via licensing or to serve the host market through exports.

Given these advantages, multinationals may have different reasons for engaging in foreign direct investment that can be classified roughly into horizontal and vertical investment. Multinationals engage in horizontal investment, also known as 'market-seeking' investment, when their intention is to gain access to the market of the host country in order to sell goods produced by the affiliate in the host country's market. Horizontal investment and trade are viewed as substitutes. Indeed, one of the original theories of FDI is characterized by the 'tariff-jumping' hypothesis; firms establish foreign

affiliates in the host market to avoid costly trade barriers. The tariff-jumping hypothesis has suffered as investment flows have increased in the face of declining barriers to trade. Locational advantages in this case also include avoiding transportation costs.

On the other hand, vertical investment seeks to exploit cost differentials in production inputs; goods are produced using lower cost inputs in the host country and then exported back to the home market of the multinational. Although it is theoretically easy to distinguish between horizontal and vertical investment, empirically it can be more difficult. Classification of the motivation of investment often depends on the level of industry aggregation that is used. Horizontal investment is characterized by investment into the same industry, while vertical investment occurs in a different industry than the primary industry of the MNE. Alfaro and Charlton (2009), using establishment-level data on subsidiaries of MNEs, find that there is more intra-industry (or vertical) FDI than typically thought, but it with subsidiaries that produce highly specialized (high-skill) inputs to their parents' production. Conventional wisdom suggests that the majority of investment between developed countries is horizontal, yet intra-industry investment in high skill industries also fits with the comparative advantage of advanced economies.

The knowledge capital model incorporates horizontal and vertical motivations and suggests that direct investment occurs because MNEs use knowledge-based assets intensively. First proposed by Markusen (1995), knowledge capital models integrate motivations for horizontal and vertical investment. Unlike the eclectic paradigm, this a general equilibrium model of the activity of MNEs. It assumes that the added cost of an additional plant is small relative to the cost of establishment of an independent firm; the incremental cost of transferring knowledge-based assets to a foreign plant is small. In this model, horizontal investment will occur between countries when trade costs are high and countries have similar factor endowments and market size, while vertical investment will dominate when countries differ significantly in relative factor

endowments. Thus factor endowment differences, as well as traditional gravity variables like market size and trade friction may influence the decision to engage in FDI (Blonigen, 2005). The knowledge capital model suggests that most investment between developed countries would be based on horizontal motives.[1]  This implies that it may be appropriate treat FDI into developed countries as competition akin to that created by import penetration, that is, it creates competition in the host country.

## Recent Trends in FDI into the Developed Democracies

There has been tremendous growth in foreign direct investment in the last 20 years, which has significantly exceeded that of growth in trade flows and world GDP. This is true even as trade barriers have fallen dramatically. Foreign direct investment is defined as an investment by a resident of one country in an enterprise in another country that is made with the objective of establishing a lasting interest; that is, by definition, it involves a significant degree of influence by the foreign firm over the domestic one. The IMF defines FDI as that which gives the investor 10 percent or more of ordinary shares or voting power (or the equivalent for unincorporated enterprises).[2]  The established or acquired firm is the foreign affiliate of the investing firm. Direct investment can be distinguished from indirect or portfolio investment because it involves a lasting interest and a meaningful degree of control; unlike portfolio flows, direct investment is characterized by being more permanent. A common perception of FDI is that a multinational will establish production facilities in a developing country, that is, outsource production to a country with cheaper labor costs; however, the majority of FDI flows between developed countries. For example, in 2007, 68 percent of FDI inflows went to developed

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[1]  More complicated patterns of FDI may include export platform models and intra-industry vertical integration. Export platform FDI occurs when a MNE engages in direct investment in one country with the intention of exporting to the neighbors of the host country.

[2]  Some countries may use a different threshold or other criteria to determine which investments qualify as direct investment, however all the OECD countries save two use the 10 percent threshold as a criterion. Italy and Turkey treat all enterprises with foreign ownership as inward FDI (OECD FDIstat, 24).

countries, although this percentage fell dramatically to 57 percent in 2008/2009 due to the current global economic and financial crisis (United Nations, 2009).

One of the main differences between direct investment flows to developed and developing countries is the type of investment and this has important implications for how it is received in the host. FDI in developing countries occurs primarily through greenfield investment, while cross-border mergers and acquisitions (M&As) are the main vehicle for investment into developed economies. Greenfield investment leads to the creation of new production facilities in the host country, while M&As involve the transfer of assets and ownership. Greenfield is seen as more beneficial for the host economy (United Nations, 2000, 160). Yet "the most important form of FDI in reality is not the greenfield type but rather cross-border mergers and acquisitions (M&As), where a foreign firm purchases an existing firm in the host country" (Neary, 2007, 10). Approximately 90 percent of inward investment in the US in the late 1990s resulted from the acquisition of US companies by foreign ones (United Nations, 2000, 31). Figure 2.1 presents the share of direct investment in the US that is greenfield investment (established) and that which occurs through M&As (acquired).[3]     M&As account for a much greater share of direct investment into the US than does greenfield investment. The graph also shows several distinct spikes in M&A activity which I return to later in this section. Mergers and acquisitions make up close to 80 percent of inflows into the US and Western Europe. Of these, 97 percent of all cross-border M&As take the form of acquisitions (United Nations, 2000, 117). That most FDI flows into developed countries take the form of M&As is important, because this type of investment is more controversial than greenfield investment; foreign ownership, rather than foreign investment, is perceived much more negatively by the public and politicians alike; it is more difficult to see how jobs are created with M&As and thus M&As are more susceptible to negative framing. For instance, in the United States, a survey in 2006 found that while only 37.4 percent of

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[3]  The US is one of the only countries for which this data is available as it is not possible to use data on FDI flows and M&As to back out the proportion that is greenfield investment due to the different methods of accounting for each.

respondents thought foreign investment in the US was a bad thing, 55.4 percent thought that foreign ownership was a bad thing.[4]      Furthermore, labor is more likely to be threatened by a M&A than the establishment of a new plant that may create jobs.
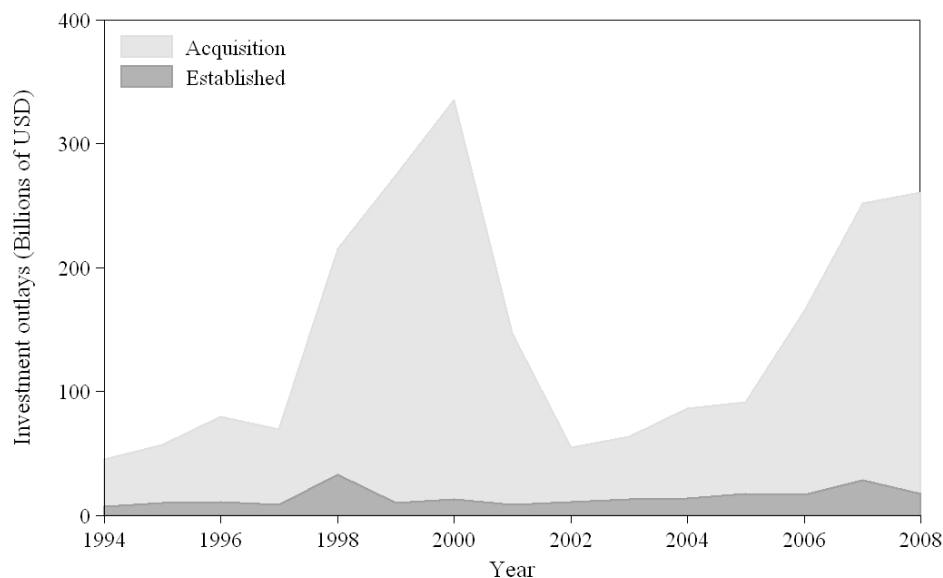


Figure 2.1: Foreign Investment Outlays in the United States
Source: Bureau of Economic Analysis

The global economic slowdown has had dramatic effects on the total level of inflows and outflows of FDI, especially in developed countries. Developed countries experienced uninterrupted growth in FDI inflows from 2003-2007, peaking at an all time high of 1.88 trillion dollars. Then in 2008, FDI inflows to developed countries fell 29 percent to 1.70 trillion dollars. In the first half of 2009, estimates suggest that inflows fell a further 30 to 50 percent to below 1.2 trillion (United Nations, 2009, 3). Panel A in figure 2.2 presents the level and share of FDI inflows into developed, developing and transition countries. Panel B presents the same for inward FDI stocks. FDI flows are more volatile in developed countries compared to developing and transition countries, and

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[4]  PEW poll March 8-12, 2006.

also compared to stocks. This is largely due to the decreased value of and diminished scope for M&As as stock values fell in combination with the fact that cross-border M&As drive direct investment in the developed countries.
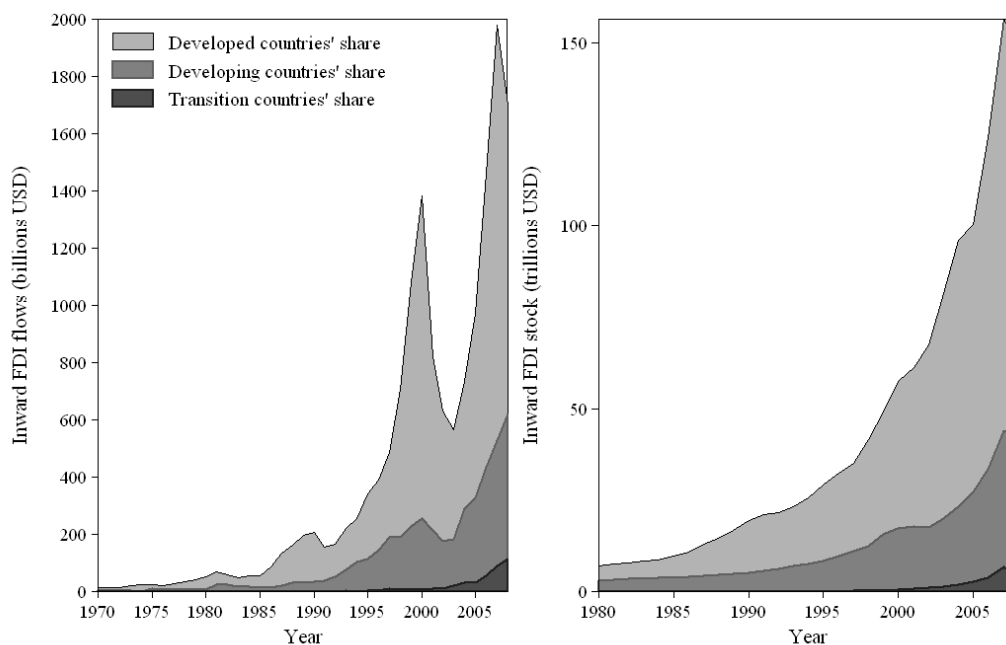


Figure 2.2: (a) FDI inflows 1970-2008 (Billions of dollars) (b) FDI inward stocks 1980-2008 (Trillions of dollars)
Source: UNCTAD 2009

Furthermore, merger and acquisition activity tends to occur in waves. Cross-border M&As are no exception as Figure 2.3 shows. There have been two or three big waves of cross-border M&A activity. The first took place during the late 1980s and ended in 1990. The next wave occurred from the mid-90s to 2001 and was followed by a big drop in FDI flows. A new wave, characterized by activity from non-US or European investors like China took place from 2003 until the onset of the financial crisis. Waves are often driven by mega-deals, those valued at greater than one billion dollars, such as the takeover of Germany's Mannesman by Vodaphone of the UK for $172 billion dollars

(US). They are positively correlated with spikes in share prices, price-to-earnings ratios and the business cycle overall (Brakman, Garretsen and van Marrewijk, 2005).

FDI flows into the developed countries vary based on the structure of the economy. In other words, certain industries receive substantial inward direct investment in some countries, but not in others. Indeed, even if overall FDI presence is low in a country, it may be very substantial in a few industries. Worldwide, 4 percent of outward investment stock is in the primary sector (e.g. resources and raw materials), while 27 percent is in the secondary (manufacturing) sector and 68 percent is in the tertiary (services) sector (United Nations, 2009). Countries like the US, UK and France have the greatest shares in the tertiary sector, while Germany and Japan have the greatest shares in the secondary sector (Dunning and Lundan, 2008). There has been a shift in FDI flows into the service sector as growth of inflows into this sector has been the greatest. In services, FDI has traditionally been located in trade and finance, but FDI into utilities like electric and telecommunications as well as other business services is also on the rise. Firms engage in cross-border M&A in order to access a foreign market with speed or to acquire proprietary assets.

## Formal and Informal Barriers to FDI

The costs of doing business in another country are not limited to information, language or cultural barriers; there may be barriers in place specifically designed to restrict foreign investment. Despite the benefits of FDI for the host economy, governments may want to limit inflows due to distributional consequences or for reasons of national security. Such policies then discriminate between firms on the basis of national identity. In other words, international investors are treated differently than domestic investors. Such barriers may be formal or informal. For example, explicit regulations or laws are formal barriers, but how they are implemented or applied is an informal factor. Formal restrictions on FDI inflows are often thought of as regulation, while more informal
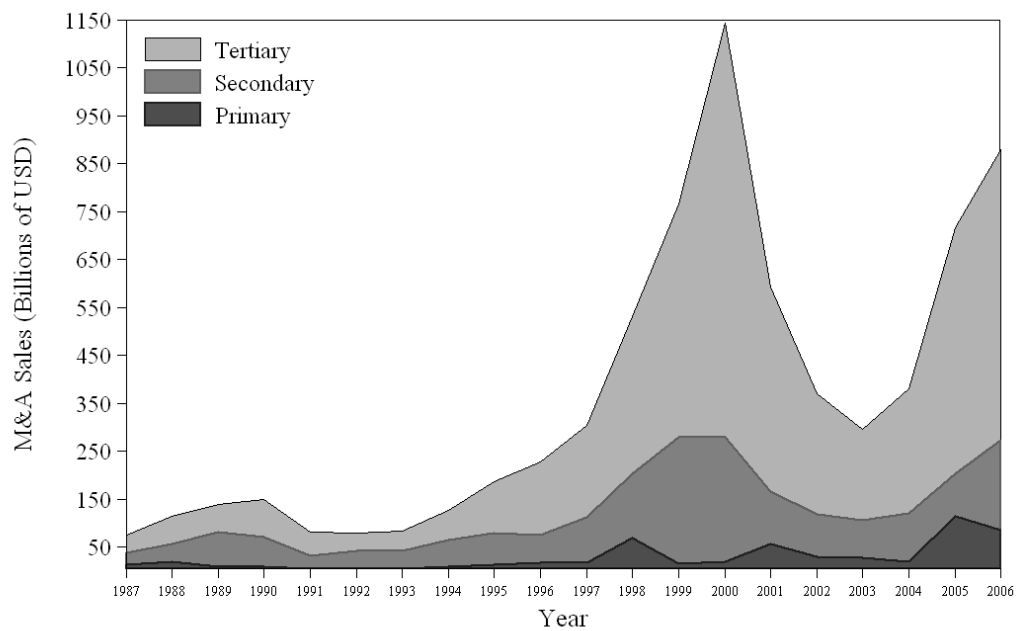
Figure 2.3: Cross-border M&A: Sales, 1987-2006

Source: UNCTAD 2009

factors may be considered protectionist. However, there is considerable overlap and ambiguity about the distinction between protection and regulation. As Vernon (1971) suggests, 'tension' resulting from inflows of FDI is more easily felt than described; it is difficult to define and measure (193). Generally speaking, regulation takes the form of more explicit restrictions on FDI established through regulatory or legislative means. For example, many countries require foreign investors to notify a committee that screens potential investments; this is a formal barrier, however, the operation of the committee is a more informal factor. That is, the basis for rejecting potential deals may fluctuate or depend on different notions of "national security" or "national interest" and may vary by composition of the committee or other factors like health of the economy over time. Restrictions in the form of informal barriers can encompass a variety of factors, including domestic regulation of an industry or commercial-financial linkages, as in Japan for example; they may also include the enforcement of regulations and public sentiment. While few deny the need to regulate inflows of FDI, what constitutes necessary regulation and what is protection often depends on one's point of view. For instance, a screening requirement may be seen by the host country as necessary to protect national security, while the home country of the foreign investor may view it as a tool to restrict investment under the premise of national security implications. I use the language of restrictions or barriers to FDI inflows and protection interchangeably.

Each country may use a variety of policies to restrict inward FDI and therefore, to look at only one type of barrier may present a misleading picture about the extent to which a country or industry is open to inward direct investment. Country A, for instance, may have very restrictive formal limits on FDI, while Country B has low formal barriers but a lot of public hostility to foreign ownership. Although Country B may look more open in terms of formal or *de jure* measures, it may not be.

This can be clearly illustrated by discussing the more familiar case of trade policy. The coexistence of tariffs and other quantitative restrictions like non-tariff barriers (NTBs) make it difficult to construct a satisfactory summary indicator of trade policy

(Edwards, 1997). Even coverage ratios which report the percentage of industries or goods subject to a NTB are not ideal. For instance, not all NTBs are equally restrictive (Leamer, 1988). McGillivray (2004) suggests that different governments tend to prefer different policy instruments to favor industries: for instance the Swedes favor debt guarantees, the British regional grants and development subsidies, the Germans tax exemptions, and the Americans favor Buy America legislation and tariffs. The puzzle becomes more complicated when we consider that a government may replace one policy designed to restrict investment with another. Kono (2006) suggests that democracies have incentives to replace transparent barriers with more opaque ones. For this reason, it is challenging to measure all facets of barriers to FDI.

## Liberalization of Barriers to FDI

As with trade, there has been a trend toward liberalization of formal restrictions on investment. In this section, I briefly review efforts at cooperation among developed countries on the issue of FDI, but leave the discussion of how to integrate politics at the domestic and international levels to Chapter 6. Restrictions on cross-border capital flows have the potential to be more damaging than trade barriers as they affect not only investment flows, but also trade flows. It is important to understand these policies because flows of trade and investment cannot fully be explained by economic or structural factors. Whereas international institutions played a key role in the liberalization of trade, cooperation over foreign direct investment is much less cohesive, inclusive and institutionalized. There is no international organization analogous to the World Trade Organization to govern FDI. Consequently, regional economic organizations and bilateral investment treaties (BITs) have played an important role. Members of the G20 and OECD have cooperated, for instance, to guard against protectionism, particularly through informal pledges after the rise of hostility toward foreign investment in 2006-2007. In September 2006, Angel Gurria, of the OECD, suggested that "the global

economy is also facing a resurgent risk of international investment protectionism. Foreign corporate takeovers have been made subject to tighter political scrutiny in major countries, both member and non-members of the OECD."[5]  Policy liberalization has played a key role in the growth of FDI flows, and as such, a reversion to protectionism raises concerns about its effect on the level of these flows (Adler and Hufbauer, 2008, 2).

Efforts to create a multilateral agreement to institutionalize practices surrounding foreign investment have been unsuccessful. In 1995, the OECD initiated formal negotiations among its members to create the Multilateral Agreement on Investment (MAI), largely in response to the failure of negotiations to create a national treatment instrument a few years earlier. National treatment refers to discriminatory practices on the basis of the nationality of the investor. The MAI was to be a broader agreement; its goals included a definition of national treatment and most favored nation status, as well as the creation of a dispute settlement mechanism and agreement on performance requirements. Negotiations ended in failure when France withdrew in 1998. Graham (2000) suggests several factors that likely contributed to the outcome. The primary factor was internal differences among the negotiating parties. Negotiations over the MAI, unlike the Uruguay Road, for instance, were initiated and conducted by low level bureaucrats who did not have the authority to make concessions on the behalf of their government, nor did they have access to the leaders who could. Ultimately, France withdrew from the table because an agreement could not be reached over 'cultural industries' like motion pictures and publishing; France and other countries wanted more restrictions in this area. A secondary factor was the pressure of antiglobal non-governmental organizations, like labor and environmental groups, who opposed the agreement. On the other hand, business interests did not lobby in support of the agreement, in part, Graham suggests, because the benefits of such an agreement were unclear and could have been viewed as de-liberalizing. FDI flows have continued to grow despite the lack of an

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[5]  Source: http://www.oecd.org/dataoecd/16/51/37422695.pdf.

international institution, which suggests perhaps it is unnecessary; thus the magnitude of the distortions created by policies in place were unknown.

Although existing trade agreements are not stand-alone multilateral investment agreements, they have important investment provisions. Trade and investment are closely linked in institutions like NAFTA, because investment is viewed as a type of trade relationship (Brewer and Young, 1998). Investment disputes can be settled through the WTO, the International Center for the Settlement of Investment Disputes at the World Bank and NAFTA. "Alongside multilateral and national rules, moreover, are about 1,400 BITS and the investment-related provisions of regional economic blocs, most notably the EU and NAFTA. The overall investment policy scene is, therefore, characterized by fragmentation, confusion and conflict" (Brewer and Young, 1998, 24). In GATS (General Agreement on Trade in Services), trade is defined in such a way that it includes investment as a channel through which services are supplied. This agreement allows governments to make commitments to liberalization in some sectors, as well as list exceptions in which there are limitations on market access and/or national treatment.

Bilateral investment treaties govern investment relationships between two countries. The United Nations Commission on Trade and Development states that BITs "are agreements between two countries for the reciprocal encouragement, promotion and protection of investments in each other's territories by companies based in either country."[6] BITs include provisions for national treatment, most-favored nation treatment, means of compensation for expropriation, etc. They typically offer higher legal protection for foreign investors than those afforded by national law. Figure 2.4 shows that the number of BITs concluded each year, and cumulatively, has steadily increased since 1980.

Another way of looking at the trend toward liberalization based on the number of BITs concluded, is to examine the number of changes to domestic regulations of

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[6] `http://www.unctadxi.org/templates/Page____1006.aspx`, accessed June 22, 2010.
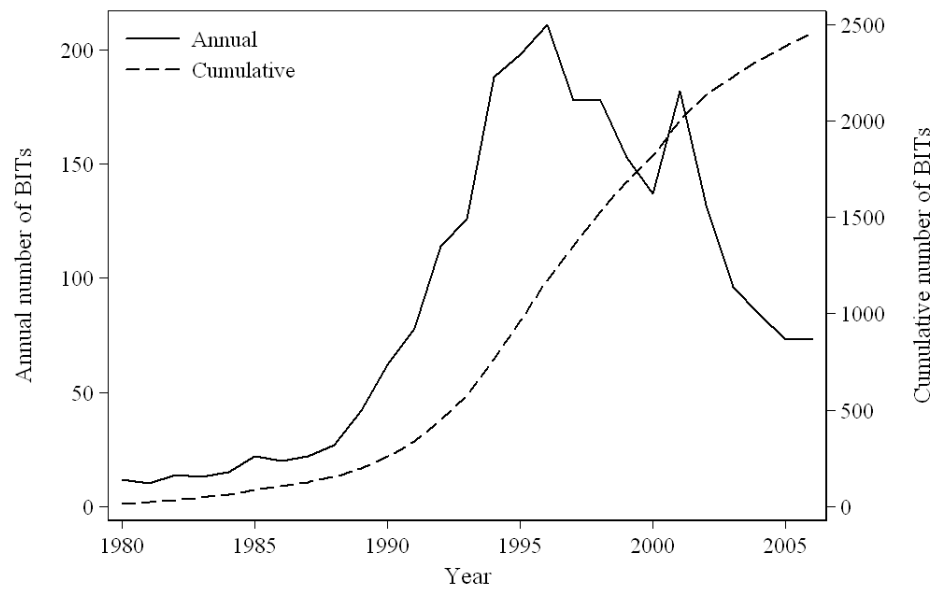
Figure 2.4: Bilateral Investment Treaties Concluded
UNCTAD 2009

FDI that are liberalizing or restrictive. "Favorable" policies are those that liberalize FDI regulations, while "unfavorable" policies are those that create new restrictions. Figure 2.5 presents the yearly changes in FDI policy. In the left panel, we can see that the percentage of total changes in FDI regulation that are unfavorable have risen rather steadily since 2000. The right panel shows the proportion of favorable and unfavorable changes. Although the proportion of unfavorable changes is low overall, it is not insignificant and fluctuates over time. It is clear that there has been a trend toward liberalization of FDI restrictions, although the proportion of changes that are de-liberalizing have increased since 2001.
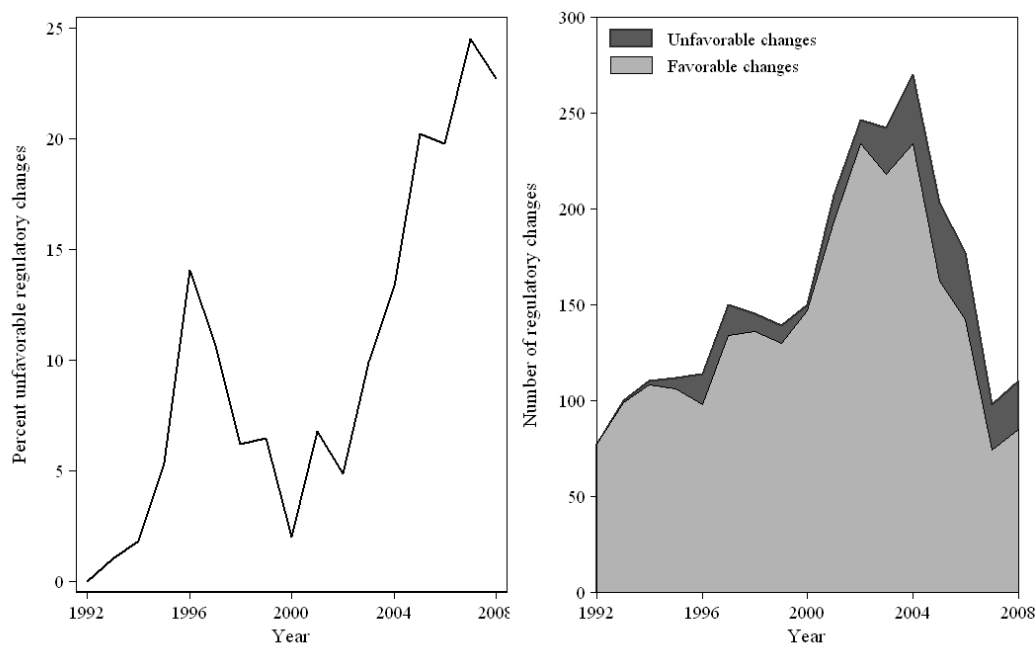


Figure 2.5: Changes to FDI Regulations in All Countries
UNCTAD 2009

# Politics and Foreign Direct Investment

Unlike work on trade politics, research on the politics of foreign direct investment is more fragmented. Work in political science on FDI declined as expropriation become less common in the late 1970s. Work on the relationship between FDI and trade policy are exceptions (e.g. Goodman, Spar and Yoffie, 1996). There was a renewed interest in FDI as a key international flow in and of itself when FDI flows grew dramatically during the 1990s. Thus, there are two basic orientations to this research in political science: that which examines which countries receive the most investment and that which studies the nature of political tensions created by FDI that lead to restrictions on FDI.

## Politics and the Distribution of FDI Cross-nationally

Within the literature on the distribution of FDI, there are three primary strands of research that seek to explain the distribution of FDI flows across countries. Each builds on the notion that policies and political institutions play an important role in shaping the investment climate of a potential host country. Policy decisions by governments, as well as the potential for political violence, can have important effects on the profitability of an investment by a multinational and therefore, the likelihood of political events with negative effects for profitability are taken into consideration when a firm makes a decision about whether or not to engage in foreign direct investment. Foreign direct investment is characterized by being very liquid *ex ante* and very illiquid *ex post*. In other words, although multinationals can consider several potential host countries as the location for investment, once the investment is made, it is costly to move. First, domestic political institutions of the potential host country are key. Second, countries compete to attract FDI through a variety of ways, including setting tax policy or establishing investment promotion agencies. Finally, a more recent literature examines the role of diffusion of FDI policy in producing a trend toward FDI policy liberalization.

The literature on the effect of political institutions on attractiveness of a potential

host country has evolved dramatically over time. Early research portrayed the relationship between MNEs and host countries as antagonistic and focused on the determinants of expropriation. There has been a vigorous debate on the relationship between regime type and the ability to attract FDI. One strand of this literature suggests that multinationals prefer to invest in authoritarian regimes because such governments are isolated from pressures for redistribution. For instance, O'Donnell (1988) argues that bureaucratic authoritarian states are more attractive to multinationals because they are able to guarantee an adherence to orthodox, if unpopular, policies in the face of economic struggles; they are isolated from pressures to redistribute as labor are largely excluded and have little influence. Similarly, Haggard (1990) suggests that multinationals favor countries in which the government has autonomy from actors that oppose necessary or painful reforms and advocate redistribution.

More recent work suggests that in fact investors view democracies as more favorable environments for direct investment. Although autocrats may be able to shield investors from pressures to redistribute, there are fewer constraints on the actions of autocrats (Olson, 1993). In terms of the role of domestic institutions, that democracies attract more foreign direct investment is a consistent finding in recent research. Li and Resnick (2003) argue that democracies receive more inward direct investment because there are more protections for property rights in place and this outweighs pressures for redistribution. Jensen (2006) is one of the most prominent recent works on the relationship between political institutions and investment by multinational corporations. He argues that democracies attract more foreign direct investment because they are able to more credibly commit to future 'market-friendly' policies, due to audience costs and the role of veto players. Democracies also provide more information to potential investors and more channels for access to investors (representation). His empirical findings suggest that the political regime is the major determinant of the cross-national distribution of foreign direct investment.

Second, there is a large literature on the steps that countries take to make themselves more attractive to foreign investors and which focuses on the role of government policy as a means of attracting inward FDI. Tax policy is a key tool that affects the profitability of firms and therefore is likely to be an important factor in the decision of MNEs to locate in a particular host country. The race-to-the-bottom hypothesis suggests that in order to compete for inward investment, countries must lower tax rates on capital, corporate profits, etc. and shift tax burdens to more immobile factors like labor. For example, Swank and Steinmo (2002) find that capital mobility does put downward pressure on wages, however, domestic pressures like unemployment constrain the degree to which the tax burden can be transferred to less mobile factors. Governments, including developed democracies, have also created investment promotion agencies in order to compete for and attract inward direct investment. Whether regime type or fiscal policy are more important determinants is unclear; Jensen (2006) argues through the use of quantitative analysis and interviews with MNEs and investment promotion agencies alike, that government spending and tax policy play only a marginal role in determining the distribution of FDI flows, as does IMF program participation. The important difference between the role of regime type and tax/fiscal policy in terms of attracting FDI is that the latter is something that governments can change in order to attract FDI whereas the former is unlikely to change for the purposes of attracting investment.

Similarly, the literature on international diffusion in the liberalization of restrictions on the movement of capital and the spread of bilateral investment treaties emphasizes competitive pressures. Due to competitive pressures, we should expect diffusion of policies as governments respond strategically to the policies of those with whom they are competing for investment.[7]    Simmons and Elkins (2004) argue that domestic politics alone cannot explain the diffusion of liberal economic policy, like capital account liberalization, and that competition for capital plays a prominent role. Similarly, Elkins,

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[7] Other possible mechanisms that facilitate diffusion include coercion and learning for instance.

Guzman and Simmons (2006) argue that the diffusion and proliferation of BITs are due to competition among potential host countries, in particular developing countries. Building on this data, Neumayer and Plumper (2010) find that when dyadic spatial effects are taken into account, the competitive pressure to sign a BIT only occurs when other capital importers have signed a BIT with the same capital exporter. A similar logic can be used to explain the incentives of capital exporters to sign a BIT with a particular capital importer. In related work, Buthe and Milner (2008) show that developing countries that are members of more preferential trade agreements (PTAs) receive more FDI. They argue that is because PTAs increase the international credibility of commitments and this appeals to foreign investors. Work to date has focused largely on why and how certain countries attract more FDI than others, while the study of restrictions governments impose to deter investment by MNEs remains underdeveloped.

## Domestic Politics of FDI

In order to understand why governments impose barriers to FDI on some industries and not others, we must look at the domestic level. Political science research has often focused on the positive effects of FDI or the effects of outward direct investment on labor in the host economy. However, inflows of foreign investment also create tension within the host country due to distributional consequences. The corresponding literature on the cleavages created by trade and the resulting policy outcomes is vast, yet the corresponding literature on the distributional consequences and their effects is in its early stages. Vernon (1971) is one of the first scholars to discuss the tensions created by the entry of a multinational. He suggests that tension and concern about FDI cannot be explained by economic consequences alone (192). Rather it is the result of challenges to local elites, a clash of ideologies, or in the case of the developed countries, a clash of cultures relating to the relationship between business and government (Vernon, 1971, 193-223). The norms that govern the relationship between government and business are difficult for international investors to understand which creates tension (Vernon, 1971,

207).

More recent work in political science (and policy) builds on the ideas proposed by Vernon, focusing on the political nature of inward direct investment. Graham and Marchick (2006) argue that the process of screening potential investments in the United States may become politicized when target or other domestic firms appeal to Congress.[8]

Furthermore, they suggest that politicians can benefit from taking a popular, often protectionist, position on sensitive issues like foreign ownership (Vernon, 1971, 123). Marchick and Slaughter (2008) present evidence of trends toward restricting investment through legislation and regulation in nine different advanced countries. Each of these measures has been introduced by justifying the need to protect national security in the wake of September 11. Marchick and Slaughter suggest that a combination of new source countries, greater government ownership in investors and the economic situation in the host countries are the main factors driving this shift.

However, national security or national economic concerns cannot fully explain the variation in reception to inward direct investment. Given that the definition of these concepts are subjective and subject to manipulation by politicians and economic actors, they cannot provide a satisfactory explanation. In the next chapter I will show that national security concerns often making underlaying economic motives of other domestic actors. For instance, is unclear why the acquisition of IBM's personal computer business by Lenovo, a partially state-owned Chinese company, did not raise any national security concerns, despite the fact that it is in a technology sector.

More recent work has begun to look at how FDI redistributes income within a country and the consequences for policy-making. This work builds on Heckscher-Ohlin and specific factor models of trade that have played such a large role in the literature on trade policy. Pandya (2007; 2008), Pinto (2004; 2005) and Popa (2006) all start with an economic model in which foreign direct investment benefits labor at the expense

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[8] This refers to foreign direct investment via merger and acquisition, where a foreign firm is interested in merging with or acquiring a domestic firm; this domestic firm is referred to as the target firm.

of domestic capital.[9] They argue that inward FDI increases returns to labor and decreases returns to domestic capital; it must be noted that Pandya makes a more nuanced argument about the type of investment. Using different samples and measures of FDI policy, all find that democracies have fewer barriers to FDI than non-democracies. The logic is that because democracies place more weight on the preferences of people, and labor benefits from FDI, there are more incentives for democratic politicians to remove barriers. Similarly, left governments will restrict FDI less than governments supported by capital. However, the economic model underlying each of these theories is not appropriate for the developed democracies. While Popa looks at post-communist countries exclusively, Pinto and Pandya do not distinguish between developed and developing countries. In advanced economies, labor markets are complex enough that is not realistic to treat labor as a homogenous factor. The distinction between skilled and unskilled labor is an important one that has significant implications for the politics of FDI. Thus we might expect that the redistribution that occurs in developed countries and the resulting cleavages created by FDI would differ substantially from those in less developed countries.

## The Need for a New Theory of Domestic Politics of FDI

A new political economy theory of FDI is needed to explain variation in restrictions on FDI in wealthy democracies. In this chapter I have discussed the recent trends and characteristics of FDI flows and policies. Despite the fact that the vast majority of FDI flows between developed countries, existing theories are not able to help us understand the democratic politics of FDI. Although national security or national economic interest concerns are often cited as a key factor in explaining investment protectionism and can be used to explain specific deals, they cannot explain overall patterns of restrictions on investment. Indeed, even in cases that look like candidates for national security

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[9] In the case of horizontal investment, cleavages form along sector lines, rather than factor lines.

or economic nationalism explanations, there are often other underlying factors that actually explain instances of protectionism as I will show through the use of case studies at the beginning of Chapter 4. A more complex political economic model is necessary as the redistributive consequences of FDI in advanced economies are more complex than those in lesser developed ones. Therefore, we need a new, separate account of the distributive consequences of FDI that includes the division between skilled and unskilled labor. The economic model is only part of the picture; it determines how citizens are affected by inward investment. The political component is equally, if not more, important because it determines which groups' interests are represented. On the political side, it is important to take into consideration that not all economic actors are able to articulate their interests and gain access to the policy-making process. Given the increasingly important role of FDI in the current global economy, and the devastating consequences of protectionism historically, it is crucial that we understand the dynamics of the domestic politics of FDI policy-making.

# Chapter 3

# A Political Economy Theory of Barriers to FDI

This chapter presents a political economy theory of the politics of FDI in which the existence of barriers is a function of economic and political skills. I argue that it is the combination of political and economic skills that determine barriers to inward foreign direct investment. Distributional consequences vary by economic skill and determine winners and losers from FDI. While domestic capital is always opposed to the entry of multinationals via foreign direct investment, economically skilled labor benefits at the expense of less skilled workers. However, variation in the level of economically skilled labor alone cannot explain barriers. It is necessary to consider political skills, that is the degree to which labor and capital are both informed about policy and organized. Independent of economic skills, politicians have few incentives to cater to those who are uninformed and/or unorganized politically. I expect that inward barriers to FDI are most likely in industries that both use economically unskilled labor intensively and have unskilled labor and capital that are politically skilled. Barriers to investment are least likely in industries that use economically skilled labor intensively and neither labor nor capital owners are not politically skilled.

In my theory, there are several important actors that shape FDI policy outcomes. First, politicians make policy decisions about openness to foreign direct investment. I assume that they are motivated by the desire to be re-elected. The economic factors of production are domestic capital and skilled and unskilled labor. Each industry uses some combination of these three factors to produce goods or services. The definition of capital deserves a brief discussion. Over the years, the connection between ownership and management of a firm has weakened as more companies are owned by stockholders. I use the term capital to refer primarily to other domestic firms in the industry; in the case of mergers or acquisitions, the incentives of shareholders differ from those of other domestic firms because shareholders will favor a deal if it will bring them a profit. Other domestic firms in the industry may themselves be interested in a merger with or acquisition of the target firm or they may be concerned about the price of economically skilled labor. Therefore I do not include shareholders of a target firm in my definition of capital. Mid-level management, on the other hand, may be considered skilled labor.

I introduce the theory in four steps. First, I explain how FDI inflows create competition among producers (foreign and domestic) in the domestic industry. Inward FDI can be seen as a source of domestic competition between producers similar to that created by import penetration from trade. However, the distributional consequences of investment inflows are different from, and more complex, than those of trade in goods in that they do not just create cleavages by sector; rather, the interests of skilled labor are in conflict with those of domestic capital and unskilled labor. I next discuss how an increase in capital from a foreign firm leads to reallocation among domestic factors of production in a sector: capital, and skilled and unskilled labor. The distinction between skilled and unskilled workers is especially important, as preferences of labor about barriers to FDI vary by economic skill level. Third, I argue that political skills determine which groups hurt by inward FDI are able successfully advocate their interests. Although economic skills determine how a group within a sector is affected by FDI, they cannot explain which are able to pressure politicians for their preferred policy. Barriers to FDI do

not exist in all industries in which factor owners are hurt by FDI have barriers to FDI because even when a group of factor owners, like unskilled labor in an industry, is hurt by inflows of FDI, its members may not have the political tools to pressure government for protection. Finally, I consider how economic and political skills combine to produce policy influence or a lack thereof.

Figure 3.1 previews the predictions from the theory. I draw predictions about the level of barriers to FDI in industries based on whether they use economically skilled labor intensively or not, and by the political skills of industry labor and capital. Certain industries are more likely than others to have barriers to direct investment. Those that use economically unskilled labor intensively and labor is politically skilled are most likely to have barriers to investment. I provide a detailed discussion of the figure after presenting my argument.

**Political Skills of Labor and Capital**

|  |  | Low - Low | Low - High | High - Low | High - High |
|---|---|---|---|---|---|
| **Economic Skills of Labor in FDI Affected Industries** | Low | Lowest level of protection among low skill sectors<br><br>Labor and capital both in favor of restrictions.<br><br>Little ability to lobby by either factor.<br><br>(1) | 2nd highest level of protection among low skill sectors<br><br>Both in favor of barriers and capital able to lobby.<br><br>(2) | 3rd highest level of protection.<br><br>Producers are able to solve collective action problem more easily than labor due to smaller n.<br><br>(3) | Highest level of protection among low skill sectors.<br><br>Both labor and capital favor barriers and both have political skills.<br><br>(4) |
|  | High | 2nd lowest level of protection among high skill.<br><br>Labor and capital have conflicting interests.<br><br>Neither is organized.<br><br>(5) | Highest level of protection in high skill sector.<br><br>Capital has more political skills than labor and is in favor of barriers to FDI.<br><br>(6) | Lowest level of protection among high skill.<br><br>Skilled labor has more political skills than domestic capital and is opposed to barriers.<br><br>(7) | 2nd highest level of protection in high skill sectors.<br><br>Even though both have political skills, capital better able to organize because smaller n.<br><br>(8) |

Figure 3.1: Predicted Barriers to Investment by Political and Economic Skills

# Inward FDI as a Source of Competition

Foreign direct investment inflows have complex effects on the economy of the host country. Scholars agree that the establishment of the affiliate of a foreign firm in the host country often creates domestic competition between producing firms similar to that of openness to trade. I discuss the distributional consequences of inward FDI in detail because canonical models (e.g. Heckscher-Ohlin and specific factors models of trade) do not adequately capture the distributional consequences of FDI. I begin with two stylized facts, in terms of empirical and theoretical analysis, and discuss how both suggest that FDI inflows increase competition in the domestic market. First, inflows of direct investment into developed countries are typically market-seeking, that is, horizontal. In other words, foreign firms are seeking to expand their market to that of the host country. As discussed in the previous chapter, empirical evidence suggests that the bulk of investment flows are horizontal, although the precise amount varies depending on level of industry-aggregation. Second, firms that decide to engage in FDI have some competitive advantage over purely domestic firms, otherwise they would not be able to bear the additional costs of doing business in another country. As a result, foreign multinationals are likely to have higher levels of factor productivity than local domestic firms. This puts domestic firms at a competitive disadvantage. The entrance of a new competitor, in particular one who is more competitive, leads to increased competition in the domestic market.

FDI creates competition because it is a vehicle for foreign firms to gain access to the domestic market. The transfer of factors like capital can be viewed similarly to trade in goods. In other words, trade in goods and factors of production can often be seen as substitutes for one another. Direct foreign investment is a source of competition for local producers in the market of the host country primarily because foreign multinationals are seeking access to markets of the host country. Multinational enterprises (MNEs) undertake FDI in order to gain access to host markets while avoiding barriers to trade

like tariffs, and more recently, NTBs, as suggested by the 'tariff-jumping' hypothesis. Indeed, trade protection is undermined by inflows of FDI when there are no similar barriers to investment.[1]      Despite decreased trade costs, horizontal investment has continued to rise due to export-platform models of investment and the fact that cross-border M&As are encouraged by falling trade costs (Neary, 2007). Between countries with similar levels of human capital endowment, this is the primary reason for direct investment, as wage differentials across these countries have decreased over time.

FDI also hurts purely domestic firms because multinationals typically have a competitive advantage over domestic producers. Only the most productive firms are able to undertake foreign direct investment. Foreign firms that can overcome the costs of entering a foreign market signal specific advantages like great production efficiency relative to domestic competitors (Doms and Jensen, 1998). Productivity is typically measured by the units of output per units of input (e.g. labor and capital) or the value-added per unit of input. Multinationals seek to capitalize on specific advantages, like brand name, technology, etc. They must be more productive than local firms because they also incur the costs of doing business in another country. A vast amount of empirical evidence suggests that multinationals are more productive than local domestic firms. Doms and Jensen (1998) find foreign-affiliates are more productive than domestic manufacturing plants in the US, controlling for size, location, industry, plant size and plant age, although the plants of US multinationals are slightly more productive than US affiliates of foreign firms. Similarly, Temouri, Driffield and Higon (2008) find that multinationality, rather than foreignness, is important in explaining productivity differences in an analysis of manufacturing and service industries in Germany from 1995-2004. In a study of Japanese firms, Kimura and Kiyota (2006) find that only the most productive firms engage in exports and FDI as predicted by the Elhanan Helpman and Yeaple's (2004)

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[1] On the one hand, some political scientists have suggested that inward FDI decreases the incentives to lobby for trade protection due to decreased sector rents available to domestic producers (e.g. Milner, Hiscox 2004), while others (e.g. Goodman, Spar and Yoffie, 1996; Zeng and Sherman, 2009) have suggested that FDI increases incentives to lobby due to increased competition and lower profits.

model of heterogenous firms and the decision to export, engage in FDI or sell domestically only. Girma, Kneller and Pisu (2005) find support for the Elhanan Helpman and Yeaple model in an analysis of UK firms. Thus, the entry of a foreign firm via greenfield investment or M&A erodes the profitability of domestic producers.

I assume that FDI inflows between developed countries are horizontal flows, that is, market-seeking flows. This means that FDI will increase competition in a manner similar to import penetration. However, the key distributional consequences that are the basis of my theory will still be true in the case of vertical investment. In the case of vertical investment, the foreign affiliate exports its goods back to the home country. In this case, exports by the foreign affiliate replace exports by domestic firms. Thus there is an increase in competition among the foreign affiliate and purely domestic exporting firms. Intra-industry or vertical investment in developed countries is concentrated in high-skill activities (Alfaro and Charlton, 2009). This will increase demand for economically skilled labor, leading FDI to benefit economically skilled labor at the expense of unskilled labor as it does in the case of horizontal investment.

Because foreign investment inflows increase competition in domestic markets similar to import penetration, I build on models of trade to examine preferences over inward investment policy. While Heckscher-Ohlin models of trade assume full mobility of factors domestically, I use a specific-factors model primarily because not all factors are mobile within the host country during the short- and medium-term. In the specific-factors framework, cleavages from trade or inflows of FDI create cleavages along industry lines. Pandya (2007) similarly argues that horizontal or market-seeking investment suggests a specific factors model because domestic capital owners and labor in industries with horizonal FDI will be united in opposition to investment inflows.[2]    In Pandya's model, capital is specific to one of two sectors, while labor is mobile between sectors and there is no distinction between skilled and unskilled labor. This set-up is appropriate for developing countries, but in more advanced economies, the division of labor is complex

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[2]  Pandya suggests that a factor-based model is appropriate for vertical FDI.

and has important distributional consequences. In a world of perfect competition, an increase in capital to one sector has an neutral to positive effect on labor (or other mobile factor). If commodity markets are not perfectly competitive, for example, if labor is not mobile, labor is more likely to ally with domestic capital owners (Pandya, 2007, 25). I argue that the assumption that foreign and domestic firms have the same technologies of production is untenable and that relaxing it has important implications for the predictions drawn from the theory.[3]    As I discuss in the next section, even within industries, inflows of FDI can create divisions between domestic factors of production, whereas with trade they are aligned.[4]    The key innovation in the economic portion of my theory is that investment can put the interests of skilled labor at odds with domestic capital and unskilled workers.

## Distributional Consequences of Inward FDI

In this section, I develop the distributional consequences of inflows of FDI for local factor groups. Whereas previous work in this area has treated labor as one factor, I argue that economically skilled and unskilled labor should be considered as separate factors that are affected by FDI differently. I propose that incentives to lobby for barriers to investment depend on the level of economic skill in a sector. Economically skilled labor, in fact, benefits from foreign direct investment inflows. I use a simple, informal model of a host economy with three factors to illustrate the distributional effects of inward FDI. I assume that capital and unskilled labor are specific to their industry, while skilled labor is a mobile factor.[5]    Because we are talking about direct investment, capital therefore

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[3]  Pandya (2007) makes this assumption explicitly, while Pinto (2004) and Popa (2006) implicitly make the same assumption.

[4]  An increase of imports due to a reduction in trade barriers causes the price of the good to decrease; this leads to a decrease in rents to capital and labor in that sector. Consequently the interests of capital and labor are aligned.

[5]  Direct investment implies that capital is specific, that is, it is not easily mobile from one industry to another. This is the main difference between direct investment and portfolio investment flows. For instance, production facilities cannot easily be re-tooled for use in another industry, while portfolios can be re-balanced to include a stock from a different industry. However, it is not clear that skilled

refers to firm-specific assets. I refer to industries as skill- (labor-) intensive if the ratio of skilled-to-unskilled workers is high (low). All industries utilize some combination of capital, skilled and unskilled labor. For example, even textile plants require some non-production workers (skilled labor) like management and accounts. Yet, textiles is a labor-intensive or low-skill industry. I use the ratio of skilled-to-unskilled labor to determine which industries are more skill-intensive; an industry cannot use both skilled and unskilled labor intensively.[6]      Therefore, sectors that use skilled labor relatively more are considered to be high economic skill sectors. In this section, I first discuss why it is necessary to consider economically skilled and unskilled labor as separate factors and how direct investment affects the returns to each. I then discuss predicted cleavages in response to direct investment.

## Economically Skilled vs. Economically Unskilled Labor

The standard approach in international and comparative political economy has been to treat labor as a homogenous group when studying protection, except in individual-level studies. Economic skill level of the individual is a robust predictor of preferences over trade, investment and immigration at the micro-level (e.g. Hainmueller and Hiscox, 2006; Pandya, 2010; Scheve and Slaughter, 2001). Pandya, using the Latinobarometer, finds that more skilled workers are more likely to support FDI because foreign firms demand more skilled labor. In developed countries, this is even more likely to be true due to the skill premium. However, aggregate level studies, at the industry and country

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or unskilled labor is inherently more mobile. In fact, it may differ by country as suggested by the distinction between general and specific skills systems. Countries with low levels of social spending and job protection have a skilled labor force with general skills, while those countries with higher levels of job protection promote the development of job-specific skills (Iversen, 2005). I expect that similar cleavages would be produced if we consider skilled labor to be specific and unskilled labor to be mobile. The magnitude of the effect of FDI may be magnified for the mobile factor. For example, if demand for skilled labor increases in a sector that receives FDI, then wages in that sector will rise. As a mobile factor, this means that wages for skilled workers in other sectors will also increase. The same logic works if unskilled labor is the mobile factor.

[6] Rogowski (1989) argues that a country cannot be endowed with both land and labor and as such, he uses the ratio of land to labor to determine which countries are endowed with each.

level, tend to treat all labor as a single factor.[7]    The work of Rueda (2005; 2007), Quinn and Inclan (1997) and Milner and Mukherjee (2009) are important exceptions. Most relevant to this project, Milner and Mukherjee suggest that democratic governments have an incentive to decrease barriers on low skill goods in developing countries, while interest groups lobby for protection for industries that use the scarce factor intensively. This suggests that the costs and benefits of trade, and thus the incentives to lobby, vary by the level of economic skill. "[A]s an economy becomes more complex, the division of labor becomes finer and large aggregate groups such as 'labor,' 'land,' and possibly even 'capital' lose much of their meaning. These factors are likely to subdivide intro more specialized groups" (Midford, 1993, 542). Indeed, it is surprising that the distinction between skilled and unskilled labor, which is so important in studies of the relationship between globalization and inequality, is not often considered in studies of the politics of openness to trade or investment. In developed countries, the specification of the number of factors and their specificity has important implications for the identity of predicted winners and losers of investment flows and trade in goods.

This distinction is especially important in developed countries which are relatively endowed with skilled labor. Scheve and Slaughter (2006) suggest that expected cleavages resulting from trade liberalization are likely linked to countries' relative endowments of factors of production (228). Less-skilled workers in developed countries have experienced poor real wage performance in real and relative terms for the last 25 years.[8]    Horizontal investment can exacerbate 'class conflict' between economically skilled and unskilled workers (Scheve and Slaughter, 2004). This suggests that thinking of labor as made up

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[7]   For example, in trade, Grossman and Helpman (1994) and subsequent work in the endogenous protection literature tends to assume that labor is a homogenous factor. Pandya (2007), Pinto (2004) and Popa (2006) make the same assumption in studies of restrictions on FDI.

[8]   I am not suggesting that this is due all or even in large part to globalization. Skill-biased technological change cannot be overlooked as one factor that has contributed to the relative decline in position of unskilled workers in the developed countries. However, globalization has also played a role. Furthermore, globalization and technological innovation have interacted over time; increased trade and capital flows have in part, driven technological innovation and vice versa. Less-skilled workers would be hard-pressed to create barriers to technological innovation, however, they can affect policies relating to trade and foreign investment through the political process.

of heterogenous groups defined by different levels of skill has important implications for the cleavages that result from increased exposure to all facets of globalization, including FDI.

Multinational firms demand more economically skilled labor relative to their domestic counterparts. This is due to the decision to invest primarily in certain industries, but also, controlling for industry, location etc. Previous work has often assumed that all FDI is greenfield investment; this leads to the expectation all FDI produces an increase in demand for labor. However, when we allow for a factor to be comprised of heterogenous groups, in this case skilled and unskilled labor, inflows of FDI that benefits one group necessarily decreases the relative wages of the others (Borjas, 2008). Within an industry, the wages of unskilled workers will also decrease in relative terms because there is lower demand for unskilled workers. Furthermore, it is a common empirical finding that demand for unskilled workers in developed countries is more elastic than that for skilled workers (Borjas, 2008, 133). For every increase in wage, the cut in employment is larger for unskilled workers than skilled workers and this dynamic is only magnified by the entrance of MNEs. The capital-skill complementarity hypothesis suggests that while capital and skilled labor are complements, capital and unskilled labor are substitutes. For example, investment inflows can be used to purchase equipment that can be substituted for unskilled labor, although the same equipment requires skilled labor to operate it. Empirical studies overwhelmingly find support for this hypothesis. All of these factors lead MNEs to demand more skilled labor, thus decreasing demand for unskilled labor to skilled labor.

Inward investment affects wages of skilled and unskilled workers, but also affects the variability of employment. Scheve and Slaughter (2004) demonstrate that job insecurity is higher in sectors that receive direct foreign investment than those that do not receive it. MNEs are better able to relocate production abroad if it is more profitable. The higher level of elasticity of demand for unskilled labor means that employment level for unskilled labor is more variable or unstable than that for skilled labor. Therefore,

in addition to income effects discussed above, other factors like job security also affect workers' welfare and utility. Furthermore, there is a trade-off involved; it is not possible to have high levels of job protection, low levels of unemployment and little income inequality. The continental countries, are characterized by high levels of job protection and high levels of unemployment among the less skilled. On the other hand, Anglo-American countries are characterized by low levels of job protection and unemployment but have high levels of income equality. Among the employed, concerns about job security are more important in countries like the United States, where unemployment benefits are lower and job retraining programs fewer. There are important variations in labor market structure across the developed countries and so it is important to consider the effects of FDI on not only wages, but job security and unemployment.

## Cleavages due to Inward FDI

Foreign direct investment changes the price of local factors, and this reallocation has distributional consequences in the host economy. To summarize the points made above, I argue that the foreign firm is more productive than domestic ones and that skilled labor and capital are complements, while unskilled labor and capital are substitutes. In the domestic economy, the three factors of production are capital, skilled labor and unskilled labor. Capital can be provided by either domestic or foreign capital owners. When capital enters through FDI, this creates distributional consequences for domestic factors of production that produce cleavages over policy preferences.

Foreign direct investment decreases the rents of domestic capital owners in several ways. First, and most obviously, the returns to capital decline because of the increase in supply. Second, as owners of firms, domestic capital owners see their profits decline due to increased competition in the market.[9]    In sectors that use skilled labor intensively,

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[9]   As Pandya (2007) notes, direct investment via merger or acquisition does benefit some domestic capital owners, namely the owners of the firm that is becoming the foreign affiliate of the MNE. All other domestic capital owners in the industry will be hurt however. Thus I assume that domestic capital is hurt by inward direct investment, while acknowledging there may be a few beneficiaries under certain specific circumstances.

domestic capital owners also find it more costly to employ skilled labor because their wages increase due to higher demand. If skilled labor is mobile, this also affects domestic capital owners in skill-intensive sectors that did not receive foreign direct investment. Thus domestic capital owners, especially those in sectors receiving investment, favor barriers to inward foreign direct investment.

Like domestic capital, unskilled labor is hurt by inward FDI. Capital investment can serve as a substitute for unskilled workers, thus leading to lower demand for unskilled labor. Multinationals have a lower and more elastic demand for unskilled labor (Driffield and Taylor, 2000). This leads to a decrease in wages for unskilled workers in that sector. In this model, unskilled labor is a specific asset, but if it were mobile, in the long-run for instance, then wages of unskilled workers in other sectors will also decline. As a result, unskilled workers align with domestic capital owners in an industry to support barriers to direct foreign investment. The relative wages of unskilled workers also decline when there is investment into skill-intensive sectors, leading to an increase in income inequality.

Skilled labor benefits from inflows of foreign direct investment, because capital and skilled labor are complements to each other in the production process. The entry of a MNE leads to increased demand for skilled labor in that industry. Technological spillovers from the foreign firm further increase the relative demand for skilled labor over unskilled labor (Driffield and Taylor, 2000). Because skilled labor is a mobile factor, skilled workers in other sectors will also benefit from an increase in the wages of skilled workers. This is in line with an abundance of empirical evidence from individual-level studies that more educated individuals are more likely to be in favor of globalization, in terms of trade, investment and immigration.

Foreign direct investment, by increasing competition in the domestic market and altering returns to domestic factors, leads domestic capital owners and unskilled labor to ally against investment as a specific-factors set-up would suggest. However, in sectors that utilize skilled labor intensively, capital and labor are no longer united in opposing

investment, because direct investment increases demand for skilled labor, thus increasing wages.[10]     This creates conflicting interests with respect to FDI policy in high skill sectors that often do not exist with trade policy. I suggest that in a specific factors framework, domestic capital owners and labor are only united against inward FDI in industries which use economically unskilled labor intensively. In more skilled industries, the interests of capital and labor are competing.

## Political Skills and Political Influence

Economic actors have preferences over policy, in this case FDI policy, and would like to convey these preferences to policy-makers. Economic actors can be individuals or individuals that comprise a group. All individuals are members of latent groups - those with similar preferences - however, not all groups are organized. Although economic skills shape preferences, alone they cannot explain which industries are most successful at getting protection. Only those industries that have political skills, will be able to place pressure on politicians for barriers to investment. In other words, politicians place more weight on the preferences of some actors over others. We cannot explain variation in barriers to investment inflows using interests derived from economic skills alone, because preferences do not translate automatically into influence. It is the combination of economic and political skills that determines policy outcomes. Political skills determine how well actors are able to advocate their interests.

Like economic skills, political skills exist at the individual level and at more aggregated levels. Within an industry, we can calculate how many workers are economically skilled workers. However, unlike economic skills, it is difficult to aggregate individual level political skills; in other words, political skills in a group are not the sum or average

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[10]   The magnitude of the increase in demand for labor depends on whether or not investment results from the establishment of a new firm (greenfield) or through cross-border M&A. Greenfield investment necessarily creates new jobs, so I expect a bigger increase in demand for skilled labor when there is greenfield investment. It may also dampen the decrease in demand for unskilled labor because of newly created jobs. Given dominant role of M&A as the mechanism for direct investment in developed countries, I do not consider this further.

level of political skills of individuals in a group. If a group is comprised of many informed voters, it is not necessarily the case that the group will be organized for other political activities, like lobbying. In this section, I first discuss individual-level political skills and then the skills that groups may have. Dixit and Londregan (1995) treat a continuum of voters as divided into a number of interest groups, based primarily on industry or occupation. Similarly, we can therefore think of individual textile production workers and non-production workers in textiles as members of two different groups; that is, we can characterize groups by economic factor type (economically skilled or unskilled labor and capital) and industry.

## Individual-level Political Skills

In this section, I examine the political skills that enable individuals to act politically through activities like voting, letter writing, etc. Information is a key political skill for voters; however, it also may influence the decision to act collectively with a group as I discuss in the next section. If the industry in which an individual is employed is not politically active as a group, voting becomes the only recourse for political action. However, if voters are uninformed, politicians have little incentive to cater to their preferences because there are likely few electoral consequences. Incomplete information confers a political advantage on those that are more knowledgeable (Milner, 1997, 21). Although much previous work has assumed that voters are fully informed about how a policy affects them, empirical evidence suggests this is not true. Voters are not always, perhaps not often, informed about issues surrounding FDI or trade (e.g Guisinger, 2009). An individual's economic skills determine whether inward FDI has a positive or negative effect on his or her wages, job security, etc., but political skills affect whether they know about how inward FDI flows or FDI policy affect their wages and job security. For example, a skilled worker may know that his or her wages are increasing, but may not be able to attribute it to inward FDI in his industry and/or may not know how to head-off protectionism which would undermine his or her economic gains from FDI. Furthermore,

political skills not only provide economic information, but also political information about channels of potential influence on policy-makers. If voters are not knowledgable about a particular policy, how that policy affects them *and* how to exert influence, then politicians have few incentives to cater to voters because to do so is unlikely to improve their chances for re-election. If segments of the labor market are uninformed about political matters like investment policy, they are less likely to have their interests represented, because they are less likely to vote or to form a group to advocate their interests. This has important implications for accountability and representation - key facets of democratic governance. This naturally leads to questions about who is informed and when. If voters are more important to policy-makers when they are informed, we need to consider under which circumstances different groups are informed as this has political ramifications. To be politically skilled, and therefore potentially exert influence over policy-making, individuals must have economic information about how FDI affects them and also how to act on these preferences; for instance they need to know who to write a letter to. In other words, voters can increase their influence over FDI policy by becoming more informed not only about how FDI and FDI policy affects them, but also about how they can influence their political representative.

Education is an important factor in determining who is informed, but it is not synonymous with information. The two concepts are empirically difficult to separate because education affects the decision to lobby for lower barriers to FDI through two channels. First, education as a primary determinant of economic skill level influences how an individual is affected by inflows of FDI. In other words, those without a higher education are more likely to benefit from barriers to FDI and thus have a higher incentive to lobby for it. Second, the level of education also affects how much information a person has about FDI inflows. If a person is highly educated, they are likely to be both a high-skilled worker and well-informed about how investment by a MNE affects them. Furthermore, Hainmueller and Hiscox (2006) suggest that those with a university degree are significantly more likely to oppose trade barriers because they are familiar with the

logic of comparative advantage and the efficiency of trade and/or they may hold more cosmopolitan/less nationalist views of the world. The income and informational effects of education both act to increase the likelihood that the person opposes investment protection. Again, however, an individual may not know how to act politically. Even if they know how to operate a machine, they may not know how to organize a group of those with similar preferences.

All else equal, economically unskilled workers have fewer political skills. As a result of the informational effect of education, unskilled workers start at an informational disadvantage about how to engage politically and how globalization affects them relative to economically skilled workers. The variation in people's ability to accurately perceive the effects of a policy on their welfare has implications for the politics of protection. Agents, in this case, voters, have heterogenous information-processing abilities. "Sophisticated" agents hold the correct or rational expectations, while "naive" agents have incorrect expectations (Krause and Granato, 1998). Survey research suggests, at least in the US, that more educated, and therefore more economically skilled, individuals are more likely to vote or write a letter. Because it is impossible to distinguish the components of education that are economic and informational (political), I use it as a measure of the industry economic skill ratio only in the next chapter.

Voters can get information from other sources than just formal education, namely the media. In particular, the availability of information depends on the availability of newspapers, TV, and the internet. As the coverage by these factors expand in a country, the more information is available to voters. It is more likely, then, that a greater segment of the population is informed. When information is harder to access, more educated portions of the population are more likely to have the skills and desire to search for it. As more of the population becomes informed, economically unskilled labor is likely to be more informed (more politically skilled) and thus more likely to have their preferences taken into consideration, resulting in a higher level of investment protection.

Viewing information as a political skill is problematic if FDI and FDI policy are not important to voters. Survey respondents often note that trade, for instance, is not a very important issue to them, or that a Senator's vote on a trade related bill is not an important factor in determining whether they voted to re-elect them (Guisinger, 2009). If most people are either not informed about an issue or do not care about it, then those who are informed and care about an issue are likely to have a disproportionate influence on policies in that area. As a result, those hurt by inflows of FDI are more likely to be an important constituency to politicians considering investment policy because the costs are more concentrated than the benefits. Although voters as consumers may benefit from lower prices due to increased competition, they may not be able to attribute lower prices to entrance by a foreign multinational. Alternatively, the benefits may be so diffuse that those who pay the costs are more influential anyway. When those who are hurt by FDI inflows, in particular economically unskilled workers, are informed, then they are more likely to be successful at getting barriers to inward FDI into their industry. However, given the low salience of FDI at most times, actions by groups are likely to account for more variation in FDI policy and it is that to which I now turn.

## Political Skills of Groups

While information generates influence through informal means, pressure activities by interest groups are a more formal channel of possible influence on politicians. Groups that are able to overcome the collective action problem organize individuals or firms with similar interests are powerful political actors - in the case of FDI policy, I am primarily concerned with industry-factor groups. I use the term interest group to refer to an organized group, for instance a trade association or labor union, while recognizing that some use it in reference to a subset of voters with similar interests or characteristics, although they are not organized. The latter I consider a latent group. There are many ways in which groups can use their political skills to influence policy. Although the US is the country for which interest group influence has been most studied, lobbies play an

important role in other developed democracies as well (McGrath, 2009).

Of the many groups based on common interests, only some form organized groups, or interest groups. In other words, despite common interests, some groups of individuals do not organize. I build on a vast literature on the factors that enable actors to overcome collective action problems, however, I do not propose or test a theory of interest group formation. Instead, I start with some assumptions based on the logic of collective action and the subsequent literature on interest groups. There are certain inherent characteristics that increase the likelihood that a group can overcome the collective action problem. In his theory of collective action, Olson (1971) emphasizes the role of group size and concentration. Smaller groups and more those that are more concentrated are more likely to overcome the collective action problem. Large groups find it difficult to overcome the collective action problem because each member receives a smaller fraction of the benefit; this decreases incentives to contribution in the first place, leading to higher organizational costs. I assume that producers (capitalists) are able to overcome the more easily than labor. Because producers are smaller in number, and costs are more concentrated, all else equal, they should be more likely to organize than labor.

Interests groups play a central role in the study of the politics of protection. In Grossman and Helpman's (1994) seminal piece, politicians weight the interests of voters, who provide votes, and interest groups, who provide campaign contributions. The decision to lobby and the effectiveness of it, however, are outside of the theory. I draw on several strands of literature that look at what makes some groups better able to achieve their policy objectives. Dixit and Londregan (1996) argue that some groups are more effective at getting protection due to specific group characteristics; they do not discuss what these characteristics may be, rather, they suggest that they do not correspond to the economic characteristics rewarded by the market. Busch and Reinhardt (1999; 2000) look at how geographic concentration of an industry affects mobilization and protection. They hypothesize about several mechanisms through which geographic

concentration may facilitate mobilization, such as ease of communication and monitoring. However, I will argue that geographic concentration, although it may be one mechanism that facilitates the development of political skills, is not the only source of these skills. In other words, we need to consider political skills, distinct from geographic concentration. Work by Rueda (2005), who suggests that labor is divided into insiders and outsiders is also relevant. Insiders, who are more educated and have highly protected jobs (through legislation), are more likely to be politically active, economically influential and electorally important to left parties. Pontusson and Rueda (Forthcoming) argue that Left parties will only respond to increases in inequality if low-income voters are politically mobilized, but increases in inequality make some people less likely to be involved in politics.

Mobilization of individuals into groups increases the probability that the groups obtains a favorable policy outcome. Groups that are politically active are more likely to exert influence over politicians, because politicians are likely to place more weight on their preferences. Verba et. al (1987) emphasize that the political influence exercised by citizens varies widely and that those who are advantaged in socioeconomic terms are also typically advantaged in political terms. Often it seems that economic and political skills are conflated.[11]    Like the effects of education, this suggests a bias in political skills in favor of economically skilled workers. This may explain why political scientists often have conflated economic and political skill.

The main way in which interest groups attempt to influence policy is through the provision of information. Legislators look to lobbyists for a variety of kinds of information Grossman and Helpman (2001) discuss in detail the informational role of interest groups; they attempt to educate and persuade legislators. In general, interest group lobbies can provide information about their preferences or about the state of the world.

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[11]    Although there is a correlation between education (economic skill) and political activity, they do not necessarily go hand in hand. For example, a person with a college degree may not necessarily have the political skill to influence their representative, beyond perhaps, what they as an individual can do (e.g. vote or write a letter).

They may also provide expert advice on technical or complex issues that legislators may not have time to fully research. Lobbies may also attempt to persuade the public; by going public, they may be able to pressure policy-makers in another way - through the possibility of electoral consequences. The provision of information is the key lobbying activity.

Interest groups also attempt to influence policy-makers through the use of financial contributions to candidates and parties. First, special interest groups provide campaign contributions. Campaign contributions aid politicians in their (re-)election bids and can be used to persuade or inform voters. However, interest groups typically spend more money on lobbying than on campaign contributions (Mueller, 2003). Evidence suggests that interest groups active on low-profile issues have more influence on policy than more salient issues, which typically have more interest groups competing (Baumgartner and Leech, 2001).

Domestic producers form interest groups like trade associations that provide campaign contributions and lobby politicians. Trade associations have many functions outside of lobbying activities, including advertising and setting quality standards. However, if the organizational infrastructure is already in place, these sectors will be better positioned to lobby on inward FDI. They have access to politicians and vast resources. Producers, including capital or labor or both, in sectors that are able to mobilize in this way are more likely to affect the policy-making process. There are several channels through which organized interest groups can try to influence politicians.

Unions, a special type of special interest group, are a key to overcoming the collective action problem for labor. Unions are the primary mechanism through which economically unskilled labor can become politically skilled and exert political influence. Unions not only provide information, they facilitate mobilization through turnout and/or other activities. Where they exist, they are able to disseminate information, mobilize voters and provide contributions to candidates. Workers are often very well organized, leading to more protection in labor intensive industries (Caves, 1976). In developed

democracies, semi-skilled labor is comparatively disadvantaged and also more likely to be unionized (Quinn and Inclan, 1997). I expect that workers who are unionized are better able to seek FDI policies that are favorable to them. Because unions tend to represent economically less-skilled workers, I expect that as the level of unionization increases, the higher the level of investment protection will be.[12] However, union levels in many developed countries have declined over time. The existence of interest groups, labor unions and producer groups alike, constitute more political skills for those sectors that are able to mobilize in this way.

In summary, those groups with some kind of organizational advantage, or institutional advantages, are better able to influence FDI policy. Thus they are politically skilled. Although the group may not have been originally formed around the issue of foreign direct investment, it is able to advocate the preferences of its members on many issues, including investment policy. In the next chapter, I provide an illustration of the causal logic using several brief case studies before moving on to more systematic testing.

## Combining Economic and Political Skills

Although distributional consequences determine who wins and loses from investment inflows and shape underlying cleavages, they cannot fully explain patterns of investment protection. I argue that political skills are key to determining the political success of different actors. Political skills are skills that enable economic actors to advocate their interests. Actors with more economic skill all else equal, have an advantage in attempting to influence policy over unskilled labor because they have more tools/access to political information. However, some unskilled workers will have more political skills than predicted by their economic skill level, and some economically skilled workers will have fewer political skills than predicted by their skill level. In other words, education

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[12] In the US case in particular, there is a concern that unionization is correlated with low economic skill industries or declining industries. If this is true, it does not necessarily hurt my argument. What I suggest is that low skill industries with high levels of unionization will be better able to influence policy in favorable ways.

does not necessarily translate into political skills. Two individuals with the same level of economic skill may have very different sets of political skills; one machinist may be a member of union that provides him information and other avenues for influence while another does not have these resources.

This theory suggests that the level of investment protection will vary by level of economic and political skill. I use the ratio of skilled to unskilled labor used in production to determine whether a sector is high or low in terms of economic skill. A high skilled-unskilled labor ratio indicates a high level of economic skill. The level of capital used by firms in the sector is less important because domestic capital owners in any industry are uniformly hurt by FDI in that industry. I consider the possibility that capital owners and labor within a sector have different political skills. In Figure 3.1, I present the eight possible combinations of economic and political skill within a sector. The vertical axis presents all possible combinations the political skills of the dominant type of labor (economically skilled or unskilled) and capital in a particular industry, while the horizontal axis divides industries into high- (use skilled labor intensively) and low-skilled (use unskilled labor intensively). For example, the textile industry uses unskilled labor intensively, and thus would be represented by the first row in the table. Any combination of political skills of unskilled labor and capital are possible.

In low economic skill sectors, both capital and labor are in favor of barriers to investment. Low skill sectors use unskilled labor intensively, so in these cases I consider the political skill of economically unskilled workers. Among the different combinations of political skill in low economic skill sectors, there is a clear prediction about which sectors should have the highest levels of FDI protection. Sectors with the combination of low economic skill and high political skill for both capital and labor (High-High) will be the most protected. In these sectors, the interests of domestic capital owners and unskilled labor are aligned to favor barriers to investment. Furthermore, they are able to advocate their interests through lobbying and mobilization activities using the political skills discussed in the previous section. Sectors where capital has high political skill and

labor has low political skill will have the next highest level of protection, followed by sectors with highly politically skilled labor and capital with low political skills. Case 2 has a higher expected level of protection than case 3 because capital is assumed to have more political skills than labor, all else equal because of the number of actors that need to be mobilized. Finally, among low economic skill sectors, where capital and labor are both lacking political skills, there will be the lowest level of protection (case 1). To summarize, I expect the level of protection to be among low economic skills to decrease in the following order: $4 > 2 > 3 > 1$ based on different combinations of political skills.

Among high skill sectors, capital and economically skilled labor have conflicting preferences over barriers to investment. I expect that the highest level of protection among economically skilled sectors to occur in case 5, because capital is politically skilled while labor is not. As a result, capital is able to lobby for its preferred policy without competing pressure from labor in the sector. Following a similar logic, I expect case 8 to have the next highest level of protection, followed by case 5. The lowest level of protection among high economic skill sectors is in case 7, where skilled labor lobby in opposition to barriers and domestic capital is unable to counter due to low political skills. Thus the level of investment protection should decrease in the following order: $6 > 8 > 5 > 7$.

It is more difficult to predict differences in levels of FDI protection across sectors with different levels of economic skill. In other words, I cannot order all eight cases from highest to lowest level of investment protection due to ambiguity about the size of the effects of different factors. For instance, it is theoretically difficult to compare the incentives of domestic capital to lobby across high and low economic skill sectors. Of all possible combinations of economic and political skill, low economic skill and high political skill of labor and capital will yield the most barriers to investment (case 4), while high economic skill, high political skill among labor and low political skill of capital will yield the lowest level of investment protection (case 7). However, it is not clear, for instance, if the level of protection in low economic skill, and low political skill

for capital and labor is higher or lower than that for high economic skill, low political skill for labor and high political skill for capital (case 1 versus case 6). On the one hand, the unskilled sector is in more need of protection, and if unskilled labor is an important constituency, we might expect more protection in the former. However, in the latter case, capital has the political skill to pressure government for barriers to investment. This leads to two hypotheses:

**Hypothesis 1.** *All else equal, low economic-skill industries are no more likely to have barriers to foreign direct investment than high economic-skill industries.*

Economic skill level alone cannot explain variation in the level of barriers to FDI at the industry-level. Whether the industry uses highly economically skilled labor intensively or uses unskilled labor intensively shapes the preferences of industry actors over barriers to FDI as it affects how income is redistributed. It is necessary to consider the combination of economic and political skills of industry actors.

**Hypothesis 2.** *All else equal, industry actors that are politically skilled are more likely to obtain preferred levels of barriers to FDI than are those who are not politically skilled, regardless of level of economic skill.*

Hypothesis 2 summarizes my argument and generalizes the findings of Figure 3.1. Different combinations of political and economic skill within industries will produce different levels of barriers to FDI. Thus we should see that the effect of economic skills is conditional on the level of political skills. Specifically, low economic skill industries with politically skilled labor, capital or both, are more likely to have barriers to FDI than are low economic, low political skill industries. Conversely, we should see lower barriers in high economic skill industries when labor is politically skilled.

# Chapter 4

# Industry-Level Barriers in the US

Barriers to foreign direct investment vary significantly at the industry-level. To explain this variation, political economy models of barriers to foreign direct investment must take into account not only the distributional consequences of inflows, but also the ability of affected actors to seek preferred levels of barriers to inward direct investment. Economic interests, based on economic skill, alone cannot explain variation in barriers to investment. In the previous chapter I argue that it is the combination of economic skill and political skill that explain variation in barriers to FDI at the industry-level. When industries use economically unskilled labor intensively and industry actors are politically skilled, then barriers to FDI will be higher than if actors are not politically skilled. We should a similar dynamic in high economic skill industries; high economic skill industries with political skills should have low barriers to FDI. In this chapter, I first illustrate the causal logic of my theory using brief case studies of recent FDI transactions. The cases are selected on the basis of the cells in Figure 3.1; in other words, I select cases on the basis of different combinations of the independent variables – the economic skill ratio and political skill. The deals were selected in order to exhibit the greatest variation in the level of protection. I focus on political activity by domestic capital and labor groups and examine whether these actors were able to achieve the

FDI policy outcome desired.

I then systematically test the predictions of the model at the industry-level. One of the main obstacles to studying barriers to FDI at the industry-level is a lack of data, both for the dependent and independent variables. I analyze formal restrictions on investment for 13 US industries from 1980-2000 and informal barriers to investment for 30 US industries in 2000. I use measures of unionization, campaign contributions and lobbying expenditures as measures of political skill. I find support for both hypotheses presented in the previous chapter: the economic skill ratio alone cannot explain formal barriers to investment in US as expected; it is necessary to consider the combination of political and economic skills does explain variation in barriers at the industry-level. I find that barriers to investment are highest in industries that use economically unskilled labor intensively and where this segment of labor is politically skilled.

## Illustration of the Causal Mechanism

A brief comparison of individual investment transactions can illustrate the causal mechanism of the theory. I compare three specific deals proposed by foreign firms seeking to make direct investments in the United States in order to demonstrate how the economic skill and political skill interact to produce FDI policy outcomes. These empirical examples serve to clarify the concepts of economic skill and political skill, as well as domestic capital and labor, before proceeding to the statistical analysis. This is especially important given the challenges of measuring the influence of economic actors like labor or producer interest groups quantitatively. I focus on informal barriers to investment in this section in order to point out the importance of these factors in shaping how open or closed an industry (or country) is to foreign direct investment as these are, by definition, more foggy concepts than formal barriers. McGillivray (2004) suggests that the combination of case studies and statistical analysis is the best way to study trade policy-making; they are similarly useful for understanding the politics of foreign

investment protection.

The three transactions have been selected because they show variation in the combination of economic skill level and the level of political skill. This provides insight into several cells in Figure 3.1 that represent theoretical industries. Because several key factors are held constant across cases, the comparison focuses on the key variables of interest: economic and political skill. First, all the cases involve the United States as the host country, thus holding the institutional context constant. Second, all of the deals originated in the same year, between 2005 and 2006, so outside factors, like public receptiveness to FDI and state of the economy, as well as the composition of government, are largely constant. Third, the home/source country for each investment transaction is the same: China. This controls for several possible alternative explanations of FDI policy outcomes. I discuss the outcome of two proposed investment transactions in two industries with high ratios of economically skilled to unskilled labor, both with possible national security implications. In the first case, domestic capital is highly politically skilled and in the second, it is not. I then examine an industry that uses economically unskilled labor intensively in which labor is highly politically skilled. These are the most theoretically relevant cases and the accompanying statistical analysis will allow me to compare additional combinations of economic and political skill.[1]

## Unocal and the Chinese Offshore Oil Corporation

Foreign investment in the energy and resource sector have the potential to be politically contentious and the bid by the Chinese Offshore Oil Corporation for a US firm is no exception. However, national security concerns were secondary to the economic interests of domestic capital in the industry. As I discuss below, domestic capital was

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[1] By theoretically relevant, I mean that, for instance, it is not as interesting or illuminating to look at an industry in which both labor and capital are politically unskilled. Additionally, I do not expect large differences in barriers in industries where both labor and capital are politically skilled as compared to the case where only one is. Finally, the US case does not allow me to examine an industry in which labor is both highly economically and politically skilled, because economic skill and unionization are strongly negatively correlated.

able to effectively use the supposed threat to national security as a smokescreen. The oil industry is characterized by a high level of skilled to unskilled labor, as well as capital actors that are highly politically skilled. Thus, this industry represents cell 6 in Figure 3.1; there is a high ratio of skilled-to-unskilled labor, labor is not politically skilled, while domestic capital are highly politically skilled. Low levels of unionization, in combination with high levels of lobbying support this categorization. In 2004, only 1.9 percent of employees in the oil industry where members of a union.[2]    On the other hand, oil and gas political action committees were some of the biggest donors, providing nearly \$6.7 million dollars in campaign contributions during the 2004 election cycle.[3]    In 2005, CNOOC made an unsolicited bid to acquire Unocal.[4]    CNOOC was motivated by the desire to control natural resources, given the growing need of China for access to energy.

The bid for Unocal by CNOOC provides an example of how economic actors used the two main tactics of interest groups: financial contributions and provision of information. In this case, the primary domestic economic actor with a vested interest in the transaction was Chevron, a US oil company with a lower competing bid for Unocal. In other words, domestic capital consists not only of capital owners of a particular domestic firm, for whom a deal may be beneficial, but also other domestic firms.[5]    Chevron lobbied Congress about the unfairness of competing against the Chinese government in it's bid for Unocal, due to the fact that CNOOC is owned in part by the Chinese government, providing it with access to cheaper financing. Chevron also raised national security concerns, despite the fact that Unocal was not a major supplier of the US market for oil. "Egged on by Chevron's lobbyists, Congress raised a series of objections to the deal, particularly noting supposed security risks for the U.S. in a CNOOC-Unocal marriage.

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[2]  (Hirsch and Macpherson, 2003).

[3]  `opensecrets.org`, accessed July 10, 2010.

[4]  Although hostile bids are more likely to be contentious, show support for my theory in the face of friendly transactions as well.

[5]  Unocal was not as politically skilled as Chevron. Furthermore it was a company in decline; campaign contributions decreased from \$137,500 in 1990 to \$8,500 in 2004 `www.opensecrets.org`.

Most energy experts believe that the risks either didn't exist, or could easily have been dealt with" (Powell, 2005). This is an example of how domestic capital owners in an industry in which inward direct investment is occurring try to keep foreign investors out in order to remain as competitive as possible. After CNOOC withdrew, Chevron was able to acquire Unocal for significantly less.[6]

> U.S. lawmakers, prodded by the lobbying efforts of one of the nation's oil giants, placed enough roadblocks in the way of CNOOC Ltd. that the Chinese oil giant finally tossed in the towel last week. That leaves the U.S.'s own Chevron Corp. free to scoop up the California-based oil and natural gas outfit with its lower bid (French, 2005).

The political influence of Chevron was evident; Chevron was able to mobilize California's congressional delegation, which spearheaded opposition in Congress. In 2004, Chevron had lobbying expenditures of 5.2 million dollars and contributed $457.4 thousand dollars to political campaigns in the 2004 election cycle; it is considered a major political contributor.[7] The congressman from the district in which Chevron is headquartered, and another California congressmen introduced non-binding legislation which called for an immediate review of the transaction by the Committee on Foreign Investment in the United States (CFIUS). The legislation passed 398 to 15, signaling that a deal with CNOOC would be dragged out for several more months at great financial cost to CNOOC. CNOOC subsequently withdrew its bid for Unocal before it could be reviewed by CFIUS.[8] Chinese newspapers also cited the fact that many of the members of Congress opposed to the deal had received campaign contributions from Chevron as a key factor in the negative outcome. Without the actions of domestic capital to lobby in

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[6]  (Mergers & Acquisitions, 2005).

[7]  www.opensecrets.org, accessed May 15, 2010.

[8]  This highlights the problems of looking at deals rejected by a screening agency as a measure of how strict the restriction is. Indeed, CFIUS has never fully prohibited a deal that underwent screening. Foreign investors are strategic and thus likely to not even propose a deal that would be rejected. Of course, as is in this case, investors can misjudge or be surprised by political opposition to a transaction.

favor of a barrier to this transaction, it is unlikely that transaction would have garnered as much attention.

National security concerns, considered to be one legitimate reason for blocking a potential investment transaction, alone cannot explain variation in barriers to investment. However is often used as a smokescreen to generate political opposition, even when underlying motivations are economic. Lobbies can play up or overstate national security concerns to the public or to legislators in an attempt to create hostility towards and thus a barrier to proposed investments by foreign firms. Without lobbying by domestic economic actors, it is likely that the investment transaction would have remained low-profile and avoided public and media scrutiny. The Dubai Ports World case is another example of this. The proposed investment was cleared through the US screening committee, but lobbying by a small domestic firm, Eller & Co., that was interested in taking over management of the Miami port led to attention from the media and politicians alike. The deal was allowed to proceed after DPW agreed to sell management of US ports to an American firm. Interest groups can also use information to publicly capitalize on feelings of economic nationalism and fears of out-sourcing as a means of placing pressure on politicians.

## IBM Personal Computer and Lenovo

During this same period, another Chinese firm, Lenovo sought to acquire IBM's personal computer (PC) business. The computing industry uses a high ratio of skilled-to-unskilled labor. Domestic capital in this industry is politically skilled in terms of lobbying. For example, in 2005, IBM Corp. spent $7.3 million dollars on lobbying expenditures, while the industry as a whole spent nearly $96 million.[9]   On the other hand, labor appears to be politically unskilled, at least in terms of organizational ability; in the computer manufacturing industry, less than one percent of workers are members of a union (Hirsch and Macpherson, 2003). This suggests that the computer industry

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[9] www.opensecrets.org.

fits in cell 6 of Figure 3.1.

The desire to acquire a brand name and other intangible assets was the primary motivation for the proposed acquisition of IBM PC by Lenovo. This discussion draws heavily on the account of Ling (2006), who gives a detailed account of this transaction in his case study of Lenovo. The PC division was small relative to IBM's overall business, accounting for about fifteen percent of total revenue (Ling, 2006, 361). With the proposed acquisition, Lenovo was seeking to increase its profile and take advantage of the IBM brand name, while IBM was looking to get rid of a debt-laden division with accumulated losses of $500 million dollars (Ling, 2006, 362). Although small in size compared to many merger and acquisition deals, the proposed takeover had important symbolic significance; for America, it was evidence of a clear threat from China, while for China it was evidence of their growing competitiveness. The biggest potential obstacle to the deal was the feeling in the US that this deal could pose a threat to national security, in particular that this might allow China to steal advanced, classified, technology. Members of the investment review board, CFIUS, and the Departments of Justice and Homeland Security expressed this view, and it was echoed in the media. That the deal was completed is even more surprising in light of the fact that IBM, the inventor of personal computers, and "symbol of America's vitality," was acquired by a company half owned by the Chinese government (Ling, 2006, 364). CFIUS approved the deal after IBM agreed that no employee of the new firm would be allowed to enter IBM research facilities at the North Carolina research triangle and that the firm would not receive a list of IBM's customers among government institutions.

There were no domestic economic actors that lobbied against the deal. The domestic capital owners of IBM were in favor of the deal; otherwise, given their lobbying power, they could have lobbied on the grounds of national security. Other domestic firms in the industry were not interested in acquiring IBM PC. Labor was economically skilled; therefore it had few incentives to oppose the transaction. At the time of acquisition, IBM was not doing very much manufacturing in the US (Altman, 2007, 79); this further

supports the claim that US labor was highly economically skilled. In addition to having few incentives to oppose the investment as economically skilled labor, it seems that labor was not politically skilled and therefore unable to communicate its preferences either way. In terms of information, in interviews with several employees, Ling (2006) finds that they were informed after the deal was completed via an email. Unionization, one of the primary determinants of organizational abilities, was also low. As I demonstrate in the next case, this can make a significant difference in the outcome.

## Maytag and Haier Co.

The manufacture of durable goods, like appliances, requires the use of more unskilled labor relative to skilled labor and often, labor is highly politically skilled. Industries like the automobile industry in the United States are a good example of a low economic skill ratio and politically skilled labor and capital. The manufacturing of appliances is another case where economically unskilled labor is politically skilled; twenty-four percent of employees in this industry in 2005 were union members.[10]      In terms of domestic capital, Maytag had lobbying expenditures of $200,000 dollars in 2004 and Maytag's political action committee made campaign contributions of $28,500 in the 2004 election cycle. This suggests that it is not highly politically skilled, thus placing the industry in cell 3 in Figure 3.1: low economic skill ratio in combination with politically skilled labor and capital with low political skills. In June 2005, Haier, a Chinese appliance manufacturer, together with US private equity firms Blackstone Group and Bain Capital, made a bid to acquire Maytag; the bid was $2/share more than an existing bid by a private equity firm in the US, Ripplewood. The Ripplewood offer had already been accepted by Maytag, who had been looking for a buyer for some time due to the fact that it was struggling. This case demonstrates the role that labor groups can play in opposing investments that are contrary to their interests.

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[10] For comparison, unionization in the motor vehicle manufacturing industry was 28 percent (Hirsch and Macpherson, 2003).

The acquisition of Maytag by Haier would certainly hurt unskilled workers. As soon as rumors surfaced, concern arose about how production in the US would be affected by ownership by a foreign firm with lower production costs abroad. Indeed, Haier's main interest in Maytag was not its hard assets like factories or plants, but rather, soft assets, like expertise and management (van Agtmael, 2007). Although Haier made a $30 million greenfield investment in 1999 in the form of a manufacturing plant in South Carolina, it wanted to take advantage of the Maytag brand name (van Agtmael, 2007, 189). The business plan of Haier involved shifting overseas to low-cost China, while maintaining sales and distribution teams in the US (Altman, 2007). At the time of the bid, Maytag employed about 18,000 workers and many workers were members of the United Automobile Workers union, a very wealthy and politically influential union. Scared by plans to shift production overseas, unions vehemently opposed the deal. Whirlpool, another US appliance manufacturer stepped in with an offer of $17/share in late July 2005, which was a dollar higher per share than Haier's bid. Unlike Haier, Whirlpool had experience with a highly unionized workforce and promised $15 million to retain Maytag workers (Jacobs, 2005). Rather than engage in a bidding war with Whirlpool and citing political opposition, Haier withdrew its bid two days later. This supports my theoretical claim that FDI benefits economically skilled labor at the expense of unskilled labor; had the deal occurred, only high economic skill jobs would have remained in the US.

## Case Comparison

Comparison of these case illustrates that is it is the combination of economic and political skill that shapes barriers to FDI rather than economic skill alone or even alternative explanations like national security concerns. Given that the computer industry is a high-skill industry with advanced technology, we might expect that Lenovo's acquisition would be more political due to national security concerns. However, political opposition in comparison to other recent deals, including the Unocal/UNOOC and Dubai Ports

cases, was low. My theory suggests that this is due to the fact there domestic economic actors in the first case did not have incentives to lobby for protection. On the other hand, the Unocal case demonstrates the effectiveness of politically skilled capital in creating a barrier to FDI. In the case of Maytag, economically unskilled workers were politically skilled and were able to make concerns about job security prominent. These cases demonstrate the powerful influence that domestic economic actors can have on FDI policy.

This theory is not limited to the United States. In the European Union, even with its common market policy, inward FDI is intensely political. Despite the movement toward an internal market, protectionism and nationalism on the part of unions and politicians still flairs up in Europe. The Spanish energy market is characterized by defensive consolidation of firms: there has never been a successful hostile takeover bid in Spain. For example, politicians tried to were ultimately successful in blocking a hostile bid for Spanish utility Endesa by Germany's E.On, because it interfered with a merger between Endesa and another Spanish energy firm Gas Natural (Boston, 2006). In the UK, the main trade union representing workers at Cadbury, Unite, lobbied Parliament on the grounds that acquisition by Kraft would threaten the jobs of 7,000 workers at Cadbury (Smith, 2010). Unite claimed Kraft, which borrowed heavily to acquire Cadbury, would resort to massive layoffs to generate savings. The business secretary, Bill Mandelson warned Kraft that stated that "asset stripping" and efforts to make a quick buck would lead to "huge opposition" from the British government, though he acknowledged that he could do nothing if a bid was accepted by Cadbury's shareholders (Macalister and Clark, 2010). Ultimately, Cadbury accepted a revised bid from Kraft after months of resisting the hostile takeover. In this instance, the political skills of labor were rendered irrelevant by acceptance of the deal by Cadbury's shareholders.

# Statistical Analysis of Industry-level Barriers

Statistical analysis of theories of the politics of FDI is difficult, especially at the industry-level. This is largely due to data limitations on the dependent and explanatory variables. Although it is (relatively) simple to think about barriers to investment and political skills conceptually, it is much more difficult to operationalize and measure them. In particular, measures of restrictions on investment and political skills are not available at the industry-level for most developed democracies. Where available, the data are limited in coverage over time. Statistics on inward and outward activity of MNEs is limited to data on stocks and flows, yet we are often interested in other measures of activity by MNCs in an industry, for example the value added by foreign firms or the ratio of workers employed by a foreign firm (Dunning and Lundan, 2008, 10). Even a straightforward concept like skill intensity is not readily available at the industry level. Different industry classifications between countries and within countries over time further complicate attempts to build cross-national time-series data sets. For instance, the United States introduced a new industry-classification scheme, the North American Industry Classification System (NAICS), jointly with Mexico and Canada, that differs from that of European Union countries. Furthermore, different statistical agencies like the Bureau of Economic Analysis (BEA) and the Bureau of Labor Statistics (BLS) in the US have adopted NAICS coding at different times. Consequently, there are breaks in series over time. For these reasons, sample sizes are often small.

I focus on industry-level barriers in the United States for practical as well as theoretical reasons. The United States has the most extensive data on activity by multinationals, as well as other data at the industry-level. Furthermore, the US is a substantively important case as it is often the largest sender and recipient of FDI flows, making it a prominent source of FDI policy for other countries to observe and potentially follow. I use an index of formal restrictions on investment as the dependent variable, available

for 4 years for 14 industries.[11]    Due to the coding of the dependent variable, the panel analysis therefore is of highly aggregated industries. To complement this, I also regress a *de facto* measure of barriers to FDI on economic and political skill for a cross-section of 30 industries in 2000.[12]    The panel analysis has the advantage over allowing me to explore changes in formal barriers to FDI over time; this is important because formal restrictions are often the target of efforts at international cooperation, as evidenced by the Multilateral Agreement on Investment. The cross-sectional analysis also provides a particularly hard test for my theory. The range of industries covered by the two samples is broad. In addition to looking at multiple indicators of barriers to FDI, my analysis has an advantage over previous studies on FDI policy in that it includes independent variables that vary at the industry-level.

## Measuring Barriers to FDI

Barriers to inward FDI can take the form of explicit policies on investment or more informal policies of practices that create obstacles for foreign investors. Formal restrictions on FDI include laws and regulations that create screening requirements or restrictions on investment in certain industries. However, formal restrictions on investment are not the only or even main source of barriers to investment in the developed countries. Barriers are increasingly complex and hidden; they may include other policies like industrial or trade policy, as well as the existence of corporate "defense mechanisms" such as a poison pill or golden shares that act as barriers to FDI inflows. Informal factors like corruption

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[11]    Legal, engineering and accounting, finance, insurance, tourism, distribution, air transportation, surface transportation, maritime transportation, construction, electricity, telecommunications and manufacturing

[12]    Accommodation and food services; agriculture, forestry, fishing and hunting; broadcasting and telecommunications; construction; finance and insurance; mining; professional, scientific and technical services; real estate; retail trade; transportation and warehousing; utilities; wholesale trade; and the following manufacturing industries: chemicals; computers and electronic products; electrical equipment, appliances and components; fabricate metals; food, beverage and tobacco; furniture and related products; machinery; miscellaneous; motor vehicles; other transportation; plastics and rubber; primary metals; textiles and apparel.

or public opposition also present barriers to investment, although the former is not a large concern in the advanced economies. Such factors may in fact be substitutes for more direct regulation of FDI, especially following the liberalization of formal restrictions on capital flows over the past few decades. It is for this reason that developing a satisfactory, comprehensive measure of barriers to FDI is such a challenge.[13]    Because governments are able to use a variety of tools to restrict investment, it is necessary to look at a variety of policies. Formal barriers can be captured by a *de jure* measure of explicit restrictions on investment, while a *de facto* measure can provide insight into the overall level of barriers to investment resulting from formal and informal barriers.

### *De jure* Indicators of Restrictions at the Industry-level

The primary analysis in this chapter uses a *de jure* measure of formal barriers to FDI as the dependent variable. I use a measure of formal restrictions on direct investment from the *OECD Restrictiveness Index* developed by Golub (2003) and Koyama and Golub (2006).[14]    The index measures restrictions that are based on the nationality of the investor and affect market entry and post-entry operations; this is also known as national treatment. Market entry restrictions typically take the form of limitations on foreign ownership and screening requirements, while post-entry operations typically involve requirements about the nationality and citizenship of management and other staff (Golub, 2009). The measure is available for 14 industries; services are disaggregated into a variety of industries, while manufacturing is treated as a single industry. National regulations were coded according to foreign ownership, screening and approval mechanisms and operational restrictions. Scores for ownership, screening and post-entry are weighted and combined into a single score for each industry. The most weight is placed

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[13] Similar trends are found in the trade literature. The coexistence of tariffs and NTBs have made it difficult to satisfactorily measure trade openness (Edwards, 1997). Using tariffs as the primary measure of trade protection ignores non-tariff barriers, which have increased as tariffs have been reduced. Kono (2006) argues that democracies have incentives to replace tariffs, with less transparent barriers, like NTBs. *De facto* measures of trade can provide other insight, as most measures of NTBs focus on coverage of industries rather than the intensity of restrictions.

[14] I thank Stephen Golub for generously sharing his data with me.

on ownership limitations, because if FDI into a particular industry is completely prohibited, it does not matter if there is a screening requirement or post-entry restrictions. For this reason, industries where all foreign ownership is completely prohibited are given the maximum score; an example would be the air transportation industry in the 1980s. Scores are continuous and range from 0 (least restrictive) to 1 (most restrictive).

It is important to critically evaluate how well a proposed measure of barriers to investment captures the concept of interest. The primary advantage of the *OECD Restrictiveness Index* is that it measures explicit restrictions on investment, based on the nationality investor (foreign or domestic). In other words, the index codes how/if investors from other countries are treated differently than domestic investors; thus the data collection is time consuming. Furthermore, the method of aggregation is designed to try to capture the intensity or severity of the restrictions; this is in contrast to those indices which add together a variety of different policies, without regard to how they may differ in their effect on investment. However, there are two primary limitations to this measure. First, by design, it does not include more subjective and informal barriers to investment, similar to the distinction between rules and discretion in monetary policy. Consequently, the index does not present the full picture with respect to barriers to investment. Secondly, the level of aggregation of the manufacturing industry in particular is very high, making it impossible to examine differences across manufacturing industries; this is an important limitation given that the manufacturing of computers uses a different combination of inputs than food manufactures. However this is necessary as the data to measure formal restrictions at a more disaggregated level is not publicly available at this time. Consequently, typical industry-level controls like the number of employees, size of the industry and industry concentration are not useful at this level of aggregation.[15]

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[15] Pandya (2007) has created the most comprehensive measure of restrictions on FDI, however it is not publicly available. Her index covers 57 industries in over 150 countries between 1962 and 2000. She gathers data from several sources, but primarily the *Overseas Business Report*, a US Commerce Department Publication (104). She creates indicators for twelve formal policies that countries use to limit FDI at the level of industry-country-year. These include bans on foreign ownership, majority
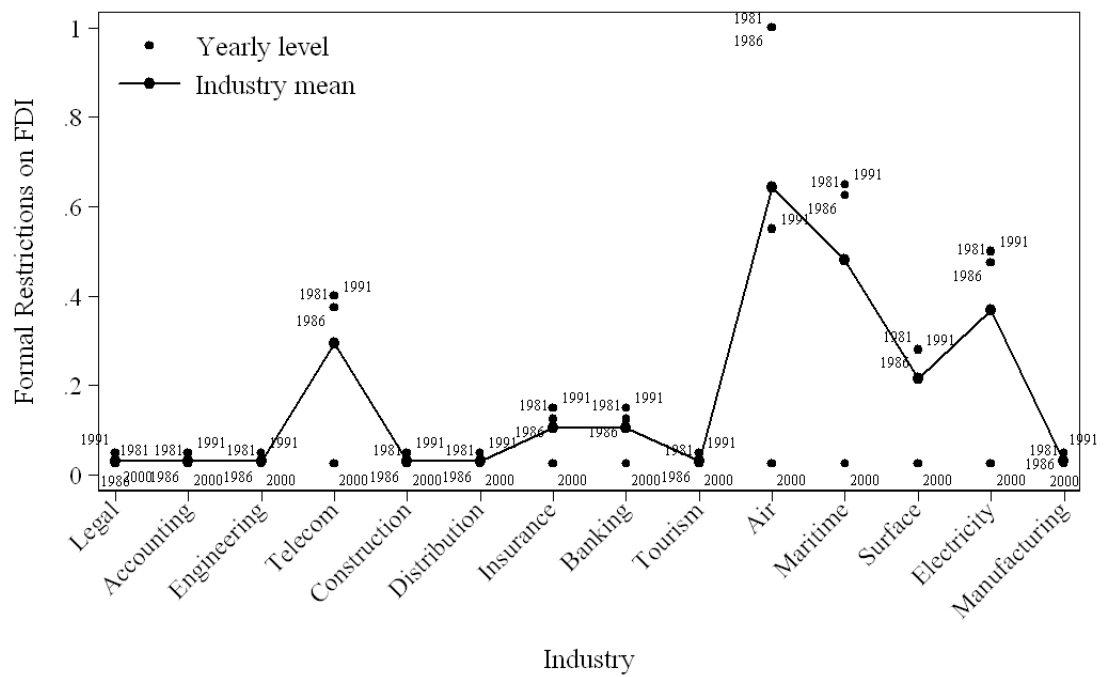
Figure 4.1: Annual and Mean Levels of Formal Restrictions on Investment by Industry
Source: Golub (2003)

Figure 4.1 provides a description of the measure of formal restrictions, by industry in the United States from 1981-2001. The average level of restrictions varies widely by industry. The airline industry, for instance, was completely closed to FDI in the 1980s. Some industries have experienced few if any changes in the level of restrictions over the 20 year period under study, while others have seen a reduction in barriers to FDI, as shown in Figure 4.2. This suggests that the main source of variation in formal barriers is across industries, rather than within industries over time. The manufacturing industry has some of the lowest levels of formal restrictions; on the other hand, FDI inflows into US in the services sector have grown at the highest rate compared to the primary and secondary sector. Representative of the trend toward liberalization of restrictions on investment is the fact that all industries converge to the a very low level of restrictions by 2000.

### *De facto* Measures of Industry-level Barriers

*De facto* measures of the level of investment protection encompass a broader set of barriers to FDI than do *de jure* measures. *De facto* indicators are based on outcomes rather than coding of explicit regulations. It is crucial to complement analysis of *de jure* measures with *de facto* measures, because *de jure* measures do not capture informal barriers. Informal barriers are especially important in the developed countries, whereas formal restrictions are low and have been quite stable for the last twenty years.

> [T]he presence, or absence, of formal obstacles and barriers to foreign investment does not sufficiently reflect any openness to foreign direct investment. Efforts to characterize countries on that basis alone do not capture the full picture. In fact, investment asymmetry among G-7 countries appears to result more from differences in economic structures, corporate ownership

local ownership requirements, government monopoly, mandatory joint ventures, compulsory investment pre-screening, local content requirements, minimum export quotas, discriminatory tax policy, caps on capital and profit repatriation, limits on access to foreign exchange, local employment minimums and mandatory local representation on boards of directors (Pandya, 2007, 68).
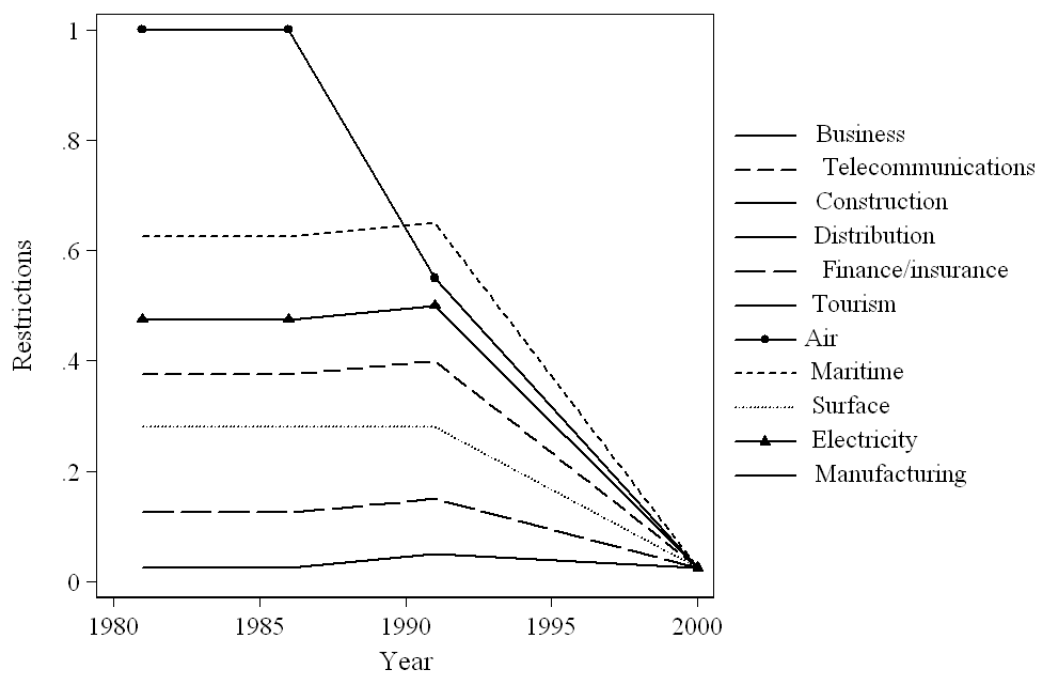
Figure 4.2: Formal Restrictions on FDI by Industry: 1980-2000
Source: Golub (2003)

patterns and linkages between various economic actors than it does from the presence of foreign investment review provisions and sectoral investment restrictions" (Ahmad, Barnes and Knubley, 1994, iv).

There are a variety of different tools that can be used to restrict inward direct investment. For example, in some industries, the screening process may pose a serious barrier to investment because many deals are rejected, while in others, it is merely a formality. The restrictiveness of a screening requirement, thus is an informal factor. Furthermore, because firms are assumed to act rationally, we expect in most cases that foreign firms will not propose a transaction that would be rejected by a screening committee or subject to intense political scrutiny. Thus opposition to or hostility toward FDI is also a barrier to FDI. "[G]overnment officials' rhetoric against sovereign wealth funds has sharpened which in itself can chill investment" (Marchick and Slaughter, 2008, 27). This suggests that the informal investment climate, including rhetoric, can be an important factor in explaining direct investment flows. Hostility is often directed at cross-border acquisitions rather than greenfield investment (Ahmad, Barnes and Knubley, 1994), and it is the former that is the primary vehicle for direct investment into developed countries.The proposed acquisition of Maytag by Haier Group Co., is an excellent example of miscalculation on the part of the foreign firm; the bid was abandoned in July of 2005 and high profile political opposition was cited by the potential investor as an important reason in the decision to withdraw the bid.[16]     For each deal like Haier/Maytag or CNOOC/Unocal, there are many more that were never initiated in the first place due to barriers anticipated by foreign investors. I examine this more closely in the next chapter.

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[16] Note that this is different than corruption or political risk. Investment climate surveys use expert knowledge to rank countries according to policy, as well as corruption, administrative burdens and policy stability. Pandya (2007) argues that these conflates investment risk and formal restrictions. However, this is not likely to be a major issue in developed countries where investment risk and political instability are low.

I therefore employ a *de facto* measure of barriers to foreign direct investment to complement analysis of formal barriers to investment and to provide a more complete understanding of industry-level restrictions in the United States. *De facto* measures of financial openness are often based on flows of investment or price differentials in the interest rate (Chinn and Ito, 2008). In an analysis of industry-level trade barriers, Hiscox (2004) uses the ratio of assets of foreign affiliates to total industry private assets, as well as the ratio of sales of affiliates to total industry sales as independent variables measuring openness to international investment. However, calculation of both measures on over time is difficult or impossible due to different calculation methodologies for foreign affiliates and the industry totals.[17]     For example, assets of foreign affiliates are collected by the Bureau of Economic Analysis in the United States on a historical cost basis, while industry total private assets are reported on a current cost basis.

As an alternative *de facto* measure, I use the ratio of value added to GDP contributed by foreign affiliates in an industry to total value added of that industry to GDP. Dunning and Lundan (2008) argue that this is the best overall indicator of the economic significance of MNEs in a sector (9). The advantage of this measure is that it captures informal barriers to investment, like the political climate. There are two important limitations to this measure. First, a *de facto* measure can also capture the desire or lack thereof of foreign firms to invest in a particular industry in the host country. In other words, a low ratio of value-added by foreign affiliates to total value-added could be a sign that there are barriers to entry, or simply that there is no interest by foreign investors to invest in that industry. For that reason, a country may appear closed to FDI, if a *de facto* measure has not taken into account interest in investing there. Due to different factor endowments, not all countries have the same vibrant industries. A second limitation is that a low ratio could also represent a case where foreign affiliates are present in an industry, but are inefficient producers. However, I do not consider this an important concern, given the amount of empirical research that overwhelmingly

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[17]   It is unclear how Hiscox is able to account for this based on discussion in the article.

shows foreign affiliates are more productive than their domestic counterparts.[18]

Figure 4.3 shows the increasing role of majority-owned non-bank US affiliates of foreign firms in the private sector in the US.[19] The percent of employment and value added are *de facto* measures of how open the US is to investment. This is a conservative estimate of the role of foreign firms in the US economy, yet we see that both the share of employment and value added contributed by US affiliates of foreign firms has grown approximately one percent and two percent, respectively, in 20 years. From 1998 through the present, the percent value added and employed are correlated the 0.95 level, suggesting that the value added measure is a good indicator of activity by foreign firms in an industry.
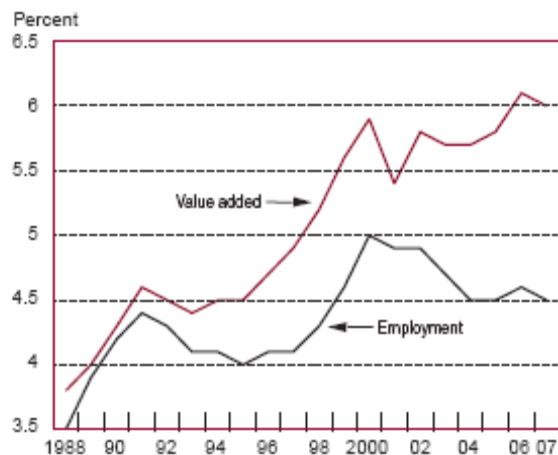


Figure 4.3: US Affiliates of Foreign Firms Share of Employment and Value Added: 1988-2007
Source: Bureau of Economic Analysis

In the sample of 26 industries, the level of involvement by affiliates of foreign firms varies substantially. The mean level of the percent value added is 9.5 percent, with a

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[18] One issue to consider is that M&As have the reputation of being inefficient - although this may be initially and thus not a concern in the long-run.
[19] This is taken from a Bureau of Economic Analysis publication because the data to recreate it is not available.

standard deviation of 9.8 percent. The levels of involvement range from 0.76 percent in agriculture and forestry, to a high of 32.7 percent in the nonmetallic mineral product (e.g. cutlery) industry of 32.7 percent.

## Comparison of *De jure* and *De facto* Indicators

It is important to study measures of both formal and formal barriers to FDI in the event that they are substitutes for one another. If formal restrictions on investment have been replaces with less transparent ones, *de jure* and *de facto* indicators may not be correlated. Indeed, Bhagwhati's law of constant protection states that when explicit restrictions are liberalized, they are typically replaced by more opaque ones. McGillivray (2004) and Kono (2006) both explore this possibility with respect to trade. Looking at either *de jure* or *de facto* measures alone may produce misleading results. The strengths and limitations of each type of measure complement each other. Whereas the main criticism of the *de facto* measure is that it can capture factors unrelated to barriers to investment, the primary limitation of the *de jure* measure is that it may not include all restrictions. By using both *de jure* and *de facto* measures, I am able to use the strengths of each to test my theory and examine the robustness of my results.

Direct comparison of the two indicators is not possible due to a lack of overlapping observations. As percent value added is only available from 1998 on, there is only overlap between the two samples in 2000. However, in 2000, all industries in the *OECD Restrictiveness Index* had the same low level of formal restrictions on investment, while the percent value added varied greatly. For instance, manufacturing is treated as a single industry in the panel sample, with low formal restrictions of 0.025. In the cross-section, for the 14 manufacturing industries included, the percent value added ranges from approximately 2 percent to 33 percent, with a standard deviation of 10.5 percent. Thus further data collection is necessary to enable a direct comparison of *de jure* and *de facto* measures at the industry level.

# Analysis of Formal Restrictions

In this section, I test the hypothesis that it is the combination of economic skill and political skill that explain variation in the pattern of restrictions on FDI using a *de jure* measure of formal restrictions on investment using a panel of 14 industries. I first discuss measurement of the explanatory variables: economic and political skill. I then discuss the methodological specification of the regression before presenting the results.

## Industry-Level Indicators of Economic and Political Skill

The two key explanatory variables suggested by my the theory are economic skill and political skill. The economic skill ratio determines who supports and who opposes barriers to FDI. The economic skill ratio is the degree to which industries use skilled labor relative to unskilled labor. To calculate the ratio of skilled-to-unskilled labor by industry, I use data from the US Census (available from the Minnesota Population Center) for 1980, 1990 and 2000 (Ruggles, Alexander, Genadek, Goeken, Schroeder and Sobek, 2010). I follow the steps of Hendricks (2010) in creating this measure. The Census reports individuals' level of educational attainment, as well as their industry of employment.[20]     As an indicator of economic skill level, I created dummy variables indicating whether or not an individual had received at least a bachelor's degree or not. Individuals with at least a bachelor's degree are considered to be economically skilled labor. I created a weighted sum (by industry) of skilled workers and of unskilled workers and divide the former divided by the latter. I refer to this as the economic skill ratio or the ratio of skilled-to-unskilled labor.[21]     The proportion of skilled labor has increased

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[20] Due to the large number of observations in the Census, it is necessary to use a sample in the analysis. I use one percent samples, that is, a 1-in-100 national weighted random sample of the population. If I had more disaggregated data, it would be important to use a larger sample size, to avoid small samples in the cross tabulation of industry and educational attainment. This is not a problem at the level of aggregation used in either the panel. In the cross-sectional analysis, I use a five percent sample and this problem does not occur.

[21] As the Census is only available every 10 years, I interpolated values of economic skill for 1986, that is, 25 percent of the observations in the panel analysis. I use "IND1990" to code industries.

in all industries over time; however, there is a wide degree of variation across industries in the economic skill ratio. In the panel sample, the mean value of the ratio of skilled-to-unskilled labor is 0.318, with a standard deviation of 0.349. The range of the variable is from 0.016 to 1.280. Construction, tourism and ground transportation industries have the lowest ratio of skilled-to-unskilled labor, while business services industries, like engineering, legal services or accounting, have the highest levels of skilled labor.

I also consider the possibility that economic skill may not have a linear effect on barriers to FDI. Economic skill may be better specified as a categorical variable. Theoretically I expect that there is a non-linear relationship between economic skill ratio and the level of restrictions because the distributional consequences of FDI likely do not affect labor in industries in a consistent fashion; a change in the level of skill at high or low levels of economic skill may not have the same effect as the same change in the middle of the distribution of economic skill. Empirically, the ratio of skilled-to-unskilled labor is skewed to the right - the business service industries have a significantly higher ratio of skilled-to-unskilled workers.[22] I use a binary variable for industries with high economic skill in some models to examine whether there may be a threshold level of the ratio of skilled-to-unskilled labor at which industries are qualitatively different than those below. Those industries with a ratio of skilled-to-unskilled labor great than 0.4 are considered to be high economic skill industries. There are 13 high skill industry-years and 41 low economic skill industry-years.

Political skill is the second key explanatory variable. I hypothesize that political skill plays a crucial role in determining which groups are able to influence policy outcomes. Thus it should condition the relationship between the economic skill ratio and barriers to FDI. When the economic skill ratio is low (high) and labor is highly politically skilled, I expect that barriers to FDI will be high (low). I use the level of unionization in an industry as the first of two measures political skill.[23] Union membership is likely

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[22] See Figure A.2 in Appendix A for distribution of economic skill ratio.

[23] The data is available annually, by industry, from a database created by Hirsch and Macpherson (2003), accessible at www.unionstats.com. It is based on data from the Current Population Survey.

the most important tool that individuals as labor have as a means to mobilize and act politically. I therefore use the percent union membership in each industry as a measure of the strength of labor. In the panel, the mean is 19.4 percent, with a standard deviation of 16.9 percent and a range from 0.9 percent to 55.4 percent; this suggests that there is a great deal of variation. Business service industries like accounting and legal services have the lowest levels of unionization, while telecommunications and transportation industries, in the 1980s, are characterized by very high levels of unionization.

Hypothesis 2 suggests an interactive relationship between economic and political skill. When using unionization as a proxy for political skill in the United States, it is important to take into consideration the relationship between unionization and industry economic skill ratio. First, levels of unionization in most industries have declined or remained the same. Second, in the United States in particular, industries with high levels of unionization also tend to have a lower ratio of skilled-to-unskilled workers as shown in Figure A.3. The correlation between the ratio of skilled-to-unskilled labor and union membership is negative and statistically significant at -0.549. Although there are few industries with both high levels of economic and political skill, there is a range in levels of unionization among both low and high economic skill industries.

In order to better test Hypothesis 2 in the United States, in addition to using unionization as a measure of political skill, I use data on campaign contributions. While unionization is one measure of political skill, campaign contributions are another important indicator of the political skill of economic actors. In the United States, it is particularly important to account for campaign contributions when measuring political skill. First, lobbying and contributions are key methods of political access in the United States. Secondly, in the United States, unionization and economic skill level are negatively correlated. While unionization is primarily a measure of the strength of labor, political campaign contributions capture the political skills of primarily capital, although labor unions do make campaign contributions as well. This provides insight into a different set of industries, that may be politically skilled in other ways besides

organization of labor. Campaign contributions are measured in millions of dollars for each election cycle by industry.[24]   Campaign contributions have a mean of $3.18 million and a standard deviation of 4.23. Finally, traditional control variables like industry concentration are not available, or likely meaningful at this level of aggregation.

## Methodological Specification

The sample consists of data for 14 industries for the years 1981, 1986, 1991 and 2000, and thus the unit of analysis is the industry-year. I first look at bivariate relationship between the dependent variable, *formal restrictions*, and each explanatory variable before discussing the methodological challenges presented by the data.

Figure 4.4 presents the relationship between formal restrictions and each explanatory variable. As the ratio of skilled-to-unskilled workers increases, the restrictions on investment decrease. This is consistent with my theory that those who are economically unskilled are more likely to be hurt by inflows of FDI and thus more likely to favor barriers to FDI and vice versa. At least in a simple bivariate analysis, it seems that economic skill can explain variation in formal restrictions on FDI as there is a negative and statistically significant correlation between them. This supports individual level findings from survey data that more economically skilled workers favor openness to investment (Pandya, 2010). In the next section, I will show that this relationship does not hold when controlling for other factors like political skill. Figure 4.4 also presents the bivariate relationship between the level of formal restrictions on investment and the level of unionization. There is a positive and significant relationship between formal restrictions and union membership. This makes intuitive sense, particularly in the United States, where unions tend to represent less economically skilled labor.[25]   This suggests that as the political skill of economically unskilled workers increases, there are more restrictions on investment. Finally, the relationship between formal restrictions

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[24]  I thank Ben Fordham and Timothy McKeown for sharing their data (Fordham and McKeown, 2003) for the years 1980-1991. For 2000, I collected data from 1999 from `www.opensecrets.org`.

[25]  Note that teachers unions are an exception, but they are not included in this analysis
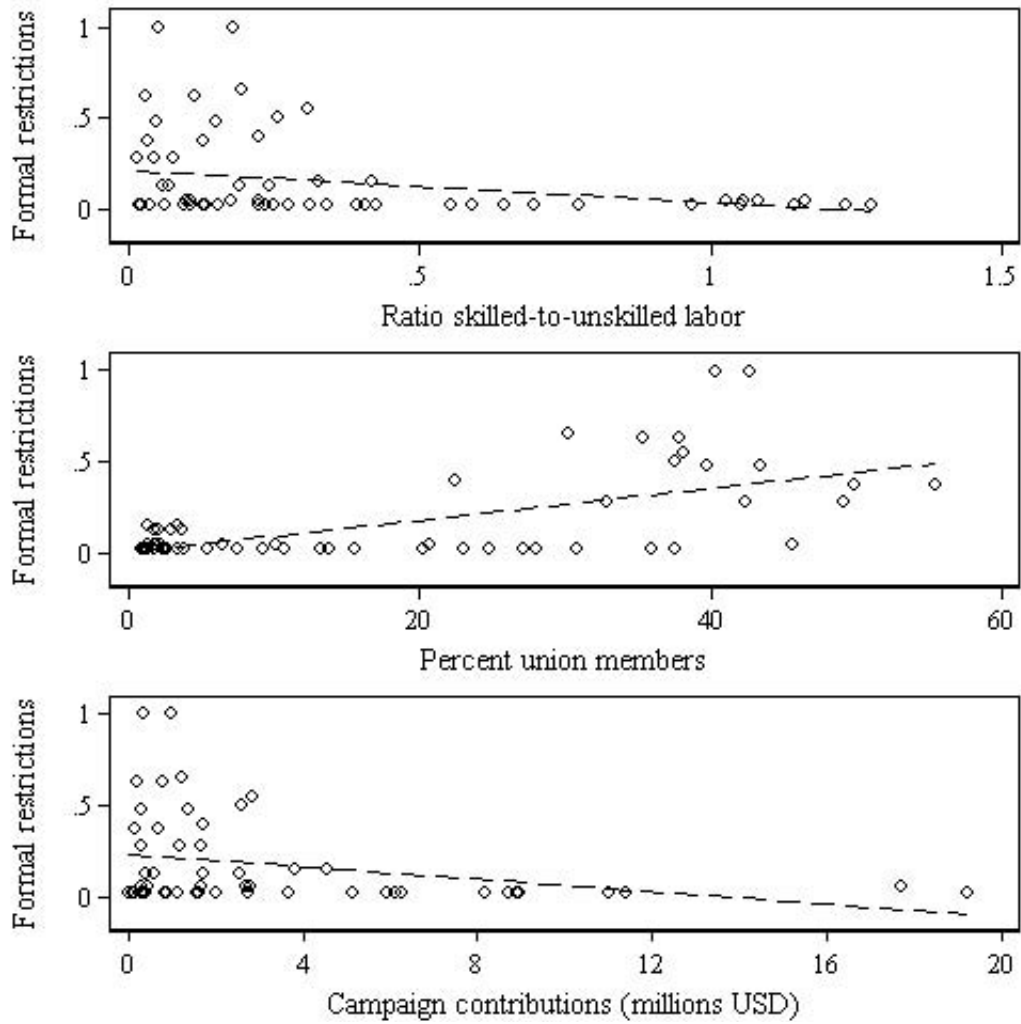
Figure 4.4: Bivariate Relationship between Formal Restrictions and Economic and Political Skills

and campaign contributions is presented in the last panel. There is a negative and significant correlation, suggesting that as contributions increase, restrictions decrease.

Analysis of panel data must confront several methodological challenges because of potential violations of the Gauss-Markov assumptions that lead ordinary least squares to produced inefficient and possibly biased estimates of coefficients and standard errors. Heteroskedasticity of error terms across units and correlation of errors over time within units are possible issues. Serial correlation of errors is particularly dangerous to inference as it can lead to underestimated standard errors, although coefficient estimates are unbiased. Thus parameters estimates appear to be more precise and can lead to us to mistakenly reject the null hypothesis of no effect. However, because we have so few time points, temporal dynamics are difficult to assess and model. Given the short nature of the panel, as well as uneven gaps between observations, the data is better treated as panel data rather than time-series cross-sectional; time series analysis of the temporal dynamics is not feasible.[26]    I include time dummy variables to control for trends over time, although the results are robust to their exclusion. Liberalization of capital and trade flows has increased dramatically over time due to multilateral and international agreements; this may create a downward trend in formal restrictions over time. I return to a discussion of the diffusion of FDI policy and the role of international cooperation in the conclusion.

It is also important to consider whether observations from different industries can be pooled together. Pooling makes the implicit assumption that the relationship between the explanatory variables and dependent variable is the same for all industries. Fixed effects models, also known as within estimators, allow for different intercepts for each industry; this accounts for the fact that different industries may have different mean levels of restrictions, while allowing the relationship between variables to remain

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[26] Panel data is characterized by a larger number of units than time points, while TSCS data typically has an equal or greater number of time points than number of units. Furthermore, the uneven gaps between observations pose an obstacle to estimating models with autocorrelated errors.

constant across industries; they exploit variation within units. Random effects models also allow for differing intercepts, but are more efficient than fixed effects models. However, a Hausman test rejects the use of a random effects specification due to violation of assumptions; the random effects model, or between estimator, assumes that individual specific effects are uncorrelated with the independent variables. The fixed effects model, while less efficient, does not require this assumption to be true. I do not interpret the fixed effects model as my primary model because within group variation is low; fixed effects do not work well for data in which variation within a cluster (industry) is minimal or changes slowly over time. Rather, the majority of variation is between sectors as shown in Figure A.1 in Appendix A. The results are robust to a fixed effects specification, which can be found in Table A.1 in Appendix A; I therefore interpret the more efficient regression without fixed effects.

Because I do not include fixed effects in the main results, I examine the data for outliers. Multiple indicators suggest that the air transportation industry and manufacturing sector are outliers. In particular, manufacturing in 2000 has particularly high leverage relative to other industries as shown in Figure 4.5.[27]    The manufacturing industry is likely an outlier due to the fact that it is highly aggregated and therefore accounts for a large amount of production in the economy. Therefore, it is not surprising that it has high levels of campaign contributions relative to other industries based simply on its sheer size as specified. The air transportation industry is the only industry which completely prohibits inward direct investment at any time during the period under examination. Consequently, I include a dummy variable for both the air transportation industry and manufacturing sector, although the results are robust to the exclusion of both industries. Throughout, when choosing between two models, I present the more conservative and robust results.

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[27]  See also Cook's distance Figure A.4 in Appendix A.
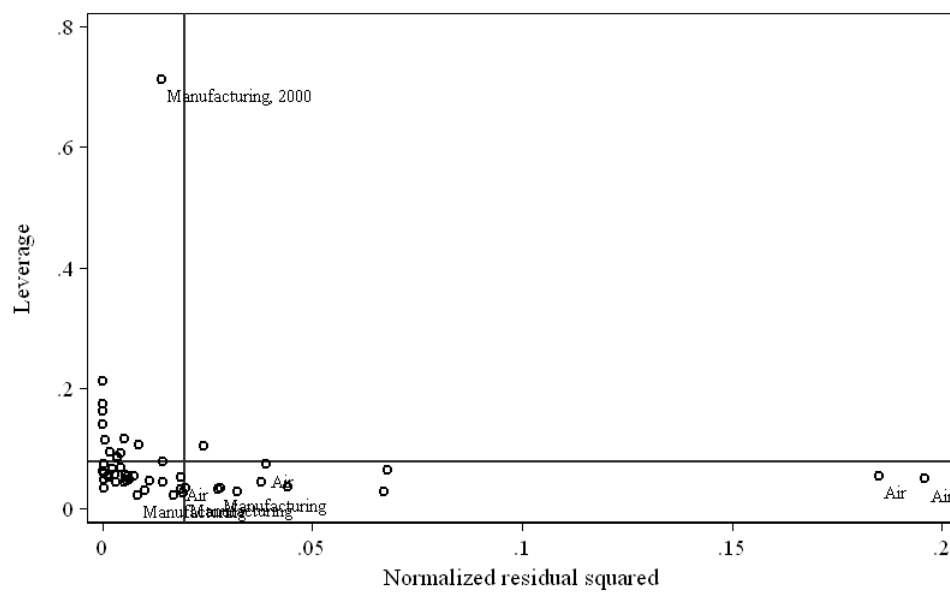
Figure 4.5: Leverage for Regression of Formal Restrictions on Economic skill, Unionization, Contributions and Time.

**Results**

In this section I present the results of the analysis of formal restrictions. I begin by presenting the results of the unconditional or reduced model, that is, without interacting economic skill and political skills. Although it is common practice to include many control variables, as discussed above, typical industry-level controls are not meaningful given the high level of aggregation.[28] Thus I include only the main explanatory variables: economic skill, the measures of political skill, and their interactions; I also include several controls; in addition to dummy variables for the air transportation and manufacturing industries, I also include dummy variables for time. The results presented are estimated using OLS with robust standard errors adjusted for correlation within industries. The results are presented in Table 4.1. Models 1 and 2 use the continuous measure of the economic skill ratio, while Models 3 and 4 use a binary variable to indicate industries with a high ratio of skilled-to-unskilled labor. I briefly discuss Models 1, 2 and 3 before focusing on primary results from regression specified in Model 4.

Model 1 in Table 4.1 is the unconditional analysis of the effects of economic and political skill using the continuous measure of economic skill: the ratio of skilled-to-unskilled labor. Figure 4.6 presents the results using an added-variable regression plot.[29] The results support Hypothesis 1; although economically skilled workers benefit from inward direct investment, economic skill alone cannot explain variation in barriers to FDI. The ratio of skill-to-unskilled labor is not statistically significant in the unconditional model. The first panel in Figure 4.6 shows that controlling for the other variables in the model, industry economic skill level does not contribute very much to our understanding of the level of restrictions on investment. On the other hand, union membership has a positive and significant effect on the level of restrictions on FDI. Campaign contributions are not statistically significant.

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[28] Indeed, Achen (2002) argues that "a statistical specification with more than three explanatory variables is meaningless" (446).

[29] Note that the significance of effect of each variable is listed below the plot. All analysis done in Stata version 9.0.

**Table 4.1: Analysis of Industry-Level Formal Barriers to FDI in the US**

| | Model 1 | Model 2 | | Model 3 | Model 4 |
|---|---|---|---|---|---|
| Skilled-unskilled ratio | 0.043 | -0.286 | High skill industry | -0.039 | -0.333** |
| | (0.042) | (0.396) | | (0.068) | (0.035) |
| Unionization | 0.007** | 0.005 | Unionization | 0.006** | 0.007** |
| | (0.002 | (0.004) | | (0.002) | (0.002) |
| Contributions | 0.008 | -0.005 | Contributions | 0.008 | -0.005 |
| | (0.005) | (0.006) | | (0.005) | (0.005) |
| Air industry | 0.341** | 0.396** | Air industry | 0.358** | 0.500** |
| | (0.072) | (0.124) | | (0.077) | (0.088) |
| Manufacturing sector | -0.282** | -0.208** | Manufacturing sector | -0.292** | -0.156** |
| | (0.084) | (0.062) | | (0.091) | (0.063) |
| 1986 | 0.000 | 0.045 | 1986 | 0.006 | 0.026** |
| | (0.011) | (0.044) | | (0.010) | (0.011) |
| 1991 | -0.012 | 0.06 | 1991 | 0 | 0.035 |
| | (0.058) | (0.053) | | (0.052) | (0.053) |
| 2000 | -0.268** | -0.193** | 2000 | -0.245 | -0.162** |
| | (0.109) | (0.082) | | (0.098) | (0.064) |
| Skilled-unskilled x Unionization | | -0.012 | High skill x Unionization | | -0.019** |
| | | (0.021) | | | (0.002) |
| Skilled-unskilled x Contributions | | 0.029* | High skill x Contributions | | 0.016* |
| | | (0.015) | | | (0.009) |
| Constant | 0.243 | 0.122 | Constant | 0.241 | 0.181 |
| | (0.061) | (0.098) | | (0.067) | (0.047) |
| Adjusted $R^2$ | 0.542 | 0.553 | Adjusted $R^2$ | 0.543 | 0.645 |
| N | 50 | 50 | N | 50 | 50 |

***$p < 0.01$, **$p < 0.05$, *$p < 0.1$. PCSEs in parentheses

coef = .04062864, (robust) se = .04699258, t = .86

coef = .00673474, (robust) se = .00144637, t = 4.66

coef = .00015087, (robust) se = .0050801, t = .03
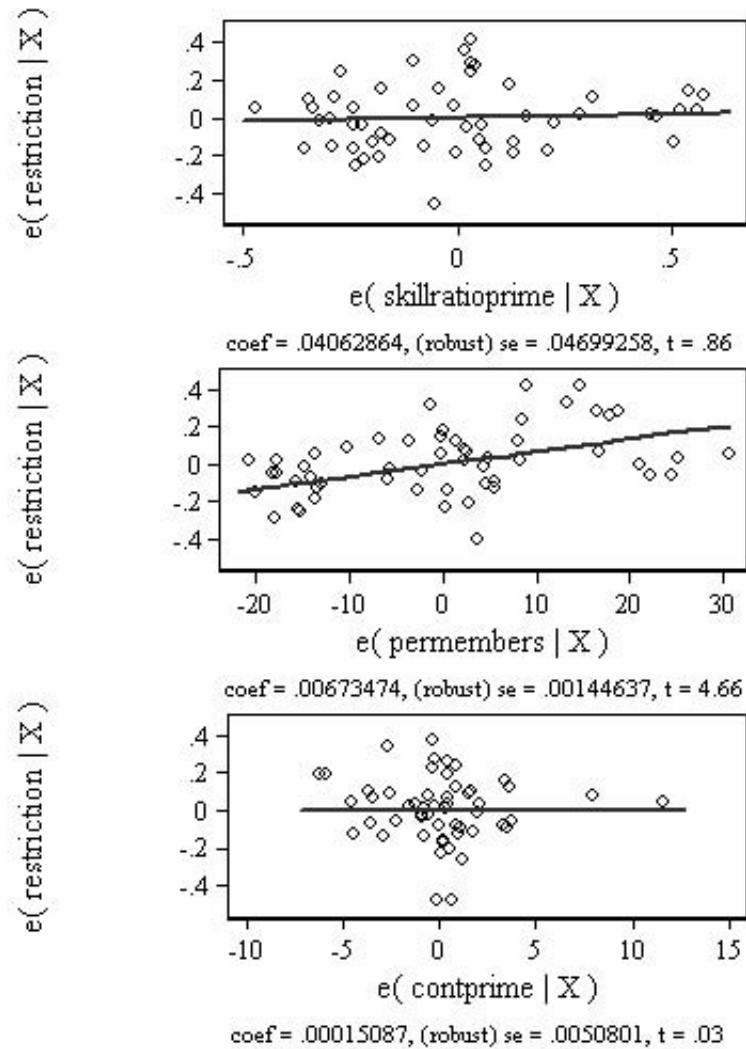
Figure 4.6: Added-Variable Plots for Unconditional Regression of Economic and Political Skill on Formal Restrictions at the Industry-Level

Model 2 presents the first test of Hypothesis 2 by including an interaction between economic and political skills.[30]    I do not find support for the hypothesis that the effect of economic skill depends on political skill in this model. The economic skill coefficient is not statistically significant and neither are either of the interaction terms. This may be due to the negative correlation between union membership and industry skill level. When there is multicollinearity, there is not enough information to estimate parameters precisely (Brambor, Clark and Golder, 2006). The model fit is better than in Model 1, which in combination with high levels of correlation between the components and the interaction and the fact that the unionization coefficient is no longer statistically significant, suggest that multicollinearity may be a factor.

In Models 3 and 4, I include a binary variable for high economic skill sectors for the reasons discussed in the above section. High skill industries are characterized by having a ratio of skilled-to-unskilled labor of greater than 0.4. In the unconditional analysis using the binary indicator of economic skill level, economic skill level alone does not explain restrictions on investment; the coefficient on the indicator for high economic skill industries is not statistically significant. The coefficient on unionization, as expected has a positive and statistically significant effect on the level of restrictions on investment. As the level of unionization increases, barriers to investment increase as well; an increase of one percent in the percent of the labor force in an industry that are members of a union increases barriers to investment by 0.006. This is substantial when we consider that restrictions range from 0.025 to 1 and the standard deviation of unionization is nearly 17 percent. Furthermore, this is consistent with my expectation that when economically unskilled workers are politically skilled, barriers to investment will be greater, keeping in mind that in the United States, unions tend to represent unskilled labor. Campaign contributions again do not have a statistically significant effect on the level of barriers to FDI.

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[30]  Note that economic skill and both measures of political skill, unionization and campaign contributions, are centered for ease of interpretation.

The results of the primary model specification, where the effect of economic skill level is conditional on unionization and campaign contributions, are presented in Model 4. I find strong support for Hypothesis 2: political skills increase the ability of actors to achieve their desired level of protection. Given the relatively few number of explanatory variables, the model fit is very good; the independent variables explain 64.5 percent of variation in the level of restrictions. When unionization and campaign contributions are held at their means, industries that have a high ratio of skilled-to-unskilled labor have lower barriers to investment than those with a low ratio of skilled-to-unskilled labor. All else equal, barriers are 0.333 points lower in high economic skill industries than in low economic skill industries. This is consistent with the economic interests posited by my theory; industries in which there is more economically skilled labor will demand few barriers to investment because skilled labor benefits from inward direct investment.
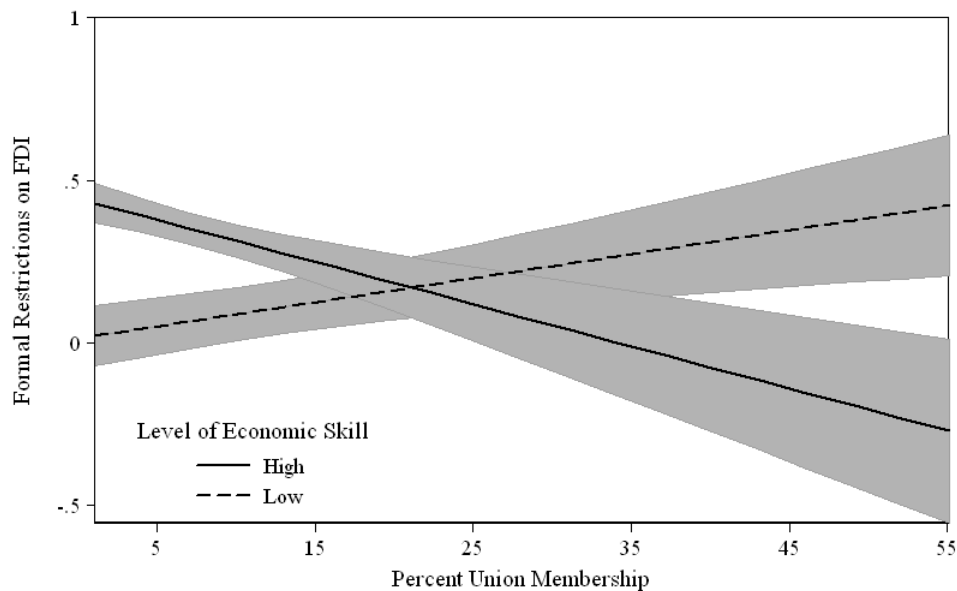


Figure 4.7: Predicted Barriers as a Function of Unionization by Economic Skill
Shaded areas respresent 95% confidence intervals.

As hypothesized, the effect of economic skill depends upon the level of unionization

and the level of campaign contributions. For high economic skill industries, restrictions on FDI decrease as the level of unionization increases. The interaction between unionization and high economic skill ratio is negative and statistically significant. This is consistent with the theory proposed in the previous chapter: as labor in high economic skill industries become more politically skilled, as measured by unionization, barriers to FDI will decrease because these workers benefit from inward direct investment. Conversely, the level of unionization has a positive and statistically significant effect on barriers for low economic skill industries; an increase in unionization of 10 percent increases barriers to investment by 0.07 points in low skill industries. Figure 4.7 presents the interaction effect between unionization and economic skill graphically, with 95% confidence intervals. The predicted level of barriers increases as unionization increases for low economic skill industries. For high skill industries, we find the reverse relationship. The error bands are particularly large at high levels of unionization and high economic skill, because in the United States few industries fall into this category. Indeed, at union membership levels of approximately 20 percent, the predicted level of restrictions is negative and therefore outside of the range of possible values of formal restrictions.

The effect of economic skill on formal restrictions is also conditional on the level of campaign contributions in high skill industries. At low levels of economic skill, an increase in campaign contributions does not have a significant effect on the level of restrictions on FDI. However, the interaction coefficient is positive and statistically significant at the 90 percent level for high economic skill industries. If we view campaign contributions as a tool used by labor, then this is not an intuitive result, as we would expect that as economically skilled labor becomes more politically skilled, barriers to investment would decrease. If however, we view campaign contributions as a measure of the political skills of domestic capital, then this does support Hypothesis 2. As the level of campaign contributions increases in industries that use skilled labor intensively, the level of barriers to investment increase. An increase of one standard deviation in

the level of campaign contributions increases barriers to investment in high economic skill industries by 0.050; the 90 percent confidence interval does not include zero.[31] However, the size of the effect is not substantively large; an increase in contributions of $4.2 million dollars produces an increase in restrictions of 0.05 on a scale ranging from zero to one.

As expected, the manufacturing and air transportation industries are significantly different from other industries in all four models. Manufacturing industries have consistently lower barriers to FDI than all other industries, while the air transportation industry has significantly higher barriers than other industries. Also as expected, barriers to investment are significantly lower in 2000 than in 1981; this reflects the trend towards liberalization of formal restrictions on investment.

In summary, the results provide strong support for Hypotheses 1 and 2. Economic skill alone cannot explain variation in formal restrictions on FDI. As expected, when unionization is high, barriers are higher in low economic skill industries and lower in high economic skill industries. The effect of campaign contributions does not have an effect on the level of restrictions, but does have a modest positive effect on the level of restrictions in high economic skill industries. This is consistent with the notion that domestic capital owners in an industry will favor increased restrictions on investment.

## Analysis of *De facto* Measure of Barriers

In this section, I analyze a cross-section of 26 US industries in 2000 to study informal barriers to FDI. I use the percent value added to GDP by foreign affiliates as a percent of total industry value added as a *de facto* measure of barriers to FDI. This data is available from the Bureau of Economic Analysis. In contrast to the industry composition of the panel, this sample includes a variety of manufacturing (sub)industries, rather than one aggregate industry. On the other hand, it includes fewer professional and transportation

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[31] [.00574, .09467]

services industries. This has the added benefit of allowing me to examine a different set of industries, at a more disaggregated level. I use the same measures of the economic skill ratio and union membership from the above analysis.[32] In this sample, the mean level of the ratio of skilled-to-unskilled labor is 0.26, with a standard deviation of 0.19. Again the distribution is skewed to the right. The mean level of unionization is 14.8 percent with a standard deviation of 10.7. However, instead of using campaign contributions as the second measure of political skills, I use the level of lobbying expenditures.[33] The mean level of lobbying expenditures is $31.7 million, with a standard deviation of $42.2 million. Figure 4.8 presents the correlation between the explanatory variables and the dependent variable. None of the pairwise correlations are statistically significant.

I focus on results that use an binary variable to indicate the level of economic skill for the reasons discussed in the above section. With cross-sectional data, the methodological concerns related to panel data no longer exist. A test for heteroskedasticity was statistically significant, therefore all standard errors reported are corrected for heteroskedasticity in small samples.[34] The results are presented in Table 4.2. Models 5 and 6 present the regression results using a binary indicator for industries with high ratios of skilled-to-unskilled labor. I present the results using the continuous measure of the economic skill ratio in Models 7 and 8 alongside the main results for the purposes of comparison, but do not interpret them here. Higher values of the dependent variable, the percent of value added by foreign affiliates, indicate greater involvement of foreign MNEs in the industry, in other words, fewer barriers to inward FDI. Thus variables should have the opposite effect on the percent value added by foreign affiliates than on formal restrictions due to the way they are coded. In Table 4.2, negative coefficients indicate than an increase in the explanatory variable increases barriers to FDI.

In the unconditional model (Model 5), economic skill alone cannot explain variation

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[32] All variables are lagged one year, with the exception of the economic skill ratio; this is due to the limited availability of the Census.

[33] www.opensecrets.org.

[34] Results are robust to feasible weighted least squares, another method for dealing with heteroskedasticity.

**Table 4.2: Analysis of Industry-Level Informal Barriers to FDI in the US**

|  | Model 5 | Model 6 |  | Model 7 | Model 8 |
|---|---|---|---|---|---|
| High economic skill ratio | 4.333 | 4.289 | Economic skill ratio | 16.947 | 11.999 |
|  | (4.808) | (4.098) |  | (10.83) | (21.21) |
| Unionization | 0.302 | 0.662** | Unionization | 0.351 | 1.109 |
|  | (0.256) | (0.254) |  | (0.159) | (0.931) |
| Lobby expenditures | -0.090* | -0.173** | Lobby expenditures | -0.095 | -0.270* |
|  | (0.093) | (0.079) |  | (0.040) | (0.136) |
| Unionization × High economic skill |  | -0.825** | Unionization × Economic skill ratio |  | -1.355 |
|  |  | (0.375) |  |  | (2.096) |
| Lobbying × High economic skill |  | 0.105 | Lobbying × Economic skill ratio |  | 0.254 |
|  |  | (0.101) |  |  | (0.200) |
| Constant | 7.712 | 6.072 | Constant | 0.699 | 2.005 |
|  | (2.344) | (1.650) |  | (4.890) | (9.243) |
| N | 26 | 26 |  | 26 | 26 |
| Adjusted $R^2$ | 0.054 | 0.155 |  | 0.117 | 0.136 |

$*p < 0.1$, $**p < 0.05$. Clustered standard errors in parentheses
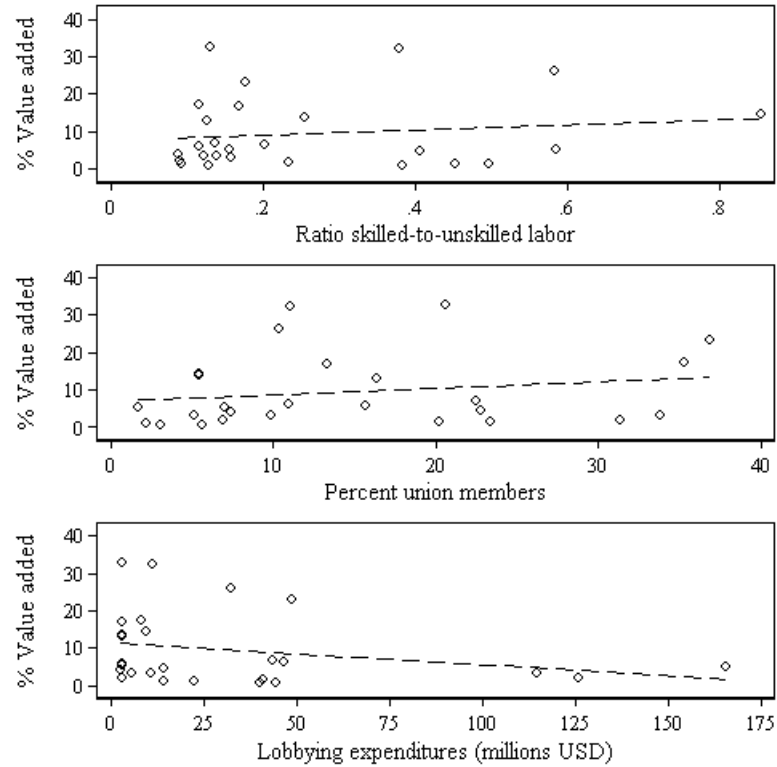
Figure 4.8: Bivariate Relationship between Informal Barriers and Economic and Political Skills

in informal barriers. However, lobbying contributions have a negative and statistically significant effect. This is consistent with expectations that domestic capital owners, regardless of whether they are in an industry that uses economically skilled or unskilled labor intensively, will oppose barriers to investment. However, the explanatory power of the model is very low, explaining only 5.4 percent of the variance in the value added by foreign affiliates.

In Model 6, I find further support for Hypothesis 1 and mixed support for Hypothesis 2. At the mean level of unionization and lobbying expenditures, the level of economic skill is not statistically significant. At low levels of economic skill, an increase in unionization leads to an increase in the percent value added contributed by foreign firms.

This is in contrast to what we would expect because it suggests that as economically unskilled workers become more politically skilled, there are few barriers to FDI. At low levels of unionization, an increase of one standard deviation in the level of unionization increases the predicted percent value added by foreign firms by 7.1 percent, as shown in Table 4.3. In high economic skill industries however, unionization does not affect barriers to investment. This suggests one of two things. First, there may be other factors of unionization, like level of training, that make foreign firms want to invest in an industry. The other possibility is the percent value added by foreign affiliates is not a good proxy for informal barriers to investment. However, the model fit is still low; the independent variables explain 15.5 percent of the variation in the percent value added contributed by foreign firms. This suggests that more controls may be necessary. However, the level of industry concentration, as measured by sales of the top four firms in each industry, is not statistically significant.[35]

The effect of lobbying expenditures in low economic skill industries is negative and statistically significant. This result supports Hypothesis 2: as the level of lobbying expenditures increases in low economic skill industries, barriers to investment increase. This is consistent with expectations regardless of whether we consider lobbying expenditures to be a proxy for the political skill of labor or capital in industries that use economically unskilled labor intensively. As shown in Table 4.3, an increase in one standard deviation of lobbying expenditures at low levels of economic skills leads to a decrease in the percent value added by foreign affiliates of 7.3 percent. The effect of a change in political skills as measured by both unionization and lobbying expenditures does not have a statistically significant effect in high economic skill industries.

The results are robust to several other specifications. First, industry concentration does not have a statistically significant effect on the percent value added nor does it affect the main results. The results are also include dummy variables for the finance/insurance

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[35] Industry concentration is collected from the BEA Census of Manufactures, 2000. I do not include because it is not statistically significant and further reduces the sample size.

**Table 4.3: Effect of Political Skills on Informal Industry-Level Barriers**

| Economic Skill | Δ Unionization | Δ Lobbying contributions |
|---|---|---|
| Low | 7.100 [1.75, 12.4] | -7.319 [-13.9, -0.74] |
| High | -1.751 [-7.53, 4.04] | -2.872 [-8.01, 2.27] |

95% confidence intervals in parentheses. Change in political skills is one standard deviation.

and utilities industries, which have statistically significantly higher levels of lobbying expenditures than other industries.[36]    In the future, I need to consider other control variables, like research and development expenditures, and collect data for more time periods where possible.

## Summary

In this chapter, I have presented empirical tests of my hypotheses at the industry-level in the United States. I find that, for both formal and informal barriers to investment in the US, it is the combination of political and economic skills that explains variation in these barriers. There is strong support for the hypothesis that economic skill alone cannot explain variation in barriers to investment. Furthermore, I find strong support for the hypothesis that increases in political skill lead to more or less barriers to FDI depending on whether the industry uses economically unskilled or skilled labor intensively. With one exception, I find that increases in political skill in low economic skill industries lead to increased barriers to investment. The effects are more modest for high economic skill industries; increases in political skill either lead to lower barriers to investment or have no effect on the level of barriers in high economic skill industries.

    The results suggest that it is important to consider alternative *de facto* measures

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[36]    Although the distribution of the percent value added by foreign firms is skewed to the right, the results are robust to the use of the log of the percent value added by foreign firms as the dependent variable.

of investment. In particular, an estimated measure based on gravity-model regressions would adjust for the fact that different industries have different levels of value added by foreign affiliates for reasons other policy barriers to investment. This a future avenue for research and would likely be feasible within the OECD at the industry-level. Analysis of industry-level data that is more disaggregated would also be useful. However, I do expect that the results would remain the same, if not become more significant and robust. At a more disaggregated industry level, we can examine the dynamics among more specific, cohesive groups. Collective action is more likely in smaller groups, thus I expect that higher levels of industry aggregation provide a stringent test of my hypotheses.

Although the US is only one country, the results are generalizable to other developed democracies. Although the US is unique in some ways, for instance in the role of campaign contributions, I believe the results are applicable to other countries because I have accounted for more than one type of political skill. Therefore, I have accounted for other means of political access. If unionization is a significant factor in the United States, where overall levels of unionization are low, I expect that it will be perhaps even more important in other countries where unions are larger and more cohesive. If the analysis is repeated for other countries, it will be important to consider alternative measures of skilled labor like vocational training. This will be especially important in continental countries like Germany. This will allow me to account for the fact that such countries are endowed with semi-skilled manufacturing labor.

# Chapter 5

# Domestic Institutions and the Politics of FDI

In this chapter, I extend the analysis to the national level and examine how domestic political institutions shape political competition over foreign direct investment policy. I have argued that the distributional consequences of FDI shape who supports and opposes restrictions on FDI. In this chapter, I look at the implications of the theory presented in Chapter 3 for a country's overall level of openness to FDI. Redistribution within and between industries affects national level restrictions on inward investment. In particular, I emphasize the redistribution of rents to economically skilled workers at the expense of economically skilled workers. How open a country is to inward FDI depends on which groups are politically skilled, that is, more informed and better organized. When economically unskilled workers in advanced economies have political skills, such as being informed about FDI or if they are organized through unions, then barriers to inward direct investment will be greater, given that FDI increases demand for economically skilled labor and decreases demand for unskilled labor. Thus, the analysis in this chapter parallels that of the previous chapter; it looks at the politics of FDI from a different level. Studies in international political economy often look at only one level of

analysis, whether it is the individual, industry or national and ignore the implications of findings at one level for politics at another.

I examine how the political economy of FDI depends on the domestic institutional context. Different domestic institutional arrangements create different channels of influence and incentives for citizens to act politically and for politicians to respond. The effectiveness of lobbying is therefore context dependent. In the previous chapter, the institutional context did not vary because I examined industries within one country. In this chapter I look at how domestic electoral institutions, in particular, electoral rule, mediate the effect of political and economic skill on barriers to investment. First, I present a theory of how domestic electoral rules can affect the political process of investment policy-making. Electoral rules affect not only politicians incentives to listen to different actors, but also on incentives to seek influence in the first place. Some institutions allow for more or less access by interest groups, through the effect on politicians' incentives to cater to narrow over broad interests. Second, as in the previous chapter, I discuss the *de jure* and *de facto* measures of barriers to investment, although I focus on the later for the empirical test of my hypothesis. My research design in this chapter involves a two-stage estimation process; in the first stage I use observed data to estimate a *de facto* measure of barriers to FDI. In the third section, I discuss the methodological challenges of estimated dependent variable regression and present the results of the analysis. Unlike previous work that uses estimated measures of openness, I use feasible generalized least squares to account for measurement uncertainty in the dependent variable. I find that, as expected, proportional representation systems have lower overall barriers to FDI than do majoritarian ones because there are fewer incentives for politicians to cater to special interests in the former type of country. Furthermore, the role of political skills is more important in majoritarian systems than PR ones.

# The Mediating Role of Domestic Electoral Institutions

Domestic institutions are the 'rules of the game'; they constrain interactions and thus structure the incentives of actors(North, 1990). They are the means through which preferences are aggregated (Milner, 1997). I assume that politicians are motivated by the desire for re-election, rather than ideological preferences over policies. The assumption that politicians are office-seeking has a long history in political science. The actions that politicians take in order to maximize their chances of achieving this goal depend, however, on domestic institutions; that is, they make policy choices with a focus on electoral considerations. Politicians weigh the interests of different groups of voters, some of which are organized and can thus provide campaign contributions in addition to votes, but domestic institutions influence which constituencies are most important, thus the policies that maximize the chance of (re-)election may vary depending on the institutional arrangement. Although there are many domestic institutions that shape policy-making including legislative rules like agenda-setting power, I focus on the role of electoral institutions; domestic electoral institutions shape politics in democracies, as they are rules for how individuals are elected and thus shape strategies used by candidates and parties seeking elected office. According to Powell (2000), "[e]lections are not the only instruments of democracy...[b]ut elections seem to be the critical democratic instruments" (4). In other words, however, electoral institutions are the key to democracy. I argue that although the level of barriers to investment may vary depending on the type of electoral rule, electoral rule has an indirect effect on barriers because it mediates the effects of political skills.

Electoral systems can be broadly classified as majoritarian and consensual or proportional.[1] Although there is a great deal of variety in institutions across democracies, "clear patterns and regularities appear when these institutions are examined from the perspective of how majoritarian or consensual their rules and practices are" (Lipjhart,

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[1] I use these terms interchangeably for Powell's (2000) notion of proportional systems is close in definition to Lipjhart's (1999) consensus model.

1999, 1). Majoritarian systems are more exclusive and competitive, whereas consensual systems are characterized more by bargaining and compromise (Lipjhart, 1999). Lipjhart (1999) suggests ten characteristics, on two dimensions, that can be used to categorize systems as fitting the majoritarian or consensus model. One key distinction is whether the electoral rule is majoritarian (disproportional) or proportional. Although this is just one institutional characteristic, countries with majoritarian electoral rules tend to have a certain group of institutions like single member districts (SMD), two parties and a pluralist interest group system, while countries with PR tend to have another group of institutions, like multi-member districts, multiple parties coordinated/corporatist interest groups.

Electoral rules are the mechanism through which parties' shares of the popular vote are translated into seats in the legislature. In majoritarian systems, politicians running for office need to secure only a majority of votes in order to gain a seat in the legislature. These are winner-take-all races, also referred to as plurality systems. The electorate in plurality/majoritarian systems are typically divided into single member districts (SMDs). Thus the composition of the legislature is made up of the outcome of many individual district-level races where the winner needs a majority or plurality of votes. On the other hand, in proportional representation systems, the composition of the legislature is determined by the aggregate popularity of the parties. In the most basic form, in PR systems, a party's share of seats corresponds to its share of the votes. Thus candidates are awarded seats not on the basis of how many votes they got, but rather how many votes their party received.

Consequently the electoral system has a direct effect on the level of investment protection. Constituency size is central to determining whether politicians have incentives to cater to broad or narrow coalitions. This is often referred to as particularism, or the degree to which interest group lobbying is rewarded. When faced with a smaller constituency, politicians have a greater incentive to weight the preferences of interest groups over those of voters. Politicians in majoritarian systems have more incentives

to privilege the interests of narrow groups over voters than do those in proportional representation (PR) systems. However, in proportional systems, politicians have incentives to get as many votes as possible because they represent more seats. Whether they get a seat depends on how many seats their party receives. Thus they have less of an incentive to cater to special interests; they need to appeal to a broader audience.

There is a large literature in political science that looks at how different groups are able to gain influence under majoritarian and proportional systems, especially as it pertains to trade protection. The seminal piece on endogenous protection by Grossman and Helpman (1994) is based on SMD plurality system. Similarly, Lohmann and O'Halloran (1994) argue that in the United States, Congress delegates some trade policy-making authority to the president, because unlike members of Congress who have small constituencies, the president represents a large national constituency, and therefore less susceptible to interest group pressure. Kono (2009) builds on this logic, arguing that intra-industry trade, conventionally believed to be politically easier to liberalize than inter-industry trade, can lead to higher protection under electoral institutions that privilege narrow interests. Particularistic institutions are those where constituency size is small and as a result, they raise the returns to interest group lobbying (Kono, 2008, 3). Typically, single-member districts (SMD) are smaller and so we should expect more protection in SMD systems than in those with multi-member districts. Proportional representation tends to correspond to multi-member districts, where the constituency size is large because candidates attempt to maximize the party's seat share. Because parties allocate seats, candidates' electoral prospects depend on how well the party does. This is in line with the expectation than majoritarian systems will have higher levels of protection than proportional ones.[2]

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[2] Must consider the fact that PR systems tend to be more dependent on trade (Rogowski 1987); Rogowski argues that when economically advanced countries are more dependent on trade, they are more likely to have PR systems (with a parliamentary district and large districts). Trade dependent states must resist protectionists. On the other hand, Katzenstein (1985) thinks that the adoption of PR in highly open, small European states was due to previous divisions in society, but that PR and dependence on trade are highly compatible. I do not expect however, that financial globalization has led to the adoption of certain electoral rules, given that the main increases in financial integration have

Goodhart (2008) makes a complementary, but more nuanced argument about electoral rules and the level of trade protection. She argues that marginality (of districts), number of electoral districts and electoral laws are separate factors that affect the formation of trade policy. In majoritarian systems, there are only a few marginal, in other words competitive, seats that may change hands, so "pork" or protection can be targeted to groups in those districts. On the other hand, in PR systems, it is strategic to allocate protection across districts and sectors because it is possible to pick up seats without winning a plurality of votes (Goodhart, 5). This tendency toward higher protection in PR systems is offset by the fact that there are few, larger districts. This helps explain why PR systems have lower levels of protection than majoritarian ones.

**Hypothesis 3.** *Countries with proportional representation will have lower barriers to foreign direct investment than countries with majoritarian systems.*

It may be the case that electoral rules have an indirect effect on national barriers to foreign direct investment, if the effectiveness of political skills is greater in more particularistic systems. The Stigler-Peltzman model is a seminal model of the ways in which politicians must trade-off between the welfare of consumers and producers. Direct investment leads to a lower domestic price for goods for consumers and at the same decreases the sector-specific rents of most factor owners in sectors receiving investment inflows. Thus, politicians must balance the interests of pressure groups with those of consumers. Voters as consumers benefit from inflows of FDI because increased competition leads to lower prices. However, voters as labor may benefit if they are economically skilled, but be hurt if they are economically unskilled due to the redistributive effects of FDI discussed in Chapter 3. Thus, the domestic institutional context interacts with political skills to produce different FDI policy outcomes. I expect that political skills are more important in majoritarian systems.

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occurred in the past 20 years.

**Hypothesis 4.** *Political skills will be more effective in majoritarian systems than proportional representation systems.*

## Measuring Barriers to FDI at the National-Level

Measuring openness to international investment flows is difficult because many different policies pose barriers to investment. Many of the same problems that occur when measuring barriers at the industry-level resurface when measuring barriers at the national-level. Just as tariffs do not cover all barriers to trade in a world where trade barriers are increasingly hidden (Hiscox and Kastner, 2008*b*), formal restrictions on investment provide an incomplete picture about barriers to inward direct investment.

As in the previous chapter, I discuss both *de jure* and *de facto* measures of barriers to investment to capture both formal and informal barriers to investment. It is worth emphasizing once more that these two types of measures can capture different aspects of barriers to investment. As a result, formal and informal barriers may not be highly correlated; indeed, we may not expect them to if formal restrictions have been replaced with more opaque barriers. A similar trend in trade has been documented by academics and non-academics alike. Whereas the analysis in the previous chapter used an economic outcome as the *de facto* measure of barriers, in this chapter I estimate a level of openness. An estimate of policy-induced distortions to FDI inflows allows us to account for how much FDI levels differ on the basis of the policy environment, broadly conceived. The main advantage of such a measure over an outcome indicator is that we are able to control for other factors that may affect flows of investment. Before introducing my new *de facto* measure, I first discuss several prominent *de jure* methods. In the remainder of this section, I first discuss and compare key *de jure* measures. I next present my approach for estimating national level openness to inward FDI and compare it to *de jure* measures before proceeding to test my hypotheses in the following section.

## Formal Measures of Restrictions on Investment

There are multiple *de jure* measures of capital account openness and openness to investment. The advantages and disadvantages of each vary on the basis of methods of aggregation, how restrictions on investment are coded, and coverage over time and across countries. I briefly review three of the measures most relevant to this research; however, this discussion is not meant to be exhaustive. Quinn and Toyoda (Forthcoming) provide an extensive discussion of most prominent measures of financial globalization. They suggest that certain measures are best suited for different types of analyses and there are trade-offs between time periods and number of cases.

The "Investment Freedom" component of the *Index of Economic Freedom* is one possible measure. It takes into account the foreign investment code, restrictions on foreign ownership of business, restrictions on industries and companies open to foreign investors, restrictions on performance requirements on foreign companies, foreign ownership of land, equal treatment under the law for both foreign and domestic companies, restrictions on the repatriation of earnings, restrictions on capital transactions and availability of local financing for foreign companies.[3] *Investment Freedom* measures explicit restrictions on investment and captures the intensity of these restrictions, but is based on expert evaluations rather than coding of laws thus the basis of coding decisions is unclear and subjective. The index has the advantage of being available yearly, but as it is only available from 1995 to 2006, it does not go back far enough in time to capture changes in formal restrictions in developed countries; consequently there is little variation by country over time in this measure. Finally, like many measures of openness to investment, this measure takes into consideration policies about both portfolio and direct investment.

Quinn and Toyoda have developed perhaps the most extensive index that covers *de jure* inward and outward restrictions on the capital account. It is described in

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[3] "Methodology for the 10 Economic Freedoms," in the *2009 Index of Economic Freedom.*

detail in Quinn (1997). I refer to it as *Capital Account*. Laws for each country were coded according to the level of restrictiveness of the policy. One major advantage of this index is that the text of the IMF Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) is used to code the intensity of the restrictions. The vast majority of other indexes based on the information available in AREAER indicate only the presence or absence of restrictions, rather than the intensity of the restriction. This index distinguishes between restrictions on inward and outward flows, which is particularly important because the political implications of inward and outward FDI flows are very different. The inward component of this index can serve as a possible measurement of FDI policy. *Capital Account* is available for most countries every five years from 1960-2005. However, this and similar measures (like *Investment Freedom*) include policies on both direct and portfolio investment.[4]

The *OECD Restrictiveness Index* is the final *de jure* measure. Golub (2003) created this measure of FDI restrictions, which includes limitations on foreign ownership, screening and notification procedures and management and operational restrictions. The index was extended by Koyama and Golub (2006) and is available for four years between 1980 and 2000 for developed countries. This index is used in the previous chapter as a measure of formal restrictions at the industry level, thus, I do not discuss it in further detail here. The scores for each sector are weighted by the proportion of FDI inflows into that sector in to create an score of restrictions on FDI for the overall economy. The index has the advantage of looking explicitly at restrictions on FDI and is comprehensive in terms of formal policies examined, but it is limited in coverage.

Table 5.1 provides a summary of these three *de jure* measures. All are coded (or have been recoded) so that higher values represent higher levels of barriers to investment. The

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[4]  Another prominent measure is KAOPEN, developed by Chinn and Ito (2008). This measure includes indicators of multiple exchange rates, restrictions on the current and capital accounts and repatriation of export proceeds. The individual components are not available and consequently, I do not consider it further because it includes policies that are too distinct from foreign direct investment.

**Table 5.1: Summary of *De jure* Measures of Overall Openness to FDI**

| Description of Indexes | | | | | |
|---|---|---|---|---|---|
| | Author | Years | Interval | Range | FDI only? |
| Investment Freedom | Heritage Foundation | 1995-2006 | Yearly | (0, 100) | No |
| Capital Account | Quinn and Toyoda | 1960-2005 | 5 years | (0, 50) | No |
| OECD Restrictiveness | Golub | 1981-2005 | (0, 1) | Interval | Yes |

| Correlation from 1985-2005 | | | |
|---|---|---|---|
| | Investment Freedom | Capital Account | OECD Restrictiveness |
| Investment Freedom | 1.0 (338) | | |
| Capital Account | 0.043 (40) | 1.0 (92) | |
| OECD Restrictiveness | 0.407** (44) | 0.484** $(66)^a$ | 1.0 (88) |

Number of observations in parentheses. $**p < 0.05$.
$^a$ Interpolated because no overlapping observations

correlation among them is weak to moderate. There is positive and significant correlation between *OECD Restrictiveness Index* and both *Investment Freedom* and *Capital Account*, although the correlation between *Investment Freedom* and *Capital Account* is not significant. The lack of overlapping observations is an issue that persists throughout the analysis due to limited availability of other key variables.[5]    A breakdown of each measure by country is available in Table B.1 in Appendix B.

## Stage One: Estimating Foreign Direct Investment Policy

The main alternative to *de jure* measures of formal investment policy is to use a *de facto* measure. *De facto* measures have often been used to study openness to trade and investment flows, especially at the national level. The use of reported flows of goods and capital, often as a percent of GDP, are a prominent example of *de facto* indicators; for instance, foreign direct investment as a percent of GDP is often used as a measure of capital account openness. However, these unadjusted measures are often biased against countries with large internal markets; the United States, for example, has a low ratio of FDI to GDP due in large part to its large size rather than its policy. Price distortions in the exchange rate or interest rate are another possible measure of openness (e.g. Dollar, 1992). However, these measures in particular are susceptible to changes in macroeconomic conditions (Chinn and Ito, 2008). Another approach and one that I build on here, has been to use deviations of actual flows (of trade or investment) from predicted levels. Following the lead of Leamer (1988), Hiscox and Kastner (2008a) and others, I use a gravity-like model of FDI flows to estimate the level of openness (or conversely protection) in the developed countries. Gravity models of trade are among the most empirically successful models in economics (Frankel and Rose, 2002). Estimates obtained from a regression model have an advantage over unadjusted measures of openness to capital, i.e. those based purely on flows or flows as

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[5] Kittel (2006) suggests that this in important problem with many variables of interest in comparative and international political economy even among the OECD countries.

percentage of GDP, because they control for other factors that predict investment like market size and distance. Thus the remaining unexplained portion can be attributed to policy distortions.

Although the gravity model has traditionally been applied to trade flows, recent work in political science and economics has begun to apply them to trade in capital (e.g. Dee and Gali, 2003; Dee, 2006; DiMauro, 2000; Pinto, 2004; Rose and Spiegel, 2002), as well as flows of people. Guiso, Sapienz and Zingales (2009) use gravity model estimations to explain the effects of trust on direct investment flows, while Wei (2000) finds that corruption in the host country decreases inward direct investment. In the most basic form, gravity models posit that the volume of trade or FDI flows between two countries is the function of the size of each and the distance between them. Additional factors like a shared language are included in augmented or enhanced models. After controlling for factors known to affect investment flows, remaining country-specific effects should reflect mainly protectionist barriers (Hiscox and Kastner, 2008*a*). In other words, deviations in actual investment from the expected level of bilateral investment based on market size, distance, etc., result from existing policies. Thus countries that receive more flows than expected must have policies favorable to FDI, while those that received less must have policy barriers to FDI. Therefore I am able to use the gravity model to get estimates of policy-induced distortions in direct investment inflows. Unlike Hiscox and Kastner and others who have used this approach, I take into account the measurement error in my dependent variable that results from the fact that it is estimated when testing my hypotheses.

I estimate a *de facto* measure of FDI policy for 23 developed democracies and 84 source countries from 1985-2006.[6] The unit of analysis is the dyad year, that is, a pair of one host country and one source country. The model is estimated in the log-linear form both to create a linear additive relationship and to normalize the distribution of

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[6] The analysis is limited to this time frame due to the availability of the dependent variable from the OECD. However, this is the period during which the international economic became substantially more integrated and inflows of FDI grew rapidly. Growth of FDI flows really takes off in the 1990s.

data. The dependent variable is direct investment inflows to the host country, $i$, from country the source country, $j$, in year $t$ as a percent of the host county's GDP. Data on bilateral FDI inflows and positions come from the OECD database on International Direct Investment Statistics and are measured in millions of US dollars.[7]      I use directed flows, rather than total bilateral flows between the two countries, because policies shaping inflows and outflows may be very different.

I use an augmented gravity model as my primary regression used to estimate barriers to FDI. Therefore I include indicators that capture distance, relative endowments and other links between countries $i$ and $j$ as the independent variables. As a measure of absolute bilateral country size in year $t$, I add the GDP of the two countries in the pair. Larger markets should both attract and send more investment flows. I also include the absolute difference of the GDP per capita (in thousands of constant US dollars) between each country as a measure of relative endowment. I include a measure of similarity in size, equal to $[1 - (\frac{GDP_i}{POP_i})^2 - (\frac{GDP_j}{POP_j})^2]$, where $POP$ is the population of the country.[8] Distance is measured in kilometers between capitals. This measure as well as indicators for a common official language and shared border are found in Mayer and Zignago (2006).[9]      I also include a dummy variable that indicates whether or not the host and source countries are both members of the EU to account for presumably fewer barriers due to the common market. Frankel and Rose (2002) find that common currencies increase trade because it eliminates transaction costs and exchange rate risk. Finally, I include the difference in the level of democracy as a measure of different institutional environments. Investors may be inclined to invest in host countries with more secure property rights and other institutions.[10]      The country-year fixed effects for the host

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[7] *SourceOECD*, International Direct Investment Statistics, Volume 2008, release 1. One criticism of this type of analysis is the quality of data on FDI can be of poor quality (Pandya, 2007). I use at inflows reported by developed countries, which tend to have higher quality data. For robustness, I also estimate the model using inward investment positions, rather than flows and similar results are obtained.

[8] GDP and GDP per capita downloaded from the *International Financial Statistics* database, while population data comes from the *World Development Indicators*.

[9] Downloaded from `http://www.cepii.fr/anglaisgraph/bdd/distances.htm` on January 1, 2009.

[10] Jensen (2003; 2006) finds that democracies are more attractive as host countries because their

country are represented by $\alpha_{it}$. Equation 5.1 presents the specification of the model used to estimate investment policy:

$$\ln\left(\frac{\text{FDI}_{\text{ijt}}}{\text{GDP}_{\text{it}}}\right) = \alpha_{it} + \beta_1 \ln(\text{GDP}_{\text{it}} + \text{GDP}_{\text{jt}}) + \beta_2 \ln(\text{SimSize}_{\text{ijt}})$$
$$+ \beta_3 \ln(|\text{GDPPC}_{\text{it}} - \text{GDPPC}_{\text{jt}}|) + \beta_4 \ln(\text{Distance}_{\text{ij}}) \qquad (5.1)$$
$$+ \beta_5 \text{Language} + \beta_6 \text{Contiguous} + \beta_7 \text{EU}$$
$$+ \beta_8 \ln(\text{Polity differential}) + \epsilon_{\text{ijt}}$$

Because the relationship of interest here is the relationship between economic and political skill in the context of different electoral institutions, I defer discussion of the methodological challenges of gravity model estimation and robustness to different specifications to Appendix B. Gravity models present several estimation problems; the most prominent among these is the issue of zero-flow observations. Because the dependent variable is logged, observations in which there is no investment from source to host are undefined. The literature addresses this in one of three ways primarily. The first approach is to add an arbitrarily small constant to all zero-flow observations. The logic here is that there are likely to be exactly zero flows, but that they are below the threshold that requires they are reported. The second is to ignore zero-flow observations and the third is to use a model to take into account the fact that there are some directed dyads that are unlikely to ever have FDI flows. The first and third are most common, as to ignore zero-flow observations can create misleading results. Poisson models have also been used to account for the large number of zeros. In this chapter I add a small constant to all zero-flow observations because it is simple and the results are robust to the use of a Tobit or Poisson model, with estimates of investment policy openness correlated at 0.99, as discussed further in Appendix B. Furthermore, the results are robust to a variety of specifications regarding inclusion of different variables.[11]   Consequently, I

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commitments not to expropriate or otherwise change the terms of the investment deal are more credible due to multiple veto players.

[11]  In supplemental models, I use a variety of specifications to explore the robustness of the estimates to the inclusion of different variables and specifications of fixed effects. I take into account demand-side

proceed by using the simplest specification, linear regression with a set of control variables as the basis estimation in the second stage. The estimates of investment protection used in testing my hypotheses are extracted from a gravity model that is estimated using OLS includes source country-year fixed effects for the host (importing country) and panel-corrected standard errors.[12] This is the most common specification, used by Frankel and Rose (2002) for example, as well as others.

Taking the gravity-model as the foundation for estimates of investment policy, there are several possible approaches that can be used to extract measures of policy-distortions from the gravity model. The deviation of observed bilateral flows from predicted is one possible measure.[13] Following Hiscox and Kastner (2008a), I extract the country-year

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factors that may influence the level of investment between two countries. This is important as countries that have very few barriers to FDI may not be places that investors want to invest. Without taking this into consideration, it would appear that a country has more barriers to inward FDI. Inclusion of these additional factors like interest and tax rate differentials, as well as endowment differentials significantly reduce the sample size.

[12] Time-series cross-sectional (TSCS) data present a unique set of challenges as they violate many of the assumptions the OLS model. In particular, heterogeneity of units, as well as the dynamic structure of the data must be taken into consideration As Kittel and Winner (2005), Wilson and Bulter (2007) and others note, results can be sensitive to different specifications of TSCS models. There are a variety of technical specifications used, but little consensus on the correct one (Kittel, 2006, 669). Inappropriate pooling across observations can lead to omitted variable bias. Therefore, I use a fixed-effects specification as Hausman tests indicated that an random-effects model was inappropriate. Wilson and Bulter suggest that for datasets typically used in political science, a fixed-effects model with a lagged dependent variable produces estimates for $\beta$ that are unbiased, although the autoregressive coefficient is likely biased. More complex methods for handling temporal dependence, like instrumental variables or GMM, may not produce better results. The estimates of the model with a lagged dependent variable and without are correlated at no less than 0.85, depending on the specification of fixed effects. Testing assumptions about the structure of the error term, e.g. groupwise heteroskedasticity, and serial and cross-sectional correlation are often overlooked (Kittel and Winner, 2005). This may be in part due to the fact that software to handle temporal dependence in panel data, such as tests for unit roots, is in development, but for the most part is able to handle only balanced panels, which are uncommon. In order to use such methods, one must sacrifice data in order to obtain a rectangular dataset. Tests on a limited sample suggest that non-stationarity is not an issue.

[13] This is the approach used by Leamer (1988) with respect to trade policy. Pinto (2004; 2005) also uses a two-step procedure where the country-year fixed effect, $\alpha_{it}$ are regressed on a variety of time-invariant factors, like domestic institutions. In the first stage, a gravity model is estimated only with the endowments of $j$, the source country (Pinto, 2004, 229). In the second stage, he regresses host country fixed effects, $\alpha_{it}$, on the endowments of the host country. The residuals from this second step are taken as the measure of policy. One problem with this approach is that it ignores the measurement error associated with the extracted country-year fixed effects that serve as the dependent variable in the second stage; the same problem occurs if the residual measures of policy are used in further analysis. Not only can this lead to inefficient estimates, it can be misleading to treat the measure as deterministic when in fact it may be highly variable.

fixed effects $\alpha_{it}$ as a measure of investment policy. Because the intercept is specified for each country-year, the intercept conveys information about how much more or less investment a country receives in a given year compared to the average, all else equal. Initially, the intercepts are expressed in terms of the dependent variable, the logged ratio of inward FDI as a percent of GDP, which is difficult to interpret. I transform the estimates into the percent reduction in FDI due to policy distortions; this is perfectly correlated with the untransformed measure, but is more intuitive.[14] . My dependent variable, *Barriers to FDI*, is then expressed as the percent reduction in FDI inflows to GDP that result from policy barriers. Higher values therefore indicate greater barriers to FDI inflows. One of the main improvements of my analysis is that I take into consideration that this measure is estimated, rather than using the point estimate. I calculate the standard errors of the measure analytically.[15]

Figure 5.1 presents the average level of investment protectionism in each country from 1985 to 2005, with 95 percent confidence intervals. The estimates suggest that countries like the United States are less open to investment than suggested by formal measures of restrictions. Unlike *de jure* measures, the variation between and within countries over time is much greater. This fits in well with qualitative evidence that suggests that receptiveness towards FDI fluctuates, e.g. Japanese and Chinese investment into the United States in the late 1980s and early 2000s respectively. The estimated level of barriers ranges from no reduction to a 20.3 percent reduction in FDI to GDP, with a standard deviation of 3.69 for 434 country-years.

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[14] Initially, the intercepts represent the difference in country $i$ with respect to the mean level of barriers to investment. I restructure by taking the deviation of the intercept of country $i$ at time $t$ from the most open country, $\alpha_{benchmark}$ so that all observations are compared to the most open country. I then divide this difference by the predicted level of FDI as a percent of GDP (logged) for the 'open investment benchmark' country. This predicted value of the dependent variable for the benchmark case, $\hat{y}_{benchmark}$, is calculated when all independent variables are set at their sample means and the intercept is the maximum intercept (Hiscox and Kastner, 2008$a$, 16). The transformation used is: % Reduction in FDI$_{it}$ = $(\hat{\alpha}_{benchmark} - \hat{\alpha}_{it})/\hat{y}_{benchmark}$

[15] As a reminder, the percent reduction in the ratio of FDI to GDP was calculated as: $\alpha_{max} - \alpha_{it}$, where $\alpha$ represents the predicted level of logged FDI to GDP from equation 1. Thus the formula used to calculate the standard error, $\omega_i^2 t$, is: $s_{max}^2 + s_{it}^2 - 2cov(\alpha_{max}\alpha_{it})$.
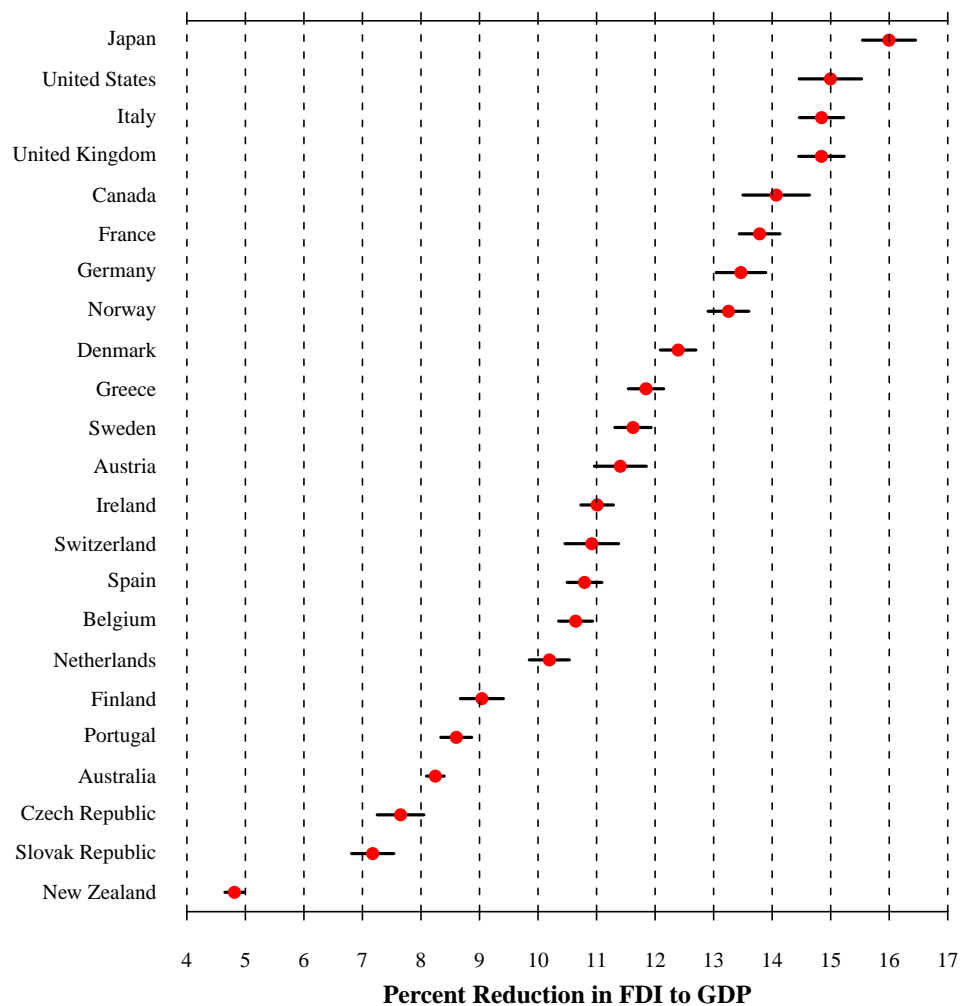
Figure 5.1: Average Level of Investment Protectionism, 1985-2005

**Table 5.2: Comparison of *De jure* and *De facto* Policy Measures**

| Correlation with estimated *Barriers to Investment* | | |
|---|---|---|
| Investment Freedom | -0.401** | 244 |
| Capital Account | -0.273** | 73 |
| OECD Restrictiveness | -0.068 | 75 |

**$p < 0.05$.

Table 5.1 and Figure 5.2 compare the estimated measure of barriers to FDI to the *de facto* measures discussed above. *Barriers to Investment* is negatively correlated with both *Investment Freedom* and *Capital Account.* This suggests that formal restrictions on investment flows have been replaced with more informal, or opaque barriers. The lack of correlation with the *OECD Restrictiveness Index* suggests that they are measuring different types of policies.
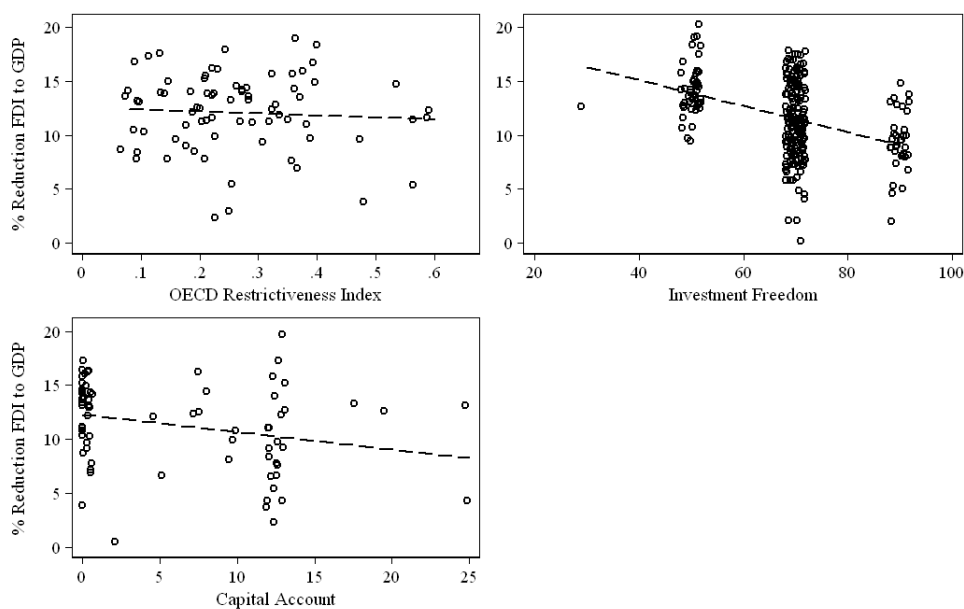


Figure 5.2: Correlation of *de facto* measure with *de jure* measures

## Stage Two Explanatory Variables and Model Specification

In the remainder of this chapter, I empirically test my hypotheses using the *de facto* measure of investment policy discussed above. In this section, I discuss the explanatory variables of interest: economic skill, political skill and domestic institutions. In Chapter 3, I argue that economic skill and political skill interact to produce variation in the level of barriers to investment among industries. However, we cannot simply aggregate

these variables from the industry-level to produce national-level measures of economic and political skill. Rather, we are looking at broader trends within the country. After discussing the independent variables, I present the model specification The overall sample includes 23 developed democracies; although the *de facto* measure is available from 1985-2006, the sample size depends on more limited availability of explanatory variables.

The economic skill level of a country's labor force is the first key explanatory variable. As the primary measure of economic skill, I use the percent of the labor force with a higher education. It is available from the *World Development Indicators* from 1990 onward.[16] I expect that, *ceteris paribus*, as economic skill of the labor force increases, barriers to FDI decreases because skilled labor benefits from inward direct investment. Economically unskilled labor is hurt by inflows of FDI as it increases demand for skilled labor. However, economic skill alone cannot explain the level of FDI protection. Again, the effect of economic skill is contingent upon political skill. Political skills magnify the effect of economic skill; in other words, if the labor force is largely economically unskilled, barriers to investment will be higher when labor is politically skilled than when it is not.

I use two measures of political skill at the national level. Rather than look at the political skills of a particular group, I am interested in whether a country's population is more informed or more politically active. A country has more political skills when its voters are more informed. Through voters, this information, or misinformation, has the potential to that shape the openness of a nation to FDI. The availability of information through TV, news and the internet are important channels that determine the level of investment protection through its effect on informing voters. As the cases discussed in Chapter 4 suggest, economic actors have successfully been able to bring FDI deals into

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[16] An alternative measure, average years of schooling, is available from Barro and Lee over a longer period, but only every five years. Thus the percent of the labor force with a higher education is preferable both because it is more closely linked with the theory, but also because to use the alternative is to introduce more uncertainty through interpolation of missing values.

the spotlight, thus creating barriers to FDI. Therefore, I include the daily circulation of the newspaper (per 1,000 people). Newspaper circulation data is available from the *World Development Indicators*.[17]

Organizational capacity or the ability to overcome the collective action problem is another key political skill. I use the level of unionization in a country as another measure for political skill. Unionization is measured as the percent of the labor force that is unionized. As the level of unionization increases, I expect that barriers to FDI will increase as well. This data is available from *Source:OECD*. Table 5.3 presents descriptive statistics for the key variables for observations in the model and also presents the correlation between them. The correlation between economic skill and unionization is not significant, unlike in the US case from the previous chapter, thus allowing us to gain more leverage on the relationship between the two as we can explore combinations of high and low levels in each. The core of my theory at the industry-level suggests that economic skill alone cannot explain variation to barriers in protection. In order to test this hypothesis for the overall level of openness to FDI, I interact economic skill with both measures of political skill and center all components of the interaction term.

**Table 5.3: Description of Key Explanatory Variables**

| Variable | Mean | Std. Dev. | Minimum | Maximum |
|---|---|---|---|---|
| % Labor force with higher education | 26.5 | 11.1 | 7.5 | 59.9 |
| % Labor force union member | 33.3 | 20.2 | 8.0 | 82.7 |
| Newspaper circulation | 2725.0 | 1327.9 | 633 | 5930 |

Based on countries in sample

| Correlation | | | |
|---|---|---|---|
| | Economic Skill | Unionization | Newspaper Circ. |
| Economic Skill | 1.0 | | |
| Unionization | -0.030 | 1.0 | |
| Newspaper Circulation | 0.120* | 0.407** | 1.0 |

**$p < 0.05$, *$p < 0.10$.

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[17] One possibility is that the importance of newspapers declines with increasing use of the internet. Including the number of internet users does not change the results and is not significant.

Domestic institutional context is the final key explanatory variable. The political process takes place within the context of domestic institutions and electoral rule shapes the incentives of actors. I include a dummy variable for proportional representation to capture important differences in domestic institutional context. This data is available from Beck, Clarke, Groff, Keefer and Walsh (2001). I expect that countries with PR systems will be less protectionist because there are fewer incentives for politicians to cater to special interests.

Finally I include several control variables that could affect the level of investment protection. I include the unemployment rate, but am agnostic about the effect. On the one hand, if the economy is not doing well, a country is not able to be as selective about investment. On the other, high levels of unemployment can create negative feelings toward for investors; the wave of investments in the United States by Japan in the 1980s and China in the early 2000s led to claims of foreigners 'buying up America at 'fireside prices.'. Unemployment data are taken from *Source:OECD*. I also include a dummy variable for left party government. Both Pandya (2007) and Pinto (2004) argue that countries with Left party governments will have fewer restrictions on investment.[18] Finally, following Pinto (2005), I control for several factors, including the lagged values of openness to trade, growth in GDP per capita and the government share of real GDP from the Penn World Tables (Heston, Summers and Aten, 2006). In particular, I expect that countries in which the government share of GDP is higher will have lower barriers to investment as a result of greater social insurance programs.[19] This produces the baseline model presented below in Equation 5.2:

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_1 x_2 + \beta_5 x_1 x_3$$
$$+ \beta_6 \text{Proportional representation} + \beta_7 \text{Left} \tag{5.2}$$
$$+ \beta_{8...12} \text{Economic controls} + \epsilon_{\text{it}}$$

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[18] *Database of Political Institutions* (Beck et al., 2001)

[19] Recent findings on the effects of globalization in different types of economies (e.g. Hays, 2009), is that there are lower demands for protection in countries with greater social safety nets.

where:
$$y = \text{Barriers to FDI}$$

$$x_1 = \% \text{ Labor with higher education}$$

$$x_2 = \text{Union density}$$

$$x_3 = \text{Newspaper circulation}$$

# Effect of Electoral Rule on Policy: Methods and Results

In this section, I test Hypothesis 3, which argues that proportional representation systems will have lower barriers to FDI than majoritarian systems. In the next section, I test hypothesis 4, that the effect of political skills will be smaller in PR systems by splitting the sample into PR and non-PR countries. Although estimated dependent variables are not uncommon in political science research, often the additional sampling error that is carried into the second regression is ignored. Thus before presenting the results, I discuss how feasible generalized can be used to take this extra uncertainty into account.

### Estimated Dependent Variable Regression

Estimated dependent variable regression is typically the second stage regression in a two-step process where in the first stage, observed data are used to generate estimates of the dependent variable. The estimated dependent variable is then regressed on variables of interest in a second regression. Often, scholars using estimated dependent variables will ignore the additional uncertainty resulting from the fact that the dependent variable is estimated (e.g. Leamer, 1988; Hiscox and Kastner, 2008*b*; Pinto, 2004). An estimated dependent variable does not necessarily cause any problem for ordinary least squares inferences, aside from a loss in efficiency due to the fact that the variable is estimated. However, if the sampling error in the dependent variable is not constant across observations, regression errors will be heteroskedastic at the very least. Under these conditions, ordinary least squares (OLS) regression may produce estimates of standards errors that

are inefficient and inconsistent (Lewis and Linzer, 2005). Weighted least squares (WLS) is a common method used when the dependent variable is estimated. However, Lewis and Linzer show that the cure can be worse than the disease, as under certain conditions, weighted least squares can produce estimates of the standard error that are biased downward.[20]

The residual of the second regression, that is, the analysis of the predictors of barriers to FDI, can be broken into two components: sampling error on the dependent variable, $\omega^2$, as well the unexplained variation from the regression $\sigma^2$. The sampling error on the dependent variable, $\omega^2$, is known as it was calculated analytically using information for the first regression. Weighted least squares, in the case of estimated dependent variables, typically refits the regression based on the inverse of sampling variance of the dependent variable, $(1/\omega^2)$, alone. This is akin to assuming that unexplained variation from the regression is equal to zero, that is, all error is attributed to heteroskedastic sampling error and none to homoskedastic noise (Lewis and Linzer, 2005, 350). Ideally, we want to refit the regression based on the total error: $1/(\omega^2 + \sigma^2)$, as it is unlikely to be the case that there is no error in the regression above and beyond the sampling error. Through Monte Carlo simulations, Lewis and Linzer show that unless the proportion of unexplained variance due to the sampling error of the dependent variable is very high, weighted least squares will not produce more efficient estimates than OLS. When this proportion is low, weighted least squares will overcorrect, producing smaller standard errors and possibly misleading inferences. Lewis and Linzer (2005) argue that feasible generalized least squares (FGLS) is better than, and at least no worse than OLS in this instance.[21]     Finally, analysis of time-series cross-sectional data must confront several

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[20]   Lewis and Linzer (2005) show that a hierarchal model, which combines estimation of the first and second stage, is unlikely to produce large efficiency gains over feasible generalized least squares in situations, like this one, where information about the bottom level is known (348).

[21]   Estimated in R based on code provided by Lewis and Linzer at `http://userwww.service.emory.edu/~dlinzer/research.html`. The regression is estimated without weights to generate estimates of the error terms; this variance is added to the sampling error to create the correct weights and the model is refitted.

challenges as discussed in the previous chapter.[22]

## Results: Test of Hypotheses 1, 2 and 3

The dependent variable is the level of barriers to investment at the national level. The measure of the dependent variable is the percent reduction in the ratio of FDI inflows to GDP due to unobserved policies in the host country, $i$, in year $t$. Because higher percentages on the dependent variable represent greater barriers to FDI, positive (negative) coefficients suggest than an increase in the independent variable leads to an increase (decrease) in the level of barriers to FDI. Table 5.3 presents the regression results. I briefly discuss the results of the unconditional model before moving on to the main results.

Model 1 presents the results of the unconditional regression model. Hypothesis 1 proposes that economic skill alone will be unable to explain variation in barriers to FDI. Thus, in Model 1 I include economic skill and both measures of political skill without interacting them. As hypothesized, economic skill is not statistically significant. Similarly, neither measure of political skill is significant. This is consistent with my theory, because political skill influences the success of actors at achieving the their desired policy, but without knowledge of the preferences of the electorate, which are based primarily on economic skill, there is no reason to expect that it should influence foreign direct investment policy. However, Hypothesis 3, that PR systems will have lower levels of barriers to investment is supported in Model 1.

Because I expect that the effect of economic skill is contingent upon the level of political skill, I include interaction terms between two as specified in Equation 5.2. I estimate the model using ordinary, weighted and feasible generalized least squares in Models 2, 3 and 4. Lewis and Linzer (2005) suggest that when the ratio of the variance due to sampling error to the unexplained variation in the regression is very small, as

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[22] Especially when using economic variables, non-stationarity of data can be a problem. Using a panel unit root test on a more limited (balanced) sample, I am able to reject the possibility of a unit root.

it is in this case, weighted least squares is not appropriate.[23]    It is unlikely to be as reliable as ordinary least squares or feasible generalized least squares. This is born out when comparing the standard errors from the three different technical specifications of the conditional model. The standard errors of the weighted least squares model are significantly smaller than those from models 2 and 4. This produces significantly smaller estimates of the standard errors, and subsequently, greater test statistics. Several variables that are significant in Model 3 are not significant in the other models. This suggests that either ordinary least squares or feasible generalized squares is more appropriate. Indeed, the standard errors produced by these two procedures differ only slightly (beyond three significant digits). I proceed by interpreting the results from Model 4, because although FGLS does not produce different estimates than OLS, it is more appropriate theoretically given that the dependent variable is estimated.

As in the industry-level analysis in the previous chapter, I find that economic skill alone cannot explain variation in barriers to FDI. Because economic skill is interacted with two measures of political skill in Model 4, the coefficient on percent of labor force with higher education (centered) can only tell us about the effect of that variable when both centered measures of political skill are held at their means. When the level of unionization and newspaper circulation are held at their means, percent labor force with higher education does not have a significant effect on level of barriers, as evidenced by the lack of statistical significance.

However, there is an interactive relationship between economic skill and both measures of political skill. The effect of economic skill on the level of barriers to investment is decreasing as a function of unionization. The interaction term is negative and significant. Interpreting the effects of an interaction between two continuous variables is often

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[23] Following Lewis and Linzer (2005), if all of the regression error could be attributed to sampling error, then we would expect an approximate $R^2$ of 0.997, where $R^2 = 1 - (\bar{\omega}^2/S_y)$. Given that the actual $R^2$ is 0.462, less than one percent of the remaining 54 percent of unexplained regression error can be explained by sampling error.

**Table 5.4: Analysis of De facto Barriers to FDI**

|  | Model 1<br>FGLS | Model 2<br>WLS | Model 3<br>OLS | Model 4<br>FGLS |
|---|---|---|---|---|
| % Labor force with higher education | -0.108 | -0.053 | -0.135** | -0.054 |
|  | (0.068) | (0.048) | (0.025) | (0.048) |
| Union density | 0.021 | 0.036 | 0.097** | 0.036 |
|  | (0.033) | (0.027) | (0.041) | (0.027) |
| Newspaper circulation | 0.0004 | 0.0003 | 0.0003 | 0.0003 |
|  | (0.0005) | (0.0004) | (0.0005) | (0.0004) |
| Proportional representation | -3.791** | -5.816** | -8.927** | -5.819** |
|  | (1.560) | (1.548) | (1.530) | (1.548) |
| Unemployment | 0.031 | 0.103 | 0.020 | 0.103 |
|  | (0.121) | (0.107) | (0.202) | (0.107) |
| Left government | -1.132 | -0.070 | 1.521* | -0.069 |
|  | (0.663) | (0.715) | (0.766) | (0.715) |
| Openness | -0.024 | 0.006 | 0.015 | 0.006 |
|  | (0.014) | (0.013) | (0.032) | (0.013) |
| Government share of GDP | -0.227 | -0.363** | -0.934*** | -0.363** |
|  | (0.144) | (0.137) | (0.225) | (0.137) |
| Growth GDP per capita | 0.095 | 0.026 | 0.212* | 0.026 |
|  | (0.188) | (0.134) | (0.110) | (0.133) |
| Education*Union density |  | -0.005** | -0.005 | -0.005** |
|  |  | (0.002) | (0.007) | (0.002) |
| Education*Newspaper |  | 0.0002** | 0.0003** | 0.0002** |
|  |  | (0.00003) | (0.00007) | (0.00003) |
| Constant | 20.67 | 21.503 | 32.159 | 21.509 |
|  | (2.654) | (2.432) | (5.737) | (2.432) |
| Adjusted $R^2$ | 0.312 | 0.433 | 0.892 | 0.433 |
| N | 216 | 216 | 216 | 216 |

** $p<0.05$, * $p<0.1$. PCSEs in parentheses.

easier to do graphically. In Figure 5.3, the effect of economic skill conditional on political skill is presented with 90 percent confidence intervals. Panel A presents the effect of economic skill contingent on the level of unionization. At high levels of unionization (one standard deviation above the mean), there is a negative relationship between barriers to investment and the percent of the labor force with higher education; an increase in economic skill has a negative effect on the level of barriers to FDI. A one percent increase in the percent of the labor force that is economically skilled decreases barriers to investment by 0.158 percent. This is substantively significant when we consider that the ratio of inward FDI to GDP typically is quite low. These findings are consistent with the theory; because more economically skilled labor benefit from inflows of FDI, I expect that when workers are politically skilled, as economic skill increases, barriers to investment will decrease. In other words, at high levels of unionization and low levels of economic skill, we should and do see more barriers to investment and that barriers decrease as economic skill rises. At low levels of unionization, a change in economic skill does not have a strong effect on the level of barriers to investment; a one percent increase in the percent of the labor force that has a higher education leads to a 0.05 percent increase in barriers to investment. This support Hypothesis 2, because at low levels of political skill, the level of economic skill does not affect barriers to investment because labor is unable to advocate its interests to politicians.

It is also useful to look the effect of political skill at different levels of economic skills. As expected, at low levels of economic skill, there is a significant difference in the level of barriers to investment depending on whether unionization is high or low (one standard deviation above or below the mean) as shown in Panel A. When unionization is high and the percent of the labor force with a higher education is low, barriers to investment will be higher than if unionization is low. At higher levels of economic skill, the effect of political skill is not statistically significant. The effect of a change in one standard deviation around the mean for unionization and newspaper circulation are presented in Table 5.5 for different levels of economic skill. At low levels of economic skill, increases in
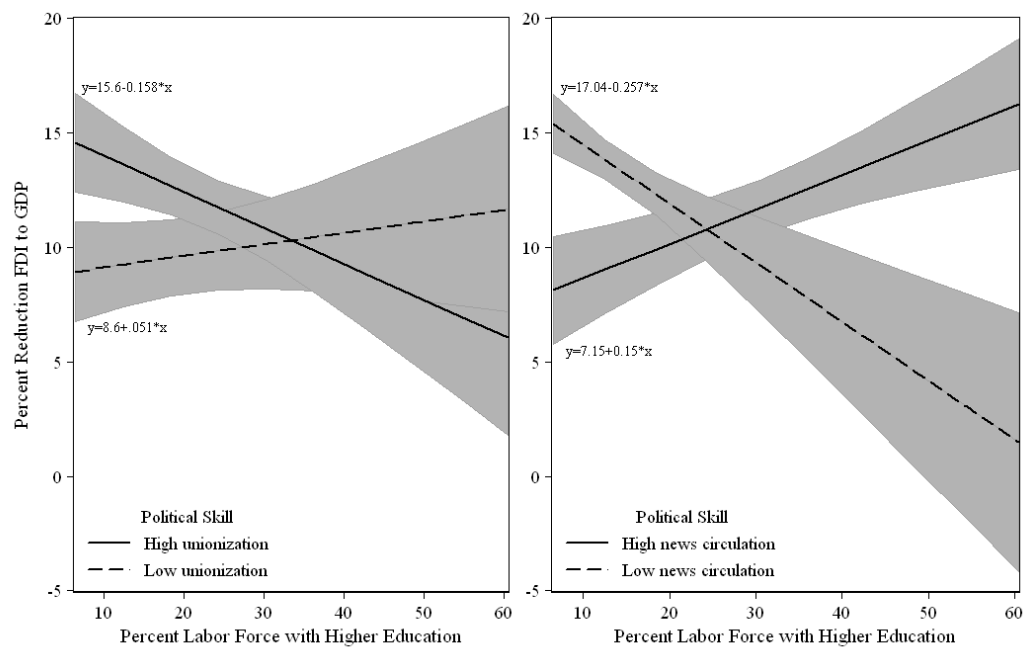
Figure 5.3: Effect of Economic Skill Conditional on Political Skill
Shaded areas represent 90% confidence intervals. High and low are one std. dev. above and below the mean.

unionization lead to greater protection as expected. At low levels of the percent of labor force with higher education (one standard deviation below the mean), a one standard deviation increase in unionization leads to a nearly 2 percent reduction in inflows FDI to GDP. Greater levels of political skill enable unskilled workers to successfully advocate for protection from FDI inflows. Moreover, it is substantively significant, given that the dependent variable, percent reduction in FDI to GDP ranges from 0 to 20.

**Table 5.5: Effect of Political Skills on National Barriers to FDI**

| Economic Skill | Δ Unionization | Δ Newspaper circulation |
|---|---|---|
| Low | 1.891<br>[0.472, 3.31] | -1.817<br>[-2.87, -0.766] |
| Mean | 0.731<br>[-0.163, 1.63] | 0.447<br>[-0.498, 1.39] |
| High | -0.428<br>[-1.85, 0.995] | 2.71<br>[1.18, 4.25] |

95% confidence intervals in parentheses. Change in political skills is one standard deviation. Levels of economic skill represent one standard deviation above and below the mean.

The effect of economic skill conditional on newspaper circulation is less intuitive. At higher levels of newspaper circulation, as economic skill increases, so do predicted barriers to FDI. This is opposite of the effect that we would expect if newspaper circulation is a good measure of political skill. At low levels of newspaper circulation, barriers to FDI decrease as economic skill increases. At low levels of newspaper circulation, it could be the case that barriers to investment decrease as economic skill level increase if it is true that more economically skilled workers are, all else equal, more informed about foreign direct investment as a result of their education. Thus low levels of newspaper circulation benefit economically skilled workers because they have more political skills relative to economically unskilled workers. This would not explain the effect of economic skill at high levels of newspaper circulation however. This suggests that perhaps newspaper circulation is not a good proxy for information as a political skill. Indeed, the connection between the theoretical concept of information and the operationalization of the

concept in newspaper circulation is not a clear as the connection between the concept of organizational skill and unionization. I return to this issue in the chapter summary.

Finally, Hypothesis 3, which suggests that proportional systems will have lower barriers to FDI than majoritarian ones, is supported by the findings in Model 4. Policies in majoritarian systems lower inflows of FDI to GDP by 5.81 percent relative to PR systems, all else equal. This is a substantially important effect as barriers to investment range from 0 to approximately 20 percent.

## Results: Effect of Political Skill Conditional on Institutions

In this section, I examine whether the effect of political skills varies by type of electoral system. While I find that PR systems have lower barriers to investment overall, Hypothesis 4 suggests one mechanism through which this may occur. I hypothesize that because PR systems offer more incentives for politicians to cater to broad interests, political skills that typically benefit narrow interests, like interest groups, will be less effective in PR systems. As a result, they should have a smaller effect on predicted barriers to investment. In order to test this hypothesis, I split the sample into PR and non-PR countries. This is necessary to study whether effect of economic skill conditional on political skill varies by electoral system.[24]

The results of the feasible generalized least squares regression for PR and non-PR countries are presented in Table 5.6. Both models are estimated with country-fixed effects (not shown) and standard errors corrected for heteroskedasticity in panels.[25] It is important to note that the sample size for non-PR countries in particular is small. Because the variables are centered, the coefficients on economic skill, unionization and newspaper circulation represent the effect of an increase in each when the others are at

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[24] Another possible approach is a three-way interaction. A three-way interaction suggests that the interaction between two variables, x and z, vary across the levels of a third variable, w. However, interpretation the effects of each variable is complicated and not intuitive. Furthermore, in this case, ANOVA analysis may be more appropriate than regression.

[25] These are the most conservative estimates. Lagged dependent variables were not significant in either model, nor were time-fixed effects.

**Table 5.6: Analysis of Effectiveness of Political Skill by Electoral System**

|  | Model 5 | Model 6 |
|---|---|---|
|  | PR | Non-PR |
| % Labor force with higher education | -0.116** | -0.673** |
|  | (0.043) | (0.152) |
| Union density | -0.165 | -1.188 |
|  | (0.225) | (0.538) |
| Newspaper circulation | 0.0002 | -0.011** |
|  | (0.001) | (0.002) |
| Unemployment | -0.129 | 0.489 |
|  | (0.141) | (0.730) |
| Left government | -0.269 | 0.636 |
|  | (0.633) | (0.326) |
| Openness | -0.073 | -0.066 |
|  | (0.076) | (0.091) |
| Government share of GDP | 0.111 | -0.259 |
|  | (0.518) | (0.925) |
| Growth GDP per capita | 0.148 | -0.088 |
|  | (0.106) | (0.196) |
| Education*Union density | -0.002 | -0.080* |
|  | (0.004) | (0.015) |
| Education*Newspaper | 0.0001** | 0.00002 |
|  | (0.00005) | (0.0001) |
| Adjusted $R^2$ | 0.666 | 0.513 |
| N | 170 | 46 |

** $p<0.05$, * $p<0.1$. PCSEs in parentheses. Country fixed effects not shown

their means. Figure 5.4 presents the effect of economic skill on the level of protection graphically.

Model 5 presents the results for PR countries.[26]    Unlike in the above model, economic skill does have a significant direct effect on predicted barriers to FDI when political skills are held at their mean. As the percent of the labor force that is economically skilled increases, policy barriers to FDI decrease; a one percent increase in the percent of the labor force with higher education leads to a 0.116 percent increase in FDI to GDP flows. This effect is mediated by the level of newspaper circulation as indicated by the significant interaction term; I again find that at high levels of newspaper circulation, an increase in economic skill leads to an increase in barriers to investment.[27] This trend can be seen in Panel A of Figure 5.4, which presents the predicted level of barriers to investment for high and low (one standard deviation above/below the mean) levels of political skill, with 90 percent confidence intervals. However, for a given level of economic skill, the effect of a change in newspaper circulation from low to high is not significant. Unionization does not have a significant effect on the level of barriers to investment in PR countries independently or through an interaction with economic skills as shown in Figure 5.4. This is consistent with Hypothesis 4: political skills, like unionization and newspaper skills, are less likely to shape how economic skill affects barriers to investment in PR countries.

Model 6 presents the results for non-PR countries, that is those countries that use a first-past-the-post or plurality electoral rule.[28]    I expect that majoritarian countries will have more barriers to investment, as demonstrated in Model 4 above, and that furthermore, the effect of political skills will be greater than in PR systems. As in the sample of PR countries, economic skill has a negative and significant effect on barriers

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[26]  Australia, Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden and Switzerland.

[27]  $\delta_y/\delta_{econ} = -0.116 + 0.0001 * news$

[28]  Canada, France, United Kingdom and United States. The French case is a bit different, in that elected officials must receive an absolute majority of votes, rather than a plurality, in order to avoid a run-off.
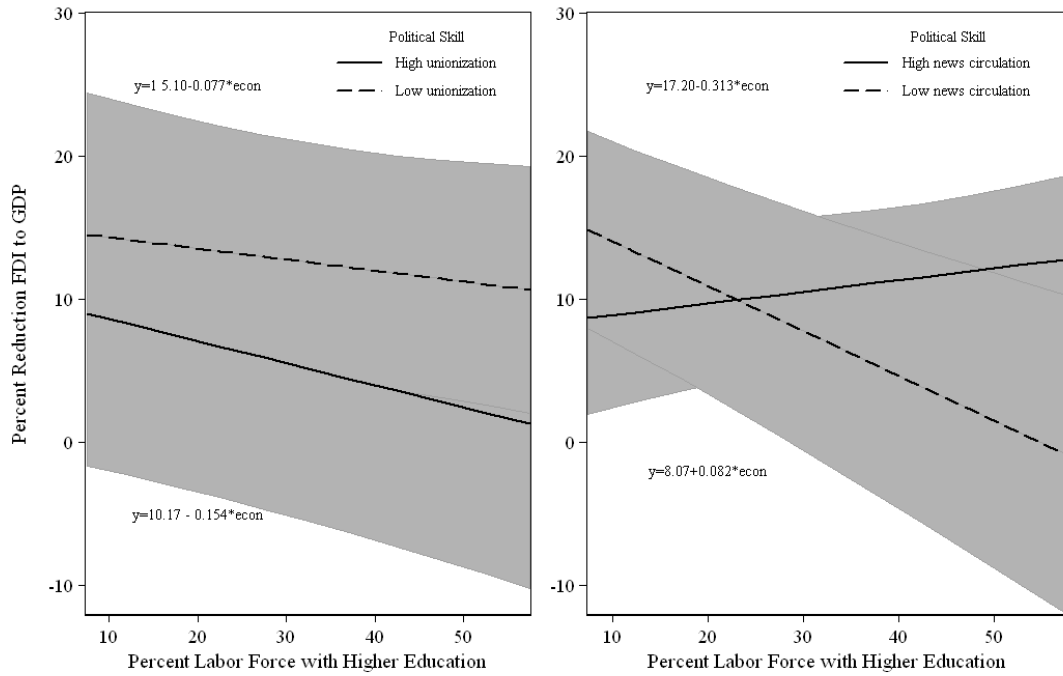
(a) PR
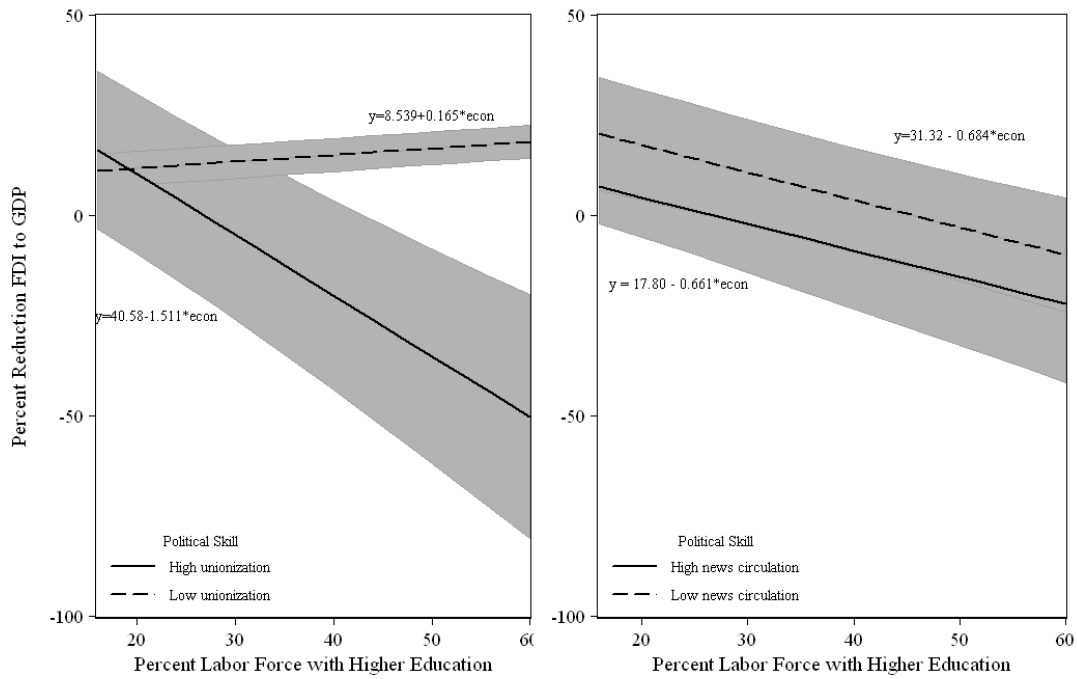


(b) Non-PR

Figure 5.4: Effect of Economic Skill Conditional on Political Skill in PR and non-PR Countries

Shaded areas represent 90% confidence intervals. High and low are one std. dev. above and below the mean.

to investment when unionization and newspaper circulation are held at their means. A one percent increase in the percent of the labor force that is economically skilled leads to a 0.673 percent decrease in the ratio of FDI to GDP.

I find support for Hypothesis 4 with respect to both measures of political skill: political skill has a significant effect in majoritarian but not PR countries. Panel B of Figure 5.4 presents the effects of economic skill for different levels of political skill. Although unionization is not significant at mean levels of economic skill, the interaction between economic skill and unionization is negative and significant. At high levels of unionization, an increase in economic skill leads to a decrease in barriers to investment. This is consistent with the argument that economically unskilled workers will prefer more barriers and economically skilled workers prefer less; when the labor force is more skilled, they are more likely to see favorable policy outcomes. At levels of economic skill above the mean level, an increase in unionization from one standard deviation below to one standard deviation above the mean has a significant, negative effect on the level of barriers to FDI. At low levels of unionization, the percent of the labor force with a higher educations does not have a large effect on predicted barriers to investment.

Although the interaction between economic skill and newspaper circulation is not significant, newspaper circulation, at the mean level of economic skill, has a negative and significant effect on barriers to investment. An increase in newspaper circulation of 100 papers per 1000 people decreases the percent reduction in FDI to GDP by 1.1 percent. This suggests that as the population becomes more informed, barriers to investment decrease, for a given level of economic skill. The effect does not vary significantly by level of economic skill as shown in Figure 5.4. Overall the results provide modest support for Hypothesis 4. The effect of political skills is more important in majoritarian countries than PR countries as evidenced by the fact that unionization has a significant effect in the former and not the latter. However, in PR countries, the effect of newspaper circulation varies by economic skill, while in non-PR countries it has a direct effect on barriers to FDI. In both cases, the effect of newspaper circulation are not in the direction

posited by the theory.

## Summary

In this chapter, I extend my theory about the effect of economic skill on barriers to FDI conditional on political skill and test it at the national level. The findings are consistent with those from the industry-level analysis of the United States in the previous chapter. At the national level, economic skill alone cannot explain variation in FDI policy; it is necessary to take into account the fact that political skills shape the relationship between economic skill and investment policy outcomes. I incorporate the role of domestic institutional context and find that, as expected, PR countries have lower overall barriers to FDI than majoritarian countries. I further hypothesize that the effects of political skills will be smaller in PR countries than majoritarian ones. By splitting the sample into PR and non-PR countries, I examine whether the interaction of economic and political skill differs under different domestic institutions. I find limited support for the hypothesis that political skills play a more important role in majoritarian countries than PR ones. The most clear indication of this is that at high levels of unionization, predicted barriers to investment decrease as the level of economic skill increases in non-PR countries and unionization has no effect in PR countries.

The effects of newspaper circulation suggest that more precise measures of political skill are needed. At the national level in particular it is difficult to conceptualize of political skills and the effects on national levels of investment protection. For instance, the expected effect of voter turnout is not clear, because it is impossible to tell if economically skilled or unskilled workers are voting in larger numbers. A possible future avenue to address this would be to use data from cross-national surveys to aggregate from individual level data, in a similar fashion to Busch and Reinhardt (2000).

Finally, there several refinements in terms of method and data that would further demonstrate the robustness of my results. First, further analysis of the robustness of the

results to alternative measures of the dependent variable would be useful. Analysis of the *de jure* measures discussed is difficult to a lack of overlap between key explanatory variables and measures of the dependent variable. In particular, variation in the *de facto* measures is very small from 1995 on, which is the period for which the independent variables are available. The estimated measure of barriers to investment is robust to many alternative specifications of the gravity model, but future research will examine whether this is true for different means of extracting the dependent variable, for instance to deviations of actual flows from predicted. Second, exploration of more robust time series cross section methods for unbalanced panels is very important. However, I do not expect that the results will change when both of these steps are taken. Results from preliminary analysis in this vein are supportive of the main findings.

# Chapter 6

# Conclusions

Although developed democracies are generally open to foreign direct investment, barriers to FDI vary within and between countries. Existing theories of trade and investment cannot explain this variation as they tend to argue that distributional consequences of inflows produce policy outcomes. The losers are assumed to be more politically powerful because the costs are typically more concentrated than benefits. In contrast, I argue that the distribution of barriers to FDI can be explained only by examining the combination of economic and political skills; the distribution of costs and benefits alone is not sufficient to explain this variation. In other words, not all actors who bear the costs of inward direct investment are successfully able to protect themselves from it. I build on previous models of policy-making by first adopting a different model of the distributional consequences that highlights differences between economically skilled and unskilled labor. I move the literature forward by introducing the concept of political skills: economic skill does not equate political skill and vice versa. In this way, I look at another step in the causal chain between the preferences of citizens and policy outcomes. While economic skill determine distributional consequences and thus preferences about barriers to FDI, political skills determine which actors are able to influence it. Thus my theory not explains the initial puzzle, that is, variation in barriers to FDI

in developed democracies, but also has implications for policy-making with respect to trade. It furthermore suggests that efforts to compensate losers of globalization should be concentrated on those who are politically skilled in order to continue global economic integration.

## Review of Argument and Key Findings

I propose a theory than enables us to understand why in developed countries, some countries will be more open to investment than others and why governments place barriers on investment in some industries and not others. Whereas previous research on trade and FDI argue that variation in barriers can be explained by the cleavages which result from distributional consequences, I take the argument one step further. For the first time, I argue that among the losers of FDI inflows, only those groups which are politically skilled will be able to achieve the desired level of protection; economic interests alone do not translate automatically into policy outcomes. It is the combination of economic and political skills which explain variation in barriers to investment. I present an original theory of the distributional consequences of FDI in which the interests of economically skilled and unskilled labor are competing; inward direct investment benefits economically skilled labor at the expense of unskilled labor. Thus, barriers to FDI should be highest in industries that both use economically unskilled labor intensively and labor is politically skilled. Finally, I argue the domestic political institutions play a key role in determining the level of openness to direct investment. In proportional representation systems, there are fewer channels of influence for interest groups than in majoritarian systems. As a result, there will be fewer barriers to FDI in proportional representation systems and also a smaller role for political skills than in majoritarian ones.

Empirical tests support this theory of the political economy of foreign direct investment. In an analysis of formal barriers to investment at the industry-level in the United

States, I find that as economically skilled labor become more politically skilled, as measured by unionization, formal barriers to investment increase. Similarly, an increase in lobbying in low economic skill industries leads to an increase in informal barriers to investment. The effects of lobbying and campaign contributions is less consistent with my expectations. This may be due to the fact that these activities are primarily employed by domestic capital, which in high economic sectors has competing interests with economically skilled labor. I expect that the results will more robustly support my theory when this issue is explore more fully, as I discuss in the final section. I extend my theory from the industry to international level to examine the role of domestic electoral rule, in addition to the role of economic and political skills. I again find that economic and political skill interact to produce investment policy outcomes. I find support for my argument that the domestic institutional context influences policy outcomes. As theorized, I find that proportional representation systems have lower overall barriers to FDI than majoritarian countries and, in split samples, that the role of political skills is smaller in the former set of countries.

## Significance and Policy Implications

This dissertation thus provides a detailed account of the domestic politics of foreign direct investment in developed democracies. It is important to understand the dynamics in these countries given the large role they play in the global economy. Developed democracies send and receive the majority of investment flows; thus changes in policy have the potential to ripple throughout the global economy. Indeed, during the period heightened opposition to FDI during 2005-2007, the G-10 and the OECD were careful to make commitments to further openness in an attempt to calm concerns about rising protectionism. Given the close connection between trade and foreign direct investment, a wave of protectionism has the potential to have widespread negative effects on the global economy.

A major contribution of this theory is that it pushes forward existing research on barriers to trade and investment in developed and developing countries. By suggesting that distributional consequences cannot explain variation in policy outcomes, it builds on existing research which stops by looking at the cleavages created by distributional consequences. Although the costs of FDI or trade are more concentrated than the gains, some groups that are hurt by these flows are more politically successful or influential than others.

Finally, this dissertation has implications for further effort to reduce barriers to investment and continued international economic integration. The low correlation between measures of formal and informal barriers to investment suggest that a variety of tools are used to restrict investment. Thus a better understanding of who and why particular governments use one policy over another is necessary to further economic integration. Similarly, that inward direct investment has negative welfare effects for economically unskilled workers suggests that support for continued globalization is not a given. In particular, governments will need to compensate those economically unskilled workers that are politically skilled.

## Broader Research Agenda

The theory and results of this dissertation suggest a variety of avenues for future research. I briefly discuss several theoretical and empirical extensions. First, the theory suggests that a more integrated theory of trade and foreign direct investment is needed. Trade and FDI do not occur independently of each other; indeed, direct investment is often thought to drive trade flows. It is important to explore whether they are substitutes or complements for one another and the implications of this for domestic policy-making. In particular, do economic actors look at trade and direct investment as separate phenomenon or do they advocate for trade and investment policies simultaneously? Second, this dissertation is primarily is primarily a theory of the domestic politics of FDI, yet

there are important international political dynamics. Governments must consider the preferences of the domestic audience, yet they also make policy strategically in response to the policies of other countries. The dynamics of the incentives of governments vis-a-vis other governments with respect to FDI policy are not well understood. In addition to diffusion, there remains a largely unanswered question as to why cooperation on the issue of FDI policy has remained largely informal. Third, a test of the assumptions of the model at the individual level would be promising. Given that previous research focuses on the effects of economic skill on preferences, there are many unanswered questions about the role of political skill at the individual level. Finally, this project has important implications for the firm as a political actor. The dissertation provides a theory of patterns of barriers to investment, but it would be worthwhile to explore why specific deals become controversial. An analysis at the level of individual deals can provide new insight.

The findings also suggest several avenues for further testing of the theory, in particular with respect to the measurement of key variables. The use of *de jure* and *de facto* measures suggests both the difficulty of measuring barriers to investment and also the difficulties in creating a satisfactory measure. An alternative *de jure* measure at the industry-level that is a more direct measure of barriers would be ideal and would increase confidence in the findings. A gravity-model estimation of barriers at the industry-level is one possible measure. This could be done for the US at more at a very detailed level of industry disaggregation using data from the BEA and OECD. Similarly, a collection of more data at the national level in order to directly compare the results of the *de jure* and *de facto* analysis would be ideal. Next, exploring and collecting alternative measures of political skills would be valuable not only in testing and developing the theory proposed in this dissertation, but also others in the literature. Given the importance of political skills to influence-seeking in many areas of policy-making, further consideration of how to operationalize this concept would be useful. Individual level data from cross-national surveys is one possible source of measures of political skill; survey items that

ask about political participation like voting or letter writing can be aggregated to the national level to provide an alternative measure of political skill, by economic skill level. In terms of lobbying and campaign contributions, more data are needed at the national level. Theoretically and empirically, it is difficult to determine whether this type of activity represents the interests of economically skilled or unskilled labor or domestic capital. Further consideration of this issue also would likely help resolve the unintuitive findings in several analyses where interest group activity appeared to reduce barriers to investment in cases where would expect more lobbying to lead to more barriers.

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# Appendix A

# Supplemental Tables for Industry-Level Analysis

## Industry-level Analysis of *De jure* Restrictions

Table A.1: **Regression of Industry-Level Formal Barriers to FDI with Fixed Effects**

| Variable | Model 1 | Model 2 | | Model 3 | Model 4 |
|---|---|---|---|---|---|
| Skilled-unskilled ratio | 0.032 | -1.344 | High skill industry | -0.095 | -0.339 |
| | 0.277 | 0.387 | | 0.168 | 0.061 |
| Unionization | 0.001 | -0.016 | Unionization | 0.002 | 0.001 |
| | 0.002 | 0.005 | | 0.003 | 0.002 |
| Contributions | 0.001 | 0.001 | Contributions | 0.001 | 0.001 |
| | 0.001 | 0.001 | | 0.001 | 0.001 |
| 1986 | -0.003 | 0.125 | 1986 | 0.011 | 0 |
| | 0.036 | 0.053 | | 0.017 | 0.008 |
| 1991 | -0.02 | 0.192 | 1991 | 0.008 | -0.015 |
| | 0.081 | 0.072 | | 0.033 | 0.056 |
| 2000 | -0.286 | -0.01 | 2000 | -0.237 | -0.234 |
| | 0.189 | 0.11 | | 0.143 | 0.149 |
| Skilled-unskilled × Unionization | | -0.059 | High skill × Unionization | | -0.02 |
| | | 0.015 | | | 0.002 |
| Skilled-unskilled × Contributions | | 0.004 | High skill × Contributions | | 0.001 |

Fixed Effects Regression Continued

| Variable | Model 1 | Model 2 | | Model 3 | Model 4 |
|---|---|---|---|---|---|
| | | 0.004 | | | 0.002 |
| Legal | -0.007 | 0.091 | Legal | 0.153 | -0.02 |
| | 0.275 | 0.153 | | 0.199 | 0.089 |
| Telecommunications | 0.25 | 0.49 | Telecommunications | 0.242 | 0.255 |
| | 0.039 | 0.063 | | 0.024 | 0.02 |
| Construction | -0.048 | -0.084 | Construction | -0.011 | -0.037 |
| | 0.079 | 0.078 | | 0.075 | 0.075 |
| Insurance | 0.075 | 0.019 | Insurance | 0.162 | 0.062 |
| | 0.095 | 0.101 | | 0.122 | 0.092 |
| Banking | 0.077 | -0.028 | Banking | 0.14 | 0.049 |
| | 0.085 | 0.097 | | 0.096 | 0.094 |
| Tourism | 0.017 | -0.064 | Tourism | 0.039 | 0.015 |
| | 0.033 | 0.048 | | 0.044 | 0.036 |
| Air transport | 0.595 | 1.039 | Air transport | 0.611 | 0.757 |
| | 0.052 | 0.114 | | 0.043 | 0.018 |
| Maritime transport | 0.447 | 0.62 | Maritime transport | 0.444 | 0.449 |
| | 0.025 | 0.046 | | 0.012 | 0.011 |
| Surface transport | 0.173 | 0.17 | Surface transport | 0.162 | 0.176 |
| | 0.015 | 0.025 | | 0.022 | 0.017 |
| Electricity | 0.314 | 0.648 | Electricity | 0.306 | 0.323 |
| | 0.042 | 0.085 | | 0.026 | 0.02 |
| Manufacturing | -0.047 | 0.011 | Manufacturing | -0.039 | -0.026 |
| | 0.075 | 0.045 | | 0.062 | 0.068 |
| Engineering & accounting | 0 | 0.03 | Engineering & accounting | 0.127 | -0.012 |
| | 0.201 | 0.13 | | 0.16 | 0.082 |
| Constant | 0.116 | -0.294 | Constant | 0.078 | 0.092 |
| | 0.131 | 0.124 | | 0.062 | 0.065 |
| N | 51 | 51 | N | 51 | 51 |
| Adjusted $R^2$ | 0.637 | 0.867 | Adjusted $R^2$ | 0.647 | 0.770 |

$*p < 0.1$, $**p < 0.05$. Clustered standard errors in parentheses

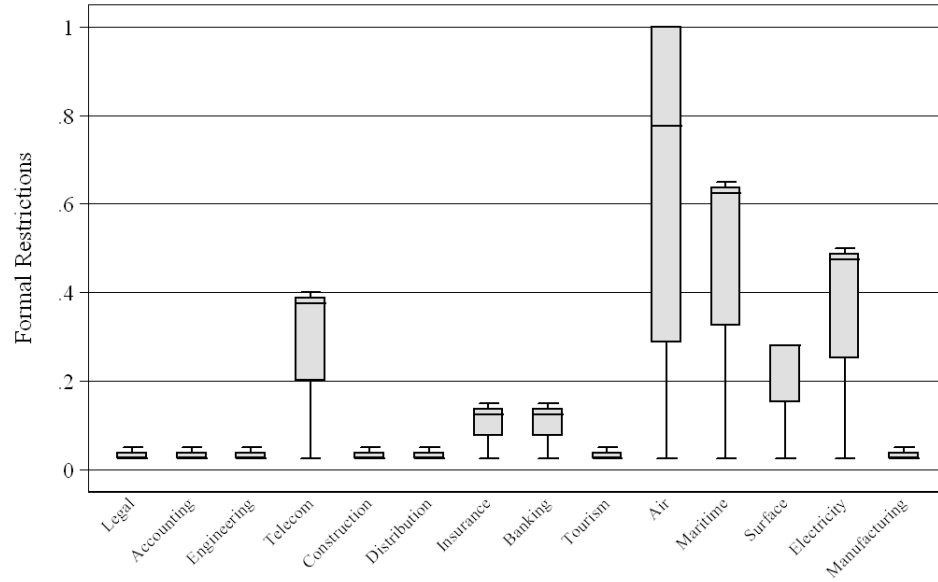## Analysis of *De facto* Measure of Barriers to FDI

Figure A.1: Evaluation of potential influential points for Model 1
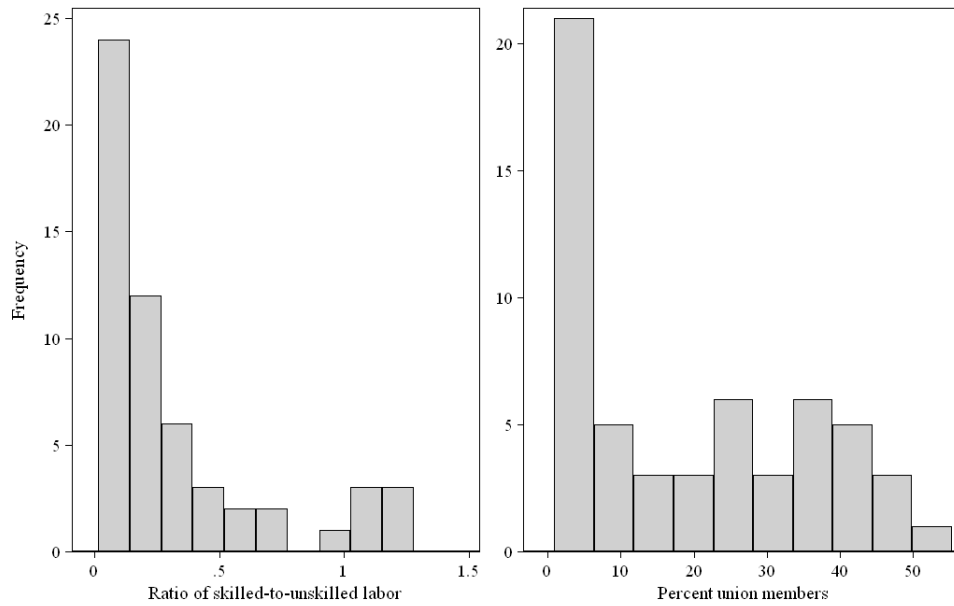


Figure A.2: Distribution of Economic Skill in US
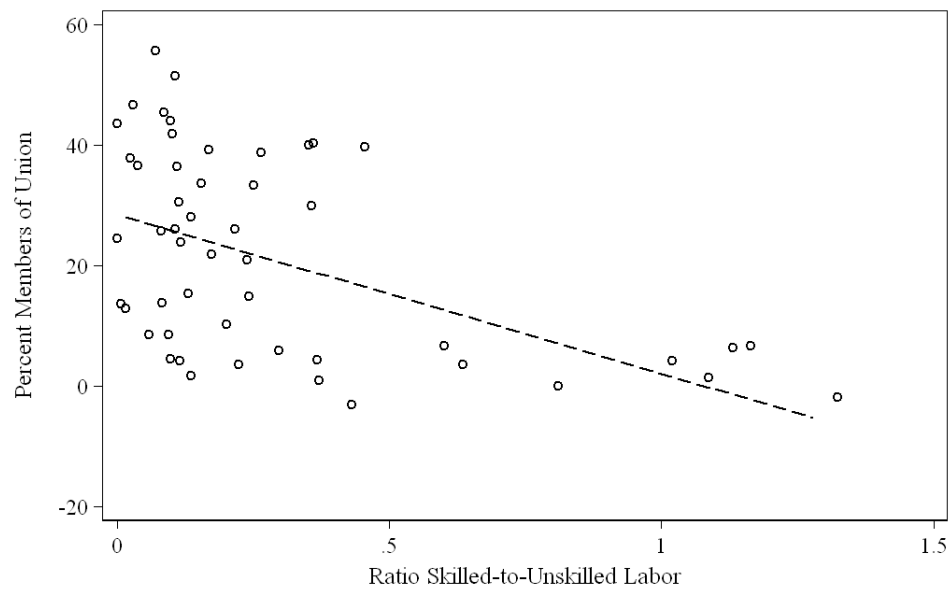
Figure A.3: Correlation between Economic Skill Ratio and Unionization in the US
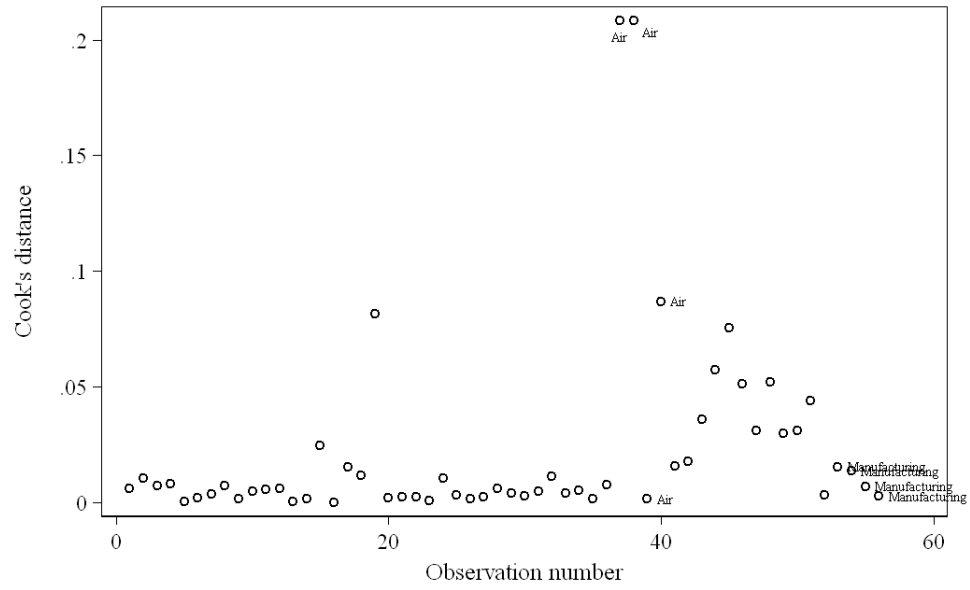
Figure A.4: Evaluation of influential points using Cook's for regression of restrictions on economic skill, unionization, contributions and time dummies.



Figure A.5: The Effect of Campaign Contributions by Economic Skill on Formal Restrictions

Figure A.6: Leverage in Unconditional Regression



Figure A.7: Influential Points in Unconditional Regression Analysis of Informal Industry-Level Barriers

# Appendix B

# Robustness of National Level Estimates

## Formal Restrictions on Investment at National-Level

Table B.1: **Summary of Formal Measures of Investment Policy**

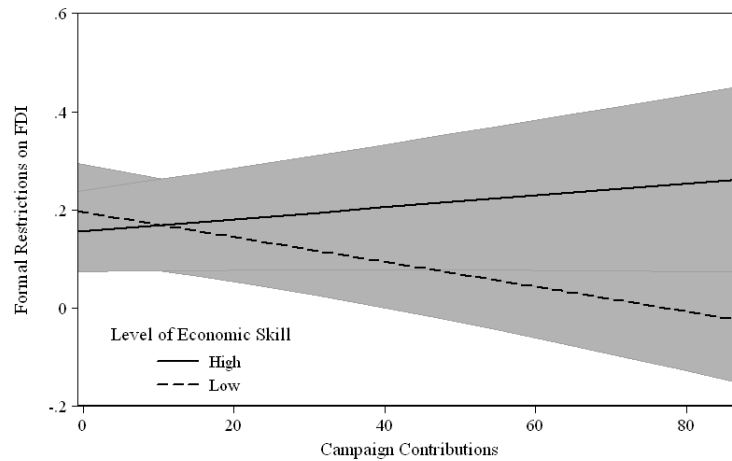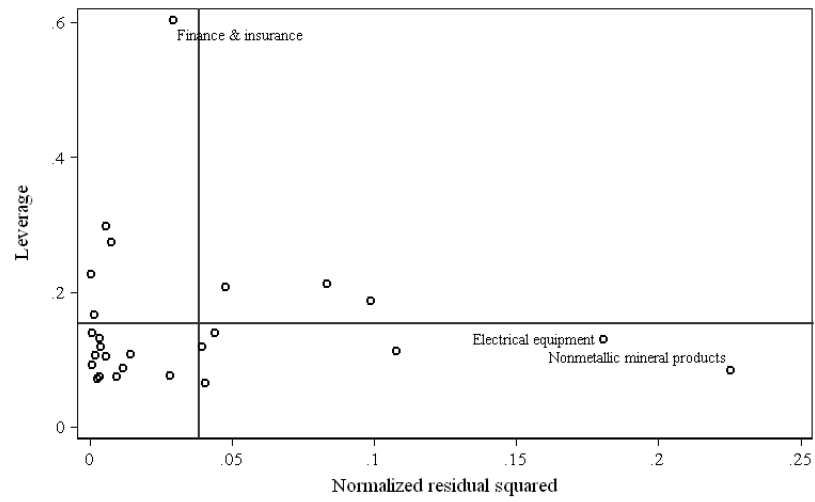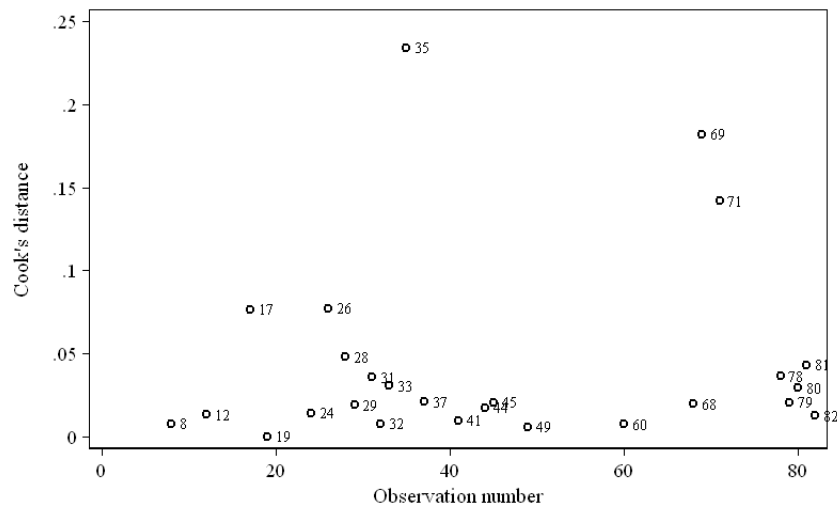| Country | Variable | # Obs. | Mean | Std. Deviation | Min. | Max. |
|---|---|---|---|---|---|---|
| Australia | Investment Freedom | 12 | 30 | 0 | 30 | 30 |
| | Capital Account | 4 | 12.5 | 0 | 12.5 | 12.5 |
| | Golub | 4 | 0.38 | 0.13 | 0.29 | 0.57 |
| Austria | Investment Freedom | 12 | 30 | 0 | 30 | 30 |
| | Capital Account | 4 | 12.5 | 0 | 12.5 | 12.5 |
| | Golub | 4 | 0.49 | 0.19 | 0.31 | 0.65 |
| Belgium | Investment Freedom | 11 | 20.91 | 10.44 | 10 | 30 |
| | Capital Account | 4 | 5 | 6.12 | 0 | 12.5 |
| | Golub | 4 | 0.23 | 0.15 | 0.08 | 0.35 |
| Canada | Investment Freedom | 12 | 50 | 0 | 50 | 50 |
| | Capital Account | 4 | 1.88 | 3.75 | 0 | 7.5 |
| | Golub | 4 | 0.40 | 0.12 | 0.28 | 0.55 |
| Czech Republic | Investment Freedom | 12 | 30 | 0 | 30 | 30 |
| | Capital Account | 2 | 8.75 | 5.30 | 5 | 12.5 |
| | Golub | 0 | - | - | - | - |
| Denmark | Investment Freedom | 11 | 30 | 0 | 30 | 30 |
| | Capital Account | 4 | 1.88 | 3.75 | 0 | 7.5 |
| | Golub | 4 | 0.18 | 0.06 | 0.13 | 0.26 |
| Finland | Investment Freedom | 11 | 30 | 0 | 30 | 30 |
| | Capital Account | 4 | 7.5 | 9.57 | 0 | 20 |
| | Golub | 4 | 0.37 | 0.21 | 0.18 | 0.6 |
| France | Investment Freedom | 12 | 46.7 | 7.79 | 30 | 50 |
| | Capital Account | 4 | 8.13 | 5.91 | 0 | 12.5 |
| | Golub | 4 | 0.24 | 0.14 | 0.1 | 0.41 |

Summary Measures Continued

| Country | Variable | # Obs. | Mean | Std. Deviation | Min. | Max. |
|---|---|---|---|---|---|---|
| Germany | Investment Freedom | 12 | 20 | 10.4 | 10 | 30 |
| | Capital Account | 4 | 0 | 0 | 0 | 0 |
| | Golub | 4 | 0.17 | 0.08 | 0.09 | 0.24 |
| Greece | Investment Freedom | 12 | 38.3 | 10.3 | 30 | 50 |
| | Capital Account | 4 | 8.13 | 8.26 | 0 | 17.5 |
| | Golub | 4 | 0.31 | 0.18 | 0.14 | 0.52 |
| Iceland | Investment Freedom | 10 | 32 | 6.33 | 30 | 50 |
| | Capital Account | 4 | 41.3 | 5.95 | 37.5 | 50 |
| | Golub | 4 | 0.45 | 0.078 | 0.35 | 0.51 |
| Ireland | Investment Freedom | 12 | 20 | 10.4 | 10 | 30 |
| | Capital Account | 4 | 4.38 | 5.91 | 0 | 12.5 |
| | Golub | 4 | 0.21 | 0.13 | 0.1 | 0.34 |
| Italy | Investment Freedom | 12 | 30 | 0 | 30 | 30 |
| | Capital Account | 4 | 1.88 | 3.75 | 0 | 7.5 |
| | Golub | 4 | 0.24 | 0.15 | 0.09 | 0.36 |
| Japan | Investment Freedom | 12 | 48.3 | 5.77 | 30 | 50 |
| | Capital Account | 4 | 13.78 | 10.5 | 0 | 25 |
| | Golub | 4 | 0.27 | 0.01 | 0.26 | 0.28 |
| Luxembourg | Investment Freedom | 11 | 19.1 | 10.4 | 10 | 30 |
| | Capital Account | 0 | - | - | - | - |
| | Golub | 0 | - | - | - | - |
| Netherlands | Investment Freedom | 11 | 19.1 | 10.4 | 10 | 30 |
| | Capital Account | 4 | 0 | 0 | 0 | 0 |
| | Golub | 4 | 0.21 | 0.13 | 0.09 | 0.33 |
| New Zealand | Investment Freedom | 11 | 17.3 | 10.1 | 10 | 30 |
| | Capital Account | 4 | 6.88 | 6.58 | 0 | 12.5 |
| | Golub | 4 | 0.28 | 0.13 | 0.19 | 0.47 |
| Norway | Investment Freedom | 11 | 40.9 | 10.4 | 30 | 50 |
| | Capital Account | 4 | 5 | 10 | 0 | 20 |
| | Golub | 4 | 0.40 | 0.21 | 0.19 | 0.59 |
| Portugal | Investment Freedom | 12 | 31.7 | 5.77 | 30 | 50 |
| | Capital Account | 4 | 15.6 | 6.25 | 12.5 | 25 |
| | Golub | 4 | 0.25 | 0.09 | 0.17 | 0.38 |
| Slovak Republic | Investment Freedom | 12 | 36.7 | 9.85 | 30 | 50 |
| | Capital Account | 2 | 11.3 | 1.77 | 10 | 12.5 |
| | Golub | 0 | | | | |
| Spain | Investment Freedom | 12 | 31.7 | 5.77 | 30 | 50 |
| | Capital Account | 4 | 8.75 | 5.95 | 0 | 12.5 |
| | Golub | 4 | 0.26 | 0.09 | 0.18 | 0.39 |
| Sweden | Investment Freedom | 12 | 23.3 | 9.85 | 10 | 30 |
| | Capital Account | 4 | 12.5 | 0 | 12.5 | 12.5 |
| | Golub | 4 | 0.27 | 0.13 | 0.14 | 0.38 |
| Switzerland | Investment Freedom | 11 | 31.8 | 14.0 | 10 | 70 |
| | Capital Account | 4 | 0 | 0 | 0 | 0 |
| | Golub | 4 | 0.29 | 0.09 | 0.2 | 0.36 |
| United Kingdom | Investment Freedom | 12 | 26.7 | 7.79 | 10 | 30 |
| | Capital Account | 4 | 0 | 0 | 0 | 0 |
| | Golub | 4 | 0.13 | 0.06 | 0.08 | 0.19 |
| United States | Investment Freedom | 12 | 30 | 0 | 30 | 30 |
| | Capital Account | 4 | 0 | 0 | 0 | 0 |
| | Golub | 4 | 0.22 | 0.01 | 0.22 | 0.23 |

Looking at the standard deviation, it is clear that for some countries, the level of restrictions does not vary at all over the period under study.
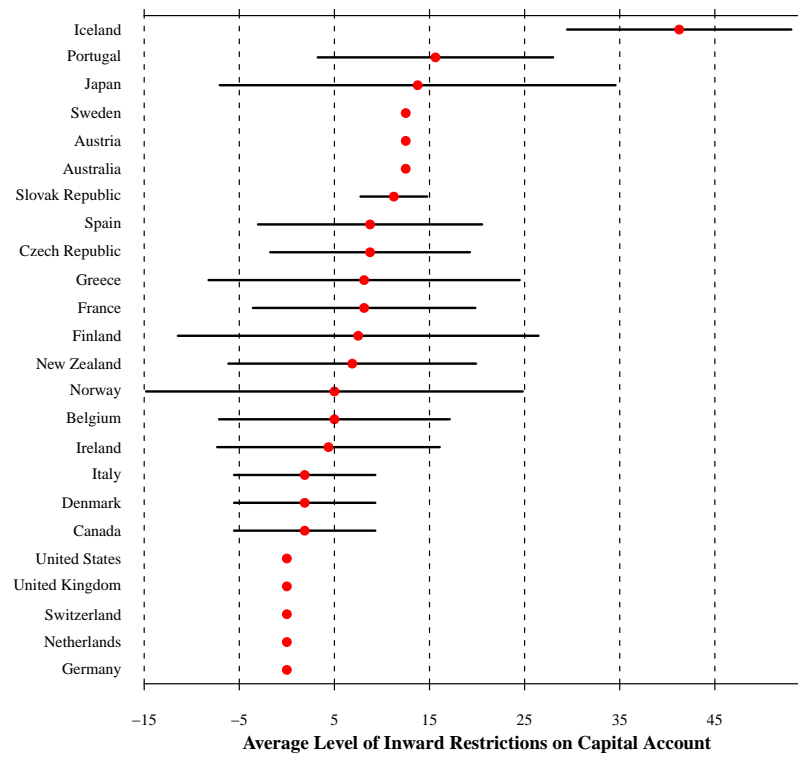
Figure B.1: Inward Restrictions on Capital Account: 1980-2005
Source: Dennis Quinn and A. Maria Toyoda

# Robustness of the Gravity Model

I first discuss the various methodological challenges and the consequences of different specification choices. In the second section, I present the results of a battery of robustness tests.

## Model Specification

The specification of fixed effects has important substantive implications. By using country-year effects as the measure of investment policy, I assume that countries apply the same level of restrictions on each possible source of foreign direct investment. However, it may be the case that investments from certain source countries lead to greater opposition, as was the case with Japanese investment into the United States in the late 1980s or Chinese investment more recently. The inclusion of dyad fixed effects is one solution to this problem. Hiscox and Kastner (2008$a$) include fixed effects for each country pair, held constant over time, and find that the resulting estimates are highly correlated with those estimated from the country-year fixed effects (24). More generally, fixed effects may absorb other factors that are not necessarily protectionist per se. "Other economic conditions and policies clearly affect FDI, but often cannot be changed through negotiations (market size), and/or are non-discriminatory" (Rowlands, N.d., 8). Thus it is very important to specify the model fully. I control for market size, but other features of the economy may be barriers to investment. For example, the financial-commercial linkages in Germany and Japan effectively block foreign takeovers (Ahmad, Barnes and Knubley, 1994, v). As a robustness check, I include country-year fixed effects for source and host countries.

Secondly, there is a "selection" problem. Investment flow data is mixed discrete-continuous data and the log-linear specification is unable to process instances where there was no flow of investment from $i$ to $j$. Possible methods of treating this include excluding zero-flow observations, adding an arbitrarily small constant or using a Tobit model. The problems of the first "solution" are well-known; listwise deletion of data may result in a selection problem. Because the inflows of direct investment are logged, values of zero are problematic. Evidence suggests that ignoring country pairs with zero reported flows can produced biased results (Helpman, Melitz and Rubinstein, 2007). One way to resolve this is to add an arbitrarily small constant to all of those directed-dyads for which there was no investment by the source country in the host at time $t$. This would suggest not that zero inflows mean that there is no investment occurring, rather that the value of flows is just under the threshold to be reported. Dee and Gali (2003)

use a Tobit model to take into account the zeros. The Poisson model is another strategy that I plan to examine in future iterations.

Related to this issue is the substantial amount of missing data. Of the directed dyads in my data, 59 percent have missing values on inflows from the source to host country. This is not surprising because the large majority of foreign investment flows come from a handful of source countries. On the other hand, data on investment flows is of poor quality and as a result, measures estimated using it may be problematic (Pandya, 2007). Definitions of what constitutes FDI vary as do what is reported as inflows. Dee and Gali (2003) suggest that stocks of inward FDI are better. To address this, I estimate the model using inflows of investment as well as inward stock positions and the results are similar regardless of which dependent variable is used as discussed below.

The inclusion of trade flows in a gravity model of investment inflows presents a further complication. Trade flows are related to investment flows. Thus it would be ideal to include the amount of bilateral trade in the estimation of the gravity model. However, this would introduce substantial endogeneity into the model. Frankel and Romer (2007), Frankel and Rose (2002) and Rose and Spiegel (2002) instrument for trade using geographic indicators for distance, contiguity, whether countries are landlocked, etc. Distance and contiguity in particular should not have much of an effect on FDI flows. A possible exception may be if having a common culture as a result of geographic proximity leads to greater information about potentially profitable cross-border investments. One final criticism of the gravity model is that it may be sensitive to the specification of the model. I look at several specifications and perform a variety of robustness checks.

## Robustness

Tables B and B present the correlation of the estimates of the percent reduction in FDI from a variety of specifications of the gravity model. Overall the results are quite robust. The estimates are robust based on a variety of estimation techniques and also by year, however, for some countries the results are not robust when comparing the limited sample to the estimates from the full sample.

The baseline model adds an arbitrarily small constant to zero-flow observations and is highly

### Table B.2: Gravity Model Estimation Robustness

|  | Base | Base + FE | Base + LDV | Base + LDV + FE | Tobit | Excluding zero-flow |
|---|---|---|---|---|---|---|
| Base | 1 |  |  |  |  |  |
| Base + FE | 0.94 | 1 |  |  |  |  |
| Base + LDV | 0.85 | 0.79 | 1 |  |  |  |
| Base + LDV + FE | 0.88 | 0.96 | 0.85 | 1 |  |  |
| Tobit | 0.99 | 0.91 | 0.85 | 0.84 | 1 |  |
| Excluding zero-flow | 0.72 | 0.83 | 0.6 | 0.84 | 0.66 | 1 |
| Sample limited to 2000 | 1 | 0.93 | 0.82 | 0.86 | 0.99 | 0.73 |
| Sample limited to 1990 | 0.99 | 0.94 | 0.93 | 0.89 | 0.99 | 0.77 |
| Sample limited to US | -0.16 | -0.45 | 0.1 | -0.36 | -0.29 | 0.44 |
| Sample limited to France | 0.99 | 0.98 | 0.85 | 0.79 | 0.97 | 0.59 |
| Base + demand-side factors | 0.89 | 0.89 | 0.76 | 0.86 | 0.86 | 0.78 |

correlated with the Tobit specification. Estimates based on listwise deletion of zero-flow observations are not highly correlated with others. This makes sense as the sample is not only smaller, but zero investment flows may be more prevalent in certain types of dyads. Aside from these estimates, the baseline model is robust to the other estimation approaches including fixed effects for source and host countries, and year, a lagged dependent variable or both. Most empirical work that uses the gravity model add an arbitrarily small constant to the model and proceed from there. This is what I do in my baseline model and from which my estimates of investment protection are drawn. When the sample is limited by year, the results are still highly correlated with the baseline model. One problem appears to be estimates for the United States. When the sample is limited only to the United States, estimates are substantially different than when the full sample is used. This suggests that further examination is necessary. Finally, I include demand-side factors like interest rate differential to account for the fact that some places are less desirable locations to investment.

### Table B.3: Gravity Model Robustness with Additional Variables

|  | Base | Education differential | Exchange rate | Education differential & exchange rate |
|---|---|---|---|---|
| Base | 1 |  |  |  |
| Education differential | 0.90 | 1 |  |  |
| Exchange rate 0.99 | 0.90 | 1 |  |  |
| Education & exchange rate | 0.88 | 0.99 | 0.91 | 1 |

In Table B, I present the correlation of the baseline model with some additional variables in the model. Again, the results are quite robust to the inclusion of the difference in average years of education, included as a measure of skill endowment and to the exchange rate. When the value of the currency in host country is lower relative to that of the source, it is cheaper for investors from the source country to make direct investments in the host.