

**Protection from Foreign Direct Investment:
Domestic Producers, Market Structure, and Mode of Entry**

by

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Dedication

To my parents, for their love and prayers

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Abstract

This dissertation investigates the policy preferences of domestic producers who are seeking protection from foreign multinational corporations (MNCs) in their home market. By focusing on the policy demands of domestic producers, this dissertation aims to explain the variation in inward foreign direct investment (FDI) regulations across industries within a country. I argue that industry features and FDI market entry strategies, both of which contribute to a disruption of the market equilibrium, have critical roles in shaping domestic producers' attitudes toward restrictions on inward FDI. I provide evidence of this theory in Chapters 2, 3, and 4.

In Chapter 2, "Protection from FDI and Economies of Scale," I demonstrate how industry features define the degree of market competition and affect domestic firms' preferences regarding inward FDI. Economies of scale that are internal to the firm lead to industrial concentration and radical changes in industries if one firm supersedes another; external economies of scale lead to geographic concentration and disruptive changes in location if one country's industrial growth surpasses that of another. I propose that these effects are decisive in shaping domestic producers' attitudes toward restrictions on FDI. Industries with high internal economies of scale are likely to pressure their government to impose higher restrictions on inbound FDI to avoid fierce new competition; industries with high external economies of scale are more likely

to welcome FDI to consolidate their country as a production hub. I develop these insights in a formal model of the endogenous barriers to foreign investments and examine data on barriers to FDI across different industries in 36 OECD countries. I include evidence for both patterns, as economies of scale are a significant industrial feature for understanding the variation in barriers to FDI across industries and countries.

In Chapter 3, "FDI Entry Modes and the Demand for Regulations on Inward FDI," I provide evidence that FDI market entry modes are also important in shaping the preferences of domestic producers regarding inward FDI. I examine the relationship between the choice of FDI entry modes and inward FDI regulations in high-income countries from the perspective of domestic firms. I posit that domestic firms in industries with more greenfield investments demand stricter FDI regulations from their government, while domestic firms in industries with more cross-border mergers and acquisitions (M&As) desire looser FDI regulations. Domestic firms are favorable to cross-border M&A deals because M&As often involve no new entries or significant technology and information spillovers. However, these firms oppose greenfield investment projects that bring new, large-scale entries without positive spillover effects. By examining the FDI Regulatory Restrictiveness Index of the 36 OECD member states, I reveal that industries with more cross-border M&As have lower FDI restrictiveness, while industries with more greenfield investments have higher FDI restrictiveness. Thus, FDI regulation policy reflects how different types of FDI entry modes affect domestic producers.

Finally, in Chapter 4, "Disguised Protectionism: Competition Laws and National Security Policies as Barriers to Cross-Border M&As," I present evidence that governments actively utilize policy tools to protect domestic producers from foreign MNCs. I argue that domestic firms and industries seek insulation, similar to international trade, from profit-lowering international competition by securing restrictions on M&As by foreign firms. Because of limits on overt restrictions of FDIs, potential host governments are incentivized to employ subtler forms of restrictions. I focus on two main types of regulations that govern M&A activities: competition policies (or antitrust regulations) and national security reviews. I present that both types of regulations discourage cross-border M&As led by foreign global parents more substantially than cross-border M&As led by domestic global parents. I therefore conclude that governments of developed countries utilize competition laws and national security regulations to protect domestic firms. This paper explores an infrequently addressed topic in international political economy, the politics of cross-border M&As, demonstrating that regulatory standards in this area are politicized to defend narrow economic interests.

Collectively, these chapters indicate that industry features and FDI entry modes are critical factors that shape domestic producers' preferences over FDI regulation policies. Additionally, governments are more sensitive to domestic producers' demands and are more likely to utilize policy tools to protect their interests. The findings in this dissertation have important implications for both academia and the real world. In the field of political science, this focus on in-

dustry features and MNCs' market entry strategies, which are both critical features of FDI, has considerable potential for future research in the international political economy scholarship. Researchers must develop theories regarding why barriers to FDI vary dramatically across both industries and countries. Furthermore, this research directly reflects the rise of protectionism in contemporary international relations. While inward FDI regulations have been subtle in developed countries, the intensifying security competition between the United States and China as well as the global competition for high-tech leadership have caused countries to begin to adopt barriers against inward FDI. Although these barriers may benefit the domestic national champion firms in the short run, preventing fair competition between domestic and foreign firms may hinder economic growth and contribute to global economic disorder.

Chapter 1

Introduction

Multinational corporations (MNCs) have actively engaged in global business in the 21st century, thus driving the globalization process. When MNCs build plants or open offices in foreign countries, these transnational activities are referred to as foreign direct investments (FDI). These long-term investments include ownership control by the firm that makes the investment. FDI typically follows two forms: either opening a production facility from the ground up (greenfield investments) or acquiring an existing foreign firm (cross-border mergers and acquisitions [CBM&As]). The occurrence of FDI has escalated significantly since 1990, and while FDI recessions have transpired, the general trend of FDI has continued to increase.

FDI not only brings valuable capital to the host country but also creates jobs and are a key channel for technology and information transfers. Thus, the bulk of existing research on FDI focuses on the political determinants of inward FDI. Furthermore, governments actively sign international pacts, such as bilateral investment treaties or free trade agreements, to attract more foreign MNCs to their countries. Concurrently, however, governments also enact significant barriers on FDI entering the local market. Notably, these barriers are only observed in certain industries, while other industries are completely open to foreign investors. Where is the domestic firms' pressure the strongest in resisting foreign investments? Furthermore, in which cases might local firms welcome investment by

foreign firms?

In this dissertation, I address these questions by examining the effects of FDI on the domestic market equilibrium. I posit that industry features – defined as internal and external economies of scale – and two types of FDI entry modes – greenfield investments and CBM&As – are fundamental for understanding the variation in inward FDI regulations. Moreover, I present evidence that governments utilize policy tools to restrict inward FDI to protect the interests of domestic producers.

In “Protection from FDI and Economies of Scale” (Chapter 2), I establish that internal and external economies of scale are critical drivers of the preferences of domestic producers over inward FDI regulations. I propose that industries with high levels of internal economies of scale (IEoS) are more likely to have stricter FDI regulations, whereas industries with high levels of external economies of scale (EEoS) are more likely to have loose FDI regulations. In IEoS industries, domestic firms pressure their government to impose higher FDI restrictions on inbound FDI to avoid fierce new competition. Conversely, in EEoS industries, domestic firms are more likely to welcome FDIs to consolidate their country as a production hub.

To demonstrate the effects of economies of scale on market equilibrium, I present a formal model of the endogenous barriers to FDI. Numeric simulations indicate that the increase in each firm’s ability to reduce costs through firm-level growth (IEoS) increases FDI restrictions, while an increase in each firm’s ability to reduce costs through industry-level growth (EEoS) decreases FDI restrictions. Additionally, by examining data on the inbound FDI restrictiveness of each OECD member country, I uncover evidence that industries with high IEoS are associated with stricter FDI regulations, while EEoS industries are associated with looser FDI regulations. These results suggest that economies of scale are a crucial industrial feature for understanding the variation in barriers to FDI across industries.

Moreover, I examine the effect of FDI market entry modes on the restrictiveness of FDI regulations. In “FDI Entry Modes and the Demand for Regulations on Inward FDI” (Chapter 3), I focus on the different types of FDI entry modes and how each type affects domestic producers. I propose that FDI regulations, which reflect the preferences of domestic producers regarding inward FDI, are stricter in industries with more greenfield investments and looser in industries with more CBM&As because greenfield investments are more likely to increase market competition relative to CBM&As. Existing domestic firms in industries with more greenfield investment projects demand protection from foreign MNCs to maintain their domestic market dominance.

Utilizing the FDI restrictiveness index data, I present evidence that industries with more CBM&As relative to greenfield investments are associated with lower FDI restrictiveness, while industries with more greenfield investments relative to CBM&As are associated with higher FDI restrictiveness. Therefore, the type of FDI entry mode is important in determining domestic firms’ preferences regarding inward FDI policy. Therefore, a foreign MNC’s decision regarding entry mode is a key determinant of domestic firms’ preferences over inward FDI policy.

In the following chapter, “Disguised Protectionism: Competition Laws and National Security Policies as Barriers to Cross-Border M&As” (Chapter 4), I investigate how governments utilize policy tools to protect domestic producers. Consistent with the arguments in Chapters 2 and 3, domestic firms are against FDI that increases local market competition, so they pressure their government for protection. Host governments, in turn, are more susceptible to the demands of domestic producers than other constituencies – such as consumers, laborers, and foreign firms – because domestic producers have more means and resources to influence the government’s policymaking. Consequently, host governments are incentivized to employ policy tools that are less conspicuous to avoid violating the international treaties they have signed regarding FDI liberalization.

To test this theory, I focus on two types of FDI regulations: competition laws (or antitrust laws) and national security reviews, which are particularly significant to CBM&As. Since competition laws restrict M&A activities that may hinder fair competition (e.g., monopolies or price collusion), the regulations should be imposed equally on M&A activities by domestic and foreign firms. Likewise, if national security reviews are strictly about national security, then the regulations should not be applied in industries that are not security sensitive. However, by examining the effects of both types of regulations on CBM&As, I have found that competition laws disproportionately discourage M&As that involve foreign global parents as compared to M&As with domestic global parents, even in industries that are seemingly not related to security. Therefore, I posit that governments of developed countries utilize subtle measures to protect domestic firms from competition with foreign firms.

The theory and findings in this dissertation offer three main contributions to research on the politics of FDI. First, I develop a rigorous theory by highlighting the effect of industry features, FDI market entry modes, and market competition on the regulatory restrictiveness of inward FDI. Consequently, I illuminate areas that have been understudied in the IPE literature. Bringing insights from literatures in business and economics, this dissertation provides a new theoretical framework – focusing on IEOs and EEOs – to understand why FDI regulations exist in certain industries. Moreover, by employing the perspective of domestic producers, I illustrate that a change in domestic market competition significantly affects domestic producers' preferences.

Second, I emphasize a relatively neglected topic in IPE: the politics of CBM&As. Despite the significance of CBM&As in developed countries, the majority of studies in IPE literature have treated FDI as a whole instead of disaggregating into two entry modes. However, since the economic impact of the two entry modes are completely different, it is important to separate them in the empirical analysis. This dissertation presents evidence

that the two FDI entry modes have different effects on FDI regulations and offers potential areas of research that require further attention from IPE scholars.

Third, by focusing on developed countries, I highlight that discrimination against foreign MNCs is present even in the most globalized countries. Developing countries typically place barriers on inward FDI to protect domestic infant industries as an economic development strategy; however, developed countries are typically open to international economic activities. These countries have often signed numerous trade and investment treaties to prevent protectionist behaviors. This dissertation, however, reveals that governments of developed countries also may resort to protectionism when they must choose between the demands of domestic versus foreign firms. Consequently, protection from inward FDI will remain in any country and industry as long as domestic producers have significant influence over domestic politics.

Finally, this research on FDI regulations reflects recent changes in the contemporary global economy, in which countries are reevaluating trade and FDI openness. A series of events, including the rise in security tensions between the United States and China and the intensifying global competition for high-tech leadership, has caused developed countries to encourage domestic MNCs to either return home or do business with reliable partners, such as security allies. Inevitably, the government protects domestic firms, and to a certain extent, the protection may be necessary to prevent these firms from failing during times of economic distress. Regardless, the rise in populism and nationalism among developed countries in the past several years is concerning. International economic conflict slows global growth and economic development, and may contribute to conflict in other spheres of international relations.

Chapter 2

Protection From FDI and Economies of Scale

2.1 Introduction

One of the defining features of globalization in the twenty-first century is the proliferation of global production networks. From large auto manufacturing companies – such as BMW, Hyundai, and Toyota – to small high-tech companies in Silicon Valley, multinational companies have stretched their affiliates and subsidiaries worldwide. This trend is well reflected in the study of foreign direct investment (FDI). In the period from the 1990s to the early 2000s, much of the literature on the politics of FDI in the field of international political economy focused on how host governments competitively attract inbound FDI (Li and Resnick, 2003; Büthe and Milner, 2008, 2009; Kerner, 2009). In addition, scholars have also paid a great deal of attention to understanding FDI flows from the investors' perspective and identifying which political factors are most important as the determinants of FDI (Henisz, 2000; Jensen, 2003, 2008; Li and Vashchilko, 2010; Wright and Zhu, 2018). These studies tend to focus on the positive effect of FDI on the economy of the host country.

However, the FDI openness of each country does not necessarily reflect the positive views on inbound FDI. In fact, numerous countries impose restrictions on FDI inflow through domestic policies that increase the production/operational costs of foreign firms

(i.e., higher tax on foreign asset transactions or employment conditions). According to the 2018 World Investment Report by UNCTAD, a significant number of countries have adopted formal industrial development policies that are specifically designed to either regulate or deregulate FDI in each segment of an industry. Figure 2.1 depicts the average FDI restrictiveness levels across industries of 36 members of the Organization for Economic Co-operation and Development (OECD) and 32 non-OECD countries.¹ Why do we see this variation across countries? More importantly, who wants more FDI regulations and whose interests matter more to the government when shaping FDI policies? Several studies have pointed out the preferences of voters, workers, and labor unions causing high or low FDI restrictiveness in different industries and sectors (Malesky and Mosley, 2018; Owen, 2013, 2015; Pandya, 2010, 2014).

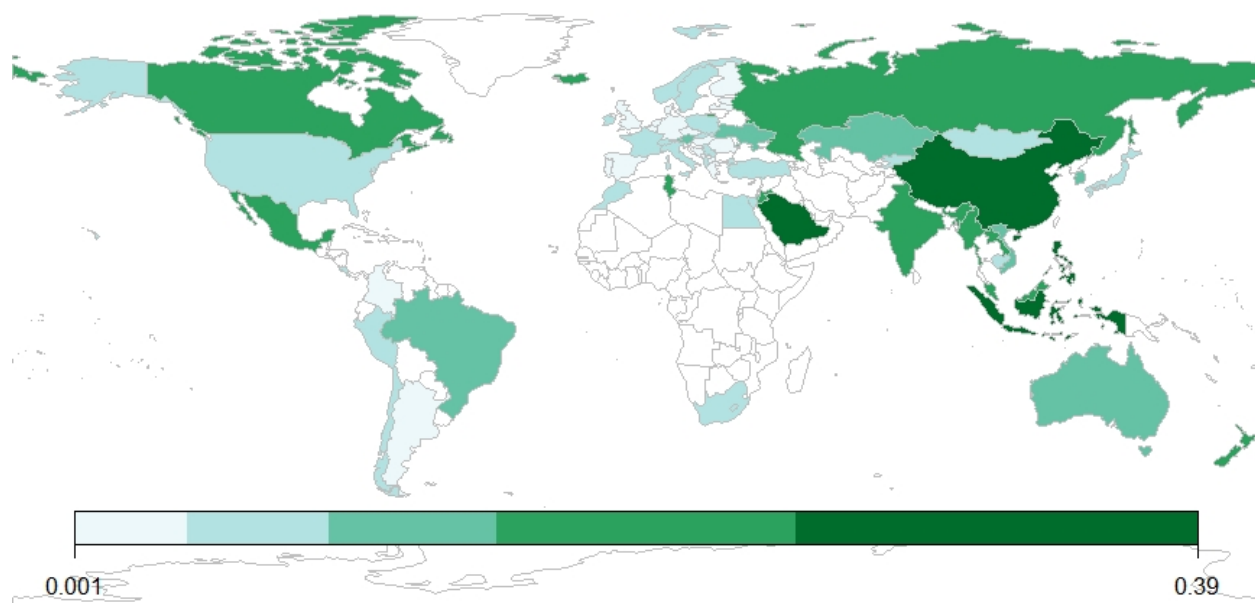


Figure 2.1: Average FDI Restrictiveness Index (2017)

In this paper, I address these questions by examining the effects of FDI on domestic industrial equilibrium. Economies of scale that are internal and external to firms play a

¹ Restrictions on FDI is not only striking across countries, but across industries within each country. See the Appendix for graphical depiction.

critical role in shaping the preferences of domestic producers over inward FDI regulation.² First, I argue that industries with internal economies of scale (IEoS) are more likely to have higher FDI restrictions. Under the existence of IEoS, industries tend to be structured as oligopolies, where only a few large companies compete with each other. Hence, even one additional firm entrant can have a highly disruptive effect on the market, which leads to changes in political equilibrium. Moreover, foreign MNCs investing in an oligopolistic industry are often direct global rivals of domestic MNCs. This implies that they are more efficient or at least as efficient in producing high-quality goods and services. Thus, domestic firms in IEoS industries will pressure their government to impose higher FDI restrictions on inbound FDI in order to avoid heightened market competition.

Second, in contrast to IEoS industries, I argue that industries with external economies of scale (EEoS) are more likely to have lower FDI restrictiveness. EEoS industries tend to exhibit perfect or monopolistic competition, typically characterized with a large number of small- and medium-sized firms. Thus, these domestic firms are less sensitive to supply shocks brought by foreign newcomers. In fact, domestic firms may actually support inward FDI because external economies of scale contribute to the productivity of a firm through technology advancements and information spillovers at the industry-level. Moreover, these spillover effects often occur with the geographic agglomeration of firms. With more inward FDI, domestic producers can consolidate their region as a production hub. Therefore, firms in industries with high external economies of scale are more likely to welcome FDI to consolidate their country as a production hub.

In order to explore the effects of economies of scale on the industrial equilibrium, I develop a formal model using Cournot triopoly and the political support function approach given by Grossman and Helpman (1994). Two domestic firms and a newly entered foreign firm compete in a Cournot fashion, thereby setting the amount of output that maximizes

² In this paper, I use “domestic firms” and “domestic producers” interchangeably.

their profit. Domestic producers offer political contributions to their home government for protection. Governments trade-off producer profits against lower prices for consumers when determining the level of restrictions on FDI. The optimal level of FDI restriction is set endogenously, depending on the market competition and government's weight on consumer utility (average welfare). Numeric simulations indicate that the increase in each firm's ability to reduce costs through firm-level growth (internal economies of scale) increases FDI restrictions, while an increase in each firm's ability to reduce costs through industry-level growth (external economies of scale) decreases FDI restrictions.

In order to test this model, I examine data on inbound FDI restrictiveness across different industries in OECD member countries. I find evidence that industries with high IEoS, measured by different proxies – such as market concentration and amount of fixed assets – are associated with higher FDI restrictiveness. I also find that industries with high EEoS – measured by proxies such as geographic concentration of firms, research and development (R&D) expenditures, and amount of intangible assets – associated with lower FDI restrictiveness. In addition to the main dataset using the FDI restrictiveness index, I adopted three alternative measures for FDI restrictiveness. All three measures – total number of bilateral investment treaties (BITs), World Bank ease of doing business scores, and Shatz (2000) FDI openness scores – support my hypotheses in general. These results suggest that economies of scale are a crucial industrial feature for understanding variation in barriers to FDI across both industries and countries.

This paper makes three contributions to the research on politics of FDI. First, I address the question: why do FDI regulation vary dramatically across industries? I develop a new rigorous theory by emphasizing the importance of domestic producers and industrial features, areas that have gained less attention from the existing international political economy scholarship. By bringing insights from business and economics literature, I bridge the gap between different disciplines on the topic of FDI and multinationals. Second, through

both formal and empirical models, I show that industrial structures shaped by two types of economies of scale are crucial for understanding the variation in barriers to FDI across both industries and countries. Finally, this paper sheds light on protectionism as a reaction to globalization occurring in domains other than trade or off-shoring. By focusing on developed countries, I point out that even in the most globalized countries, domestic producers demand industrial protection from their governments to maintain a better position compared to their global rivals. Therefore, protection from inward FDI will continue to remain in industries where domestic firms have much influence over politics.

2.2 Domestic Preferences and FDI Regulations

The literature on domestic FDI policies includes restrictions on the market entry and operations of MNCs, as well as FDI promotion efforts by offering MNCs tax incentives and subsidized production inputs (Pandya, 2016). Literature on FDI promotion has emphasized how MNCs or host countries overcome the political risk of FDI. From the perspective of MNCs, different types of entry modes can help MNCs to avoid exploitation from the host government (Henisz, 2000; Johns and Wellhausen, 2016). From the host government's perspective, democratic institutions or international treaties, like bilateral investment treaties (BITs), can function as a credible commitment for FDI protection (Jensen, 2008; Jensen et al., 2012; Büthe and Milner, 2008; Kerner, 2009).

Extant scholarship has focused on the role that consumers and workers play in shaping FDI regulation. A few studies have examined how voters' preferences over inward FDI are shaped by characteristics of the investment — size, number of jobs, potential environmental damage, and labor commitments (Pandya, 2010, 2014; Malesky and Mosley, 2018). Moreover, the preferences of labor or the political organization of labor unions may also shape FDI restrictions (Owen, 2013, 2015). Several studies have also examined the role of

political parties and domestic institutions in mediating the influence of these actors (Pinto and Pinto, 2008; Pinto, 2013; Li and Resnick, 2003). In comparison, there is comparatively less work on the attitudes and preferences of domestic firms that face the clearest and most direct impacts from FDI due to market competition.

Studies in business and economics have emphasized the importance of industrial structure and market competition in FDI strategies developed by multinationals (Hymer, 1976; Knickerbocker, 1973; Chwo-Ming and Ito, 1988; Ghemawat and Thomas, 2008). Scholars have also ascertained that MNCs strategically locate their foreign affiliates – either locating closer to or further from each other – to increase profit. These studies suggest that some firms benefit by geographic proximity, which increases information and knowledge spillovers, while others benefit by distancing from other MNCs to focus on their own firm-specific skills and worry less about competing for available workers (Head, Ries and Swenson, 1994; Hanson, 2001; Alcácer and Chung, 2014; Cantwell, 2009). However, these studies focus more on the strategies of multinationals rather than how domestic multinationals would react to the entry of their global rivals.

In this paper, I expand the market effect aspect of existing literature and argue that while it may appear that domestic businesses uniformly dislike competition with foreign MNCs, some domestic producers may actually be favorable to FDI depending on their industry characteristics. I focus on two key economic mechanisms – internal and external economies of scale – and domestic firms' political interaction with the home government. This paper contributes to the existing literature in two parts: first, the paper explores the FDI policy preferences of domestic firms, which have been relatively understudied in the field of international political economy; and second, the paper emphasizes the differences in this regard not only across countries but across industries within each country.

2.3 Theoretical Framework: Economies of Scale

2.3.1 Economies of Scale and FDI Regulation

What shapes the preferences of domestic producers regarding inward FDI? In this paper, I use Marshall's categorization of economies of scale as the key analytical mechanism to explain the disruptive effects of inbound FDI on domestic industrial equilibrium and how the changes in the equilibrium influences producers' FDI policy preferences.³ Internal economies of scale (IEoS) occur when a firm's cost of producing an additional unit of a good decreases as the size of the firm grows. For example, a large manufacturing company that produces automobiles would benefit from producing as many cars as possible rather than producing a small quantity. Because IEoS occurs within an individual firm at the industry level, the firm-specific skills that contribute to IEoS lead to an increase in competition at an industry-level. In contrast, external economies of scale (EEoS) occur outside an individual firm but within an industry. When a firm is experiencing EEoS, it implies that the firm can reduce the cost of producing products when the entire industry grows. EEoS often occur with geographic agglomeration, which allows reduction in transportation costs and facilitates information exchanges. Examples of EEoS include investment banking in New York, entertainment industry in Hollywood, and the information technology industry in the bay area. In the following subsections, I explain how the market equilibrium of domestic industries with IEoS and EEoS are disrupted by FDI and how the

³ "The distinction between internal and external economies was introduced by Marshall (1890), and it is often referred to as the Marshall-Arrow-Romer (MAR) externalities in reference to contributions of Marshall (2009), Arrow (1971) and Romer (1990). Much of work on external economies focuses on economies external to the firm but internal to the industry, [but there are also] work that considers cross-industry externalities" (Caballero and Lyons, 1990). "[External] scale economies may arise from information spillovers, search, and matching processes in labor markets, local intra-industry specialization, and the like." (Henderson, 2003). In short, external economies of scale could be understood as positive externalities. As the size of an industry grows, all the firms within that industry all experience increasing returns to scale in the long-run.

changes shape domestic firms' FDI policy preferences.

2.3.2 Industries with Internal Economies of Scale Oppose FDI

Industries characterized by IEoS often have an oligopolistic market structure, where only a few large firms dominate a large portion of market share. In such an environment, even one additional supplier leads to significantly higher market competition and reduced prices and profits. To achieve IEoS, a firm spends a huge amount of fixed cost at the initial stage of production, because the more it produces, the lower the cost of producing each additional unit of goods; thus, this enables the firm to ultimately earn higher profit. Because a firm has to pay a large lump sum cost initially, there exists a high entry barrier in industries where firms experience IEoS. This leads to only a small number of large companies dominating the market share in an IEoS industry. Thus, when a rival foreign MNC, which can afford the high upfront cost, enters such an oligopolistic market, incumbent firms would have to pay the cost of adjusting their business strategies. Studies also show that an increase in production by foreign MNCs leads to a decrease in output price (in the short run), thereby reducing domestic firms' profitability and, thus, causing negative impact on their survival (Chwo-Ming and Ito, 1988; Chari and Gupta, 2008; Görg and Strobl, 2003). Therefore, domestic firms in IEoS industries are likely to be against foreign rival MNCs entering the market.

Second, industries with IEoS have multiple market equilibria, which makes a new entrance highly destabilizing. Once firms enter the IEoS market, they produce goods in large quantities to achieve scale economies, which optimizes their profits. This increases the total supply of goods in the market and disrupts the market equilibrium through changes in the price. Moreover, in many cases, these foreign competitors are more productive than the incumbent domestic producers. MNCs tend to come from developed countries where

technologies are highly advanced. They also have more resources, both managerial and production skills, and capital (Pandya, 2010). This enables foreign firms to produce high-quality goods that are cheaper for consumers. Thus, the entrance of a foreign firm can be incredibly destabilizing for current market allocation, because consumers will substitute a particular product for its cheaper version. This process accelerates as domestic incumbents may lose sales and become less efficient. Consequently, they would have to raise prices, and lose even more customers. Thus, in order to secure their influence over the market, domestic firms in high IEoS industries will fight hard against foreign competition.

Finally, in IEoS markets, firms are exceptionally concerned about preserving their firm-specific cost-saving technologies. Thus, foreign firms work hard to limit technological spillovers and domestic incumbents will gain little from foreign firms investing domestically. While research on FDI spillover effects have shown some evidence that FDIs from developed economies to developing countries often bring about an increase in productivity and technology advancement, this is not applicable if the foreign firms are operating in the same industry as the domestic rivals. In such cases, foreign MNCs would attempt to protect the valuable technology against leakage to competitors (Marcin, 2008). This is because the technologies of large firms contribute to scale economies that are internal to each firm. In fact, in a firm-level study, Javorcik and Spatareanu (2005) find that spillover effects are only present when domestic and foreign firms have joint venture projects and not when foreign firms enter via greenfield investments (as wholly owned subsidiaries). Moreover, in ascertaining whether foreign MNCs have positive or negative effects on domestic firms, Aitken and Harrison (1999) find that positive technology spillover only occurs in smaller firms — those that have less than 50 employees. For large firms, they find that the spillover effects disappear and the productivity of domestic firms also declines. Therefore, I expect domestic firms in industries with high IEoS to be against foreign MNCs entering the market.

2.3.3 Industries with External Economies of Scale Support FDI

Industries where firms experience EEOs tend to exhibit more competitively structured markets with numerous small- and medium-sized firms. Thus, a few additional suppliers, including foreign MNCs, entering local markets do not significantly disrupt the existing industrial equilibrium. Studies on FDI behaviors have shown that firms in oligopolistic industries are more likely to engage in FDI if their global rival companies set up plants abroad. In contrast, firms in industries that feature a more competitively structured market, are not affected by their competitors' FDI behavior (Chwo-Ming and Ito, 1988; Ito and Rose, 2002). While this study does not directly discuss the protectionist behavior of domestic firms, it clearly shows that firms react differently depending on the industrial features they operate in. The more competitively structured the market, the less the incumbent domestic firms would react against foreign entry.

Second, domestic firms in such industries are likely to welcome foreign MNCs entering the market because growth in the industry will consolidate their country as a production hub. In EEOs industries, domestic firms become favorable to foreign companies entering the market, because they expect decreases in production costs as a result of the growth in the entire industry. Because EEOs typically occurs where firms in a certain industry are geographically clustered together, incumbent firms will likely benefit from more successful firms entering the market, which leads to specialization of labor, increases in the pool of skilled labor, and more government spending on regional infrastructure. Studies have shown that agglomeration of business is linked positively with labor productivity, education, and urban growth (Rauch, 1993; Ciccone and Hall, 1993; Hanson, 2001). Thus, in industries where firms experience EEOs, domestic producers will be less sensitive to foreign MNCs entering the market.

Finally, domestic firms in EEOs industries expect productivity spillovers from foreign

MNCs. Unlike firms in IEoS industries, where firm-specific skills are kept as secrets within each individual firm as secrets, firms in EEoS industries benefit from positive externalities, such as information and technology spillovers, managerial skills, and greater product specialization. The positive spillover effects also occur more frequently in EEoS industries because M&As are active in these industries, where numerous small and medium-sized local firms could be potential M&A targets for MNCs. MNCs with advanced skills can readily enter another country's market by purchasing majority shares of these domestic targets at affordable costs (Larimo, 2003; Zejan, 1990). Studies even show that spillover effects are only present when domestic and foreign firms have more direct interaction either through M&As or joint venture projects, not when foreign firms enter as wholly owned subsidiaries (Javorcik and Spatareanu, 2005). Therefore, domestic firms that are potential cross-border M&A targets welcome foreign FDI because they bring valuable capital as well as information spillovers.

2.3.4 Domestic Firms' Preferences and Government Policy Creation

It is natural for the host government to maximize the benefits generated from foreign capital inflow and respond to domestic firms' political pressures by setting the optimal level of FDI regulation. The host government encourages more foreign capital in the country if it expects FDI to increase the aggregate welfare of the domestic economy. Inward FDI enhances productivity of domestic incumbent firms through competition and technology transfers, prevents domestic firms that lack capital from going out of business, creates job opportunities, and helps to increase wages. This increases the gross welfare of the country, benefiting both consumers (through lower prices, more market competition) and workers (through more jobs). However, the effects of FDI may not always be positive, since foreign MNCs, on average, are larger and better equipped with higher technology compared to

average domestic competitors, thereby threatening domestic firms' survival.⁴ It is possible that domestic firms would utilize their political influence for protectionist policies.

Further, the political influence is much more prominent in IEoS industries than EEoS industries. In IEoS industries, there are a small number of large firms, so they can better organize for collective action. These oligopolistic industries have more political and economic resources to influence the government for protection. The host government is mindful of the political contributions of the special interest groups, which leads to higher barriers to FDI. Therefore, higher FDI restrictions are more likely in IEoS industries. In contrast, firms in EEoS industries are less organized due to lack of motivation and higher firm heterogeneity. Since the government is not pressured by the producers in EEoS industries and FDI benefits both consumers and producers, there will be lower FDI restrictions in these industries.

Figure 2.2 depicts actual US industries plotted based on whether they are more IEoS or EEoS industries. As the IEoS increase, higher FDI restrictiveness is expected, and as EEoS increase, lower FDI restrictiveness is expected. Moreover, as evident from the figure, IEoS and EEoS industries have contrasting features, which lead to high IEoS being correlated with low EEoS and high EEoS being correlated with low IEoS. Examples of IEoS industries include transportation and telecommunication, and examples of EEoS industries include wholesale, retail, and hotels and restaurants. I focus on the net effect of IEoS and EEoS. For example, even if some industries may exhibit both IEoS and EEoS characteristics, if the net economies of scale indicates IEoS, then that industry is an IEoS industry, even though the degree of IEoS may be lower than other IEoS industries. Based on such an additive feature of the effect of economies of scale, I examine whether an industry's FDI restrictiveness is associated with either high IEoS or high EEoS. In the following section,

⁴ In fact, the productivity differential between foreign and domestic firms are higher in developing than in industrialized countries (Arnold and Javorcik, 2009; Harris and Robinson, 2003; Girma and Görg, 2007).

I present a differentiated goods Cournot competition model to show the effects of IEoS and EEoS on domestic market equilibrium and how these lead to higher or lower FDI restrictiveness policies.

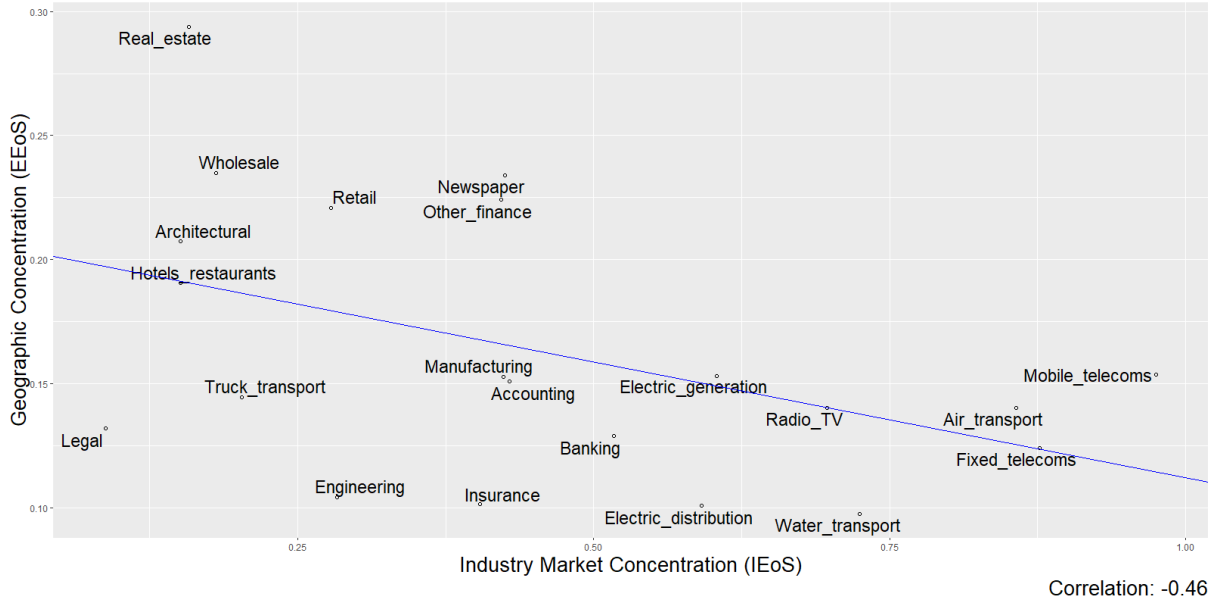


Figure 2.2: IEoS Industry vs. EEoS Industry

2.4 Formal Model

In this section, I introduce the Cournot triopoly with differentiated products to formally show how industry characteristics – internal and external economies of scale – affect domestic firms’ reaction to the FDI regulation policy. For firms that compete in the IEoS industry, I add a term (θ) in the cost function to reflect a decrease in marginal costs as the size of each firm’s output increases. For firms competing under an EEoS industry, I change the cost function by adding a term (η) that decreases the marginal cost as the size of all three firms’ output increase. After solving for the equilibrium profits for each model, I employ the political support approach to identify the optimal level of FDI regulation set by the host government (Grossman and Helpman, 1994; Hillman, 1982). Comparative

statics show that FDI restrictions increase with the degree of IEoS and decrease with the degree of EEOs.

2.4.1 Differentiated Cournot Triopoly Under IEoS

The market considered in this paper consists of three competing firms that interact with one another in Cournot fashion. There are two identical domestic firms ($d1, d2$) and one foreign firm (f) in a certain industry. While all firms have the same marginal cost of production (c), the foreign firm's marginal cost of production is increased by the host (domestic) government's FDI regulation policy ($\tau > 1$). Each firm produces differentiated goods, which is reflected in the following quadratic market utility function⁵ of a representative consumer:

$$U(q) = \alpha(q_{d1} + q_{d2} + q_f) - \frac{1}{2}\beta(q_{d1}^2 + q_{d2}^2 + q_f^2) + \frac{1}{2}\gamma(q_{d1}q_{d2} + q_{d1}q_f + q_{d2}q_f), \quad (2.1)$$

where $\alpha, \beta > 0$ and $\beta > \gamma > 0$.⁶ Then, the consumer maximizes the following utility function:

$$\max_q U(q) - \sum_{i \in (d1, d2, f)} p_i q_i \quad (2.2)$$

from which we can derive the following inverse demand functions for the firms ($i \in (d1, d2, f)$):

$$p_i(q) = \frac{\partial U}{\partial q_i} = \alpha - \beta q_i - \gamma \sum_{j \neq i} q_j \quad (2.3)$$

⁵ To reflect product differentiation, I use a quadratic utility (linear demand) function instead of a more popularly used constant elasticity of substitution or Cobb-Douglas function to reach an explicit equilibrium. For the linear demand function that incorporates product differentiation, see Ledvina and Sircar (2011).

⁶ In this paper, I assume $\beta > \gamma > 0$, which implies that i and j are differentiated goods. Other cases include i and j as: independent goods ($\gamma = 0$), homogeneous goods ($\gamma = \beta$), complementary goods ($\gamma < 0$), and substitute goods ($\gamma > 0$).

Then, the profit function for domestic firms $d1$ and $d2$ are:

$$\pi_{d1,2} = (\alpha - \beta q_{d1,2} - \gamma(q_{d2,1} + q_f))q_{d1,2} - \left(c - \frac{1}{2}\theta q_{d1,2}\right) q_{d1,2} \quad (2.4)$$

Here, c is the marginal cost and θ is the degree of IEOs that influences c . If $\theta > 0$, there exist IEOs in this industry, and if $\theta < 0$, there are internal diseconomies of scale. $\frac{1}{2}$ is added before θ to simplify calculations. The profit function for the foreign firm (equation (5)) is similar to that of the domestic firms, but the marginal cost is increased by τ , which is the FDI regulations imposed by the government.⁷

$$\pi_f = (\alpha - \beta q_f - \gamma(q_{d1} + q_{d2}))q_f - \left(\tau c - \frac{1}{2}\theta q_f\right) q_f \quad (2.5)$$

Finding out the equilibrium output and profit for each firm is rather simple, but due to mathematical complexity, I solve the Cournot triopoly numerically (in Appendix 5.2).

2.4.2 Differentiated Cournot Triopoly Under EEOs

In this section, I add another term η that represents the degree of EEOs in the cost function and see how it changes the FDI regulation term, τ . The model set up is exactly the same as that in the IEOs industry, where two domestic firms and one foreign firm compete in the market by setting the optimal output. The following expressions are the profit functions for domestic and foreign firms under an EEOs industry:

$$\begin{aligned} \pi_{d1,2} &= p_{d1,2}q_{d1,2} - \left(c - \frac{1}{2}\theta q_{d1,2} - \eta(q_{d2,1} + q_f)\right) q_{d1,2} \\ &= \left(\alpha - \beta q_{d1,2} - \gamma(q_{d2,1} + q_f)\right) q_{d1,2} - \left(c - \frac{1}{2}\theta q_{d1,2} - \eta(q_{d2,1} + q_f)\right) q_{d1,2} \end{aligned} \quad (2.6)$$

⁷ FDI regulations include all types of policies – such as direct taxation on foreign assets, foreign equity limitations, ownership restrictions, or governmental approval process – that could increase the costs of producing goods when operating in a foreign country.

$$\begin{aligned}
\pi_f &= p_f q_f - \left(\tau c - \frac{1}{2} \theta q_f - \eta (q_{d1} + q_{d2}) \right) q_f \\
&= \left(\alpha - \beta q_f - \gamma (q_{d2} + q_f) \right) q_f - \left(\tau c - \frac{1}{2} \theta q_f - \eta (q_{d1} + q_{d2}) \right) q_f
\end{aligned} \tag{2.7}$$

In the marginal cost functions, $c - \frac{1}{2} \theta q_{d1} - \eta (q_{d1} + q_f)$ and $\tau c - \frac{1}{2} \theta q_f - \eta (q_{d1} + q_{d2})$, the degree of EEOs, η , is dependent on the output of the industry – which is represented by another domestic firm and a foreign firm. Thus, marginal cost c is reduced by the amount of η proportion of the industry output. When $\eta > 0$, the industry is experiencing EEOs, whereas if $\eta < 0$, the industry is experiencing external diseconomies of scale. Note that η term in the marginal cost function does not include the firm's own output because the effect of its own growth in output is already reflected in the θ term. I solve the model numerically due to mathematical complexity (see Appendix 5.2).

2.4.3 Optimal FDI Regulation

The host government sets the FDI regulation policy by maximizing the social welfare of domestic actors.⁸ I assume that the host government includes only the profits of domestic firms in their objective functions.⁹ There are two reasons for this assumption. First, domestic firms have more means to influence domestic politicians and have plenty of information on how domestic politics work as compared to foreign firms. Second, politicians are more likely to support 'national champion' firms to promote national prestige or reputation in the global stage. Therefore, I set the host government's objective function, G , to be a combination of the representative consumer's utility and domestic firms' profits. $0 < w < 1$ is

⁸ I use political support function approach developed in Grossman and Helpman (1994) and Hillman (1982).

⁹ Assuming that governments also include the profits of foreign firms in their objective function might make an interesting extension, which I leave to future work.

the weight that government attaches to the gross welfare of domestic economy (consumer utility) relative to the political influence of domestic firms.

$$G = wU^* + (1 - w)(\pi_{d1}^* + \pi_{d2}^*) \quad (2.8)$$

In this manner, the host government cares about the foreign producer's welfare indirectly through domestic consumer's utility, and domestic producers directly influence the government based on their profit. The higher the profit, the stronger their political influence on FDI policies. To set the optimal FDI regulation policy, the host government maximizes its objective function in terms of τ :

$$\tau^* = \underset{\tau}{\operatorname{argmax}} G \quad (2.9)$$

In the following section, I use numerical simulations to solve for optimal FDI restrictions τ^* and comparative statics.

2.4.4 Numerical Simulations and Comparative Statics

To examine the comparative statics results of the models, I ran four sets of numerical simulations by assigning a range of numbers to each parameter ($\alpha, \beta, \gamma, c, w, \theta$, and η). I use computational results – instead of analytic – to show the robustness of my theory under different sets of parameters. In addition to robustness check, numerical simulations show how changes in the range of w cause changes in the effects of θ and η on τ . In both IEoS and EEoS simulations, comparative statics show expected results only when the host government gives more importance to the interests of domestic producers (in other words, $w < 0.5$).

Across 92% of the grid points in the IEoS model simulation ($S = 312, 500$), I find that

changes in θ is associated with positive change in τ ($\delta\tau^*/\delta\theta$), when $0.1 \leq w \leq 0.5$. However, when $0.5 \leq w \leq 0.9$, the positive relationship between θ and τ decreases to 30.4%. Table 2.1 presents the range of each parameter value for the numerical simulation of IEoS in a Cournot triopoly. Thus, the numerical simulations suggest that a host government favorable to special interest groups is more likely to impose higher FDI restrictions when domestic firms experience a higher degree of internal economies of scale. In contrast, when the host government cares more about consumers utility, there are more cases of negative association between θ and τ (69.6%) than cases of positive association. When parameters for the inverse demand function are each set to a single value ($\alpha = 1, \beta = 0.5$, and $\gamma = 0.2$), $\delta\tau^*/\delta\theta$ is always greater than 0 (across 100% of the grid points, $S = 10,000$), when $w < 0.5$. Thus, when the host government favors domestic producers over consumers ($w < 0.5$), greater internal economies of scale among firms in an industry (θ) will lead to higher equilibrium barriers to foreign investment (τ).

Table 2.1: Numerical Simulations for the IEoS Model

	Parameter	Range	Grid Points	Comparative Statics
Changing $\alpha, \beta,$ and γ	α	[1, 1.5]	5	$\delta\tau^*/\delta\theta > 0$: 92%, when $w < 0.5$
	β	[0.5, 1]	5	
	γ	[0.1, 0.4]	5	
	c	[0.5 1]	5	
	w	[0.1, 0.5] and [0.5, 0.9]	5	
	θ	[0.1, 3]	100	
Fixed $\alpha,$ $\beta,$ and γ	α	1	1	$\delta\tau^*/\delta\theta > 0$: 100%, when $w < 0.5$
	β	0.5	1	
	γ	0.2	1	
	c	[0.5 1]	10	
	w	[0.1, 0.5] and [0.5, 0.9]	10	
	θ	[0.1, 3]	100	

In the numerical simulations for the EEOs model, I find that across 97.5% of grid points ($S = 72,900$) the relationship between external economies of scale (EEOs, η) and FDI regulations(τ) is negative when $w < 0.5$. However, when $w > 0.5$, an increase in η de-

creases τ only half of the time (50%). Table 2.2 presents the ranges of parameter values that were run in the simulation. η is set to be higher than 0.5 so that the effect is not shadowed by θ , which is less than or equal to 0.5. When parameters for the inverse demand curve are fixed to a certain value ($\alpha = 1$, $\beta = 0.5$, and $\gamma = 0.2$), change in η is always associated with negative change in τ (across 100% of the grid points, $S = 100,000$). Therefore, restrictiveness of FDI regulations decrease as domestic firms experience more external economies of scale within an industry. The simulations demonstrate that when the host government favors domestic producers over consumers ($w < 0.5$), greater external economies of scale among firms in an industry (η) will lead to lower equilibrium barriers to foreign investment (τ).

Table 2.2: Numerical Simulation Settings for the EEOs Model

	Parameter	Range	Grid Points	Comparative Statics
Changing α , β , and γ	α	[1, 1.5]	3	$\delta\tau^*/\delta\eta < 0$: 97.5%, when $w < 0.5$
	β	[0.5, 1]	3	
	γ	[0.1, 0.4]	3	
	c	[0.5 1]	3	
	w	[0.1, 0.5]	3	
	θ	[0, 0.5]	3	
	η	[0.5, 3]	100	
Fixed α , β , and γ	α	1	1	$\delta\tau^*/\delta\eta < 0$: 100%, when $w < 0.5$
	β	0.5	1	
	γ	0.2	1	
	c	[0.5 1]	10	
	w	[0.1, 0.5]	10	
	θ	[0, 0.5]	10	
	η	[0.5, 3]	100	

2.5 Empirical Analysis

2.5.1 Arguments and Hypotheses

First, industries with high internal economies of scale tend to have high market concentration, or an oligopolistic structure. The domestic producers of IEoS industries will be wary of inward FDI because the disruption in the market equilibrium has negative consequences. An additional foreign competitor in the market will increase the supply of goods and services, which leads to a decrease in the prices. Moreover, in IEoS industries, foreign MNCs are at least as efficient and productive as domestic MNCs. Thus, incumbent domestic producers will be against foreign MNCs entering their market and pressure their government for more restrictive inward FDI policies. Therefore, industries with high economies of scale will have higher FDI restrictiveness.

Hypothesis 1: Industries with greater internal economies of scale among firms are likely to have more restrictions on inbound FDI.

Second, industries with high external economies of scale typically exhibit features that are closer to perfect competition, where the entry of newcomers does not have as much of a negative affect as it does in IEoS industries. Firms in EEOs tend to concentrate geographically in order to benefit from information exchanges, technology spillovers, and specialization. Thus, incumbent firms may actually benefit from foreign MNCs entering the market. Therefore, industries with high external economies of scale will have lower FDI restrictiveness.

Hypothesis 2: Industries with greater external economies of scale among firms are likely to have less restrictions on inbound FDI.

2.5.2 Data and Measurements

Dependent Variable: OECD FDI Restrictiveness Index

To test the hypotheses above, I created a dataset of 30 industries for each 36 OECD member countries. The dependent variable, FDI restrictiveness index (hereafter, FDI index), measures the inward FDI restrictiveness of 43 industries/sectors of the 59 OECD and non-OECD countries in 1997, 2003, 2006, and from 2010 to 2018. The 43 categories include the sub-categories of industries, and after excluding the higher categories, there are 30 separate industries in the data. The index ranges from 0 to 1, with 1 being 100% restrictive. The FDI index is based on the “OECD Code of Liberalisation of Capital Movements” and the “OECD National Treatment Instrument.” Each country has explicitly lodged reservations for different types of FDI on various industries.¹⁰ Figure 2.3 below depicts the average FDI Restrictiveness Index of OECD countries by industry. As evident from the figure, even within relatively advanced economies (OECD), FDI regulations exist across all industries.

Independent Variables: Proxies for IEoS and EEOs

I employ several different proxy measures to determine the extent to which industries are characterized by internal or external economies of scale. I first use data collected from the U.S. Census Bureau to examine the relationship between two different industry characteristics and FDI restrictiveness. Here, I treat industries as if they exhibit similar features across countries. Using U.S. industry-level data, I test my hypothesis on 36 OECD countries. In the second dataset, I use industry-level data of Structural and Demographic Busi-

¹⁰The reservations present which industries countries would like to be exempt from liberalization of capital. For example, in the final section of the Code, Australia lodged reservation on a foreign entity’s real estate purchase. In other words, Australia reserves its right to impose restrictions on real estate purchase from a foreign entity. OECD data on the FDI Restrictiveness Index takes these reservations into account, when measuring FDI restrictiveness.

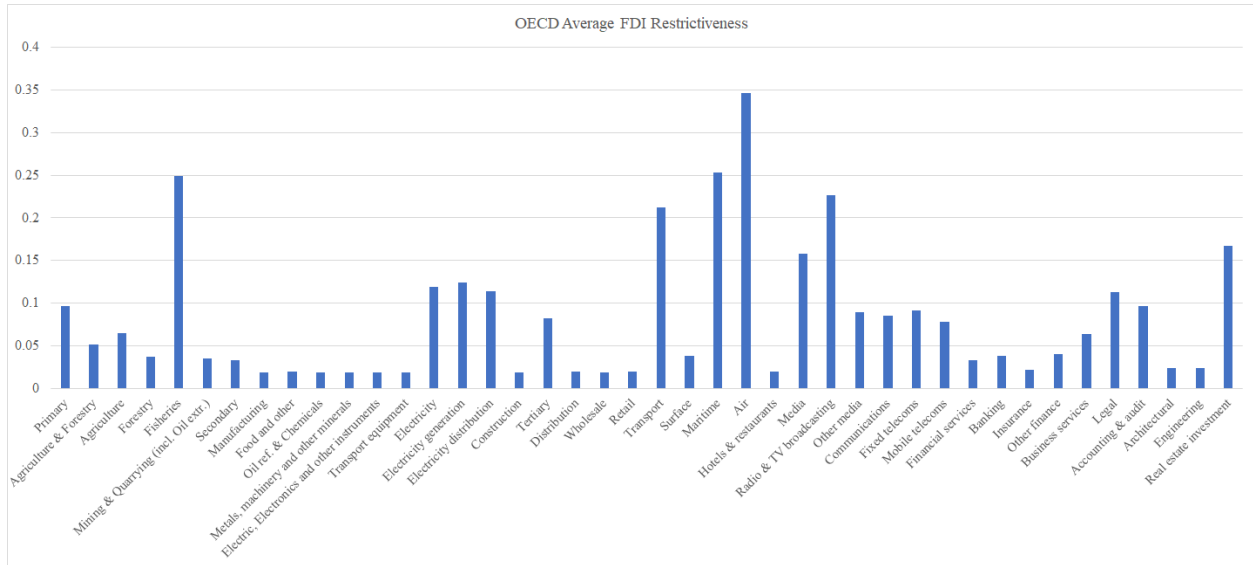


Figure 2.3: OECD Average FDI Restrictiveness Index by Industry (2017)

ness Statistics (SDBS) from the OECD statistics database. Finally, I also collect firm-level accounting data from the Orbis database.

U.S. Census Bureau Data

In the first dataset, I utilize data on the the market concentration and the number of enterprise from the U.S. Census Bureau database as a baseline model to test my hypotheses.¹¹ I use the U.S. industry data because the data includes a detailed categorization of industries (21 in total), which matches well with the industry categorization of the dependent variable (FDI restrictiveness index). Currently, the available years for market concentration and number of enterprises are 2002, 2007, and 2012. Since the FDI restrictiveness index years begin from 2010, I utilize data for only 2012.¹² Market concentration – measured by the market share of the top 4, 8, 20, and 50 companies – is used as a proxy for internal economies of scale. Further, I utilize the market share of the the top 20 companies because it is closest to the average of all four measures.

¹¹ American FactFinder, U.S. Census Bureau (accessed 04.17.2019.)

¹² While FDI restrictiveness index does include data for 1997, 2003, and 2006, OECD has changed its method of measuring the restrictiveness since 2010. Thus, for consistency, I only utilize the years from 2010 onward.

For external economies of scale, I measure industry geographic concentration as a proxy for external economies of scale. This is an appropriate proxy because EEoS often occurs when firms have information and technological spillover effects, which is most likely to happen when firms are located close to each other geographically. Just like industry concentration data, the OECD data to measure EEoS contains a lot of missing values and broad industry categories; thus, I utilize U.S. data to test the hypotheses. For the U.S. baseline data, I use the data on the number of enterprise establishments by major regions within the U.S. that is collected from the same database as that for the U.S. industry concentration. To calculate the geographic concentration by industry, I take the ratio of the maximum number of enterprise establishments in a region to the entire number of enterprise establishments in the U.S. Similar to the market concentration data in the U.S., there are 21 industries in this dataset.

$$\text{Geographic Concentration} = \frac{\text{Highest number of firms among all regions}}{\text{Entire number of firms in the U.S.}}$$

OECD SDBS Data

In the second dataset, I utilize industry-level enterprise birth rate and R&D expenses data from the OECD statistics database. Despite disagreements regarding how to define barriers to entry (Demsetz, 1982), most economists agree that these barriers are often some sort of fixed entry cost.¹³ Hennart and Park (1993) and Slangen and Hennart (2007) suggest that firms, unless they expect high profit in the long-run through economies of scale, will not enter foreign markets via greenfield investment. Thus, while it is controversial to say that barriers to entry are equivalent to economies of scale, it is safe to assume that firms would want to set long-run prices above long-run average cost in order to compen-

¹³In Demsetz (1982), economists like Joe Bain and James Ferguson correlates barriers to entry with economies of scale and monopoly return. In contrast, George Stigler argues that as long as firms can afford the upfront cost, “barriers” do not have to constitute economies of scales.

sate for the high fixed costed paid during market entrance (Pandya, 2014). If this is the case, there must be low amounts of new entry in industries with high IEOs. Thus, I use industry-level enterprise birth rate (EBR) data as a proxy for IEOs. If an industry has high EBR but simultaneously equally high or even higher enterprise death rate (EDR), newly entering firms can expect profit in the long-run since the total number of competitors either remains the same or decreases. However, if an industry has high EBR but low EDR, then the number of competitors are continuously increasing, thereby making monopolistic behavior difficult. Therefore, I subtract EDR from EBR because the focus of this paper is more on the competition between firms within an industry.

For EEOs, I utilize the total amount of R&D expenses in each industry as the proxy. As explained in the theory section of this paper, EEOs industries typically have substantial information and technology spillovers across individual firms, which makes domestic producers more favorable to inward FDI. Industries with external economies of scale are more likely to influence each other on account of being geographically close to one another. This agglomeration is more often witnessed in industries that are highly dependent on R&D investment (Feldman, 1999; Branstetter, 2006). Thus, the more R&D intense an industry is, the more likely it is EEOs industry.

Orbis Firm Data

In the third dataset, I use firm-level data of fixed assets and R&D expenses collected from the *Orbis* database. I only included companies whose stocks are publicly listed because the financial information of these companies is typically more reliable than that of companies that are unlisted. Once I sorted out the publicly listed companies of all 36 OECD countries, I obtained a total of 18,309 companies. Further, I collected information on the relevant accounting details including fixed assets, total assets, and research and development (R&D) expense as a share of operating revenue. I downloaded this information

from the years 2010 to 2017 to match with the FDI restrictiveness index variable. Then, I sorted the companies according to the industry categorization of the FDI index, which yielded a total of 21 industries. Finally, I take the average values of all the companies by each industry. While some highly advanced economies such as the U.S. and most of the Western European countries have data for all 21 industries, some others such as Estonia, Latvia, Lithuania, Slovakia, and Slovenia have only 15-20 industries available.

For IEoS proxy, I use fixed assets as a share of total assets. By definition, fixed assets refer to a long-term tangible property or equipment that is required for a firm's production. Examples of fixed assets include buildings, machinery, computer equipment, land, furniture, and vehicles. According to Wright and Zhu (2018), "large capital requirements and substantial economies of scale in sunk costs associated with fixed asset investments constitute barriers for potential entrants, resulting in market concentration." Therefore, I use the average percentage of fixed assets as a share of average total assets (of all companies within an industry) as a proxy for IEoS. In addition, I utilize R&D expenses as a share of operating revenue as a proxy for EEoS.¹⁴ I also utilize total amount of intangible assets, such as intellectual property or brand name, as the second EEoS proxy in the Orbis data.

Control Variables

I include several control variables at the country level, which could be sources of alternative explanation for FDI restrictiveness. I include four control variables: *GDPPC (log)*, *GDP Growth (%)*, *Population (% of age 15-64)*, *Import as % share of GDP*, *Outward FDI as % share of GDP*, and *Security Industries*. GDP per capita reflects the level of economic advancement of different countries. Countries with higher GDP per capita are less likely to impose high FDI restrictions. GDP growth rate is included to control for the country-

¹⁴Operating revenue is different from total revenue in that the income is strictly obtained from the business activities conducted by the producer. For example, a law firm's income generated by its lawyers' legal services is an operating revenue, but gifts from one of the clients are considered as a non-operating revenue.

level economic shock to each industry. Next, I also include logged population in order to reflect both the market size and the pool of possible workforce. Countries with a larger population would be more open towards inward FDI due to higher demand for foreign goods and job creation. Third, I include import as a percentage of GDP, because countries that import intermediate goods from abroad are more likely to be open to FDI due to the integration of the global supply chain. I also include inward FDI as a percentage of GDP to control the extent to which a country is reliant on FDI. All the variables are downloaded from the World Development Indicators by the World Bank database. Finally, I include a dummy variable (*Security*) for three industries that are sensitive due to concerns around national security. These are mining and quarrying, electricity, and transportation (air and maritime).

Empirical Model

For all the regressions, I employ linear mixed-effects (multilevel) model for the empirical analysis to account for group-level (country-level) variations. The model can be specified in the following manner:

$$y_{ijt} = \alpha_j + \beta X_{ijt} + \eta U_{jt} + \gamma W_{ijt} + \delta Z_i + \epsilon_{ijt} \quad (2.10)$$

Equation (10) is the regression model for the empirical analysis in this paper. $i = 1, \dots, n$ represents each industry within a country, $j = 1, \dots, J$ represents 36 OECD countries, and t represents time period from 2010 to 2017. The random intercept α varies by country-level. β is the fixed effects coefficient for either IEOs or EEOs (X_{it}), which are unit-(industry), group- (country), and time-varying. Industry and time are considered fixed in the model. η is the coefficient for country-level economic predictors, U (GDP per capita, GDP growth, and population aged between 15 and 64 years as a share of total population). γ is the coefficient for all industry, country, and time-varying predictors (import as share of

GDP and outward FDI as a share of GDP) that accounts for how much an industry within a country is integrated to the global economy. Finally, δ is the industry-varying coefficient for security-sensitive industries, which includes oil and mining, electricity, telecommunication, and transportation. $Z = 1$ if it is a security-sensitive industry.

2.5.3 Results and Findings

In Table 2.3, I present the regression results of three different proxies for IEoS and the FDI restrictiveness index (FDI index), which includes relevant control variables. All four models indicate that industry concentration leads to higher FDI restrictiveness. The first model, column (1), presents the industry concentration of the top 20 firms in the U.S. applied to 36 OECD countries. The coefficient on industry concentration is positive and statistically significant, thereby suggesting that the higher market share of large companies has a positive effect on FDI regulation. In the second column, I present a model using net enterprise birth rates (EBR) as an IEoS proxy. Since IEoS involves high barriers to entry, net EBR and FDI index should have a negative correlation. The result indeed indicates a negative coefficient, where a unit increase in birthrate leads to a decrease of 0.2% in the FDI index. Model (3) indicates the regression result of the third proxy for IEoS, which is the average percentage of fixed assets in total assets. This variable is also positively and significantly associated with the FDI index, thereby indicating that industries with firms that spend much on fixed assets – such as land, buildings, and equipment – are more likely to have higher FDI restrictions. Thus, the results in Table 2.3 support my first hypothesis that industries with higher internal economies of scale are more likely to be associated with higher FDI restrictiveness.

Further, the models in Table 2.3 also include a few crucial economic control variables as well as a dummy variable for security-sensitive industries. GDPPC (log), GDP growth,

percentage of population aged between 15 and 64 years, and outward FDI (as a share of GDP) do not show any statistical significance, except for GDP growth in the first model where it is positively associated with FDI restrictiveness index. The positive correlation between growth rate and FDI restrictions is because countries with high growth rates tend to be less economically advanced and they are more likely to have higher FDI restrictions. Imports as a share of GDP consistently shows positive and significant association with the FDI restrictiveness index. A possible explanation for this finding is that MNCs are more likely to establish their foreign subsidiaries in countries where they export (from host countries' view, import) the most. Finally, coefficients for security-sensitive industries – electricity distribution, electricity generation, air and maritime transportation – are positive and statistically significant in all models, thereby indicating that the host government's security reviews on certain industries is well reflected in the FDI index data.¹⁵ While regression results for IEoS proxies are consistent, the coefficient for EEoS proxy – R&D expenses – in model (4) does not have statistical significance, although it shows negative association. Table 2.4 presents more detailed results for EEoS proxies.

In Table 2.4, I present the linear mixed effects results for the analysis of EEoS. Model (1) shows the first EEoS proxy, which is the U.S. firms' geographic concentration by industry. While the coefficient indicates a negative correlation with the FDI index, it does not have statistical significance. Model (2) presents the effect of the logged total amount of R&D expense in an industry on FDI restriction. As expected, industries with high R&D expenses are more likely to have lower FDI regulation. The third proxy for EEoS, which is also the amount of R&D expense but is measured as a share of operating revenue, reveals a negative and statistically significant correlation with the FDI restrictiveness index. This implies that industries with R&D intense firms are more likely to have lower FDI restrictiveness. Finally, model (4) indicates that firms with high intangible assets – which includes intel-

¹⁵A good example of this would be the Committee on Foreign Investments in the U.S.

Table 2.3: The Effect of IEoS on FDI Restrictiveness Index

	<i>Dependent variable: The FDI Restrictiveness Index</i>			
	US Data	OECD Data	Orbis Data	
	(1)	(2)	(3)	(4)
Industry Concentration	0.108*** (0.041)			
Net Enterprise Birth Rate		-0.002* (0.001)		
Fixed Assets (% of Total Assets)			0.114*** (0.013)	0.110*** (0.013)
R&D Expense (% of Operating Revenue)				-0.001 (0.001)
GDPPC (log)	0.023 (0.015)	0.013 (0.016)	-0.00003 (0.015)	0.001 (0.015)
GDP Growth	0.008** (0.003)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
Population (aged between 15 and 64)	0.004 (0.004)	0.005 (0.003)	0.002 (0.003)	0.001 (0.003)
Imports (% of GDP)	-0.001* (0.0004)	-0.001* (0.0003)	-0.001*** (0.0003)	-0.001** (0.0003)
Outward FDI (% of GDP)	-0.002 (0.002)	-0.0002 (0.001)	0.0001 (0.001)	0.0001 (0.001)
Security-sensitive	0.104*** (0.016)	0.089*** (0.006)	0.119*** (0.006)	0.095*** (0.006)
Constant	-0.463 (0.363)	-0.354 (0.267)	-0.070 (0.246)	-0.044 (0.243)
Observations	756	2,567	4,428	4,285
Log Likelihood	289.139	1,552.029	2,001.199	2,101.646
Akaike Inf. Crit.	-554.278	-3,084.059	-3,982.399	-4,181.293
Bayesian Inf. Crit.	-498.742	-3,025.554	-3,918.442	-4,111.301

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 2.4: The Effect of EEOs on FDI Restrictiveness Index

	<i>Dependent variable: The FDI Restrictiveness Index</i>				
	U.S. data	OECD data	Orbis data		
	(1)	(2)	(3)	(4)	(5)
Geographic Concentration	-0.025 (0.114)				
R&D Expense (log)		-0.004*** (0.001)			
R&D Expense (% of Operating Revenue)			-0.002** (0.001)		
Intangible Assets (log)				-0.002*** (0.001)	-0.002*** (0.001)
Fixed Assets (% of Total Assets)					0.118*** (0.013)
GDPPC (log)	0.028 (0.017)	0.010 (0.013)	0.006 (0.015)	0.007 (0.015)	0.003 (0.015)
GDP Growth	0.011*** (0.004)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
Population (aged between 15 and 64)	0.007 (0.005)	0.0004 (0.002)	0.001 (0.003)	0.002 (0.003)	0.002 (0.003)
Imports (% of GDP)	-0.001*** (0.0004)	-0.001** (0.0003)	-0.001** (0.0003)	-0.001** (0.0003)	-0.001*** (0.0003)
Outward FDI (% of GDP)	-0.002 (0.002)	-0.0002 (0.0005)	-0.00004 (0.001)	0.00003 (0.001)	0.0001 (0.001)
Security-sensitive	0.168*** (0.017)	0.004 (0.006)	0.108*** (0.006)	0.133*** (0.006)	0.119*** (0.006)
Constant	-0.627 (0.426)	-0.027 (0.201)	-0.058 (0.243)	-0.078 (0.246)	-0.075 (0.246)
Observations	756	3,066	4,459	4,590	4,413
Log Likelihood	265.259	2,487.359	2,146.299	2,027.724	1,985.970
Akaike Inf. Crit.	-510.518	-4,954.717	-4,272.598	-4,035.448	-3,949.941
Bayesian Inf. Crit.	-464.238	-4,894.436	-4,208.571	-3,971.132	-3,879.625

Note:

*p<0.1; **p<0.05; ***p<0.01

lectual property rights, copyrights, and human capital – are more likely to be associated with a lower FDI index. This result is consistent when I include an IEoS proxy (% of fixed asset in total asset). Therefore, the regression results in Table 2.4 strongly support my second hypotheses that EEoS industries are associated with lower FDI restrictiveness.

The control variables in models (1) through (5) in Table 2.3 indicate very similar results to that of Table 2.4. Countries that are more dependent on imports are more likely to have lower FDI restrictions, and security-sensitive industries – mining and quarrying, electricity, and air and water transportation – continue to show positively and statistically significant correlations with the FDI restrictiveness index, with the exception of model (2). The tendency of imposing high restrictions on certain industries are, in fact, explicitly expressed in ‘Annex B’ of the OECD Code of Liberalisation of Capital Movements.¹⁶

2.6 Other Indicators of FDI Openness/Regulation

In this section, I test the effect of IEoS and EEoS on FDI regulations by using three different measures of FDI openness – total number of bilateral investment treaties, World Bank Ease of Doing Business Scores, and Shatz (2000) FDI openness scores. While these measures are great indicators for FDI openness at a country-level, they do not provide information at an industry-level. Thus, for the independent variables, I aggregate the industry-level numbers into country-level variables by taking the average across industries within each country. Moreover, I selected the independent variables that showed the strongest statistical support for the hypotheses. For IEoS, I used industry concentration, share of fixed assets (as % of total assets), and share of tangible assets (as % of total assets). For EEoS, I

¹⁶For more information, visit the following link: <http://www.oecd.org/daf/inv/investment-policy/Code-capital-movements-EN.pdf>. Annex B (pp. 43-118) includes reservations lodged by individual OECD member states to the Code. While most languages are very vague, a few countries explicitly indicate industries or sectors that are considered sensitive to their national security and public order.

used R&D expenses, share of intangible assets (as % of total assets), and total amount of intangible assets (logged).

Number of Bilateral Investment Treaties

The first alternative indicator I used is the total number of bilateral investment treaties (BITs) in each country. For years 2010 to 2017, I summed all the BITs that were “in force” in 36 OECD member states. BITs are commonly signed between a developed and a developing country in an attempt to increase the FDI flows to the developing country, thereby signaling credible commitment to protect foreign MNCs (Kerner, 2009; Büthe and Milner, 2008; Busse, Königer and Nunnenkamp, 2010; Tobin and Rose-Ackerman, 2011). Thus, the number of BITs signed serves as another indicator for FDI openness in developing countries. However, BITs can also serve as a good indicator for FDI openness in high-income (developed) countries, because they reaffirm or create new legal rights and provide additional avenues for resolving disputes with host countries regarding tax, regulation, and other indirect forms of harm to foreign corporations. They also guarantee national treatment, which prevents discrimination against foreign affiliates. Therefore, the total number of BITs works nicely as an indicator for FDI openness in OECD countries.

Table 2.5 presents the results of IEOs and the number of BITs in force. While only half of the proxies support my hypotheses, the negative and positive signs of the coefficients provide expected results. Models (2) and (3) of Table 2.5 support my first hypothesis that industries where firms experience higher IEOs would have higher FDI regulations. Since the number of BITs indicate openness for FDI, it makes sense that the share of fixed assets and tangible assets are negatively associated with the numbers of BITs. Thus, according to models (2) and (3), countries with industries that are more characterized by IEOs in general tend to have lower FDI openness. Moreover, model (6) also supports my second hypothesis that industries where firms experience higher external economies

of scales would have lower FDI regulations. The amount of intangible assets associated with higher numbers of BITs reflect my argument on EEoS and FDI regulations. In other words, countries with industries that are, in general, more characterized by EEoS tend to have higher FDI openness.

Table 2.5: Economies of Scale and BITs

	<i>Dependent variable:</i>					
	The Total Number of BITs In Force					
	(1)	(2)	(3)	(4)	(5)	(6)
Industry Concentration	-1.13 (1.89)					
Fixed Assets (% of Total Assets)		-51.00* (27.34)				
Tangible Assets (% of Total Assets)			-85.17*** (18.59)			
R&D Expense				0.96 (1.32)		
Intangible Assets (% of Total Assets)					13.76 (24.43)	
Intangible Assets (log)						3.87*** (0.76)
Observations	94	282	282	282	282	282
R ²	0.004	0.013	0.071	0.002	0.001	0.088
Adjusted R ²	-0.029	-0.016	0.044	-0.027	-0.028	0.061

Note:

*p<0.1; **p<0.05; ***p<0.01

World Bank 'Ease of Doing Business' Scores

The World Bank's scores on *Ease of Doing Business* is another great indicator for FDI

openness/regulations.¹⁷ *Ease of Doing Business* score calculates the regulatory environment of a country based on the evaluation of several criteria: starting a business, dealing with construction permits, registering property, protecting minority investors, paying taxes, trading across borders, etc. The score is reflected on a scale of 0 to 100, where 0 is the lowest and 100 is the highest regulatory performance. While the *Ease of Doing Business* score covers all local entrepreneurs, including both domestic and foreign firms, it represents the level of institutional attractiveness, which is the most important determinant for inbound FDI. Therefore, I expect the *Ease of Doing Business* score will closely resemble the FDI-friendly/regulatory environment.

Table 2.6 presents the relationship between two types of economies of scales and the ease of doing business scores. While models (1) and (2) do not indicate statistical significance, the negative signs of the coefficients do reflect my first hypothesis that IEoS industries are more likely to have higher FDI restrictiveness (or a less business-friendly environment). Model (3) strongly supports my argument on IEoS and FDI restrictiveness. Countries with industries that are, in general, more characterized by IEoS (higher share of tangible assets) are less likely to have a business-friendly environment (higher FDI restrictiveness). Models (4), (5), and (6) all strongly support my second hypothesis on EEOs and FDI regulations. According to the models (4)–(6), countries with industries that are, in general, more characterized by EEOs (total R&D expenses, share of intangible assets, and total amount of intangible assets) are more likely to be associated with a more business friendly environment (lower FDI restrictiveness).

Shatz's (2000) FDI Openness Scores

The third FDI regulation indicator I used was obtained from Shatz (2000).¹⁸ The author

¹⁷For more information, visit <https://www.doingbusiness.org/en/data/doing-business-score>

¹⁸See Shatz, H. J. (2000). *The location of united states multinational affiliates* (Order No. 9972497). Available from ABI/INFORM Collection; ProQuest Dissertations & Theses Global. (304599730). Retrieved from <https://proxy.lib.umich.edu/login?url=https://search.proquest.com/docview/>

Table 2.6: Economies of Scale and Ease of Doing Business

	<i>Dependent variable:</i>					
	WB: Ease of Doing Business Scores					
	(1)	(2)	(3)	(4)	(5)	(6)
Industry Concentration	-0.10 (0.36)					
Fixed Assets (% of Total Assets)		-0.35 (5.64)				
Tangible Assets (% of Total Assets)			-13.75*** (3.86)			
R&D Expense				2.34*** (0.23)		
Intangible Assets (% of Total Assets)					30.77*** (4.61)	
Intangible Assets (log)						0.52*** (0.16)
Observations	97	284	284	284	284	284
R ²	0.001	0.00001	0.044	0.268	0.139	0.036
Adjusted R ²	-0.031	-0.029	0.016	0.247	0.114	0.008

Note:

*p<0.1; **p<0.05; ***p<0.01

developed an annual rating of the FDI openness of 56 countries (excluding Netherlands Antilles) from 1986 to 1995. Shatz particularly examined the following three administrative components that are relevant to inward FDI: “first rates a country on the simplicity of its approval process; second rates a country on the ability of foreigners to acquire domestically owned firms; and the final component rates a country on the freedom to remit profits and repatriate capital.”¹⁹ While the years do not match with the independent variables, Shatz’s FDI openness score still works as an alternative measure for FDI restrictiveness, as it assumes that each country’s FDI regulatory environment does not change dramatically over time. Since the years do not match, I use the average across years. In addition, 10 countries were excluded because the scores did not exist in Shatz (2000).²⁰

Table 2.7 presents the regression results of the effect of two economies of scales on Shatz’s FDI openness scores. Models (3) and (5) provide support for my two hypotheses, while others are statistically insignificant. In model (3), the share of tangible assets, a proxy for internal economies of scale, shows a negative association with the FDI openness score. This implies that countries that tend to have industries with high IEOs have higher FDI restrictiveness. When examining model (5), the proportion of of intangible assets indicate a positive relationship with the FDI openness score, which implies that countries that are more characterized by industries with high EEOs are more likely to have lower FDI restrictiveness. However, due to a lack of sufficient observations, the overall results are not as strong as the regression results from the scores of the number of BITs and *Ease of Doing Business* scores.

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¹⁹Shatz (2000), p.172.

²⁰These countries are: the Czech Republic, Estonia, Hungary, Iceland, Lithuania, Latvia, Poland, Slovenia, Slovakia, and the United States.

Table 2.7: Economies of Scale and FDI Openness

	<i>Dependent variable:</i>					
	Shatz (2000) FDI Openness Score					
	(1)	(2)	(3)	(4)	(5)	(6)
Industry Concentration	-0.03 (0.05)					
Fixed Assets (% of Total Assets)		2.12 (2.87)				
Tangible Assets (% of Total Assets)			-5.81** (2.22)			
R&D Expense				0.14 (0.17)		
Intangible Assets (% of Total Assets)					4.78** (2.05)	
Intangible Assets						0.10 (0.11)
Observations	24	26	26	26	26	26
R ²	0.012	0.022	0.221	0.026	0.184	0.035
Adjusted R ²	-0.033	-0.018	0.189	-0.015	0.150	-0.005

Note:

*p<0.1; **p<0.05; ***p<0.01

2.7 Conclusion

This paper explores a relatively understudied aspect of the literature on the politics of FDI. While existing studies have made much progressed on numerous topics – such as the determinants of inbound FDI, FDI preferences based on distributive consequences, as well as the strategic actions of foreign multinational corporations – the importance of industrial structure on FDI regulation has been rather neglected in the field of international political economy. Industrial features, however, are crucial in shaping attitudes towards restrictions on inbound FDI by domestic producers. In this paper, I provide a rigorous new theoretical framework using two distinct types of economies of scale. IEoS industries typically exhibit an oligopolistic market where only a few number of large companies co-exist. When facing a disruption in the market equilibrium that will likely to cause a negative affect on their profits, these domestic firms demand the government to institute a more restrictive inward FDI policy. In contrast, in industries where firms experience external economies of scale, the demand for restrictive inward FDI policy diminishes either because these markets resemble perfect competition and thus, the additional entry of competitors does not make much difference to the market equilibrium or because the disruption in the equilibrium brings higher profit.

Through formal and empirical analysis, I found support for my theory emphasizing the importance of economies of scale. Under the differentiated Cournot triopoly, the extent of IEoS leads to an increase in the FDI regulations while the extent of EEoS leads to a decrease in the FDI regulations imposed by the host government that favors the interests of domestic producers over consumer utility. In the empirical analysis, I showed that industries with IEoS – measured by industry concentration, lower number of new entrants entrance of new enterprises, and high fixed assets as a share of total assets – lead to higher FDI restrictiveness. Moreover, industries with EEoS – measured by industry geographic

concentration of firms, R&D expenses as a share of operating revenues, and total amount of intangible assets – are associated with lower FDI restrictiveness. Therefore, industry characteristics and how the market equilibrium is affected by inward FDI are crucial elements in understanding the variation in FDI restrictiveness across both industries and countries.

The research on FDI regulation directly reflects contemporary international economic relations: a wave of resurgent nationalism and newly aggressive industrial policies in developed countries. While inward FDI regulations have been subtle in developed countries, the recent series of events in the advanced economies – such as Brexit, the US-China trade war, and the COVID-19 crisis – countries are beginning to adopt apparent barriers against FDI. In addition, as observed from the case of Huawei's 5G network, countries are demanding that foreign firms must divest when national security concerns are at hand. Such discrimination against foreign firms are likely to rise in the near future, particularly in the information, communication, and technology (ICT) sector, which is closely related to sensitive and strategic technology. However, industrial feature that is crucial to the determinant of FDI has been understudied in the field of international political economy. Thus, my research can offer explanation to the causes of FDI protectionism across industries and countries.

That said, the study on FDI regulation and industrial features needs to be further refined by examining FDI by different entry mode strategies, inter-industry activities, and types of countries. How are greenfield investments and cross-border M&As regulated differently by developed countries? Would inter-industry activities matter in whether one industry supports FDI in another industry? Finally, while I focused on developed countries in this paper, would the same FDI regulation patterns be evident across industries in developing countries? Future research should address how FDI regulations are affected by various other contingencies that originate from other economic actors and domestic

institutional structures.

Chapter 3

FDI Entry Modes and the Demand for Regulations on Inward FDI

3.1 Introduction

As the effects of the pandemic severely curbed global economic activity, foreign direct investment (FDI) in 2020 fell to one of the lowest levels in recent decades.¹ The sharp fall in FDI activity came amidst an already declining trend in FDI since 2015, when FDI reached its peak (a total of 2 trillion USD). Several factors, particularly the uncertainty regarding the global economy due to Brexit and the US-China trade war, have contributed to the decrease in FDI. In addition, a recent move to stricter FDI regulations has caused both types of FDI – greenfield investment and cross-border mergers and acquisitions (M&As) – to decrease in developed countries.² While the main reason for this move toward stricter regulation is the acquisition by Chinese state-owned enterprises of sensitive technology and information in developed countries, FDI regulation is not limited to Chinese FDI. Moreover, restrictions on FDI are prevalent in many industries that are not security-sensitive,

¹ According to UNCTAD's *World Investment Report 2020*, global FDI dropped by more than 50 percent in the first half of the year compared to 2019.

² The European Union have gradually imposed stricter FDI regulations on the basis of national security threat. See Kirkland & Ellis 'New EU Foreign Direct Investment Regulations Take Effect', October 29, 2020.

and sharply vary across countries for the same industries. This indicates that FDI regulation policy reflects concerns beyond national security.

To understand the variation of FDI restrictiveness across industries, I focus on the different types of FDI entry mode and how each type of entry mode affects domestic producers. In the existing international political economy (IPE) literature, studies have treated FDI as a single type of investment. To be more accurate, however, FDI should be disaggregated into different entry modes. The choice of market entry mode – either greenfield investment projects or cross-border M&A deals – by foreign multinational corporations (MNCs) reveals significant information about the investment motivations of MNCs, the investment climate of the host country, the characteristics of the target industry, and the possible economic consequences (Nocke and Yeaple, 2007; Müller, 2007; Brouthers and Brouthers, 2000). Depending on the firm-specific skills of the foreign MNC and the structure of the domestic market, domestic rival firms will have to prepare for future changes accordingly. Thus, the entry mode decision of a foreign investor is one of the key determinants of domestic firms' preferences regarding FDI policy.

I argue that FDI regulations, which reflect the preferences of domestic producers regarding inward FDI, will be stricter in industries with more greenfield investments and looser in industries with more cross-border M&As. While both types of FDI increase domestic market competition, the degree to which competition increases is different between greenfield investments and cross-border M&As. Cross-border M&As are typically more frequent in industries with many small- and medium-size firms. As a result, new entries do not significantly alter the market equilibrium. M&As also involve no (or few) new entries because foreign MNCs acquire existing domestic firms when entering the market. Active cross-border M&As can even increase the value of domestic small businesses, which are potential targets of foreign acquirers. Moreover, M&As typically result in direct information and technology spillovers for domestic firms. Therefore, domestic producers

are favorable to cross-border M&As.

In contrast, greenfield investment projects are typically more frequent in industries with few large firms that dominate the market. Moreover, greenfield investments often bring large-scale new entries into the market without positive spillover effects of firm-specific skills or information. These large new incomers also increase demand for talented labor, resulting in talent bidding wars. Therefore, domestic producers want protection in industries with many greenfield investment projects. These preferences shape the government's FDI regulation policies.

Using the industry-level FDI Restrictiveness Index of 36 high-income countries from the *OECD.Stat* database, I examine whether FDI entry modes have different effects on industry-level FDI regulations. The analysis in this paper is focused on high-income countries (i.e., the 36 member states in the Organization for Economic Cooperation and Development [OECD]), because inward FDI in developed and developing countries is characterized by different motivations and patterns of foreign investment (Blonigen and Wang, 2004). For instance, MNCs investing abroad are more likely to be efficiency- and resource-seeking in developing countries, while they are more likely to be information- and market-seeking in developed countries (Wadhwa and Reddy, 2011; Brouthers, Gao and McNicol, 2008). Moreover, the types of FDI entry modes are balanced in developed countries, while FDI that enters developing countries is most likely to be greenfield investments. In addition, political institutions (e.g., democracy or non-democracy) have significant effects on the type of inward FDI (Henisz, 2000; Jensen, 2008). This paper therefore focuses on a set of countries that are politically and economically similar.

I test the hypothesis using data on OECD FDI restrictiveness index, greenfield investment projects and cross-border M&As worldwide. The choice of entry mode, however, is inherently endogenous, where FDI restrictiveness may cause changes in the pattern of MNCs' entry mode. To account for such reciprocal causation, I utilize industry "total

expenditures on research and development (R&D)” as an instrumental variable in the two-stage least squares (2SLS) estimate. Total R&D expenditures have direct relationship with the choice of FDI entry mode, while they are only remotely relevant to FDI restrictiveness. High R&D expenditures, which is a proxy for high technological dynamism, make the speed of market entry to be a crucial factor in MNCs’ business strategy. Hence, MNCs would choose cross-border M&As over greenfield investment to quickly enter local markets. Admittedly, industries with high R&D expenditure may be associated with low FDI restrictiveness level through industry feature, as mentioned in Chapter 2; however the total amount of R&D expenditure do not provide information about whether the incumbent firms only use the technology within themselves or they benefit from technology spillovers within the industry. Thus, total amount of R&D expenditures serves as a good instrumental variable.

I find evidence that industries with more cross-border M&As relative to greenfield investments are associated with lower FDI restrictiveness, while industries with more greenfield investments relative to cross-border M&As are associated with higher FDI restrictiveness. The results are consistent when controlling for the size of the M&A deals. These results show evidence that domestic producers are more favorable to FDI entering via cross-border M&As than FDI entering as greenfield projects. Therefore, I conclude that the type of FDI entry modes plays a crucial role in shaping the preferences of domestic firms regarding inward FDI policy.

This study of FDI entry modes and domestic firm preferences offers two main contributions to the IPE literature. Firstly, while studies on the politics of FDI have significantly developed in the past couple of decades, I contend that it is also important to distinguish between the two different types of FDI entry mode. As greenfield investment is building a new start-up while a M&A is acquiring an existing firm, the economic consequences of each entry mode differ in the local market. Moreover, compared to greenfield investment,

cross-border M&As each year comprise more than half of the total FDI in high-income countries.³ Secondly, previous studies on FDI regulation have not connected domestic actors' preferences with industry characteristics. By focusing on the preferences of domestic producers, I demonstrate that industry features are crucial in understanding why there are variations in FDI regulations across industries. With the recent increase in barriers to FDI in high-income countries, this study of FDI entry modes and domestic firm preferences based on industry characteristics adds to the explanation of FDI restrictiveness across industries.

3.2 Literature Review: FDI Preferences and Policies

Studies on FDI preferences and policies in the IPE literature have found that democratic institutions can act as barriers to FDI due to domestic political divergence, interest groups' resistance, and protectionist labor unions (Owen, 2015; Li and Resnick, 2003). A host government's partisanship may also play a role in restricting inbound FDI by favoring MNCs that complement the factor endowments of the incumbent's electoral base (Pinto and Pinto, 2008; Pinto, 2013; Malesky and Mosley, 2018). Pandya (2014), in contrast, found that democracies are relatively more open to FDI than nondemocracies because electoral accountability makes policy makers more attentive to domestic actors' economic preferences. However, domestic preferences are not always supportive of FDI. Because MNCs demand more skilled labor and are generally more productive than domestic firms, low-skilled laborers feel job insecurity when facing market-oriented FDI (Pandya, 2010, 2014). While previous studies have progressed understanding of FDI, they treat FDI as a single type of investment, rather than disaggregating FDI into greenfield investment and cross-border M&As.

³ See OECD, "FDI in Figures", April 2021, p.8.

Several studies on cross-border M&As have demonstrated that FDI regulation is on the rise due to national security concerns resulting from the increase in outward FDI by emerging economies, where many MNCs are state owned (Kang, 1997; Meunier, Burgoon and Jacoby, 2014). Many developed governments have adopted FDI screening processes for cross-border M&As in so-called “crucial” sectors, which have led to transactions being denied and potential investors being discouraged (Marchick and Slaughter, 2008). Sauvart (2009) also argued that many countries make the FDI regulatory environment more restrictive for foreign investors by linking the concept of “national interests” to strategic sectors or national champion companies. If this is really the case, governments should have tighter restrictions on FDI in industries where cross-border M&As are dominant. However, in reality, greenfield investments face the same set of regulation policies as M&As. Thus, the national security factor cannot explain why FDI regulation policies are stricter in industries in which greenfield investment is the dominant entry mode.

Building upon the existing literature on FDI regulation, this paper explores how two different entry modes affect FDI policy preferences, particularly from domestic producers’ perspective. Host governments may regulate FDI based on entry mode in order to induce more technology transfers to domestic firms, which can improve economic welfare (Mattoo, Olarreaga and Saggi, 2004). Foreign MNCs, on the other hand, take various market and nonmarket factors into consideration when choosing their entry model type Kogut and Singh (1988); Zaheer and Mosakowski (1997); Shaver (1998); Siegel, Licht and Schwartz (2011). Studies have found that foreign MNCs tend to choose greenfield investment as their primary entry mode when they have a strong competitive advantage (in terms of firm-specific skills), are entering a market with limited competition, and are facing low policy barriers (Hennart and Park, 1993; Zejan, 1990; Caves, 1996; Larimo, 2003; Henisz, 2000). These studies provide insight into the environment in which a domestic firm is situated when facing the imminent entry of a foreign firm.

Drawing from several studies on the effect of inward FDI on domestic firms, it is evident that a new foreign entry is not always good news (Aitken and Harrison, 1999; Haller, 2009). Foreign MNCs often possess higher skills and are more efficient than domestic firms (Knickerbocker, 1973; Bloom, Sadun and Van Reenen, 2012; Bloom et al., 2013). In fact, Qiu and Wang (2011) demonstrated via a formal model that depending on the national welfare, which is calculated based on domestic consumers and producers, governments will enact FDI policies that promote either greenfield investment or cross-border M&As. This paper expands on these earlier studies and explores how different FDI entry modes affect domestic firms' preferences regarding FDI, which are reflected in the host government's FDI regulation policies.

The emphasis on FDI entry modes and industry features in this research fills gaps that exist in both IPE and business literature. While studies in IPE have recently begun to distinguish between the two different types of FDI entry mode, most studies have focused on greenfield investment in developing countries, where the presence of cross-border M&As is relatively negligible. Meanwhile, studies in business have focused more on the entry mode strategy of MNCs rather than on how these strategies affect domestic producers. By examining domestic producers' preferences regarding greenfield investment and cross-border M&As, I provide another perspective on why FDI regulation varies across industries. In addition, by highlighting the importance of industry features in shaping the preferences of domestic producers regarding FDI, this study bridges the gap between IPE literature, which often focuses on the distributional consequences for individuals, and business literature, which often focuses on firm strategies.

3.3 Theory: Domestic Firm Preferences and FDI Policy

3.3.1 Greenfield Investment and Domestic Firms

Greenfield investment is a type of FDI in which a foreign MNC builds its operations in a foreign country from scratch, like a start-up. Greenfield projects involve the establishment of new entities, such as offices, buildings, and factories. Thus, greenfield investments generally entail higher fixed expenditures at the initial setup stage. These investment projects can be new production facilities, but also additional distribution hubs or subsidiaries of the parent companies. The foreign subsidiary can either be a wholly foreign-owned enterprise (WFOE) or a joint venture co-owned by a local partner with complementary assets (Barkema and Vermeulen, 1998). The purpose of this paper is to compare different types of majority-owned foreign affiliates, which do not include minority-share joint ventures.

There are numerous market and non-market factors that contribute to an MNC's choice of greenfield investment as the primary entry mode, but this paper focuses in particular on market/economic reasons.⁴ Firstly, foreign MNCs typically enter via greenfield investment in industries that generate scale economies in the long run. Greenfield projects require large lump-sum fixed costs in the initial establishment phase; therefore, MNCs will only enter the market if they expect to achieve profits in the future (Pandya, 2014). Secondly, there are often firm-specific skills that cannot be cleanly separated into management and workers' skills in the business operation. In such cases, a foreign MNC cannot easily enter via M&A, because M&As involve foreign management replacing the domestic management while domestic workers remain the same. Finally, an MNC will choose greenfield

⁴ Foreign companies decide to enter via greenfield if there exist more similarities in culture, language, and history. Geographic proximity also encourages greenfield investment. Moreover, scholars have also found that political affinity or lower political risks are often associated with foreign multinationals entering via greenfield investment. Existence of contractual hazard also increase possibility of greenfield investment.

investment over cross-border M&A if the MNC possesses sensitive technology that must be kept within the company in order to maintain its competitiveness.

The above-mentioned reasons behind the choice of entry mode by a foreign MNC also affect how domestic producers react to greenfield investment. Firstly, domestic producers will oppose FDI if market competition increases due to large-scale new entries. Greenfield investment projects often involve large-scale projects because foreign companies want to recover their initial high fixed costs through generating long-term profits by lowering variable costs. Thus, in industries like oil, mining, and heavy metals, MNCs often enter via greenfield investment rather than acquiring an existing company. Each new project entering the local market results in the introduction of a new competitor producing differentiated goods. Large incumbent companies will consider these large FDI projects to be taking over a significant amount of market share. Due to the specific industry features, which require high fixed costs at the initial establishment period and scale economies in the long run, there is already a high concentration of large domestic firms. As the industries tend to be oligopolistic, the potential disruption to the market equilibrium is great.

Figure 3.1 shows this market-stealing effect of the share of greenfield investment projects on the net export value (logged) by plotting the regression line. In industries with higher share of greenfield investment, net export value tends to increase, confirming that goods and services by the new foreign entries are not directed towards exports, but rather competing for the existing customers. Therefore, domestic incumbent companies will want protection from FDI entering via greenfield investment.

Secondly, firm-specific skills tend to be more advanced among MNCs compared to average local companies.⁵ MNCs tend to come from developed countries where technologies are highly advanced and there are more resources, including managerial and production

⁵ Nocke and Yeaple (2007) shows that firms engaging in greenfield investment are more efficient than those engaging in cross-border mergers and acquisitions.

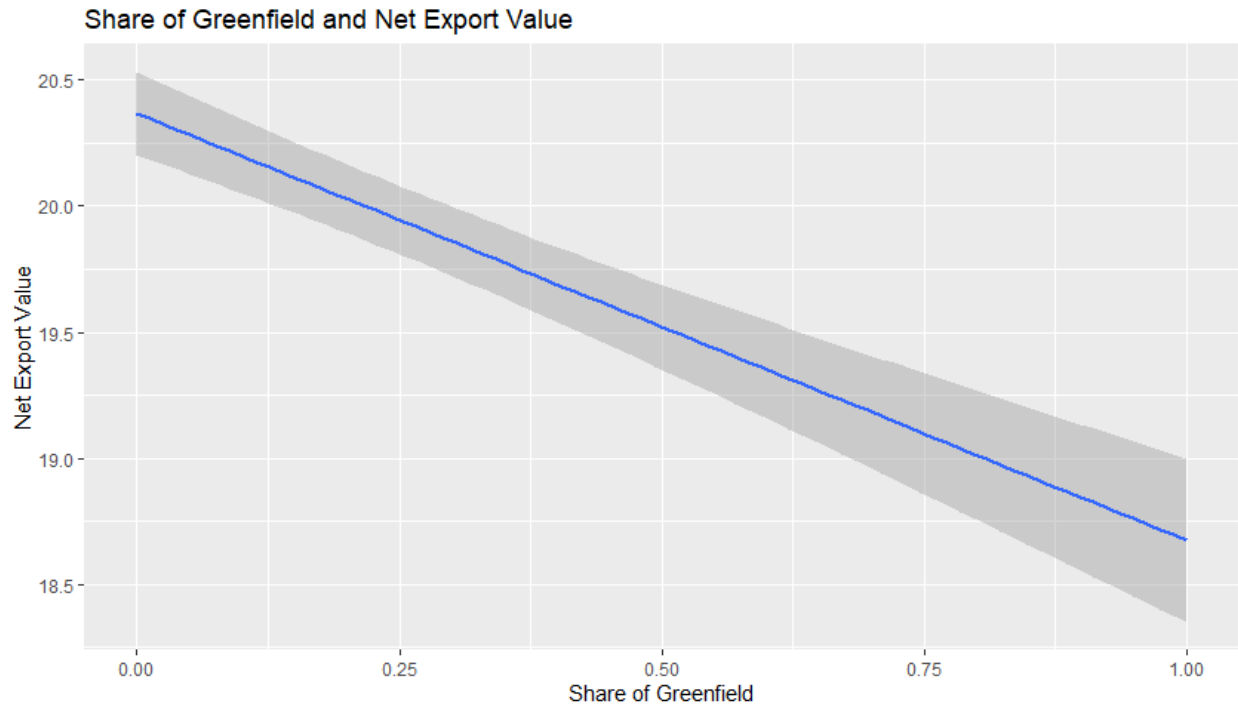


Figure 3.1: Linear Regression Line of Greenfield Investment and Net Export Value

skills and capital. The technology gap may not be large between domestic and foreign MNCs, but average domestic companies may be in an inferior position compared to large foreign MNCs. While incumbent companies may have an advantage in non-market factors, such as local information or cultural experience, the long-run profit favors foreign MNCs that produce high-quality goods and services at lower prices using advanced technology and skills. Domestic MNCs will also oppose such FDI entering the market because it means fiercer competition. In order to maintain market dominance, domestic MNCs would need to find a way to lower their price, either by investing more in R&D or reducing the markup of their products.

Thirdly, firm-specific skills are not easily transferred to local companies. In addition to possessing advanced skills, foreign companies often keep these skills within the company. As such, local companies cannot expect knowledge or information spillovers. As mentioned above, one of the reasons why MNCs pursue a greenfield investment strategy

is to maintain their competitiveness by not sharing know-how. This is particularly true if the motivation for FDI is market oriented and competing for existing customers (Knickerbocker, 1973). Some foreign MNCs even locate their factories far away from domestic rival MNCs to rule out any possibility of information leaks resulting from geographic proximity (Hanson, 2001). Without any information or technology spillovers, local companies have no reason to welcome the new entry of a large foreign MNC.

Finally, greenfield investment substantially increases the demand for high-skilled labor, resulting in a talent bidding war between local firms. Under such conditions, foreign MNCs are likely to pay high wages in order to attract local talent, because local workers have information on the domestic market and are experienced. Foreign MNCs are also in need of high-skilled labor because their business operations are typically advanced compared to average local companies (Blonigen and Slaughter, 2001). Thus, from domestic producers' perspective, new entries of foreign MNCs are likely to result in increased demand in the high-skilled labor market, resulting in a talent bidding war and increased wages (Gopinath and Chen, 2003). The increase in competition not only in the product market but also in the labor market further feeds the anti-FDI sentiment among domestic producers.

The above logic of why domestic producers are wary of greenfield investment is particularly true in high-income countries. The same logic may not apply in developing countries, because more greenfield projects lead to an increase in foreign capital and job creation, which are crucial for economic development. Moreover, local companies may not even be present in some of the industries that require large fixed costs. Thus, host governments in developing countries sometimes not only deregulate FDI policy, but also provide incentives to attract more foreign capital.

3.3.2 Cross-border M&As and Domestic Firms

An acquisition is a corporate action taken by a foreign parent company that entails purchasing more than 50% of an existing domestic firm's ownership. Thus, acquisitions are different from mergers in that the acquiring company buys the targeted company's stocks or assets to obtain control. There are two types of acquisitions, a friendly acquisition and a hostile takeover. A friendly acquisition happens when the board directors agree to sell the targeted company's shares to the potential acquirer. A hostile takeover occurs when the board directors reject the deal offered by the potential acquirer, but the acquirer nevertheless tries to buy the target company by purchasing a controlling share of stocks. Moreover, an acquirer can be either a company that produces goods and services, a financial company, or an individual financier. The first case, in which non-financial companies acquire a domestic company, is the direct alternative to greenfield investment. In the latter two cases, however, most acquisition transactions are performed when financial companies or individuals want to resell the company they bought at a profit. This paper focuses on the acquisitions made by non-financial companies.

As in the case of greenfield investment, there are numerous market and non-market factors that contribute to a foreign MNC's choice of entering a local market via cross-border M&As. This section focuses on market factors.⁶ MNCs often choose M&As as their primary entry mode to avoid the large fixed costs in the setup stage by simply acquiring a domestic company. For this reason, cross-border M&As are most frequent in industries that have many small- and medium-size local companies, which are attractive potential targets for M&As. In addition, MNCs choose cross-border M&As when their owners' management skills and the workers' skills are readily separable, because firms

⁶ There are also non-market strategies that affect the entry mode decision of multinationals. Firms are more likely to enter via cross-border M&As if the acquirer do not have much information or knowledge about the local market due to lack of experience. Furthermore, differences in corporate culture or high political risk may also encourage foreign investors to enter via cross-border M&As.

can increase profits by introducing better management to enhance production.

The above-mentioned reasons form the basis for domestic producers' preferences regarding regulation of cross-border M&As. Firstly, industries with many cross-border M&As already have large numbers of small- and medium-size incumbent firms; therefore, a few new additions to the market do not alter the market equilibrium. As previously mentioned, cross-border M&As are most frequent in industries where there are many affordable potential targets. In markets that resemble perfect competition, additional entries will not make a significant difference in the price. With many small- and medium-size domestic firms existing in the market, foreign entries do not lead to immediate changes in prices that are set in the local market. Moreover, average cross-border M&A deals are much smaller in scale compared to average greenfield investment projects. Thus, the market equilibrium price is likely to be further undisturbed. Even if cross-border M&As may result in higher productivity in the long run due to synergistic effects, studies have found that merged companies need an adjustment period, which often leads to relatively poor performance due to corporate cultural differences (King et al., 2004; Bertrand and Zitouna, 2008; Chakrabarti, Gupta-Mukherjee and Jayaraman, 2009). This effect may give domestic firms time to react accordingly to the potential market changes in the short term. Since the effect of FDI on the market is relatively negligible, incumbent domestic firms are indifferent towards FDI of this type.

Secondly, market competition may either remain the same or become reduced as a result of cross-border M&As. As foreign MNCs enter the market by acquiring an existing domestic firm, the total number of competitors usually remains the same. In other cases, if an existing foreign affiliate acquires an existing domestic firm, the number of competitors may even be reduced. From domestic producers' point of view, no new entry is better than an increase in new entries. In addition to such market-neutral effect, FDI entering via cross-border M&As tends to be directed towards more exports within the industry.

As shown in Figure 3.2, in industries with higher share of cross-border M&A deals, goods and services are more likely to be exported, unlike in the case of greenfield investment, which has market-stealing effects. Figure 3.2 plots the regression line between the share of cross-border M&As in each industry and logged value of net exports. As a result, domestic producers are relatively unconcerned about FDI increasing the market competition.

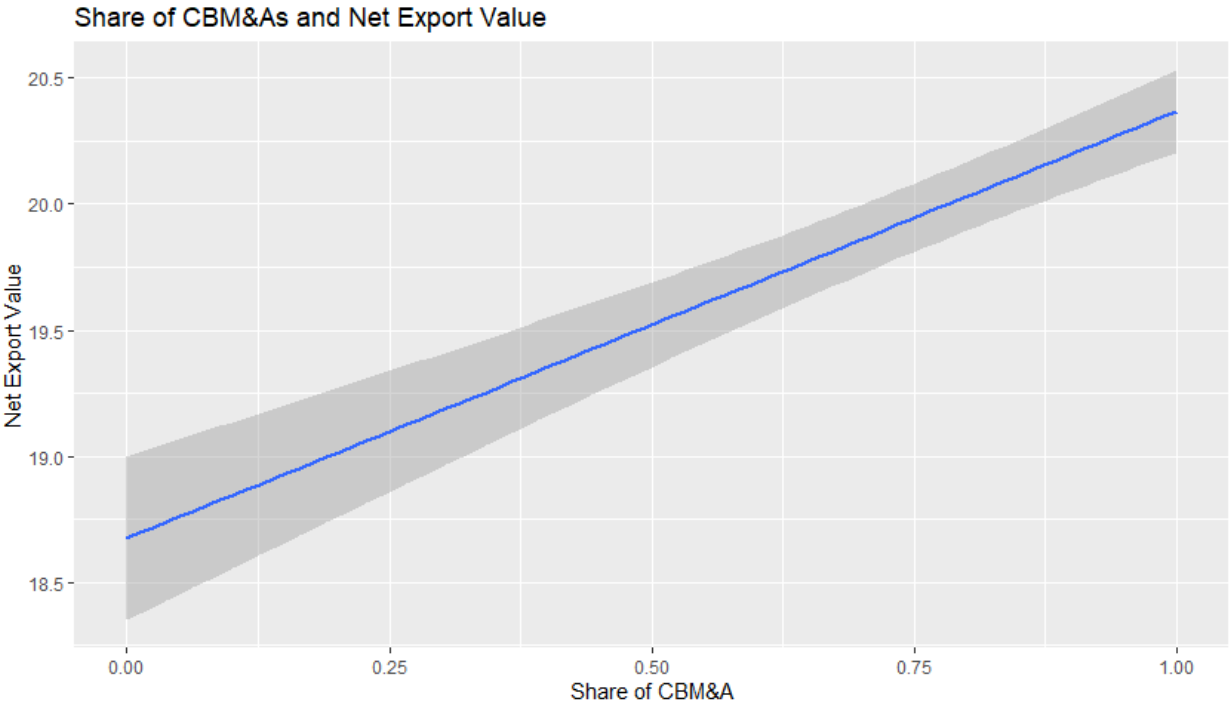


Figure 3.2: Linear Regression Line of Cross-border M&A and Net Export Value

Thirdly, active cross-border M&As increase the share prices of small domestic firms that are likely to be targets for acquisition. Indeed, some incumbent firms welcome foreign firms’ active M&A behavior, because higher M&A demand increases their overall share prices. Studies demonstrate that the value of targeted firms increases significantly each time there has been a wave of M&A activities worldwide (Goergen and Renneboog, 2004). Cross-border M&As increase target firms’ value even more than domestic M&As, because foreign firms often pay large premiums for successful bids (Kaplan and Weisbach, 1992). Thus, domestic firms, particularly small- and medium-size businesses that are likely to be

the targets of foreign multinational acquirers, welcome FDI in their industries.

Finally, while foreign acquirers' firm-specific skills are more advanced compared to average domestic firms, these skills are directly transferred to local companies. M&As allow the transfer of managerial skills and technology, which are crucial to firms' development. Acquiring an existing domestic company will lead to more spillovers than a greenfield investment project would, because the existing company is more integrated into the local supply chain and interacts more with local competitors. In the process of merging, two companies often reorganize and enhance their R&D activities (Röller, Stennek and Verboven, 2000). This process makes re-training local workers and managers with new technology/skills more conducive to spillovers between firms. Such technology transfers particularly benefit the targeted domestic firms because foreign acquirers use advanced skills to better perform in the local market (Bertrand and Zuniga, 2006). Therefore, domestic producers welcome FDI that generates positive externalities.

While cross-border M&As do not pose a greater threat on average compared to greenfield investment, there are two cases in which cross-border M&As may be a larger threat to domestic companies. Firstly, cross-border M&As may give the foreign acquirer a large market share with considerable market power. Secondly, both companies and the government fear national security breaches due to the information transfers inherent in the nature of M&As. The first scenario is true if a global MNC tries to enter an oligopolistic market through cross-border M&A. These markets are also those that have more greenfield investment; therefore, there is no overall effect on FDI restrictiveness.⁷ The second scenario applies in security-sensitive industries, such as information or electricity, or if the country of nationality of the acquirer is not a security ally. Thus, greenfield investment will be more frequent in industries that are security sensitive, which goes hand in hand with the

⁷ While these industries do have a few number of M&A deals, greenfield investment projects are more frequent, resulting in higher FDI restrictiveness.

government's regulation of FDI. In order to account for this endogeneity, I describe below an instrumental variable strategy.

3.3.3 Domestic Firm Preferences and FDI Policy

Governments have a few constituencies whose varying preferences regarding FDI influence the regulatory restrictiveness toward inward FDI. First, incumbent domestic firms may either support or oppose FDI depending on whether the foreign entries will increase market competition in favor or against them. Second, while domestic workers may support inward FDI due to job creation, studies have found that workers' preferences vary across industries (Owen, 2013; Pinto and Pinto, 2008). Thirdly, consumers may support inward FDI because FDI increases consumer welfare by introducing a variety of goods at lower prices. Fourth, foreign firms already located in the local market may also have mixed attitudes towards inward FDI, depending on whether the newly entering foreign MNC is a rival to the incumbent foreign firms. In the face of the diverging interests of these constituencies, governments are likely to listen to producers' demands, mainly because they are better organized and have more political resources compared to other constituencies, such as consumers or incumbent foreign MNCs. These domestic firms have political influence either financially or through personal ties and thus can influence the government's FDI policy in their favor (Faccio, 2006). Therefore, domestic producers, particularly larger ones, have more influence over FDI policy-making compared to domestic consumers or foreign MNCs.

Domestic producers in industries with many greenfield investment projects are likely to oppose FDI. Large-scale foreign entries in markets that are highly concentrated among a few large companies will likely create even more intensifying competition. Without any knowledge or information spillover from foreign entries to domestic incumbents, the com-

petition would further increase. The possibility of a talent bidding war in the labor market also contributes to the anti-FDI sentiment among domestic producers. Since the threat to market and labor competition is high, domestic producers are likely to demand protection via strict FDI regulations. Moreover, these large domestic companies have better means to access the political decision-making process. Therefore, industries with a high share of greenfield investment projects are more likely to have relatively strict FDI regulations.

In contrast, domestic producers in industries with many cross-border M&As are more likely to be favorable to FDI. In an industry with many existing competitors, new entries of foreign MNCs via M&As do not matter much to the existing market equilibrium and may even reduce market competition. Moreover, since these industries have many small- and medium-size firms, active cross-border M&As increase the share prices of domestic incumbent firms. Domestic producers are also less wary of FDI in these industries because they expect sharing of information, technology, and advanced skills with foreign MNCs through M&As. Therefore, industries with a high share of cross-border M&As are likely to be associated with relatively loose FDI regulations.

Hypothesis: Industries with a greater share of greenfield investments are likely to have higher FDI restrictiveness than industries with a greater share of cross-border M&As.

3.4 Data and Methodology

The main dependent variable in this research is the OECD FDI Restrictiveness Index, which is available through the OECD Statistics database. This index include the years 2003, 2006, and 2010-2019. The unit of analysis is at the industry level, where there are 30 separate industries. To match the industries with independent variables, however, I used the aggregated industry category, which is divided into 11 separate industries. There are

four types of FDI restrictions: equity restrictions, screening and approval requirements, restrictions on foreign key personnel, and other.⁸ In the main analysis, I utilized “all types” of restrictions, which is the summation encompassing all four types. Relevant data were available for 68 countries, including 36 OECD member countries and 32 non-OECD countries. I mainly analyzed my theory for the 36 OECD countries, because these countries have a sufficient amount of greenfield investment projects and cross-border M&A deals.⁹

Greenfield Investment Data

The best data for global greenfield investment projects is available via the *fDi Markets* database managed by the Financial Times. This database includes all individual global greenfield investment projects worldwide. I aggregated individual projects at the industry level for each country, then calculated the share of greenfield investments in each industry by dividing the number of greenfield projects by the sum of greenfield projects and cross-border M&As. In order to match the industry categorization of the FDI Restrictiveness Index, I referred to all information available in the dataset, including “industry,” “subsector,” “industry activity,” and “(industry) cluster.” For example, if the industry was “leisure and entertainment” and the industry cluster was ‘tourism’, I classified the industry under “hotels and restaurants.” However, if the industry was “leisure and entertainment” and the cluster was ‘retail trade,’ I classified the industry under “retail.”

Cross-border Mergers and Acquisitions Data

The total number of cross-border M&A deals was calculated based on the data available via SDC Platinum. The SDC Platinum database includes comprehensive data on all individual M&A transactions – both domestic and international – worldwide. For cross-border M&A transactions, I only included transactions that involve a pair of companies with differing parent company nations. For instance, even if a Chinese company acquired

⁸ Other types include operational restrictions such as limits on purchase of land or on repatriation of profits and capital.

⁹ Regressions on each type of restriction and non-OECD countries are reported in the Appendix section.

a United States company, if the ultimate parent company of the United States company was Chinese, I did not regard it as a cross-border M&A transaction. However, if a United States company acquired another United States company but the latter had a Chinese parent company, I regarded this transaction as a cross-border M&A. For industry classification, I referred to the four-digit Standard Industrial Classification code and matched it with the closest industry category in the FDI Restrictiveness Index. I then aggregated each transaction at the industry level by country and year. Finally, I calculated the share of cross-border M&As in each industry by dividing the number of M&A deals by the sum of greenfield projects and cross-border M&A deals.

Control Variables

I used several control variables to account for alternative explanations for FDI restrictiveness.¹⁰ First, domestic firms may welcome cross-border M&As if they involve smaller acquisition targets and thus cause their own firm prices to rise because of acquisition expectations. If this is the case, industries with many small targets, or small-size companies, will have lower FDI restrictiveness. Since small companies often do not involve high fixed capital, I use “consumption of fixed capital (CFCC)” as a proxy for the availability of small targets. If CFCC is high, there will be fewer small targets, while low CFCC indicates many small targets. High CFCC industries will likely have high FDI restrictiveness. Thus, I expect CFCC to have a positive relationship with the FDI Restrictiveness Index.

Second, domestic firms’ perceptions of greenfield investment projects may depend on whether they expect to lose their own key talent (skilled labor) to a talent bidding war. This expectation may in turn depend on talent scarcity in the overall local labor market. If this is the case, the cost of labor should increase due to the increase in labor demand. I used “labor costs (LABR)” as a proxy for changes in the local labor market. An increase

¹⁰Data on the control variables can be found at OECD.Stat database. I mainly use “Structural Analysis” data under “Industry and Services.”

in LABR is likely to be associated with lower FDI restrictiveness, because active FDI is correlated with greater competition for labor, which leads to increases in the cost of labor. Thus, I expect LABR to exhibit a negative relationship with the FDI Restrictiveness Index.

Third, domestic firms' perceptions of greenfield investment and cross-border M&As may depend on whether the foreign entrant has a reputation for helping average local industry prices or if the foreign entrant is known for engaging in price wars. In the former case, extra value added over the original price will either not change or increase, while in the latter case, extra value added over the original price will decrease such that that companies can further lower the price of their products. Thus, I used "value added at factor costs (VAFC)" as a proxy for changes to price within an industry. VAFC matters more in industries with large companies that have a significant impact on market prices. Thus, changes in VAFC – regardless of whether the price increases or decreases – would be associated with high FDI restrictiveness.

Fourth, domestic firms may welcome both cross-border M&As and greenfield investments because of the geographic location of the investment. For instance, inward FDI into existing agglomeration locations may lead to spillovers, while investment into geographically distanced domestic locations may result in few or no spillovers. To account for geographic clustering, I included the "number of persons engaged/total employment (EMPN)" variable. When LABR and EMPN are high, the industry is likely to be geographically concentrated, and when both LABR and EMPN are low, the industry is likely to be sparsely located. Finally, I included "taxes less subsidies on products (OTXS)" to account for governmental tax incentive policies granted to companies. Higher OTXS industries will be associated with lower FDI restrictiveness, as those industries are financially supported by the government.

R&D Expenditures as the Instrumental Variable

While the number of greenfield investment projects or cross-border M&As may affect the FDI regulation policy in different industries, reverse causation is also possible: regulation policy may affect FDI behavior. Restrictions on inward FDI may deter foreign MNCs from entering a certain industry via greenfield investment because they would have to pay even higher costs at the initial setup stage on top of an already high fixed cost. Similarly, industries with low barriers to FDI may cause many foreign MNCs to enter the market, either through cross-border M&As or greenfield investment. These possibilities complicate identification of the independent effects of greenfield investment and M&As on FDI restrictions.

To account for this endogeneity issue between the share of each type of FDI and FDI restrictiveness, I tested the hypothesis using a two-stage least square (2SLS) method with an instrumental variable. I used industry-level data on *R&D Expenditure* as a proxy for industry features that affect the number of greenfield investment projects and cross-border M&As.¹¹ R&D expenditures are typically high in industries where technologies change and advance quickly. A foreign MNC is more likely to choose cross-border M&A as its market entry mode when the speed of entry is crucial due to fast-changing technology. Therefore, R&D expenditures directly affect the number of cross-border M&As in industries where technological dynamism is high. In contrast, as greenfield investments require a longer time to establish a business, MNCs tend to choose greenfield investment when they are less sensitive to technological dynamism.

As for the relationship between R&D expenditures and FDI restrictiveness, the two variables may be associated through industry features mentioned in Chapter 2, but the total amount of R&D expenditures itself do not provide any information on whether the incumbent firms benefit from their own R&D or from the R&D of the entire industry. This is particularly true in high-income countries, where large domestic firms in industries with

¹¹ *Business enterprise R&D expenditure* data is available from OECD Stat database.

high international economies of scale also possess competitive skills through their own R&D expenditures within the firm. Thus, I expect that R&D expenditures will affect FDI restrictiveness only via their effect on the relative prevalence of the two types of FDI.

$$\text{Stage 1: } X_{it} = Z_{it}\delta + e_{it} \quad (3.1)$$

In stage 1, I estimated the effect of R&D expenditure (Z_{it}) on the share of each type of FDI: greenfield investment projects and cross-border M&A deals (X_{it}).

$$\text{Stage 2: } y_{it} = \alpha + \widehat{X}_{it}\beta + U_{it}\gamma + \epsilon_{it} \quad (3.2)$$

In stage 2, I tested the hypothesis using the estimates from stage 1 (\widehat{X}_{it}). I used a panel linear model with time (t , year) and group (i = country and industry pair) fixed effects for the models in both stages. X represents the total amount of FDI (either greenfield investment projects or cross-border M&A deals). U represents the control variables including LABR, EMPN, VAFC, OTXS, and CFCC.

3.5 Results

Table 3.1 details the effect of each FDI type on FDI restrictiveness without control variables. Models (1) and (2) are reduced forms that do not include the instrumental variable, while models (3) and (4) are the 2SLS regression results using R&D expenditure as the instrumental variable. The results of the reduced form models support the first part of my hypothesis, which states that industries with a higher share of greenfield investment are more likely to have higher FDI restrictiveness. However, it is unclear whether industries with a higher share of cross-border M&As are more likely to have lower FDI restrictiveness. Models (3) and (4) produced the expected results: industries with a higher share

of greenfield investment are more likely to have stricter FDI regulations, while industries with a higher share of cross-border M&As are more likely to have looser FDI regulations. However, by including an instrumental variable, the total observation has been significantly reduced, which may cause biased results. That said, in looking at all the models, there is evidence that industries with more greenfield investment relative to the share of M&As are more likely to have stricter regulations on inward FDI.

Table 3.1: FDI Entry Modes and FDI Restrictiveness

	<i>Dependent variable: FDI Restrictiveness</i>			
	Reduced Form		2SLS	
	(1)	(2)	(3)	(4)
Share of M&A	0.004 (0.004)			
Share of Greenfield		0.016*** (0.005)		
Share of M&A'			-3.116*** (0.573)	
Share of Greenfield'				4.091*** (0.752)
Observations	13,950	13,950	4,866	4,866
R ²	0.406	0.406	0.461	0.461
Adjusted R ²	0.402	0.403	0.454	0.454
Residual Std. Error	0.138 (df = 13872)	0.138 (df = 13872)	0.089 (df = 4805)	0.089 (df = 4805)
Fixed Effects	C,I,Y	C,I,Y	C,I,Y	C,I,Y

Note: C=country, I=Industry, Y=year

*p<0.1; **p<0.05; ***p<0.01

Table 3.2 presents the regression result of the share of each FDI entry mode type on FDI restrictions including the control variables. As in Table 3.1, the first two models are reduced forms without instrumental variables, while models (3) and (4) include R&D expenditure as the instrumental variable. While model (1) revealed the opposite result of what the theory expects, models (2) to (4) support the hypothesis. In model (2), a higher share of greenfield investment projects is associated with higher FDI restrictiveness.

The positive association is consistent even when the instrumental variable is included in model (4). Model (3) also found a negative and statistically strong association between the industries with a higher share of cross-border M&As and FDI restrictiveness. This finding means that industries with a higher share of cross-border M&As are more likely to have lower FDI restrictiveness. Thus, it is safe to conclude that industries with higher shares of greenfield investment relative to cross-border M&As are more likely to demand stricter regulations on inward FDI. In short, FDI entry mode matters in the variation of FDI restrictiveness across industries.

The control variables demonstrate some interesting results. First, the logged value of labor costs (LABR), which is the proxy for labor demand or labor availability, is positively associated with FDI restrictiveness. This indicates that the higher the demand for labor in an industry (which also affects the cost of labor), the higher the FDI restrictiveness index. In other words, an increase in the cost of labor (perhaps due to an increase in labor demand or higher competition for talented labor) is more likely to increase FDI restrictiveness. Second, the logged value of total employment (EMPN), which is the proxy for industry agglomeration, demonstrates mixed results: this variable is negatively associated with the FDI restrictiveness value in the reduced form models, but positively associated at a statistically significant level with FDI restrictiveness in the 2SLS models. In considering only models (3) and (4), the positive association indicates that when industry agglomeration is high, FDI restrictiveness also tends to increase, perhaps because industries are highly concentrated among a few large companies. These large companies are likely to pressure the government for stricter regulations on inward FDI to prevent an increase in market competition. Third, value added at factor costs (VAFC), which is the proxy for price changes, is negatively associated with FDI restrictiveness, indicating that industries with significant changes in prices tend to have lower FDI restrictiveness. Furthermore, the other taxes less subsidies (OTXS) variable is negatively correlated with FDI restrictiveness,

Table 3.2: Entry Modes and FDI Restrictiveness (With Control Variables)

	<i>Dependent variable: FDI Restrictiveness</i>			
	Reduced Form		2SLS	
	(1)	(2)	(3)	(4)
Share of M&A	0.013** (0.006)			
Share of Greenfield		0.015** (0.008)		
Share of M&A'			-2.256*** (0.550)	
Share of Greenfield'				3.503*** (0.854)
log.LABR	0.062*** (0.008)	0.061*** (0.008)	0.001 (0.008)	0.001 (0.008)
log.EMPEN	-0.009 (0.007)	-0.007 (0.007)	0.014** (0.006)	0.014** (0.006)
log.VAFC	-0.042*** (0.007)	-0.043*** (0.007)	-0.021*** (0.007)	-0.021*** (0.007)
log.CFCC	-0.008* (0.005)	-0.008* (0.005)	0.008* (0.005)	0.008* (0.005)
OTXS	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Observations	4,350	4,350	3,385	3,385
R ²	0.361	0.361	0.399	0.399
Adjusted R ²	0.352	0.352	0.389	0.389
Residual Std. Error	0.098 (df = 4292)	0.098 (df = 4292)	0.080 (df = 3329)	0.080 (df = 3329)
Fixed Effects	C,I,Y	C,I,Y	C,I,Y	C,I,Y

Note: C=country, I=Industry, Y=year

*p<0.1; **p<0.05; ***p<0.01

which indicates that government subsidies go hand in hand with looser FDI regulations. Finally, consumption of fixed capital (CFCC), a proxy for whether there are many small M&A targets available, is negatively associated with the FDI restrictiveness index in the reduced form, while positively associated in the 2SLS form.

Finally, I present results using a disaggregated version of FDI restrictiveness, which includes foreign equity limitations, screening and approval mechanisms, restrictions on hiring foreign key personnel, and other operational restrictions (e.g. capital repatriation or branching). The results that include instrumental variable are consistent with the regression models with the 2SLS results in Tables 3.1 and 3.3. Industries with higher share of greenfield investments are more likely to have higher restrictiveness in all types of FDI restrictions. Therefore, these results provide evidence for my theory on FDI entry modes and FDI regulation.

3.6 Conclusion and Future Research

How do domestic producers perceive foreign entries? Does the entry mode of FDI matter to domestic producers? The empirical analysis in this paper suggests that FDI entry modes matter to domestic producers and influence variations in FDI restrictiveness levels across industries. Cross-border M&As do not pose as much a threat to domestic producers as greenfield investments. M&As often involve the elimination of existing competitors, an increase in stock prices, and the direct transfer of valuable knowledge. Greenfield investments, however, often involve an increase in the number of competitors with no direct transfer of knowledge or information. Thus, greenfield investments are more disruptive to the local market, posing a greater threat to domestic incumbent producers than cross-border M&As.

By analyzing the FDI Restrictiveness Index of 11 industries in 36 OECD countries in the

Entry Modes and Other FDI Index (IV:R&D)

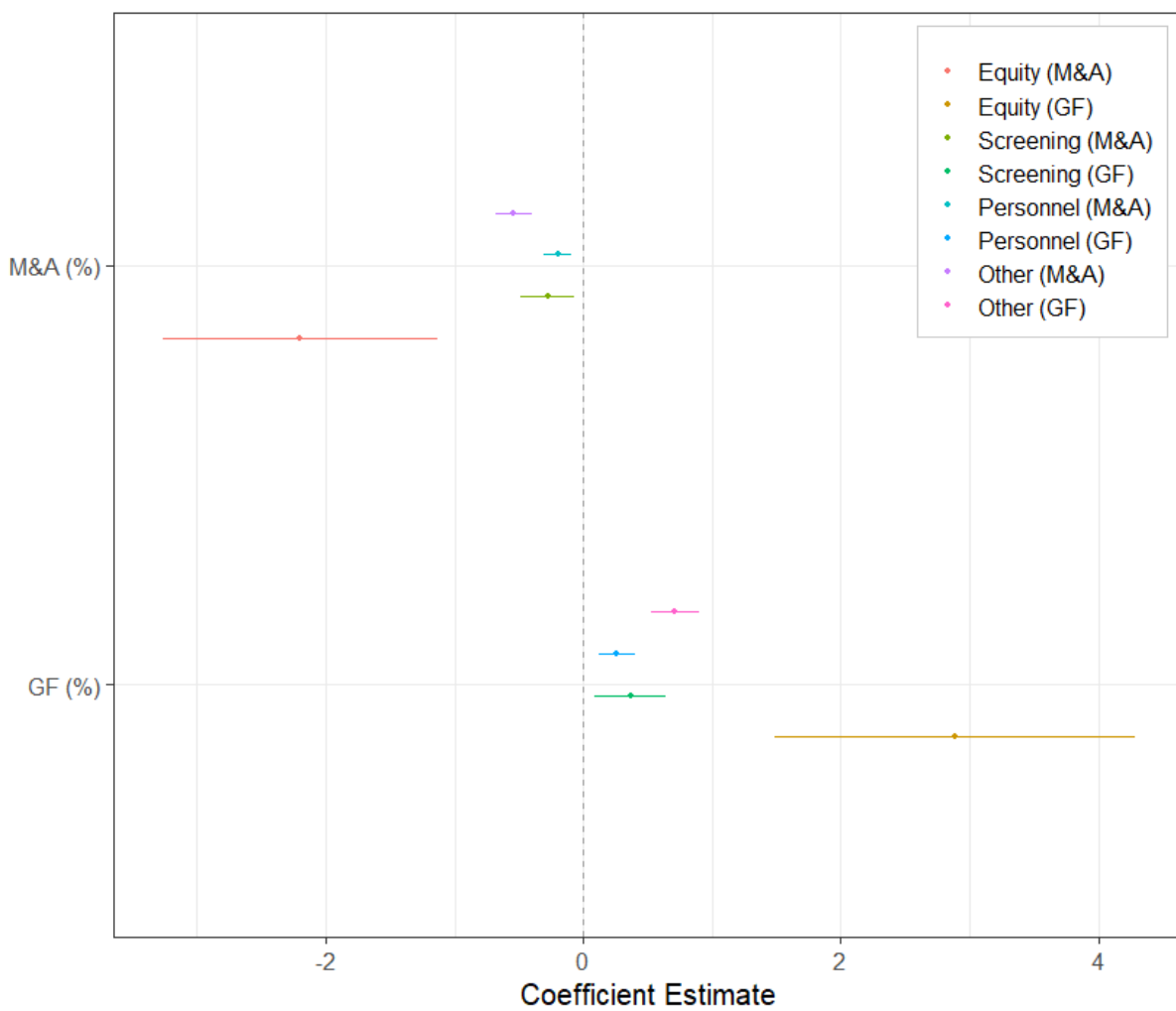


Figure 3.3: FDI Entry Modes and Other Types of Restrictions

years 2003, 2006, and 2010-2019, I found evidence for both patterns. In order to account for the endogeneity inherent in the relationship between the two types of FDI entry modes and FDI restrictiveness level, I utilized R&D expenditures as an instrumental variable and used the two-stage least square method to test my hypotheses. The findings indicate that industries with higher R&D expenditures tend to have a higher percentage of cross-border M&As and a lower share of greenfield investment. Using the fitted values obtained from the first regression, I tested the effect of the share of each type of FDI entry mode on the FDI regulatory restrictiveness level. The findings indicate that industries with more cross-border M&As are more likely to have looser FDI restrictions, while industries with more greenfield investments are more likely to have stricter FDI restrictions. These results are consistent even when including important control variables. Therefore, FDI entry modes matter to domestic producers' preferences regarding inward FDI policy.

In future research, I plan on applying different empirical methods, such as system generalized method of moments (GMM), to account for Nickell-bias and endogeneity. Another appropriate empirical model would be a multilevel model using linear mixed effects to account for country-level effects. Moreover, some of the control variables should be replaced with better proxies. For instance, value added factor costs and total employment do not accurately capture the presence of price wars or geographic agglomeration. Finally, there are other contingencies that may affect the way domestic firms perceive inward cross-border M&As and greenfield investment. For instance, the way domestic firms view inward cross-border M&A and greenfield investment may depend on whether they perceive that an M&A transaction or a greenfield project will lead to a removal of tacit or explicit collusion by industry incumbents. In another case, domestic firms' perception of cross-border M&As and greenfield investment could depend on whether the foreign entrant is expected to be investing in market expansion or competing for existing customers. Domestic firms' perceptions of cross-border M&As and greenfield investment could also

depend on whether the foreign entrant is expected to follow a low cost or differentiation strategy. Therefore, further research on domestic firms' preferences regarding inward FDI policies on the different types of FDI should carefully take these contingencies into consideration.

Chapter 4

Disguised Protectionism: Competition Laws and National Security Policies as Barriers to Cross-border M&As

4.1 Introduction

One of the main drivers of 21st century globalization is the transnational activities of multinational corporations (MNCs) and foreign direct investment (FDI). Although the general trend of FDI flow is increasing, many countries have recently adopted restrictive measures on inward FDI by imposing stricter competition policy or institutionalizing national security reviews. While these regulations are meant to protect consumers and the broader public, the recent changes have left foreign MNCs in a relatively disadvantaged position compared to domestic firms. In developed countries, where both types of FDI – greenfield investment and cross-border mergers and acquisitions (CBM&As) – are highly active, regulations on CBM&As have become particularly politicized due to the increase in Chinese M&As in developed countries. The regulations, however, are not limited to Chinese CBM&A activities and have discouraging effects on CBM&As from other countries. Rather than addressing legitimate concerns about national security or competition, regu-

lations that hinder FDI may instead be contributing to protectionism and global economic disorder.

Do governments seek to protect domestic industries from competition by restricting CBM&As? An increase in international competition as a result of CBM&As disrupts domestic markets more than imports do, especially in sectors where goods are relatively hard to trade. Domestic incumbent companies are likely to oppose a foreign MNC entering the market via CBM&A, because the new merged/acquired firm is likely to increase market competition by introducing new goods and services. Moreover, the targeted domestic firms (or acquired firms) are better equipped with advanced technology and management skills. In contrast, domestic firms would be less worried about an incumbent domestic firm acquiring another incumbent domestic firm, because the changes are less substantial. Therefore, I argue that domestic firms and industries will seek insulation from profit-lowering international competition by securing restrictions on M&As by foreign firms.

Host governments are susceptible to the demands of domestic producers, who have means and resources to influence the government's policy-making. Moreover, governments have incentive to protect "national champion" companies' competitiveness against foreign MNCs. Because of limits on overt restrictions of FDI, host governments are incentivized to use subtler forms of restrictions. I focus on two main types of regulations that govern M&A activities: competition policies (or antitrust regulations) and national security reviews. Competition laws (also antitrust laws) and entry screening/approval regulations are often conveniently used by the host government in order to protect domestic industries from CBM&As, especially when the global ultimate owners (GUOs or ultimate parent companies) of the acquiring companies are of foreign nationality. Therefore, I hypothesize that governments will utilize competition laws and national security reviews to protect domestic firms against CBM&As led by foreign MNCs.

I test these arguments using the Services Trade Restrictiveness Index (STRI), constructed from statistics from the Organization for Economic Development and Co-operation (OECD). The dataset covers 36 OECD member states over the past seven years (2014-2020). I focus on the service sectors because trade in services inevitably includes FDI activities and much of FDI in developed countries are concentrated in services. For the dependent variable, I utilize global M&A transactions data from SDC Platinum database. I separated M&As into four types: (1) CBM&As led by foreign GUOs, (2) CBM&As led by domestic GUOs, (3) domestic M&As led by foreign GUOs, and (4) domestic M&As led by domestic GUOs. Types (1) and (2) are both CBM&As, but a company may have a foreign or domestic ultimate parent company. The same applies to domestic M&A deals. This paper focuses on the comparison between types (1) and (2) for the accurate analysis of whether governments treat domestic MNCs and foreign MNCs differently. Moreover, national security reviews are only applied to CBM&As regardless of the GUO nationality, so two different types of CBM&As serves the purpose of this paper. To control for large CBM&As, I also examine a subset of data on the top 20% largest deals.

By examining the effects of competition laws and foreign entry restrictions on the number of different types of CBM&As, I find that both types of regulation disproportionately discourage M&As that involve foreign global parents compared to M&As with domestic global parents. These results are largely consistent, even when the data are isolated to large-scale CBM&A deals. Moreover, I find that foreign entry restrictions are applied even in industries that are not security-sensitive. Thus, domestic laws governing M&As are likely to discriminate against CBM&A deals by foreign affiliates whose GUOs are also foreign and to favor CBM&As by foreign affiliates whose ultimate parent companies are domestic. I therefore conclude that governments of developed countries use competition laws and national security regulations to protect domestic firms from CBM&As led by foreign MNCs.

This research on CBM&As and regulations on inward FDI offers three contributions to the field of international political economy (IPE). First, I investigate the preferences of domestic producers regarding inward FDI from the market competition perspective. Existing studies on domestic interests and FDI regulation have emphasized the importance of political institutions and the economic impact of FDI on individuals. Building upon those studies, this paper highlights a relatively under-studied aspect of FDI in the IPE literature: market competition and domestic producers' preferences regarding inward FDI. Second, I focus on a particular type of FDI, CBM&As, which has recently become one of the major issues in the study of FDI. While research on the politics of FDI is extensive, CBM&As have not been independently studied. Moreover, I demonstrate the importance of the nationality of the foreign acquirers' parent companies by examining the information on GUOs. Third, I show how governments, and the protection-seeking domestic firms they represent, strategically use apparently neutral areas of domestic policy – such as antitrust – or seemingly limited but actually highly flexible rules – those on national security review – in order to discriminate against foreign firms. This paper therefore explores a neglected topic in IPE, the politics of M&As, and demonstrates how regulatory standards in this area are politicized to defend narrow economic interests.

4.2 Political Determinants of Cross-border M&As

The question of what factors drive CBM&A transactions is one of the most well-studied fields in both business and economics literature. Many scholars argue that gravity-related determinants – such as geographical distance, colonial experience, legal origin, language and religious familiarity – significantly increase the number of CBM&As (Harzing, 2003; Malhotra, Sivakumar and Zhu, 2011; Li et al., 2017; Siegel, Licht and Schwartz, 2011). Several studies have found that the “liability of foreignness” often results in higher costs and

poor performance of foreign MNCs after CBM&A transactions (Zaheer and Mosakowski, 1997). Other studies have examined the macroeconomic indicators that affect firms' decisions to enter foreign markets via CBM&As. These studies have concluded that the development of financial markets (e.g., stock prices), economic performance (e.g., GDP growth), exchange rates and interest rates have a negative effect on inward CBM&As (Vasconcellos and Kish, 1998; Shleifer and Vishny, 2003; Boateng et al., 2014; Uddin and Boateng, 2011). These studies highlight the importance of existing country-specific features and economic conditions that affect the decision by MNCs to enter foreign markets via CBM&As.

One important driver of CBM&As are country-level policies that seek to entice or restrict foreign investment, including M&As by foreign acquirers. Regarding the political determinants of CBM&As, researchers have analyzed the impact of political institutional distance, property rights protection, and taxation policies on the locational choice of M&A deals (Levine, Demirgüç-Kunt and Beck, 2001; Collins et al., 2009; Erel, Liao and Weisbach, 2012; Hebous, Ruf and Weichenrieder, 2011). While these studies offer significant insights into why certain countries have more inward CBM&As compared to others, their focus is at the country level, where the total number of M&As is aggregated. This focus does not explain the intricate regulations that developed countries have recently imposed (e.g., industrial policies). Horn and Levinsohn (2001) found that the liberalization of international trade will induce countries to use competition policies to promote national interests at the expense of others.

Few studies have directly incorporated industry-specific tests on the effects of merger laws on CBM&As. For instance, previous studies have demonstrated that CBM&As are less likely to succeed in completion of the transaction compared to domestic M&As due to merger control laws (Conybeare and Kim, 2010; Evenett, 2002; Yan, 2018). These studies indicate that many countries treat CBM&A deals differently from domestic deals via a

screening process. The effects are particularly significant in industries that are considered security sensitive. Other studies have explored how regulations, such as pre-merger approval and competition laws, discourage CBM&As. In contrast, scholars have found that the deregulation of service sectors increases CBM&As (Boudier and Lochard, 2013).

In many cases, CBM&A regulations are applied as dyadic policies, through which countries resist foreign acquirers from specific countries. Several studies have found evidence of discrimination against foreign MNCs in CBM&As in the United States (U.S.) by the U.S. government, particularly when the CBM&A deals become publicly politicized through media (Tingley et al., 2015; Kang, 1997; Jackson, 2006). The CBM&A activities of Chinese companies have recently received extensive attention from the media. Meunier, Burgoon and Jacoby (2014) specifically discussed the politics of hosting Chinese FDI and argued that a growing number of EU member states are becoming more resistant towards Chinese CBM&As. Such high resistance against Chinese CBM&As is mainly due to the fact that the Chinese acquirers are often state-owned enterprises, which poses an immediate national security threat (Zhang, Zhou and Ebbers, 2011). What is missing in the literature, however, is acknowledgement that, while China has been the center of the CBM&A regulation topic in the past decade, it was Japan in the 1980s and Middle Eastern countries in the early 2000s that received the most attention by in U.S. reviews of cross-border M&As (Kang, 1997; Jackson, 2006). Thus, studies should not only broaden the scope of industry-specific characteristics, in addition to national security considerations, that deter CBM&As, but also conduct more comprehensive cross-country analyses on what affects CBM&A transactions.

Building upon these previous works, I address two specific regulations that deter CBM&As to a greater extent than domestic M&As. In doing so, I distinguish the nationality of the foreign acquirers' GUO as either domestic or foreign to accurately assess the effects of M&A regulations on the behavior of "foreign" firms. The comparison between the domes-

tic or foreign nationality of GUOs is important because the nationality of the immediate ownership of a foreign MNC only reveals partial information about the acquirer. There are many cases where foreign MNCs acquire their own foreign affiliates, but are labeled as CBM&A deals. Domestic MNCs located abroad may also acquire one of their affiliates in the domestic market, but the deals are similarly considered CBM&As. Therefore, I look at the nationality of the global parent companies to examine how regulation policies are applied differently to foreign GUOs and domestic GUOs in CBM&As.

4.3 Regulation on Cross-Border M&As

4.3.1 The Rise of Cross-border M&As

Regulations on CBM&As have long been one of the top political issues in developed countries. where CBM&As comprise more than half of inward FDI. In contrast, greenfield investments are more frequent in developing countries. Despite the fluctuations, CBM&A trends since the 1990s have been increasing in both value and number. As illustrated in Figure 4.1, CBM&As are particularly frequent in services industries, where foreign acquirers have a relatively easy time finding affordable targets.¹ Moreover, around 80-90% of CBM&As worldwide are completed in developed countries, and around 70-80% of the number of CBM&A transactions worldwide are in service sectors. Thus, the empirical analyses in this paper focus on CBM&As in the service sector of developed countries.

¹ Data on the aggregate number and value of cross-border M&As are from the annex tables of the UNCTAD World Investment Report 2020.

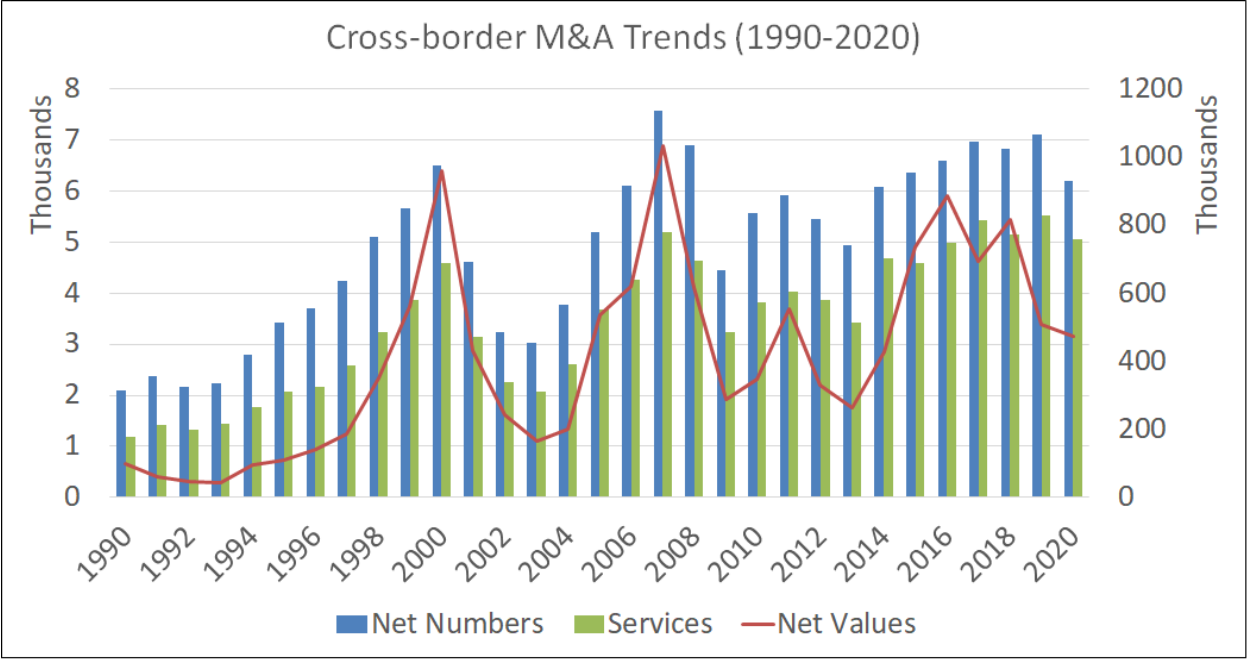


Figure 4.1: Cross-border M&A Trends (1990-2020)

4.3.2 Regulations on Cross-border M&As

Increasing CBM&As in developed countries may come with many benefits, such as technology transfers, information spillovers, and introduction of better management skills. However, what if CBM&As result in foreign MNCs dominating the domestic market by reducing the competitiveness of domestic rival firms? Domestic rival companies may be wary of foreign MNCs entering the local market via CBM&As, because these MNCs are more efficient than average domestic firms. While targeted domestic firms may benefit from M&A deals, other incumbent firms will have to adjust their business operations – such as spending more on research and development – in order to maintain their market share. However, domestic firms’ preferences regarding CBM&As may not necessarily be reflected in regulation policies. In fact, the main actor that enacts the policy, the host government, could be favorable to CBM&As for many reasons, such as to encourage the inflow of foreign capital or to protect consumers by fostering market competition. Never-

theless, there are two reasons why host governments are likely to represent the interests of domestic firms.

First, domestic firms have the means to take political action to prevent foreign MNCs from entering domestic markets via M&As. These political actions include formal lobbying as well as informal efforts, such as leveraging personal connections or offering bribes (Faccio, 2006). As such, domestic firms, particularly large firms that have significant economic resources, hold an advantage compared to foreign mergers/acquirors (Hillman, Keim and Schuler, 2004).² For this reason, many foreign MNCs choose minority-owned joint ventures when going abroad to ensure better treatment by the host government (Johns and Wellhausen, 2016; Henisz, 2000). Unlike joint ventures, however, a CBM&A transaction changes the majority ownership from domestic to foreign nationality. Thus, domestic firms have more influence over the government's regulation policy on CBM&As than foreign firms.

Second, host governments are more sympathetic to domestic firms than to foreign MNCs. Even if the targeted industry is not considered "sensitive" to the national security interest, a change in the nationality of a domestic firm is often politicized in the media, which affects the FDI policy preferences of domestic consumers, who are the main constituents of the incumbent government. Studies have shown, for example, that Chinese firms acquiring companies in the U.S. and EU are more likely to face public opposition than non-Chinese firms (Tingley et al., 2015; Meunier, Burgoon and Jacoby, 2014).

² In their review article on corporate political activities (CPA), Hillman, Keim and Schuler (2004) suggest that studies have focused lot on the firm size as the firm-level antecedent of CPA. According to the authors, "[p]erhaps the most prominent of the firm-level antecedents of CPA in recent work is firm size, whether measured by sales (Bhuyan, 2000; Hansen & Mitchell, 2000; Hart, 2001; Martin, 1995; Schuler, Rehbein & Cramer, 2002a), assets (Meznar & Nigh, 1995), market share (Schuler, 1996), or number of employees (Bhuyan, 2000; Hillman, 2003; Meznar & Nigh, 1995). Much of this work continues the tradition of examining firm size and CPA set by earlier work such as Boddewyn and Brewer (1994), Keim and Baysinger (1988), and Masters and Keim (1985) who all argue that larger firms are more politically active and firm size is an important antecedent of particular forms of CPA." (Hillman, Keim and Schuler (2004), pp.839-840)

In addition, a change in the nationality of a large “national champion” firm is particularly concerning if the foreign acquiror is either a state-owned company or from a country that does not share the host country’s national security interests (Zhang and He, 2014; Li and Vashchilko, 2010; Bertrand, Betschinger and Settles, 2016). Host governments may sometimes support the merger of two domestic companies, hoping that the new “national champion” will be too big to be taken over by foreign MNCs (Serdar Dinc and Erel, 2013). Using 290 proposed acquisitions screened by European regulators in the 1990s, Aktas, Bodt and Roll (2007) found that European regulatory intervention on CBM&As increases when more harm to European rival firms is expected. By examining the cumulative abnormal returns, the authors demonstrated that M&A announcements were generally bad news for the domestic rival firms.³ In such cases, the likelihood of European regulators intervening in the proposed M&As was higher when the bidder came from outside of the European Community (EC) than when the bidder is from the EC. Therefore, host governments are more protective of domestic industries when CBM&As are a threat to the existence of domestic rival firms.

Host governments have an array of policies that can be used to restrict FDI, but direct regulations on CBM&As are most likely to run afoul of investment treaty commitments, WTO rules, or bilateral trade treaty commitments or to otherwise cause disputes. Thus, host countries may find it more suitable to use subtler measures. I focus on two such CBM&A regulations: competition laws and entry restrictions. When assessing an M&A deal, governments compare the pre-M&A and potential post-M&A conditions in terms of market share, market concentration, unilateral pricing effect, and product differentiation. Because these conditions vary across industries and firms, competition laws are applied on

³ Cumulative abnormal returns is the “sum of the differences between the expected return on a stock (systematic risk multiplied by the realized market return) and the actual return often used to evaluate the impact of news (such as mergers, interest increase, and lawsuits) on a stock price.” NASDAQ, <https://www.nasdaq.com/investing/glossary/c/cumulative-abnormal-return> (access 3.26.2019.)

a case-by-case basis. This is also true when evaluating the national security threat posed by a CBM&A deal. Since governments have full authority over and final approval of CBM&A transactions, other entities may find it difficult to file complaints if an individual CBM&A deal fails to pass on the grounds that the deal may either harm fair competition or pose a threat to national security.

4.3.3 Competition Laws and National Security Reviews

Competition Laws and Regulation on CBM&As

Competition laws are the key barriers that both domestic and foreign investors face when engaging in M&A transactions.⁴ Since the 1980s, the number of countries that have adopted competition laws has rapidly increased, and governments have become increasingly active in enforcing the law (Büthe, 2015; Yan, 2018). Competition laws concerning M&As generally regulate those M&A transactions that would potentially decrease market competition to a significant extent. Competition laws regulate economic behaviors that tend to hinder fair competition, such as curtailing free trade between businesses, predatory pricing or price gouging, and M&As of large companies. What is concerning is that the competition laws applied to CBM&As in different industries can disadvantage foreign investors compared to domestic investors. Existing studies on the effect of competition laws on CBM&As have demonstrated mixed results. On the one hand, several studies have concluded that merger laws, particularly those that involve competition laws (Yan, 2018; Conybeare and Kim, 2010; Evenett, 2002; Barattieri, Borchert and Mattoo, 2014), indeed decrease CBM&As. On the other hand, other studies have found that competition laws actually increase CBM&As by resolving informational asymmetry (Bris, Cabolis and Janowski, 2007; Coeurdacier, De Santis and Aviat, 2009). While detailed (strict) competi-

⁴ Competition laws are named differently across countries. For example, they are referred to as antitrust laws in the United States, and anti-monopoly laws in China, Japan, and Korea.

tion laws may provide a fair guide to all potential acquirers, foreign acquirers still stand in a relatively disadvantaged position compared to domestic acquirers for several reasons.

First, governments strategically use competition laws to protect domestic firms' competitive advantages over foreign MNCs. Governments are more likely to give exceptions to domestic firms than to foreign firms when they find violations of competition policy. Studies on antitrust laws have found that governments promote the business of domestic MNCs at the expense of foreign MNCs (Budzinski, 2012; Evenett, 2002; Guzman, 2004). Therefore, as domestic firms have more influence over their own government's policy-making (see section 3.2), the host government's strategy to increase domestic firms' global competitiveness further drives discriminatory policy against foreign GUOs regarding CBM&As.

Second, competition laws are more likely to discriminate against CBM&As by foreign GUOs because foreign acquirers, unlike domestic firms, are not familiar with the legal and business culture in the local market. Without inside information, foreign firms are unsure to what extent the strict enforcement of competition laws will affect their CBM&A deals. Clougherty and Zhang (2021) also argues that domestic merger policies are more likely to discourage CBM&As than domestic M&As because foreign firms face higher policy risk and uncertainty due to the inherent liabilities of foreignness and information asymmetry. The lack of information affects the already high transaction costs that foreign firms have to pay in order to enter a new local market. Thus, foreign firms become risk-averse to avoid the large losses that come with failed CBM&As after the deal announcements.

Third, lack of information is also problematic from the host government side. While the goods and services produced by domestic firms already exist in the local market, the goods and services of foreign firms are new to the market. As competition laws are enforced prior to the completion of M&A transactions, governments have more difficulty in assessing the economic impact of potential CBM&As by foreign GUOs compared to do-

mestic GUOs. Although some studies have indicated an increase in firms' performances after CBM&As (Ashraf, Herzer and Nunnenkamp, 2016), many others have concluded that CBM&As have either negative or insignificant effects on the overall local economic performance (Neto et al., 2008; Wang and Sunny Wong, 2009). Therefore, policy enforcers may be more conservative towards CBM&As that would bring new products to the market.

For the empirical analysis, I focus on developed countries (OECD members) to examine the effect of competition laws on CBM&As in different service industries. I focus on OECD members because almost all of the CBM&A transactions worldwide are concentrated in high-income countries. Furthermore, rather than simply comparing between CBM&As and domestic M&A activities, I look at the nationality of the GUO of CBM&A deals to distinguish between domestic parent companies (domestic GUOs) and foreign parent companies (foreign GUOs). Since competition laws, in theory, should be applied equally to all M&As, the comparison within CBM&As is pertinent because I am interested in whether nationality matters in the regulation of CBM&As. To control for the size of M&A deals, I also examine whether competition laws discourage CBM&As by foreign GUOs more than CBM&As by domestic GUOs when only examining the top 20% largest deals. Thus, I test the following hypothesis:

Hypothesis 1: Stricter competition laws are more likely to discourage CBM&As by foreign GUOs compared to CBM&As by domestic GUOs.

National Security Reviews through Entry Restrictions

Another way to regulate CBM&As is by restricting foreign MNCs on the basis of national security and public order. An increasing number of developed countries are adopting national security reviews of foreign entries, which is a relatively explicit regulation on

CBM&As. Since its establishment in 1975, the Committee on Foreign Investment in the United States (CFIUS) has continued to expand its authority over “covered transactions.”⁵ Other countries including, European Union member states and Australia, have also recently discussed establishing a CFIUS-like institution to review inward FDI. Although these measures are supposedly limited to certain industries (e.g., defense, aerospace, and other sensitive technology or information), the possibility of being disapproved by the government authority substantially affects CBM&A behaviors.

Most developed countries, and more recently many emerging markets, have laws and regulations that regulate FDI based on public order and national security concerns. In Article 3 of the OECD “Code of Liberalisation of Capital Movements,” member states have agreed that “the provision of this Code shall not prevent a Member from taking action which it considers necessary for: i) the maintenance of public order or the protection of public health, morals and safety; ii) the protection of its essential security interests; iii) the fulfillment of its obligations relating to international peace and security.”⁶ Moreover, countries express reservations regarding liberalizing certain industries according to their own national situation. This can also be found in the OECD “National Treatment for Foreign-Controlled Enterprises,” where countries explicitly note measures taken for public order and security. However, since industries are broadly categorized, it is difficult to identify which sectors within those industries are considered security sensitive.

How do host governments make decisions about whether a CBM&A is contrary to national security interests? In most developed countries, there is a government agency that oversees those transactions. While the details of the reviewing process vary across

⁵ “CFIUS is an interagency committee authorized to review certain transactions involving foreign investment in the United States.” CFIUS can unilaterally block cross-border M&As that are considered to be harmful to national interests.

⁶ OECD Code of Liberalisation of Capital Movements, 2018., p. 10. The Code is updated whenever the reservations and/or exceptions of an adhering country are modified by the OECD Investment Committee or the OECD Council. Link to the document (accessed 3/27/2019)

countries, the U.S. institution is regarded as a good model of reference.⁷ The U.S. national security reviews on CBM&As are conducted by the CFIUS, which has recently increased its profile due to active Chinese M&As in the U.S. The CFIUS is an interagency committee authorized to review CBM&As that fall under “covered transactions” specified in the CFIUS regulation, 31 CFR Part 800 and 801. The CFIUS was first established in 1975, and, since then, it has continuously expanded its role in intervening in CBM&As that trigger national security concerns. The Foreign Investment Risk Review Modernization Act of 2018 (FIRRMA) made amendments to the CFIUS, expanding the scope of covered transactions by broadening the meaning of “critical technology” and increasing the number of days of the review process from 30-45 days to additional 15 days. Although the main targets of this law are firms from China, it does not preclude firms from other countries from being reviewed. Thus, the screening and approval process, in addition to competition laws, is a major entry barrier to CBM&As.

Moreover, since national security reviews are considered exceptions to economic liberalization treaties, countries are likely to utilize these regulations in industries that demand protection. Since national security reviews only affect CBM&As, comparison between CBM&As and domestic M&As will obviously reveal fewer CBM&As than domestic M&As. This is a further reason why I compare between CBM&As with foreign GUO and CBM&As with domestic GUO. A global ultimate owner (or ultimate parent company) is at the top of the corporate ownership structure, but not necessarily a controlling owner or beneficiary owner. Even if the GUO is domestic, if the immediate parent is foreign, the M&A transaction is considered a CBM&A and is “covered” under CFIUS reviews. This rule is also implied in the CFIUS regulation in Section 800.402 “Contents of voluntary notice,” which states that the transaction notice should include the name and nationality of

⁷ Many countries, including the European Union members and Australia, have been trying to adopt similar institutions that resembles that of the US. In fact, Kirchner and Mondschein (2018) argues that the US CFIUS provides a useful model for how Australia can reform FDI screening process.

“[t]he immediate parent, the ultimate parent, and each intermediate parent, if any, of the foreign person that is a party to the transaction.”⁸ Therefore, if the host government places a higher priority on domestic firms, the effect of barriers to screening would disproportionately discourage CBM&As with foreign GUO. Foreign entry restrictions do not, however, have distinguishable effects on domestic M&As, regardless of the nationality of the GUO, because a domestic M&A transaction is not considered an “entry” to the domestic market. Therefore, I test the following hypothesis:

Hypothesis 2: Stricter foreign entry restrictions are more likely to discourage CBM&As by foreign GUOs compared to CBM&As by domestic GUOs, even in industries that are not security-sensitive.

4.4 Data and Empirical Analysis

To test each hypothesis, I created a dataset that consists of two types of service-related regulations and four categories of total number of M&A transactions. The dataset includes 36 OECD member states and the data span from 2014 to 2020. Following the service sector categories of the two main variables from the OECD Services Trade Restrictiveness Index, I include 21 service sectors.⁹ In the following section, I explain each variable in more detail.

⁸ See 31 CFR Part 800, Department of the Treasury (2008), “Regulations Pertaining to Mergers, Acquisitions, and Takeovers by Foreign Persons; Final Rule.”, p.70724. CFIUS

⁹ The detail of service sectors is in the Appendix section.

4.4.1 Data

Dependent Variable: Cross-border M&A deals

I used all M&A deals announced in the past seven years, from 2014 to 2020, obtained from the *SDC Platinum* database.¹⁰ I used announced M&As rather than completed M&As for two reasons. First, I am interested in whether strict regulations discourage the investment behavior of foreign MNCs so announcement of M&A deals better reflects how the investment atmosphere affects CBM&As.¹¹ Second, the duration of M&A deal completion varies from several months to several years. Thus, the regulatory environment in the year in which an M&A deal was announced and that of the year when it was completed may be different. Thus, for consistency, I used the announced dates of M&As.

To identify the GUO (or ultimate parent company), I examined the nationality information of the immediate acquirers as well as their ultimate parent companies. In order to evaluate the effect of government regulations on CBM&As, all M&As deals were sorted into four different subsets: (1) CBM&As in which the acquirers' GUOs are foreign, (2) CBM&As in which the acquirers' GUOs are domestic, (3) domestic M&As in which the acquirers' GUOs are foreign, and (4) domestic M&As in which the acquirers' GUOs are domestic. For instance, if both nationalities are different from the target's nationality, they are category (1). In this paper, I focus on the comparison between categories (1) and (2). I counted the number of M&A deals for each country by service sectors (see Appendix). For hypothesis 2, I divided industries into two subgroups: security-sensitive and non-

¹⁰Thompson SDC Platinum database is more widely used because of its accuracy in the firm-level data and the announcement dates for M&A deals (Bollaert and Delanghe 2015). Another M&As database, Zephyr, has an edge on the information about vendors and multiple acquirers; however, my research does not deal with either of those variables. Therefore, I use SDC Platinum's M&A data.

¹¹While announced deals have not been formally reviewed by government agencies, announcement itself brings media attention and can gain informal information on whether a deal has higher possibility of passing competition regulation or national security reviews.

sensitive industries.¹²

Independent Variables

I examined two types of regulation: barriers to competition (or restrictive competition law) and foreign entry restrictions (national security review), which are subgroups of the OECD Service Trade Restrictiveness Index (STRI). The STRI measures how open a country's market is on scale from zero to one, where one indicates the highest restrictiveness – completely closed to foreign service providers. This database is suitable for my analysis for two reasons. First, it contains factual information on laws and regulation based on the most favored nation (MFN) treatment standard. Therefore, it does not reflect bilateral or multilateral agreements between and among countries, which makes it easy to focus on sector-level cross-country comparison. Second, restrictiveness is measured at the sector level, so it reflects FDI regulation at the industry level. This condition makes it simple to check if the regulatory restrictiveness of screening and approval for CBM&As is actually used for national security purposes or for disguised protectionism. There are five policy areas within the STRI: restrictions on foreign entry, restrictions on the movement of people, other discriminatory measures, barriers to competition, and regulatory transparency. Among these, I utilized two measures that are most relevant to my research on CBM&A regulations: restrictions on foreign entry and barriers to competition.

The *competition laws* variable includes laws and regulations applicable to publicly controlled firms, price settings, contract conditions, and vertical and horizontal M&As. While other policy areas concern discriminatory measures against foreign firms, barriers to competition are mostly non-discriminatory, which means that the same laws and regulations are applied to domestic firms. Therefore, if competition laws have a more discouraging ef-

¹²For security-sensitive industries, I include Air transport, Broadcasting, Computer, Maritime transport, Rail freight transport, Road freight transport, Telecom. All others are labeled as non-sensitive industries.

fect on CBM&As compared to domestic M&As, the host government is indeed protecting its domestic firms.

The variable *restrictions on foreign entry* includes laws and regulations on screening and approval, nationality of the board of directors, and restrictions on CBM&As. Thus, I found this measure to be the best representation of CBM&A regulation regarding national security reviews. The Appendix provides details on the measurement methods for the two regulatory restrictiveness indices.

In order to identify the difference between CBM&As with foreign GUOs and CBM&As with domestic GUOs, I used an interaction term for each type of regulatory restrictiveness variable and a dummy variable for M&A deals by foreign GUOs. For instance, in the *type* variable, CBM&As with foreign GUOs are 1, while CBM&As with domestic GUOs are 0. When comparing domestic M&As by domestic companies whose ultimate parent companies are foreign and domestic M&As by those whose parent companies are domestic, I similarly created a dummy for foreign GUOs.¹³

Control variables

I also included several economic control variables, including the logged value of GDP per capita, imports and exports as a share of GDP, and outward FDI as a share of GDP to account for each country's global economic position.¹⁴ I expected that a unit increase in these variables would be positively associated with the number of CBM&As. I also added two financial variables that are closely related to M&A activities: exchange rate and share price index.¹⁵ Exchange rate is an important determinant of CBM&As because if the acquirer's national currency is stronger than the targeted firm's national currency, it significantly

¹³ Domestic companies whose GUOs are foreign nationalities are, in other words, foreign affiliates.

¹⁴ Data on GDP per capita was downloaded from the World Bank DataBank and import, export, and outward FDI data were obtained from OECD.Stat database.

¹⁵ Both data were obtained from OECD.Stat database.

reduces the cost of a M&A. A share price index, or stock price, is particularly important for CBM&As because it represents the average prices of company shares within a country. Thus, the lower the price, the higher the number of M&A deals, because targeted firms become more affordable to the acquirers. Finally, I included two variables related to FDI openness: start-up procedures to register a business and the number of bilateral investment treaties (BITs).¹⁶ As the procedures to start a business increase, the number of CBM&As compared to domestic M&As should decrease. In contrast, the number of BITs should be positively associated with the number of CBM&As.

4.4.2 Empirical Model

I used panel ordinary least square (OLS) model with country-industry and year fixed effects to test hypotheses. The equation below specifies the two empirical methods. i , j , t , and k denote industry, country, year, and the type of CBM&A, respectively. X_{1ijt} is the regulatory restrictiveness index value of either the competition law or foreign entry restriction, X_{2k} is the type of GUO (1 if foreign GUO and 0 if domestic GUO) and $(X_1 * X_2)_{ijtk}$ is the interaction term of the two. U_{jt} represents country-level control variables.

$$y_{ijtk} = \alpha + \beta_1 X_{1ijt} + \beta_2 X_{2k} + \beta_3 (X_1 * X_2)_{ijtk} + \gamma U_{jt} + \epsilon_{ijtk}$$

4.4.3 Results

Table 4.1 presents the results for hypothesis 1 examining the effect of competition laws on CBM&As by foreign GUOs and domestic GUOs. Looking at model (1), a unit increase in the restrictiveness of competition laws increase the number of CBM&As by 21.71 deals when the CBM&A acquirer's GUO is domestic. However, the effect of competition laws

¹⁶Start-up procedures downloaded from the World Bank DataBank and BITs downloaded from UNCTAD (<https://investmentpolicy.unctad.org/international-investment-agreements>).

on the number of CBM&A deals is lowered by 40.55 when the acquirer's GUO is foreign, turning the slope negative (-18.84). Figure 4.2 graphically illustrates the marginal effects of competition laws on the number of two types of CBM&As. While the number of CBM&As led by domestic GUO increase with stricter competition laws, the slope for foreign GUO decreases as the restrictiveness of competition laws increase. In other words, CBM&As led by foreign GUOs are significantly discouraged with stricter competition laws. The results are consistent when important control variables are included in model (2). Thus, hypothesis 1 is supported in the empirical analysis. Strict competition laws tend to disproportionately discourage CBM&A deals with acquirers whose GUOs are foreign compared to CBM&A deals with acquirers whose GUOs are domestic.

Models (3) and (4) present the results on the effect of competition laws on large-scale CBM&A deals to examine if hypothesis 1 holds for large deals. This examination is important because CBM&As tend to be larger than domestic M&As and thus are more likely to be regulated by competition laws. While the effect of competition law alone does not show statistical significance, the difference between the slope of the effect of competition laws on CBM&As by foreign GUOs and that on CBM&As by domestic firms is negative and significant. Within the subset of the top 20% of the largest deals, competition laws discourage CBM&As by foreign GUOs by 0.957. In other words, discrimination against CBM&As is not due to the fact that CBM&A deals are larger than domestic M&As. Therefore, there is evidence that the nationality of the GUOs of foreign MNCs matters when governments enact and enforce competition laws on CBM&As.

Table 4.2 presents the regression results for hypothesis 2. Models, (1) and (2) include all industries, while models (3) and (4) are subsets of security-sensitive industries and others, respectively. As with the results from Table 4.1, strict entry restrictions are more likely to discourage CBM&A deals by acquirers whose GUOs are foreign compared to CBM&A deals by acquirers whose GUOs are domestic. The results are statistically sig-

Table 4.1: Effect of Competition Laws

	<i>All CBM&As</i>		<i>Top 20% CBM&As</i>	
	(1)	(2)	(3)	(4)
Competition Law	21.71*** (5.997)	23.29*** (6.523)	0.565 (0.562)	0.859 (0.672)
Foreign GUO	4.53*** (0.250)	4.59*** (0.277)	0.214*** (0.023)	0.265*** (0.029)
Competition Law:Foreign GUO	-40.55*** (5.545)	-40.79*** (6.079)	-1.522*** (0.520)	-1.927*** (0.627)
Logged GDPPC		-0.926 (2.502)		0.056 (0.258)
Δ Exchange Rate		1.045 (2.931)		0.218 (0.302)
Δ Shared Price		-0.272 (1.245)		0.022 (0.128)
OFDI		0.005 (0.017)		0.0001 (0.002)
Business Procedure		0.123 (0.257)		0.011 (0.027)
Export (% of GDP)		-0.019 (0.107)		-0.010 (0.011)
Import (% of GDP)		-0.003 (0.114)		0.009 (0.012)
Number of BITs		-0.159 (0.240)		-0.020 (0.025)
Observations	10,990	8,804	10,990	8,804
R ²	0.222	0.225	0.192	0.222
Adjusted R ²	0.217	0.218	0.187	0.215
Fixed Effects	C, I, Y	C, I, Y	C, I, Y	C, I, Y

Note: C=country, I=industry, Y=year

*p<0.1; **p<0.05; ***p<0.01

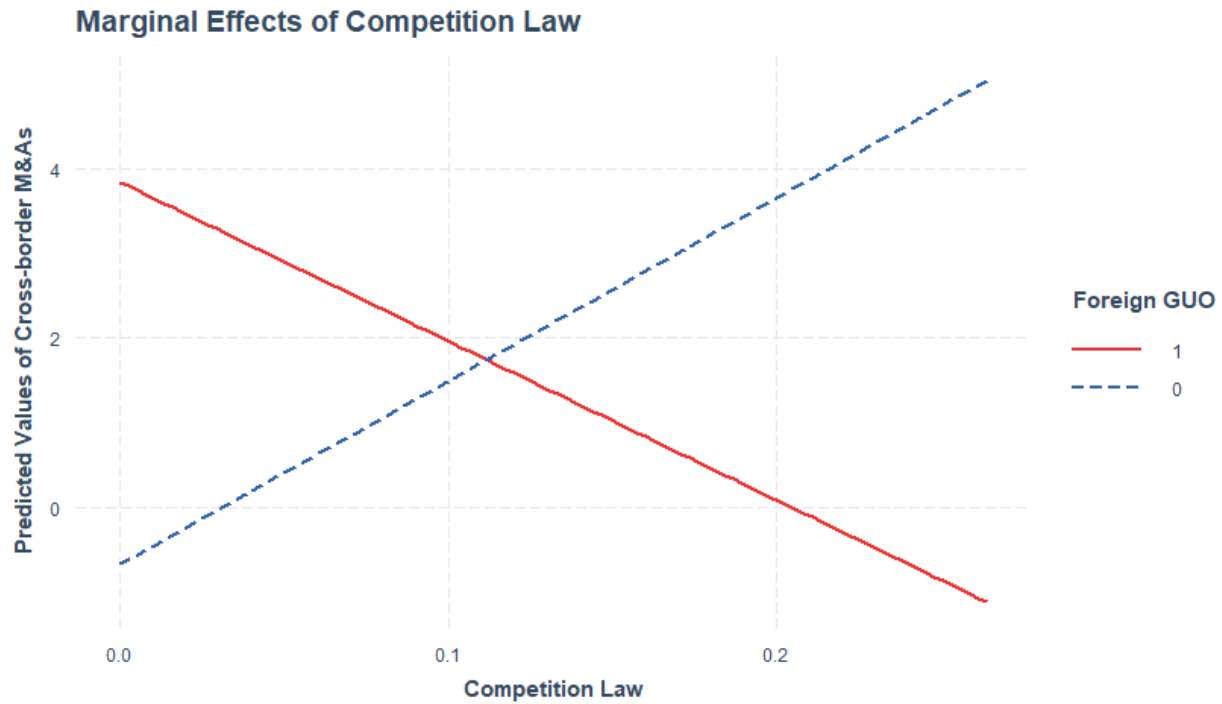


Figure 4.2: Marginal Effects of Competition Law

nificant throughout all models for all industries, security-sensitive industries and non-sensitive industries. Figures 4.3, 4.4, and 4.5 graphically depict the marginal effects of foreign entry restrictions on CBM&As. Looking at Figures 4.3 and 4.4, while stricter foreign entry restrictions have positive effect on the number of CBM&As led by domestic GUOs, they have negative effect on the number of CBM&As led by foreign GUOs. These results confirms that foreign entry restrictions definitely discourage CBM&As led by foreign GUOs. This make sense because CBM&As led by foreign GUOs may indeed threaten national security and public order. However, this pattern persists even when the industries are subset to security non-sensitive sectors. In Figure 4.5, which only includes security non-sensitive industries, strict foreign entry restrictions discourage CBM&As by foreign GUOs, while CBM&As by domestic GUOs are increasing. Therefore, hypothesis 2 is also supported in the empirical analysis. Strict entry restrictions discourage CBM&A deals by

foreign GUOs to a much greater extent than deals by domestic GUOs, and the pattern is not limited to security-sensitive industries. These results indicate that national security reviews are potentially used as a way to protect domestic industries from foreign acquirers.

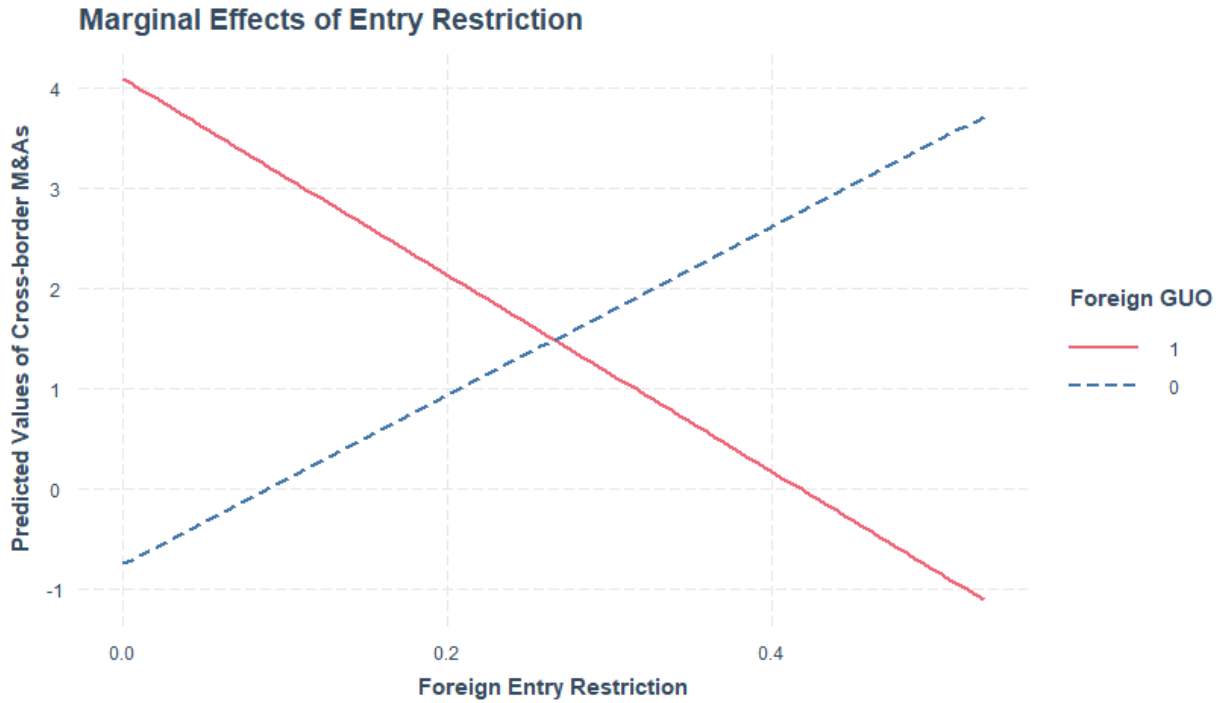


Figure 4.3: Marginal Effects of Foreign Entry Restriction

Table 4.3 presents the effect of entry restrictions on large-scale CBM&As (top 20% largest deals). Similar to the results from Table 4.2, strict entry restrictions are associated with a larger decrease in CBM&As by acquirers whose GUOs are foreign compared to CBM&As by acquirers whose GUOs are domestic. However, when industries are divided into security sensitive and non-sensitive, entry restrictions do not show statistical significance. The results in models (3) and (4) indicate that foreign entry restrictions discriminate against foreign firms, but not in non-sensitive industries. In other words, among large-scale M&A transactions, entry restrictions may actually discriminate against

Table 4.2: Effect of Entry Restriction (All CBM&As)

	<i>All Cross-border M&As</i>			
	All industries (1)	(2)	Security (3)	Non-Security (4)
Entry Restriction	8.412*** (2.308)	8.795*** (2.505)	15.231** (6.478)	5.732*** (1.636)
Foreign GUO	4.845*** (0.284)	4.945*** (0.314)	10.496*** (0.986)	3.010*** (0.183)
Entry Restriction:Foreign GUO	-18.219*** (2.528)	-18.635*** (2.760)	-44.410*** (6.652)	-7.528*** (1.941)
Logged GDPPC		-0.926 (2.502)	-1.196 (7.282)	-0.818 (1.444)
Δ Exchange Rate		1.059 (2.931)	2.271 (8.513)	0.503 (1.693)
Δ Shared Price		-0.275 (1.245)	-0.416 (3.633)	-0.210 (0.718)
OFDI		0.005 (0.017)	0.006 (0.050)	0.004 (0.009)
Business Procedure		0.118 (0.257)	0.081 (0.745)	0.129 (0.149)
Export (% of GDP)		-0.018 (0.107)	-0.036 (0.311)	-0.010 (0.062)
Import (% of GDP)		-0.004 (0.114)	0.012 (0.334)	-0.011 (0.066)
Number of BITs		-0.159 (0.240)	-0.237 (0.695)	-0.123 (0.139)
Observations	10,990	8,804	2,744	6,060
R ²	0.222	0.225	0.227	0.330
Adjusted R ²	0.217	0.218	0.211	0.323
Fixed Effects	C, I, Y	C, I, Y	C, I, Y	C, I, Y

Note: C=country, I=industry, Y=year

*p<0.1; **p<0.05; ***p<0.01

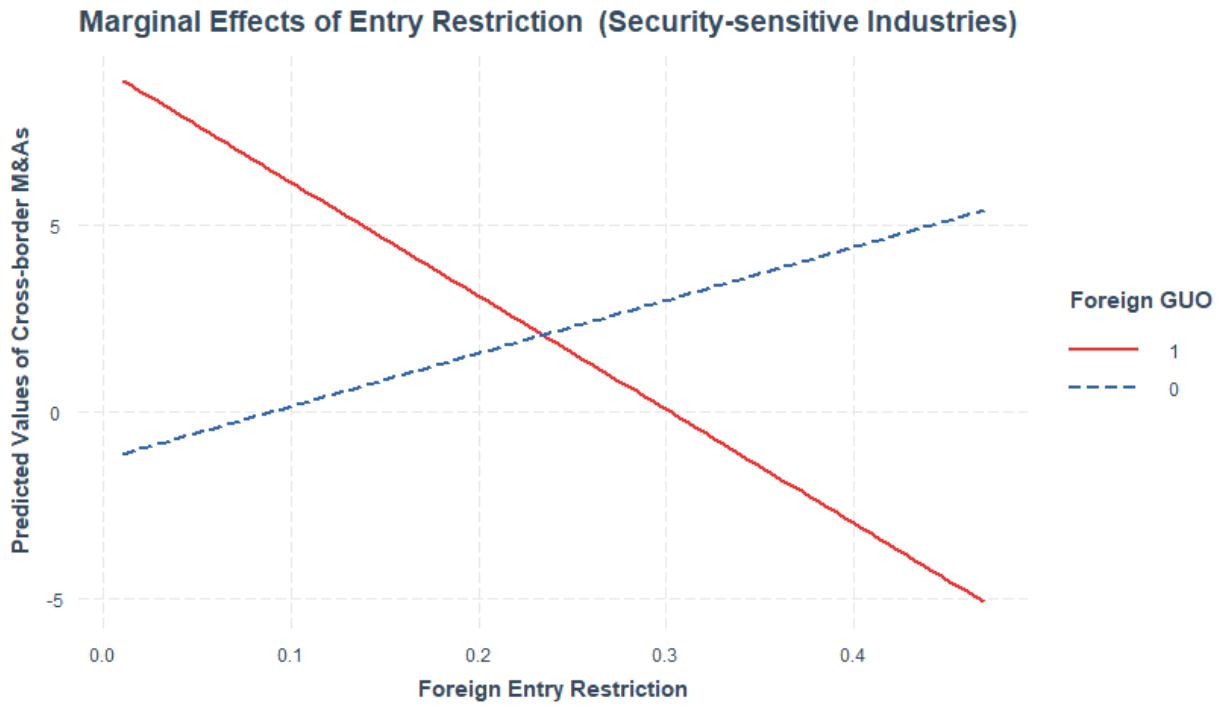


Figure 4.4: Marginal Effects of Foreign Entry Restriction (Security-Sensitive)

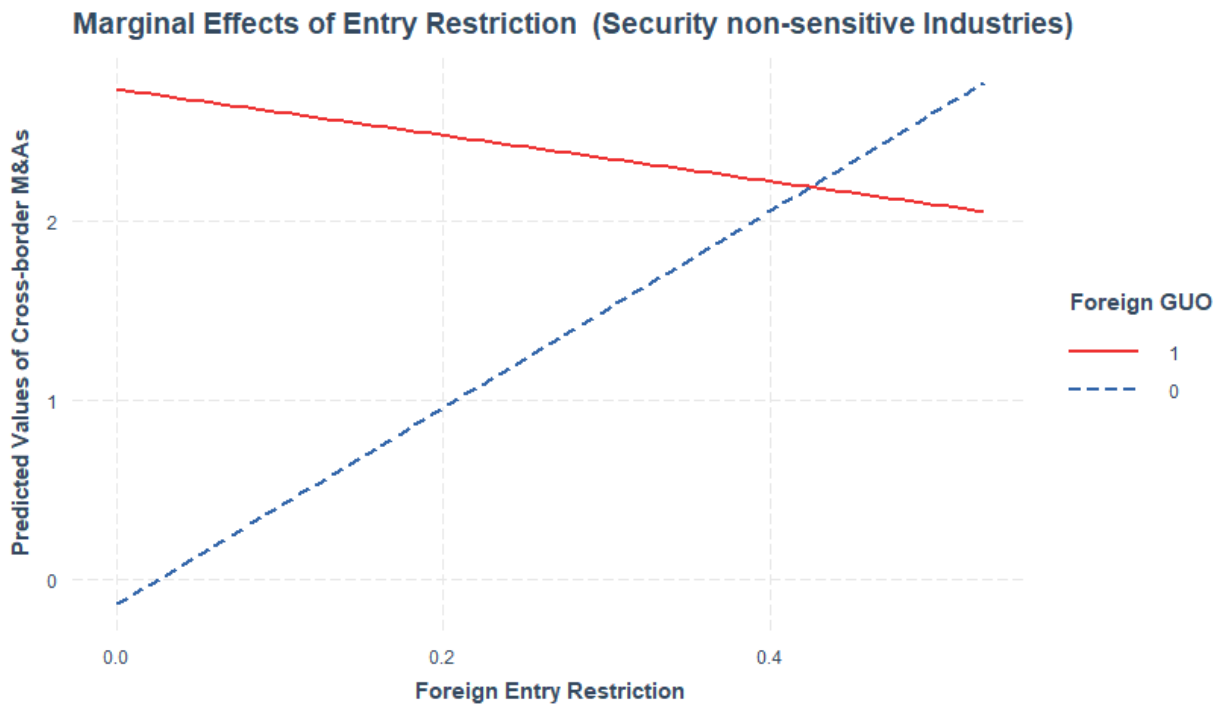


Figure 4.5: Marginal Effects of Foreign Entry Restriction (Non-Sensitive)

Table 4.3: Effect of Entry Restriction (Top 20% Deals)

	Top 20% CBM&As			
	All industries (1)	(2)	Security (3)	Non-Security (4)
Entry Restriction	0.339 (0.216)	0.432* (0.258)	-0.163 (0.565)	0.794*** (0.270)
Foreign GUO	0.227*** (0.027)	0.280*** (0.032)	0.581*** (0.086)	0.178*** (0.030)
Entry Restriction:Foreign GUO	-0.698*** (0.237)	-0.863*** (0.285)	-2.219*** (0.580)	-0.326 (0.320)
Logged GDPPC		0.056 (0.258)	0.441 (0.635)	-0.126 (0.238)
Δ Exchange Rate		0.218 (0.302)	0.229 (0.742)	0.208 (0.280)
Δ Shared Price		0.022 (0.128)	0.078 (0.317)	-0.003 (0.119)
OFDI		0.0001 (0.002)	-0.001 (0.004)	0.001 (0.002)
Business Procedure		0.011 (0.027)	-0.033 (0.065)	0.031 (0.025)
Export (% of GDP)		-0.010 (0.011)	0.0002 (0.027)	-0.015 (0.010)
Import (% of GDP)		0.009 (0.012)	0.002 (0.029)	0.012 (0.011)
Number of BITs		-0.020 (0.025)	-0.029 (0.061)	-0.015 (0.023)
Observations	10,990	8,804	2,744	6,060
R ²	0.192	0.222	0.211	0.263
Adjusted R ²	0.187	0.215	0.194	0.256
Fixed Effects	C, I, Y	C, I, Y	C, I, Y	C, I, Y

Note: C=country, I=industry, Y=year

*p<0.1; **p<0.05; ***p<0.01

foreign firms on the grounds of national security. Therefore, while both competition laws and national security reviews clearly discriminate against foreign MNCs and favor domestic MNCs in CBM&As, entry restrictions in large-scale CBM&As may only be applied in security-sensitive industries.

Finally, looking at the control variables, while the signs mostly indicate expected results, none of the results are statistically significant. First, an increase in the exchange rates of target companies' domestic currencies is associated with more M&A deals, which means that large amounts of M&As may have an effect on the increase of currency value. An increase in share prices, however, is generally associated with fewer M&As, indicating that the more expensive the target companies become, the fewer M&A deals result. Outward FDI is associated with more M&A deals, which means that countries that engage in active outward FDI are also likely to have significant inward FDI. Finally, exports and imports have negative correlations with the number of CBM&As, which means that FDI often serves as an alternative to international trade.

Several indicators exhibited unexpected results. For instance, GDP per capita is negatively associated with the number of M&As, and the number of start-up procedures is positively associated with both cross-border and domestic M&As. Finally, the number of BITs also did not exhibit consistent results, but this result may be because BITs do not matter much in high-income countries and domestic M&A deals.

4.5 Conclusion and Future Research

In this paper, I investigated whether FDI host governments discriminate against foreign firms and favor domestic firms by examining the regulatory restrictiveness of CBM&As in service sectors and how these regulations are applied differently when the acquirers' parent companies are foreign versus domestic. I demonstrated that competition laws and

national security reviews are more likely to discriminate against CBM&As led by foreign GUOs compared to domestic GUOs. These findings reveal that governments favor domestic MNCs over foreign MNCs when enforcing merger laws. Restrictive competition laws are more likely to deter the CBM&A activities of foreign firms whose GUOs are also foreign, compared to the CBM&A activities of foreign firms whose GUOs are domestic. National security reviews, which are enacted through entry restrictions, also deter CBM&As by acquirers with foreign GUOs more than CBM&As by acquirers with domestic GUOs, even in industries that are not considered security sensitive. Thus, governments efficiently use competition laws and national security reviews to protect domestic firms from competition with foreign MNCs.

This paper contributes to the literature on the politics of FDI in IPE by focusing on a relatively understudied topic. By exploring competition laws and national security reviews, I detail host governments' subtle way of discriminating against CBM&As. Moreover, this paper emphasizes the importance of the nationality of global parent companies by disaggregating CBM&As into domestic and foreign GUOs, rather than simply comparing CBM&As to domestic M&As. When comparing CBM&As to domestic M&As, it is important to identify the ultimate parent companies that are involved in the transactions. Furthermore, the population sample of this paper is not limited to a single country or a single industry. By including 36 countries and 21 service sectors, I reveal that the discriminatory behavior of host governments toward CBM&As led by foreign MNCs can be observed across countries and industries.

This study, however, uses an aggregate number of M&A deals for each country, and thus lacks country pairwise specific characteristics. For instance, geographic distance, common language, common legal system, and other forms of cultural familiarity matter to CBM&As decisions. Moreover, when it comes to regulatory restrictiveness, bilateral agreements such as investment treaties or free trade agreements often include informa-

tion on how to cooperate when confronting different competition laws. More importantly, there are agreements that directly address cooperation in competition laws. For instance, the U.S. has signed antitrust cooperation agreements with multiple countries to better enforce antitrust laws. In addition, the OECD Competition Committee has put together an inventory of international cooperation agreements where at least one of the signatories is an OECD country. Therefore, in future research, an empirical analysis using directed dyad datasets of all M&A deals will provide further insights to the literature on the politics of M&As.

Chapter 5

Conclusion

The intensifying global competition for high-tech leadership and rising security tensions between the United States and China have caused regulation on inward FDI and discrimination against foreign MNCs to become more apparent in many high-income countries. Although the majority of the attention is directed toward Chinese companies, activities of all foreign MNCs fall under governmental FDI regulation policies. The regulatory restrictiveness of these policies, however, varies across industries within each country. I posit that the variation is mainly due to industry features and MNC market entry modes that have substantial impact on the local market competition. Anticipating the intensifying competition, domestic producers seek protection from foreign rivals that are entering the market. Since domestic producers have more influence over their own government's policymaking, FDI regulation policies reflect the inward FDI preferences of domestic producers. In Chapters 2, 3, and 4, I provided evidence for this theory.

In Chapter 2, I demonstrated that the extent of IEoS and EEoS within industries shapes the level of FDI restrictions that those industries secure. By developing a formal model of the endogenous FDI regulations, I posit that the extent of IEoS leads to an increase in the restrictiveness of FDI regulations, while the extent of EEoS leads to a decrease in the restrictiveness of FDI regulations. By examining the FDI regulatory restrictiveness of 36 OECD countries, I have found support for both patterns. Therefore, I proposed that

industry features are significant factors in understanding the variation in FDI regulations across industries.

In the following chapter, I focused on the effect of FDI entry modes on FDI regulatory restrictiveness levels. The findings indicated that in industries with many greenfield investment projects, FDI regulatory restrictiveness is higher than in industries with many CBM&As. The results indicate that domestic producers are relatively more favorable to CBM&As than to greenfield investments because the latter FDI entry mode tends to increase market competition more directly. Therefore, FDI market entry modes, in addition to industry features, are fundamental in understanding why variation exists in FDI regulations across industries.

Finally, in Chapter 4, I demonstrated that domestic producers want protection from international competition and that governments actively utilize policy tools to protect domestic producers from foreign MNCs entering the local market. By examining two types of policies that govern M&As, I illustrated that competition laws and national security reviews discourage CBM&A deals led by foreign global parent companies more than CBM&A deals led by domestic global parent companies. Therefore, I posited that governments in high-income countries employ subtle measures to protect domestic producers from foreign MNCs.

This research on FDI regulations has important implications for both academia and real-world politics. I offer the field of IPE a new theoretical framework to explain why governments place varying degrees of barriers on inward FDIs across industries. I utilized two crucial factors that shape domestic producers' preferences regarding inward FDIs by altering the market competition. First, I proved that industry features defined by IEoS and EEoS change the extent of market competition, which causes domestic producers to be wary of new entries by foreign MNCs in industries where competition may increase. Second, I presented how two types of FDI market entry modes – greenfield investments and

CBM&As – alter the market competition and shape the FDI policy preferences of domestic producers. By emphasizing industry features and FDI market entry modes, I highlighted the topics that have made limited progress in IPE literature.

The findings in this dissertation also offer important policy implications for the real world. I established that developed countries, as a reaction to globalization, utilize subtle protectionist policies to defend domestic producers' interests. Notably, this protectionism is occurring in domains other than trade or offshoring, which are frequently addressed by researchers and policy practitioners. With the rise of economic nationalism and global competition for high-tech leadership, governmental discrimination against foreign MNCs by imposing regulations on inward FDIs is likely to increase in the near future. Such protectionist measures, in the short term, may enable domestic producers to gain competitiveness in the global market, although prolonged protectionism may eventually lead to the opposite result. Without fair competition between domestic firms and foreign MNCs, there is no reason to invest in R&D for technological improvements. Consequently, those who will suffer from FDI protectionism are not only consumers who would pay high prices for low-quality goods and services but also the entire global economy, which would experience stagnant economic growth. Therefore, this study on FDI regulations posits that policy practitioners must be cautious when taking the side of domestic producers.

Future research on FDI regulations should include the missing parts of foreign MNCs' activities in local markets. For instance, there may be inter-industry activities by foreign MNCs that would change the preferences of domestic producers regarding inward FDI. This is particularly significant when considering how vertical FDIs have substantially decreased the cost of production for foreign MNCs although they do not necessarily compete with domestic producers in local markets. This is because vertical FDIs are typically export-oriented, unlike horizontal FDIs, which are market-oriented. Thus, the research on FDI regulations should distinguish between industries that are more likely to attract

vertical FDI and those that are more likely to attract horizontal FDI. Nevertheless, vertical FDI is more common in developing countries than in developed countries, which are the focus in this dissertation. Thus, for future research, it may be interesting to investigate which industry features, other than economies of scale, shape the preferences of domestic producers in developing countries. Moreover, CBM&As are not yet active in developing countries, although as economies develop, more foreign MNCs will enter markets in developing countries via CBM&As. It would then be important to examine whether domestic producers in developing and emerging markets prefer one type of FDI entry mode over another.

Finally, there is more to explore on the topic of CBM&As, which has been largely neglected in the field of IPE. Growing numbers of global CBM&A activities raise questions about whether systematic international cooperation on M&A laws is needed; this has historically belonged to the realm of domestic politics. However, because M&A laws are strictly domestic, they increase the risk and uncertainty in CBM&A deals led by foreign MNCs. Therefore, it is important to further examine whether M&A laws are applied equally to all M&A transactions, regardless of participants' nationalities. If discrimination is present, then studies should investigate the drivers of the discrepancies between domestic producers and CBM&As.

Appendix

5.1 FDI Restrictiveness

Figure 6.1: FDI Restrictiveness By Country

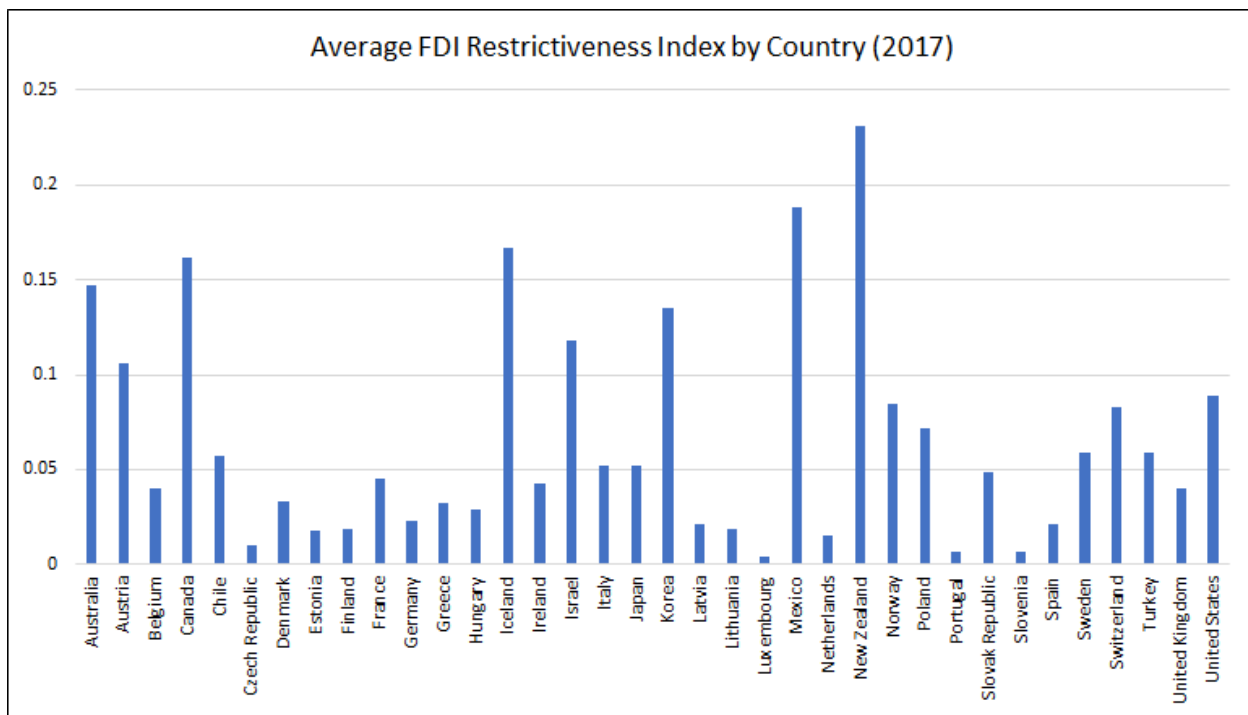
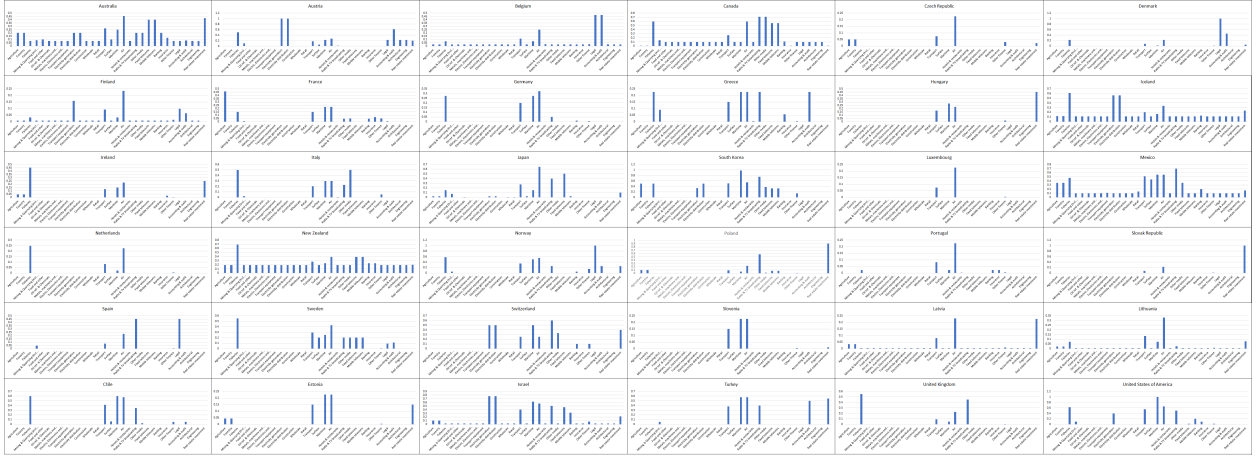


Figure 6.2: FDI Restrictiveness Index By Industry Within Each Country



5.2 Solving for Equilibrium Profits

5.2.1 Cournot Triopoly in an IEOs Industry

Equilibrium outputs for domestic and foreign firms are solved by maximizing equations (4) and (5) in terms of q_{d1} , q_{d2} , and q_f , respectively. This yields the following equilibrium quantity function for q_{d1}^* :

$$q_{d1}^* = \frac{(2\beta + \gamma - \theta) - \alpha\gamma}{(2\beta - \theta)(2\beta + 2\gamma - \theta)} \left\{ (\alpha - c) + \frac{(2\beta - \frac{1}{\tau}\gamma - \theta)\gamma c}{(2\beta - \gamma - \theta)} - 1 \right\} \quad (5.1)$$

Due to mathematical complexity, I use numerical values for certain parameters ($\alpha = 1$, $\beta = 1$, $\gamma = 0.5$, and $c = 1$) to express the following equilibrium output for each firm¹:

$$q_{d1}^* = -\frac{\tau + 2(\tau - 1)(\theta - 2) - 1}{(\theta - 2)\left(\frac{1}{2(\theta - 2)} + 1\right) + \frac{1}{4(\theta - 2)} + \frac{1}{2}} \quad (5.2)$$

After setting $\frac{\tau + 2(\tau - 1)(\theta - 2) - 1}{(\theta - 2)\left(\frac{1}{2(\theta - 2)} + 1\right) + \frac{1}{4(\theta - 2)} + \frac{1}{2}} = A$, the following expression for q_f^* is obtained:

¹ All numerical solutions were done in Matlab

$$q_f^* = 4(\theta - 2) \left\{ 0.5A - \tau + \frac{\tau + 2(\tau - 1)(\theta - 2) - 1}{2(\theta - 2)(2\theta + \frac{1}{2\theta - 4} - 2) + 1} + 1 \right\} \quad (5.3)$$

By setting $0.5A - \tau + \frac{\tau + 2(\tau - 1)(\theta - 2) - 1}{2(\theta - 2)(2\theta + \frac{1}{2\theta - 4} - 2) + 1} + 1 = B$, q_{d2}^* is simplified in the following equation:

$$q_{d2}^* = -\frac{A - 2(\theta - 2)B}{\theta - 2} \quad (5.4)$$

Next, equations (12)–(14) are each plugged into the following price function to obtain the equilibrium price for each firm:

$$p_{i \in (d1, d2, f)}^* = \alpha - \beta q_{i \in (d1, d2, f)}^* - \gamma (q_{j \neq i}^* + q_{k \neq i, j}^*) \quad (5.5)$$

Finally, the equilibrium profits of domestic and foreign firms can be obtained by solving the following profit functions (where $d \in (d1, d2)$):

$$\pi_d^* = p_d^* q_d^* - \left(c - \frac{1}{2} \theta q_d^* \right) q_d^* \quad (5.6)$$

$$\pi_f^* = p_f^* q_f^* - \left(\tau c - \frac{1}{2} \theta q_f^* \right) q_f^* \quad (5.7)$$

5.2.2 Cournot Triopoly in an EEoS Industry

Equilibrium outputs for domestic and foreign firms under EEoS industry are solved by maximizing equations (6) and (7) in terms of q_{d1} , q_{d2} , and q_f , respectively. This yields the following equilibrium quantity function for q_{d1}^* under EEoS²:

$$q_{d1}^* = \frac{(2\beta + (\gamma - \eta) - \theta) - \alpha(\gamma - \eta)}{(2\beta - \theta)(2\beta + 2(\gamma - \eta) - \theta)} \left\{ (\alpha - c) + \frac{(2\beta - \frac{1}{\tau}(\gamma - \eta) - \theta)(\gamma - \eta)c}{(2\beta - (\gamma - \eta) - \theta)} - 1 \right\} \quad (5.8)$$

² Notice that the only term that changes is γ , which is now subtracted by the degree of EEoS, or η .

Due to the complexity of the calculation, I use numerical values $\alpha = 1, \beta = 1, \gamma = 0.5, \theta = 0$, and $c = 1$ to solve the equilibrium output of each firm.

$$q_{d1}^* = \frac{0.5 - 0.5\tau - \eta(\tau - 1)}{0.25 - \eta^3 - 9/17\eta^2 + 4/17\eta} \quad (5.9)$$

Equilibrium functions of q_f^* and q_{d2}^* closely resembles that of q_{d1}^* :

$$q_f^* = \frac{\tau - 0.25q_{d1}^* + \eta^2q_{d1}^* - 1}{(\eta - 0.5)^2} \quad (5.10)$$

$$q_{d2}^* = (0.5 - \eta) \left(q_{d1}^* - \frac{\tau - 0.25q_{d1}^* + \eta^2q_{d1}^* - 1}{(\eta - 0.5)^2} \right) \quad (5.11)$$

By replacing equations (16) and (17) to the inverse demand functions of domestic and foreign firms, I obtain the equilibrium price for each firm: $p_{d_i}^*$ and p_f^* . The calculation process to solve the equilibrium profit for each firm ($\pi_{d_i}^*$ and π_f^*) is exactly the same as that of the Cournot triopoly under IEOs.

5.3 Description of the U.S. Census Bureau Data

1. OECD Countries (36): Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.
2. Industries (21): Manufacturing, engineering, electricity generation, electricity distribution, wholesale, retail, hotels and restaurants, air transportation, water transportation, land transportation, mobile telecommunications, fixed telecommunications, radio and TV broadcasting, newspapers and print media, banking, insurance, other financial services, accounting and audit services, architectural services, legal services, and real estate
3. Summary Statistics

Table 6.1: Summary Statistics - U.S. Census Bureau Data

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
FDI Index	756	0.093	0.182	0.000	0.000	0.110	1.000
Industry Conc	756	0.450	0.258	0.088	0.203	0.604	0.975
Geographic Conc	756	0.163	0.053	0.098	0.129	0.207	0.294
large_4	756	23.587	20.832	2.600	7.900	29.900	89.100
large_8	756	32.901	23.886	4.500	12.600	41.400	95.200
large_20	756	44.951	25.827	8.800	20.300	60.400	97.500
large_50	756	55.899	26.501	16.500	28.000	81.900	98.800

5.4 Description of the OECD Data

1. Countries (36): Same as 5.3
2. Industries in Enterprise Birth Rate Data (11): Mining and Quarrying, Manufacturing, Electricity, Construction, Distribution, Hotels and Restaurants, Telecommunication, Transportation, Financial Services, Business Service, and Real Estate.
3. Industries in R&D Expenses Data (18): Primary (Agriculture, Forestry, and Fishing), Mining and Quarrying, Food and other manufacturing, Oil and Chemicals manufacturing, Metals and non-metals manufacturing, Transportation Equipment, Electronics and Machinery, Construction, Electricity, Distribution, Hotels and Restaurants, Transportation, Telecommunications, Radio and TV broadcasting, Other Media, Financial Services, Business Services, and Real Estate
4. Summary Statistics

Table 6.2: Summary Statistics - OECD Data

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Year	7,131	2,013.400	2.172	2,010	2,011	2,015	2,017
R&D	3,369	65,027.810	945,415.100	0.000	12.408	926.800	30,444,869.000
EBR	2,797	10.508	5.929	0.000	7.100	12.700	72.500
EDR	2,797	10.261	5.791	0.000	7.000	12.400	72.500
EBR Net	2,797	0.247	1.875	-6.900	0.000	0.000	38.100
FDI Index	2,670	0.069	0.146	0.000	0.000	0.079	1.000
GDPPC (log)	2,937	10.423	0.589	9.301	9.891	10.836	11.685
GDP Growth	2,937	2.381	2.786	-4.028	1.255	3.318	25.163
Pop (15-64)	2,937	66.359	2.486	60.076	64.985	67.591	73.414
Imports	2,937	53.405	30.781	13.576	30.853	71.989	191.549
OFDI	2,937	3.515	9.480	-21.765	0.280	3.190	57.837
Security	2,937	0.182	0.386	0.000	0.000	0.000	1.000

5.5 Description of the Orbis Data

1. Countries (36): Australia, Austria, Belgium, Canada, Switzerland, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Republic of Korea, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, Norway, New Zealand, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Turkey, the United Kingdom, and the United States.
2. Industries (28): Agriculture, Forestry, Fisheries, Mining and Quarrying, Food and other manufacturing, Oil and Chemicals manufacturing, Metals and non-metals manufacturing, Transportation Equipment, Electronics and Machinery, Construction, Electricity, Wholesale, Retail, Hotels and Restaurants, Air transportation, Maritime transportation, Surface transportation, Telecommunications, Radio and TV broadcasting, Other Media, Banking, Insurance, Other Financial Services, Accounting and Audit services, Architectural services, Legal services, Engineering services, and Real Estate

3. Summary Statistics

Table 6.3: Summary Statistics - Orbis Firm-level Data

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
fdi_index	4,760	0.085	0.172	0.000	0.000	0.100	1.000
year	5,008	2,013.500	2.292	2,010	2,011.8	2,015.2	2,017
sh_fc1	4,666	0.569	0.184	0.00000	0.446	0.705	1.000
lintangible	4,838	10.594	4.183	-6.908	9.283	13.152	17.025
lgdppc	4,760	10.464	0.593	9.076	10.052	10.851	11.685
growth	4,760	2.213	2.555	-9.132	1.333	3.063	25.163
pop_1564	4,760	66.191	2.564	60.076	64.847	67.382	73.414
sh_imp	4,760	43.519	27.205	13.576	28.578	48.718	191.549
sh_ofdi	4,760	3.201	7.448	-21.765	0.470	3.336	57.837
security	5,008	0.158	0.365	0	0	0	1

5.6 Top 10 Industries for Each Type of FDI

The following two tables display the top 10 industries with most greenfield projects and cross-border M&As in OECD countries from 2003 to 2019.³ Industries with most global greenfield projects and that of cross-border M&As transactions are different. While greenfield projects are most frequent in engineering, transport equipment manufacturing, and retail, cross-border M&A deals are most frequent in agriculture mining and quarrying, and food and other manufacturing industries. The only industries that are both commonly frequent in both greenfield investments and M&As are electric, electronics and other instruments manufacturing, real estate investment, and metals, machinery, and other minerals manufacturing industries.

Table 6.4: Top 10 Industries in Greenfield Projects (OECD)2003-2019

Top 10 Industries in Greenfield Projects (OECD)2003-2019	
Industry	No. of Projects (% of Total)
Engineering	26,160 (15.1%)
Transport Equipment Manufacturing	12,452 (7.2%)
Retail	11,296 (6.5%)
Banking	10,274 (6.0%)
Electric, Electronics and Other Instruments	8,125 (4.9%)
Real Estate Investment	6,271 (3.6%)
Other Media	5,778 (3.3%)
Hotels and Restaurants	5,593 (3.2%)
Food and Other Manufacturing	5,411 (3.1%)
Metals, Machinery, and Other Minerals Manufacturing	4,433 (2.6%)

³ Number of greenfield projects are gathered from *fDi Market* database. For consistent categorization of industries, I re-categorized the industries by referring to the information on subsectors and industry activities. Industries are then matched to the OECD FDI Restrictiveness Index data. Total number of M&A deals are gathered from *Thomson SDC Platinum* database. For SDC data, industries are re-categorized based on the four-digit Standard Industrial Classification (SIC) code.

Table 6.5: Top 10 Industries in Cross-border M&A Deals (OECD) 2003-2019

Top 10 Industries in Cross-border M&A Deals (OECD) 2003-2019	
Industry	No. of Deals (% of Total)
Agriculture	27,789 (20.4%)
Mining and Quarrying	10,304 (7.6%)
Food and Other	9,652 (7.0%)
Metals, machinery and other minerals	8,844 (6.5%)
Forestry	8,789 (6.5%)
Electric, Electronics and other instruments	8,619 (6.3%)
Real Estate Investment	8,437 (6.2%)
Oil ref. and Chemicals	8,395 (6.2%)
Other finance	6,582 (4.8%)
Wholesale	5,847 (4.3%)

5.7 Data Description for FDI Entry Modes

1. OECD Countries (36): Australia, Austria, Belgium, Canada, Switzerland, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Republic of Korea, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, Norway, New Zealand, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Turkey, the United Kingdom, and the United States.
2. Industries (28): Agriculture, Forestry, Fisheries, Mining and Quarrying, Food and other manufacturing, Oil and Chemicals manufacturing, Metals and non-metals manufacturing, Transportation Equipment, Electronics and Machinery, Construction, Electricity, Wholesale, Retail, Hotels and Restaurants, Air transportation, Maritime transportation, Surface transportation, Telecommunications, Radio and TV broadcasting, Other Media, Banking, Insurance, Other Financial Services, Accounting and Audit services, Architectural services, Legal services, Engineering services, and Real Estate Investment
3. Summary Statistics

Table 6.6: Summary Statistics - FDI Entry Modes

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Year	14,364	2,012.520	5.792	1,997	2,010	2,017	2,019
FDI Index	14,364	0.123	0.196	0.000	0.000	0.167	1.000
GF Total	14,364	10.016	54.430	0	0	5	1,738
M&A Total	14,364	37.969	157.085	0	1	22	5,283
R&D	5,717	1,671.113	7,946.219	0.000	3.601	383.859	114,468.400
lag.R&D	5,126	1,642.152	7,813.901	0.000	3.557	378.377	114,468.400
Share of GF	14,364	0.180	0.276	0	0	0.3	1
Share of M&A	14,364	0.616	0.407	0	0.1	1	1
OECD	14,364	0.583	0.493	0	0	1	1
EMPN	2,482	393,548.200	737,125.400	99.000	32,040.250	359,944.800	6,632,960.000
V AFC	1,152	92,373.500	281,395.400	231.600	4,255.350	83,244.070	4,001,530.000
CFCC	4,412	647,166.200	3,667,346.000	2.700	402.828	15,174.500	70,555,485.000
LABR	5,015	1,155,439.000	5,971,376.000	13.900	1,073.466	53,057.500	84,691,500.000
OTXS	4,850	102,248.800	818,676.900	-6,067,552.000	-3.000	1,507.850	15,932,043.000

5.8 Using the Sum of Values of FDI Projects/Deals

Table 6.7: Total Value of FDI and FDI Restrictiveness

	<i>Dependent variable: FDI Restrictiveness</i>			
	Reduced Form		2SLS	
	(1)	(2)	(3)	(4)
Share of Greenfield	0.003 (0.004)			
Share of M&A		-0.006* (0.003)		
Share of Greenfield'			0.422*** (0.078)	
Share of M&A'				-0.545*** (0.100)
Observations	13,950	13,950	4,866	4,866
R ²	0.406	0.406	0.461	0.461
Adjusted R ²	0.402	0.402	0.454	0.454
Residual Std. Error	0.138 (df = 13872)	0.138 (df = 13872)	0.089 (df = 4805)	0.089 (df = 4805)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 6.8: Total Value of FDI and FDI Restrictiveness (with Controls)

	<i>Dependent variable: FDI Restrictiveness</i>			
	Reduced Form		2SLS	
	(1)	(2)	(3)	(4)
Share of Greenfield		0.018*** (0.005)		
Share of M&A	0.011** (0.005)			
Share of Greenfield'				0.333*** (0.081)
Share of M&A'			-0.406*** (0.099)	
log.LABR	0.062*** (0.008)	0.062*** (0.008)	0.001 (0.008)	0.001 (0.008)
log.EMPEN	-0.008 (0.007)	-0.008 (0.007)	0.014** (0.006)	0.014** (0.006)
log.VAFC	-0.043*** (0.007)	-0.043*** (0.007)	-0.021*** (0.007)	-0.021*** (0.007)
log.CFCC	-0.009* (0.005)	-0.007 (0.005)	0.008* (0.005)	0.008* (0.005)
OTXS	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Observations	4,350	4,350	3,385	3,385
R ²	0.361	0.362	0.399	0.399
Adjusted R ²	0.352	0.354	0.389	0.389
Residual Std. Error	0.098 (df = 4292)	0.098 (df = 4292)	0.080 (df = 3329)	0.080 (df = 3329)

Note:

*p<0.1; **p<0.05; ***p<0.01

5.9 Different Types of FDI Restrictiveness

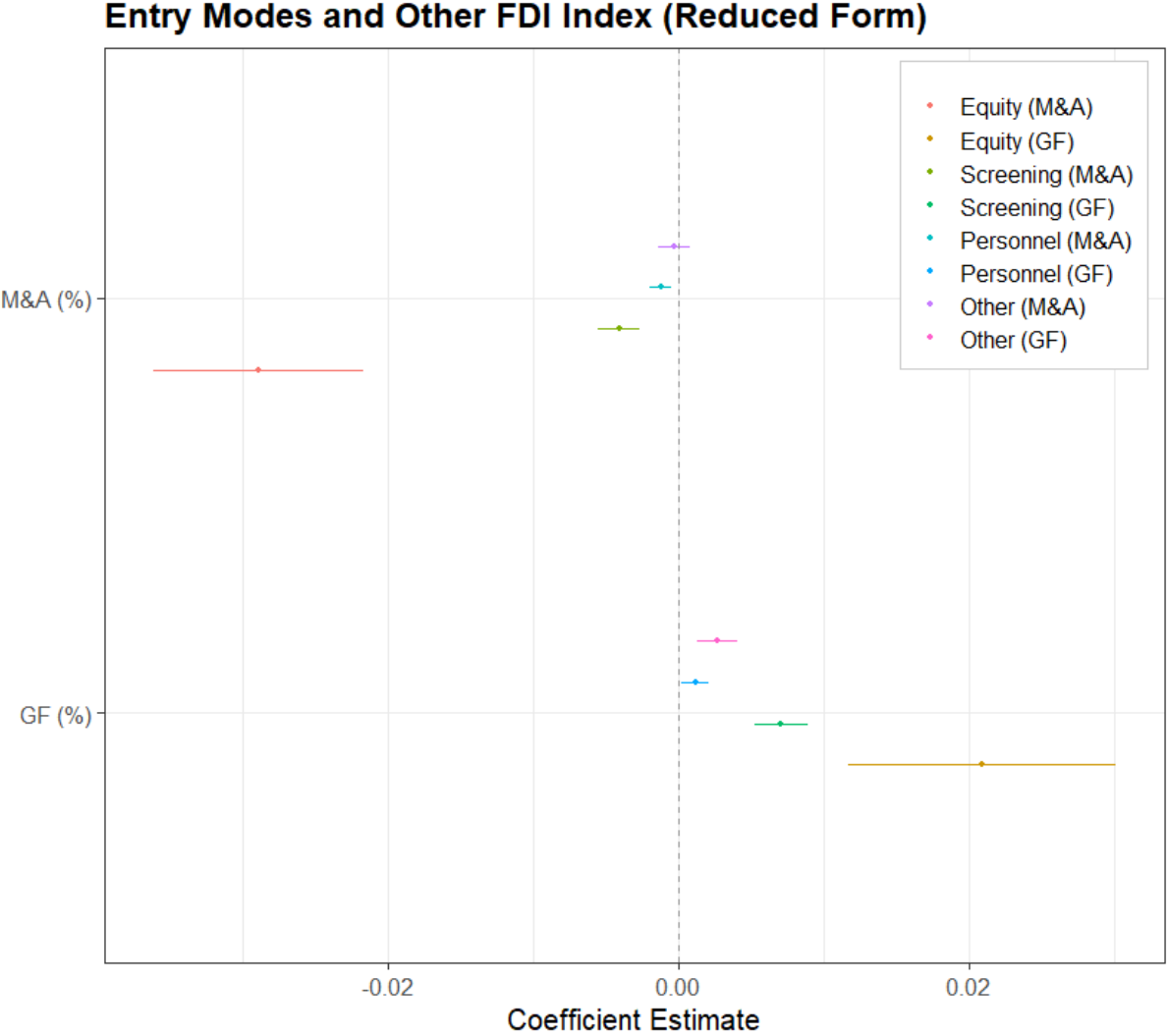


Figure 6.3: FDI Entry Modes and Other Types of Restrictions

5.10 Data Description for Disguised Protectionism

1. Industry (21): logistics cargo-handling, logistics storage and warehouse, logistics freight forwarding, logistics customs brokerage, accounting, architecture, engineer-

ing, legal, motion pictures, broadcasting, telecommunication, air transportation, water transportation, road freight transport, rail freight transport, courier, distribution, commercial banking, insurance, computer, construction

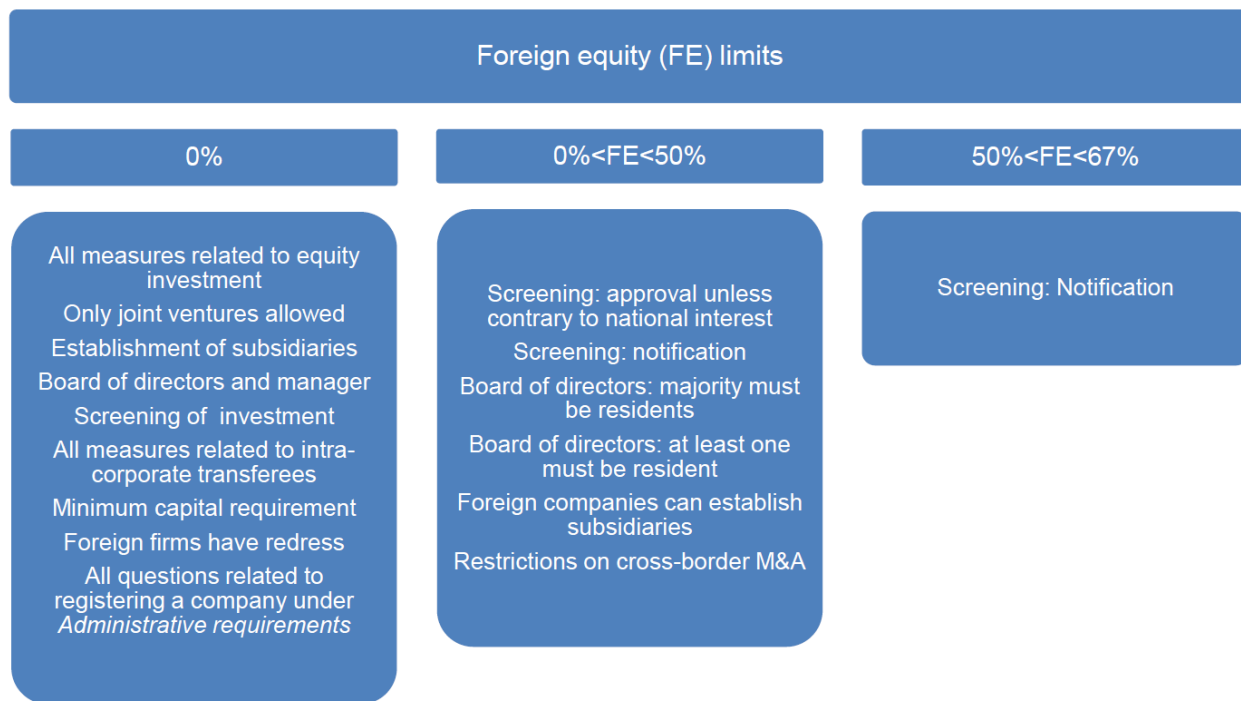
2. Summary Statistics

Table 6.9: Summary Statistics - Disguised Protectionism

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Year	14,686	2,017.000	2.000	2,014	2,015	2,019	2,020
Competition Law	14,686	0.036	0.045	0	0.01	0.04	0
Entry Res	14,686	0.105	0.092	0.000	0.043	0.131	0.542
M&A	14,686	1.795	9.755	0	0	1	373
Foreign GUO	14,686	0.500	0.500	0	0	1	1
Log GDPPC	12,588	10.016	0.900	7.361	9.334	10.744	11.685
Share Export	12,500	48.529	33.970	11.000	28.500	65.200	221.200
Share Import	12,500	45.031	28.651	11.800	27.200	57.800	187.200
Business Procedure	12,588	5.940	2.619	1.000	4.000	8.000	15.000
Change Exchange	13,718	0.042	0.089	-0.130	-0.020	0.071	0.588
Change Shared Price	12,838	0.047	0.119	-0.356	-0.025	0.119	0.657
OFDI	13,146	3.201	13.285	-17.298	0.340	2.610	173.061
bits	14,070	18.385	8.498	1.000	12.000	26.000	34.000
OECD	14,686	0.748	0.434	0	0	1	1

5.11 Scoring Method for Regulatory Restrictiveness

1. Restrictions on Foreign Entry



2. Restrictions on Foreign Entry Example: Distribution Industry

Restrictions on foreign entry	
Maximum foreign equity share allowed (%) for retailers	Acquisition of land and real estate by foreigners is prohibited or subject to restrictions
Maximum foreign equity share allowed (%) for wholesalers	The distribution of certain products at the retail level is reserved for statutory monopolies
There are statutory or other legal limits to the number or proportion of shares that can be acquired by foreign investors in firms that are controlled by national state or provincial governments	The distribution of certain products at the wholesale level is reserved for statutory monopolies
Legal form: only joint ventures are allowed	Wholesale licences for the distribution of certain products are subject to quotas or economic needs tests
Legal form: other restrictions	
Board of directors: majority must be nationals	Retail licences for the distribution of certain products are subject to quotas or economic needs tests
Board of directors: majority must be residents	
Board of directors: at least one must be national	Licences for department stores or large-store formats are subject to quotas or economic needs tests
Board of directors: at least one must be resident	
Manager must be national	Zoning regulation discriminates foreign suppliers against domestic competitors
Manager must be resident	
Screening: foreign investors must show net economic benefits	The number of sales outlets per firm is limited
Screening: approval unless contrary to national interest	Commercial presence is required in order to provide distribution services.
Screening: notification	A licence is required for e-commerce
Conditions on subsequent transfer of capital and investments	Restrictions on franchising
Restrictions on cross-border mergers and acquisitions	Restrictions on direct selling

3. Barriers to Competition Example: Distribution Industry

<i>Barriers to competition</i>	
When appeal procedures are available in domestic regulatory systems, they are open to affected or interested foreign parties as well.	D
Foreign firms have redress when business practices are perceived to restrict competition in a given market	D
National, state or provincial government control at least one major firm in the sector	ND
Publicly-controlled firms or undertakings are subject to an exclusion or exemption, either complete or partial, from the application of the general competition law.	ND
Minimum capital requirements	ND
Vertical agreements: Resale price maintenance is subject to regulation	ND
Vertical agreements: Territorial or customer group sales restrictions are subject to regulation	ND
Laws or regulations impose restrictions on the nature or content of contracts	ND
Firms are required to disclose confidential information	ND
Price regulation: minimum prices	ND
Large retailers are subject to specific taxes	ND
Seasonal sales periods are regulated	ND
Regulation imposes an upper limit on shop opening hours	ND
Regulations limit the range of products a retailer may carry	ND
Retailers or wholesalers are subject to restrictions on advertising	ND
Retailers can set up their own recycling systems	ND

5.12 Other Results from Chapter 4

Table 6.10: M&As by Foreign Affiliate vs. M&As by Domestic Firms

	<i>Cross-border M&As</i>		<i>Domestic M&As</i>	
	(1)	(2)	(3)	(4)
Competition law:Foreign affiliate	-30.732*** (5.579)	-30.380*** (6.118)	162.891*** (29.906)	164.261*** (32.356)
Competition law	19.948*** (6.033)	21.261*** (6.564)	-140.496*** (32.339)	-133.296*** (34.715)
Foreign affiliate	3.102*** (0.252)	3.097*** (0.279)	-17.540*** (1.350)	-17.867*** (1.475)
Logged GDPPC		-1.825 (2.518)		-2.248 (13.317)
Δ Exchange rate		2.143 (2.950)		6.630 (15.601)
Δ Shared Price		-0.196 (1.253)		-0.345 (6.629)
OFDI		0.008 (0.017)		0.026 (0.088)
Business Procedure		0.142 (0.259)		0.379 (1.369)
Export (% of GDP)		-0.002 (0.108)		0.158 (0.570)
Import (% of GDP)		-0.032 (0.115)		-0.304 (0.609)
Number of BITs		-0.231 (0.241)		0.486 (1.276)
Observations	10,990	8,804	10,990	8,804
R ²	0.288	0.293	0.156	0.163
Adjusted R ²	0.284	0.288	0.151	0.156
Fixed Effects	C, I, Y	C, I, Y	C, I, Y	C, I, Y

Note: C=country, I=industry, Y=year

*p<0.1; **p<0.05; ***p<0.01

Table 6.11: Cross-border M&As by Foreign GUOs vs. Domestic M&As by Foreign GUOs

	M&As (by Foreign GUOs)			
	All industries		Security	Non-Security
	(1)	(2)	(3)	(4)
Entry Restriction:Foreign Affiliate	-13.150*** (2.543)	-13.163*** (2.778)	-35.309*** (6.089)	-4.990*** (1.819)
Entry Restriction	6.583*** (2.322)	6.812*** (2.521)	8.396 (5.975)	6.557*** (1.542)
Foreign Affiliate	3.287*** (0.286)	3.301*** (0.317)	8.257*** (0.889)	1.621*** (0.169)
Logged GDPPC		-1.809 (2.519)		
Δ Exchange Rate		2.174 (2.950)		
Δ Shared Prie		-0.204 (1.254)		
OFDI		0.008 (0.017)		
Business Procedure		0.136 (0.259)		
Export (% of GDP)		0.001 (0.108)		
Import (% of GDP)		-0.034 (0.115)		
Number of BITs		-0.235 (0.241)		
Observations	10,990	8,804	3,430	7,560
R ²	0.288	0.293	0.272	0.438
Adjusted R ²	0.283	0.288	0.262	0.434
Fixed Effects	C, I, Y	C, I, Y	C, I, Y	C, I, Y

Note: C=country, I=industry, Y=year

*p<0.1; **p<0.05; ***p<0.01

Table 6.12: Domestic M&As by Foreign GUOs vs. Domestic M&As by Domestic GUOs

	Domestic M&As			
	All industries		Security	Non-Security
	(1)	(2)	(3)	(4)
Entry Restriction:Foreign Affiliate	64.391*** (13.638)	65.393*** (14.697)	146.531*** (29.132)	13.134 (14.288)
Entry Restriction	-35.209*** (12.453)	-33.713** (13.338)	-132.611*** (28.588)	21.174* (12.115)
Foreign Affiliate	-18.070*** (1.532)	-18.475*** (1.674)	-32.789*** (4.253)	-12.078*** (1.330)
Logged GDPPC		-2.369 (13.324)		
Δ Exchange Rate		6.369 (15.608)		
Δ Shared Price		-0.273 (6.632)		
OFDI		0.026 (0.088)		
Business Procedure		0.436 (1.369)		
Export (% of GDP)		0.136 (0.570)		
Import (% of GDP)		-0.286 (0.609)		
Number of BITs		0.515 (1.277)		
Observations	10,990	8,804	3,430	7,560
R ²	0.155	0.162	0.139	0.201
Adjusted R ²	0.150	0.155	0.127	0.194
Fixed Effects	C, I, Y	C, I, Y	C, I, Y	C, I, Y

Note: C=country, I=industry, Y=year

*p<0.1; **p<0.05; ***p<0.01

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