Foreign Direct Investment and Host Country Institutions

A Pattern Analysis of the Complex and Light Manufacturing Sectors of Central and Eastern Europe

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Abstract

The research on the determinants of foreign direct investment is plentiful, however there are still many questions unanswered. This study identifies sectoral differences in preferences for certain institutions as an area where there has been little previous research, and investigates the differences in institutional preferences of the complex and light manufacturing sectors. It does so by comparing the prevelance of the sector in an economy, measured by the inward stock of each sector as a percentage of total FDI, with the quality of governance and economic institutions measured by the World Bank's Worldwide Governance Index and the European Bank of Reconstruction and Development's Transition Index, respectively. The study finds that democratic processes, government effectiveness, and respect for institutions, enterprise friendliness and financial sector development are favored by the complex manufacturing sector, though not necessarily regulatory quality or markets and trade reform. The light industry appears averse to high qualities of democratic processes, financial sector development and (weakly) respect for institutions. The study finds that heterogeneity of institutional preferences exists at the sector level, and indeed likely beneath. It highlights the intricate complexity involved in the interactions of foreign investors with host countries and concludes with implications for development.

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I would like to dedicate this thesis to those people who encouraged me to take risks and to my family who has always encouraged me to pursue my interests, even when those interests were in the field of accounting. Finally, I would also like to dedicate this thesis to my newfound, unrivaled, and uncontrollable addiction to coffee, which my time at CEU has tenderly cultivated and cared for.

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Introduction

Many studies have attempted to discover what determinants can attract foreign direct investment (FDI) to a host country. Authors including Dunning, Estrin, Bevin, Cass, Lankes, Resmini, and Blomström[1] and others have analyzed the investment choices of transnational corporations from various perspectives with different theoretical starting points, differing methodologies including econometrics using data at the firm, national, or regional level, case studies based on specific countries, sectors, firms, or industries, combinations of these techniques, as well as other approaches. The studies examine many possible determinants, including market size, geographic proximity, economic growth, availability, skill, and cost of labor, quality and depth of infrastructure, quality of institutions, rule of law, prevalence of agglomeration economies, trade, financial and market liberalization, and openness to foreign banks, to list just a few.

However, relatively few studies have attempted to discover what types of determinants will attract different kinds of investment, that is, if different institutional qualities are preferred by different industry sectors. While it may seem apparent that, for example, highly technological firms will require different factor inputs from a host country perspective, many studies assume multinational firms invest 'en bloc' into a region and consequently treat them as though they have homogenous preferences.[2] In this way, FDI in highly technological or capital-intensive industries is treated as having the same institutional

1 See, for example, J.H. Dunning, *Multinational Enterprises and the Global Economy* (Wokingham, Berkshire: Addison Wesley, 1993); Alan A. Bevan and Saul Estrin, "The Determinants of Foreign Direct Investment Into European Transition Economies," *Journal of Comparative Economics* 32 (2004); Fergus Cass, "Attracting FDI to Transition Countries: The Use of Incentives and Promotion Agencies," *Transnational Corporations* 16 no. 2 (2007); Laura Resmini, "The Determinants of Foreign Direct Investment in the CEECs: New Evidence from Sectoral Patterns," *Economics of Transition* 8, no. 3 (2000); Magnus Blomström, Ari Kokko, and Mario Zejan, *Foreign Direct Investment: Firm and Host Country Strategies*, *(*New York: St. Martin's Press, Inc., 2000).

2 See, for example, D. Sethi, S.E. Guisinger, S.E. Phelan, and D.M. Berg. "Trends in Foreign Direct Investment Flows: A Theoretical and Empirical Analysis." *Journal of International Business Studies* 34 (2003): 315-326.

preferences as FDI in the labor-intensive textile industry.

This treatment is useful in studying the overall flow of FDI and is one way to simplify the broad area into a manageable topic. The 'en bloc' approach can identify causes of the inflow of investments in general, however, it lacks the ability to identify what kinds of investments will be attracted. This identification can be very useful information from the host country perspective, especially when the effect the investment may have on the host country itself is considered. For example, some investors, particularly those with large capital investments at risk in the host country, may actively engage in host country regulatory practices and policy setting in order to decrease current or future investment risk or increase profits or even monopoly rents available to the firm. On the other hand, other investors, particularly those with lower capital investment, higher labor needs, and easier mobility between countries may simply seek out host countries with the particular mix of determinants that maximizes their profit, such as those that decrease labor costs. These may have very little direct impact on the host country in terms of development beyond the provision of economic activity. With this in mind, a host country would find it more advantageous to attract investors that have the will and ability to positively affect the trajectory of development of the host country.

A particular set of determinants that matter in attracting investment are the economic, political, and social institutions the country has in place. Institutions are the 'rules of the game' by which companies play and these institutions can have a direct effect on the risk a firm faces in investment or its ability to extract a profit from the country. While some studies have focused on what institutions are important for foreign direct investment in general, and others have examined what determinants (though not necessarily institutions) attract different sectors, few have dealt with which institutions or mix of institutions are important in attracting sector-specific FDI. Therefore, this study will attempt to expand this literature,

helping to uncover sectoral investment patterns across various institutional qualities. In particular, I will focus on the institutions measured by the World Bank's Worldwide Governance Index to evaluate the effect of overall governance institutions, as well as the transition indicators measured by the European Bank of Reconstruction and Development to shed light on the economic factors of development.

These institutions and their effect on investment patterns can be nowhere better observed than in transition economies. With the opening of the economies of Central and Eastern Europe between 1989 and 1991, these countries provide significant opportunities to observe the effect of the developing institutions both over time and across countries within a region. The aspect of regionality is not trivial, as previous studies have indicated that proximity to a transnational corporation's home country is a strong determinant in locational decision-making.[3] Therefore, studying geographically conterminous economies can help control for this proximity effect for the purposes of this paper.

While the implications of the study are important from the host country's perspective, the activity concerned is performed by transnational corporations. Therefore, it is essential to develop the concepts and expectations to be tested from the firm's perspective and to recognize and incorporate differences among firms' institutional preferences. This necessarily assumes heterogeneity among these preferences and demonstrating this heterogeneity is indeed a goal of this paper. On the other hand, a researcher must maintain an eye toward feasibility, and with that in mind, I will focus on two sectors into which firms will be grouped in a manner in which institutional preferences among firms can be expected to be similar within each group. Therefore, while it is likely that heterogeneity exists in preferences even within these groups, for the sake of simplicity, this study will only attempt to deal with the heterogeneous preferences among them.

3 See, for example, Resmini, 2000; Bevan and Estrin, 2004; Cass, 2007; David Kucera, "The Effects of Core Workers Rights on Labour Costs and Foreign Direct Investment: Evaluating the 'Conventional Wisdom'," *International Institute for Labor Studies,* International Labour Organization, Geneva (2001).

The aim of this paper, then, is to identify which of these institutions attract sector-specific investments, focusing on governance and economic institutions and their effect on the two sectors, light and complex manufacturing, described below. The governance indicators are separated into the three broad categories of "(a) the processes by which governments are selected, monitored and replaced, (b) the capacity of the government to effectively formulate and implement sound policies; and (c) the respect of citizens and the state for the institutions that govern economic and social interactions among them."[4] For this thesis, these categories will be referred to as the institutions that govern democratic processes, governmental capacity, and respect of institutions respectively. The EBRD transition indicators are divided into the four broad categories of enterprise friendliness, markets and trade reform, financial sector development and infrastructure. These are the categories that will be used in this study, complemented with their components if analytically necessary.

The manufacturing sector is heavily involved in Central and Eastern Europe and can be divided into the two categories of complex and light manufacturing. Following Greskovits' study on legacies of industrialization, the manufacturing industries that this paper will treat as complex include chemicals, chemical products and man-made fibers, machinery and equipment, electrical and optical equipment, and transport equipment (classified as NACE codes DG, DK, DL, and DM respectively).[5] These are considered complex due to their heavy capital, highly skilled labor requirements, or both. The light industry will be composed of food products, beverages and tobacco, textiles and textile products, leather and leather products, wood and wood products, pulp, paper, paper products, publishing, and

4 Daniel Kaufmann, Aart Kraay, and Massimo Mastruzz, "Policy Research Working Paper 5430: The Worldwide Governance Indicators - Methodology and Analytical Issues," *The World Bank Development and Research Group,* September 2010: 4

5 Béla Greskovits, "Legacies of Industrialization and the Paths of Transnational Integration after Socialism," (paper prepared for the conference "Historical Legacies of Communism" on April 21-22. 2011, Princeton): 4

printing, and other manufacturing (classified as NACE codes DA, DB, DC, DD, DE, and DN respectively). These are considered light industries because of their low capital requirements, high unskilled labor requirements, and ease of mobility.

Given that proximity is such a strong determinant, as previously mentioned, one can conjecture that a regional decision is made by the investor relatively early on in the decision-making process, and other determinants such as institutions are only subsequently evaluated. Following this likely decision-making pattern from the firm's perspective, I will evaluate investment patterns comparing countries at particular points in time, reflecting the decision-making processes and providing insight into what qualities and types of institutions attract what sector-specific investments. That is, if a pattern can be noticed between different qualities of institutions and different prevalences of complex versus light investment in a country, certain conclusions can be drawn about the attractiveness of institutions for different sectors. This cross-country pattern analysis can also be indicative of the effect of varying strengths of institutions and of whether some institutions are so important, their continued development reaps evermore benefit, and which ones investors may see simply as minimally necessary, but whose continued development is not necessarily more attractive.

Investors in complex industries should exhibit certain institutional requirements in terms of governance and economic institutions. Light industries are expected to have less requirements and to be averse to institutions that are costly for a country to effectively maintain, but have little impact on the profit-making capabilities of light industries. The hypotheses, then, are:

> *H1: Countries with higher indicator measurements for institutions important to complex industries will exhibit higher FDI in complex industries as a percentage of total FDI relative to countries with lower indicator values.*

And, conversely:

> *H2: Countries with lower indicator measurements for institutions unattractive for light investment will exhibit higher FDI in light industries as a percentage of total FDI relative to countries with higher indicators values.*

The governance indicator categories are broadly expected to correlate with complex investment. The economic categories of the EBRD are expected to show correlating patterns between quality and portion of complex investment, with the exception of markets and trade, due to increased competition and other factors described later that may be less attractive for the complex sector. Light industries are expected to show somewhat random patterns in the cross country analysis of the governance indicators, with the exception of voice and accountability (a component of the quality of the democratic process) which is assumed to provide greater voice for workers' rights and consequently perhaps higher wages, a factor of sensitivity for the labor-intensive light industry. The economic indicators, however, are expensive for a country to establish, and those costs may be passed on to the companies operating in a country, and as such, light industries, that do not benefit significantly from the presence of a strong financial sector, would be less inclined to locate investments in a country in which a higher tax structure may be required to pay for the institutions. Therefore, the light industry is expected to show patterns of decreasing investment with increases in institutional quality across countries. A more in-depth discussion for each indicator is located in the conceptual development section.

An additional proposition is that some sectors may have the interest and ability to increase the quality of certain institutions that are beneficial to them, and that this may help explain ongoing increases in institutional quality and sectoral investment. However, the pattern analysis performed can only lightly touch this subject, and proving the direction of causality is outside the scope of this thesis.

The remainder of the paper will proceed as follows. The next chapter will provide a review of the literature on the subject. Chapter 3 will describe the research methodology and data sources. Chapter 4 will further develop the conceptual underpinnings of the study based on the previous literature and describe which institutions specifically are expected to show

trends with the manufacturing sectors. Chapter 5 will provide the statistical pattern analysis of the ten CEECs' sectoral mix and institutional development and analyze those results qualitatively, providing potential reasons for variations from expectations and suggesting areas of future research. Chapter 6 will discuss the implications for host countries, the investing firms and their relationship to one another and conclude.

Chapter 1: The Literature of Foreign Direct Investment

The studies reviewed in this chapter use varying methodologies to address the effect of a large number of determinants on inflows and inward stock of foreign direct investment in or between particular economies. There is broad agreement on some aspects, such as the effect of market size and proximity, and there is disagreement in others, such as the effect of labor cost or country risk. This chapter will review these studies by comparing past researches on specific determinants, discussing various methodological approaches used in these studies, and finally showing how these areas have informed the concepts in and development of this study.

1.1 Specific Determinants

Among the determinants consistently found to be significant in previous research are market size and proximity and quality of institutional development. The research around these determinants and their bearing on this study is discussed in the first three subsections below. Also relevant to the present study is the literature surrounding the determinants of the levels of liberalization and international integration, the cost of labor, and investor perceptions of risk and stability. These determinants have much less agreement among the authors and are discussed in the remaining four subsections.

1.1.1 Market size

Most studies agree that FDI is attracted to larger markets for a number of different reasons. Larger markets, often measured by GDP, a variant thereof (GDP per capita, GNP) or population, present greater opportunities of scale, greater population for market penetration, and other factors. Most studies find a positive significant correlation between market size and FDI inflows in line with the expectations laid out in their hypotheses.[6] Resmini

6 See, for example, Bevan and Estrin (2004); Cass (2007); C. Richard Torrisi, Christian Delaunay, Agata

concludes that foreign investors in Central and Eastern Europe are market-seeking and prefer large markets with good propensity for growth.[7]

One study, Sethi *et al.*, tested for market size and found no correlation with investment inflows, but pointed out that there is no theoretical reason why multinational corporations would prefer countries with smaller GNP except for possible efficiency seeking (low wage considerations) or market strategy that hopes to penetrate a large but poorer market.[8] This study, however, is particular as the researchers were examining not only the determinants of FDI from the United States to Western Europe and Asia, but also the shift in determinants when the structure of investment changed from the former to the latter. In this context, the authors observed that in shifting investment from Western Europe to East Asia, US multinational corporations considered size of economy of less importance than other determinants (i.e. because the East Asian economies were smaller).[9] In this manner, this is not in contradiction with the other studies. For example, Bevan and Estrin found that market size was positively and significantly correlated to investment in Central and Eastern Europe; however, they were not testing the economies both to and from which investments were moving and the changing preferences therewith.[10]

These studies seem to indicate that while larger market size is a significant investor preference within a region, it may not be so important when the context of a larger structural shift in investment focus is considered. Because market size is such a strong determinant, it is important for researchers to take this into consideration in the methodological designs of studies in which market size is not intended to be a tested variable.

Kocia, and Marta Lubieniecka, "FDI in Central Euorpe: Determinants and Policy Implications," *Journal of International Finance and Economics* 8, no. 4 (2008): 136-147; Mike Pournarakis and Nikos C. Varsakelis, "Institutions, Internationalization and FDI: The Case of Economies in Transition," *Transnational Corporations* 13, no. 2 (2004): 77-94.

7 Resmini, 678

8 Sethi *et al.*, 323

9 Sethi *et al.*, 323

10 See Bevan and Estrin 2004

1.1.2 Proximity

Like market size, proximity is almost invariably considered a strong determinant of FDI. Resmini provides particular insight in the prevalence of proximity in locational decisions across industries,[11] and most studies agree with this assessment, including Bevan and Estrin, Cass, and Kucera citing transportation costs as an additional factor for proximity's effect on locational decisions.[12] The outlying study is again Sethi *et al.* who provide a similar explanation as for market size regarding the shift in determinant importance when shifting investment strategies from one location to another[13] – clearly, the change from US multinational investment from Western Europe to East Asia was not an issue of proximity. Regardless, some authors implicitly agree with the assumption that proximity is a strong determinant by attempting to control for it in their study methodologies. Majocchi and Strange attempt to do so by including only Italian firms as sources of investment in Central and Eastern Europe, thereby removing any significant effects of proximity on the study results.[14] Because nearly every study that researches proximity as a variable concludes that proximity is a strong determinant of FDI, it, with market size, is a factor which must be considered in the design of studies in which it is not intended to be a tested variable.

1.1.3 Institutional development

Different levels of institutional development have been studied as a determinant of foreign direct investment as well. Bevan, Estrin and Meyer study the institutional development in transition economies and how they affect foreign investment.[15] They argue that there has been a shift in focus of what is a positive determinant from factor endowments such as resources or labor productivity and cost, to "created assets" such as infrastructure,

11 Resmini, 673
12 See Bevan and Estrin, 2004; Cass, 2007; and Kucera, 2001
13 Sethi *et al.*, 2003
14 Antonio Majocchi, and Roger Strange, "The FDI Location Decision: Does Liberalization Matter?" *Transnational Corporations* 16, no. 2 (2007): 2
15 Bevan, Alan A., Saul Estrin, and Klaus Meyer, "Foreign Investment Location and Institutional Development in Transition Economies," *International Business Review* 13 (2004): 43-64

institutions and knowledge-based assets.[16] Indeed, Dunning further develops his eclectic paradigm of foreign investment to include the importance of considering location bound institutions in his new paradigm of development.[17] A complicating factor in evaluating created assets is that some of them (e.g. infrastructure) can be notoriously difficult to quantify in a way that can be econometrically evaluated.[18] Regardless, even with these difficulties, almost all recent studies that deal with economic institutions find that they have a strong impact on FDI inflows.[19]

Market related institutions are also under tested in a number of studies for correlation with foreign investments. Bevan *et al.* find that extent of privatization, development of the banking sector, and strong legal institutions are strongly correlated to investment inflows, controlling for a number of other factors such as labor cost and productivity.[20] They do not, however, find strong support for development of the non-banking financial sector or reform in competition policy as determinants of FDI.[21] Pournarakis and Varsakelis show the importance of market institutions in a different way. They use several indices that measure political rights, civil liberties, and freedom of the press to determine the impact of institutions, and find that the institutions that support these qualities alone do not have a significant impact on foreign investment.[22] However, when these institutions are improved simultaneously with market reforms and increasing internationalization, they do in fact have a significant effect on the extent those reforms and internationalization have on investment inflows.[23] In this way, market reforms may not only have an impact in their own right, but

16 Bevan *et al.*, 45
17 J.H. Dunning, "Towards a New Paradigm of Development: Implications for the Determinants of International Business," *Transnational Corporations* 15, no. 1 (2006): 205-210
18 Majocchi and Strange, 31
19 cf. Bevan *et al.*, 2004; Pournarakis and Varsakelis, 2004; Sethi *et al.*, 2003; Chor-Yiu Sin and Wing-Fai Leung, "Impacts of FDI Liberalization on Investment Inflows," *Applied Economics Letters* 8 (2001): 253-256.
20 Bevan *et al.*, 61
21 Bevan *et al.*, 61
22 Pournarakis and Varsakelis, 82-83
23 Pournarakis and Varsakelis, 89

also a compounding one, in that their existence supports other institutional qualities in affecting inward foreign investments.

The importance of institutions is reiterated throughout the literature. Sethi *et al.* find that institutions have a strong impact on investor locational decision and, in fact, that they "cannot be overemphasized."[24] Which institutions they find are important, however, may shift when locational strategies shift.[25] They theorize in addition that certain basic institutions such as the rule of law must be present at least at a minimal level in order for investment to take place at all.[26] In addition to the role of formal institutions, some studies also consider the effects of informal institutions on foreign direct investment. Bevan *et al.* do not find evidence for informal institutions after controlling for formal ones; however, they admit that their test is lacking in several respects, not the least of which is measurement of informal institutions.[27] Further research is necessary to determine if informal institutions play an active role in investor decision-making, but their difficulty to measure is a major limitation on researchers' abilities to do so.

Taken together, there has been an abundance of research on whether or not institutions affect foreign direct investment inflows, what specific kinds of institutions have the greatest effect, and even how different mixes of institutions can correlate with different investment outcomes. However, the research on institutions their relationship with sector-specific investments is very thin. The findings reviewed here indicate that development of certain institutions will attract more FDI, but it does not consider that the sectoral mix of the new FDI attracted may be significantly different in composition than the foreign investments that were present prior to institutional development. Indeed, this change in the sectoral mix is not only concerned with what new investments enter the economy, but which investors have

24 Sethi *et al.*, 318
25 Sethi *et al.*, 324-325
26 Sethi *et al.*, 319
27 Bevan *et al.*, 61

divested their interests because of institutional changes. Given the effect foreign investors may have on the further development of institutions in a country, further research in this area can have wide ranging implications.

1.1.4 Liberalization

Related to and supported by the research on economic institutional development is the correlation between inward foreign investments and the extent to which a country has enacted reforms aimed toward the liberalization of its economy. Sethi *et al.* find evidence for their proposition that investments will be contingent on the countries of a region adopting investor-friendly liberalization policies.[28] Bevin *et al.* find that liberalization of foreign exchange and trade has a positive impact on investment inflows. However, liberalization of domestic markets and prices may not have the same impact (i.e. a positive, but insignificant correlation was found), nor does a stronger competition policy, which the authors believe may indicate that investors are seeking the ability to extract monopoly rents.[29] Majocchi and Strange analyze the effect of trade, financial and market liberalization separately and find that the first two have a strong effect on investment inflows whereas market liberalization's effect is only weakly measurable in their study.[30] This is in line with Bevan *et al.*'s findings in that both studies found a strong impact of trade and financial liberalization polices, with weak or no impact of market liberalization on FDI. Sethi *et al.* and Torrisi *et al.* also corroborate the findings that liberalization generally makes a country more attractive for FDI.[31] Resmini finds that market openness is not a determinant in overall investor decisions, however, this changes when she examines decisions at the sectoral level. While her regressions are not conclusive for every sector, she finds that scale-intensive industries respond more to market

28 Sethi *et al.*, 318
29 Bevan *et al.*, 61
30 Majocchi and Strange, 31
31 See Sethi *et al.*, 2007; Torrisi *et al.*, 2008

openness.[32]

A small portion of the literature attempts to break down the analysis to a sectoral level. Majocchi and Strange attempt to develop on these conclusions by separating the effects on the service and manufacturing industries, but they are unable to support their hypotheses that more trade liberalization would attract more manufacturing firms or more financial liberalization would attract service firms.[33] This may be a result of their approach of studying only Italian firms (comprised mostly of small and medium sized enterprises). While the purpose of this sample selection is to remove the proximity bias as mentioned in Section 1.2, they may have inadvertently biased the results by shifting the sample to largely small and medium sized enterprises in a particular country, a group which may exhibit different preferences than otherwise expected. Majocchi and Strange cite heterogeneity of preferences at the industry level (rather than simply at service versus manufacturing sector level) as a possible issue with their study.[34]

Besides these few studies, other attempts attempt to break the effect of liberalization down to the industry or sectoral level are exceedingly rare, representing a gap in the literature. This is directly addressed in the present research, as the institutions measured by the EBRD are primarily economic in nature, divided into enterprise, market and trade, and financial sector categories. Observing sectoral differences in attraction to these institutions could provide valuable insights that has not been prevalent in the literature.

1.1.5 International integration

Some studies have approached the question of determinants of investment from the perspective of the level of international integration. Bevan and Estrin examine the effect of the EU accession process and respective announcements on perceived attractiveness of

32 Resmini, 2000
33 Majocchi and Strange, 25-26
34 Majocchi and Strange, 33

Central and Eastern European countries.[35] They find that prospective membership announcements correlate with an increase in FDI inflows and cite perceived political and economic stability associated with EU membership as reasons why this would be so.[36] Interestingly, they also find that investors act in a lagged timeframe to make decisions as changes in investment flows did not occur immediately upon announcement, but rather after a certain period,[37] an effect which is further supported by Resmini.[38] Cass studied the use of incentives and investment promotion agencies as determinants and found that incentive levels increased with progress in transition to market economies and international integration.[39] The more advanced and internationally integrated the economy of the country, the more active Cass found the country's investment promotion agencies.[40]

This suggests that countries with more advanced and integrated economies are more dedicated to further advancement, and therefore will pursue international integration to a greater degree, thereby receiving more investment inflows. Furthermore, Kalotay indicates that EU enlargement may bring opportunities even to the non-accession countries, as wages will increase in the newly acceded states, driving efficiency-seeking investment eastward.[41] The findings of Pournarakis and Varsakelis corroborate these findings in that the more integrated into the global economy a country is, the more investment flows it experiences from abroad.[42]

1.1.6 Labor costs

While there is relative agreement on the effect of the above determinants on FDI, the effect of labor costs is highly debated. Bevan and Estrin find a significant negative

35 Bevan and Estrin, 2004
36 Bevan and Estrin, 779
37 Bevan and Estrin, 783
38 Resmini, 628
39 Cass, 2007
40 Cass, 112
41 Kálmán Kalotay, "The European flying geese: New FDI Patterns for the Old Continent?" *Research in International Business and Finance*, 18 (2004): 48
42 Pournarakis and Varsakelis, 85-86

correlation between unit labor costs and FDI.[43] Resmini finds that overall, labor costs (in terms of wage differentials) matter to a large degree, however, in an industry breakdown, they matter more for traditional sectors (characterized by labor intensity) than for scale-intense sectors (characterized by high capital) for which labor costs were insignificant.[44] To the extent that unionization pertains to labor costs, it is meaningful that Bartik found that a 10% increase in unionization among states in the US led to a 30 to 45% decrease in number of new branch plants in that state, indicating higher wages and collective bargaining are strong disincentives for business investment.[45]

Other authors corroborate the importance of labor costs in locational decisions for FDI. Michalíková and Galeotti show that unit labor costs is a significant determinant in the Czech manufacturing industry, but also note the potential for heterogeneity at the industry level.[46] Torissi *et al.* confirm the significant negative effect of wages as a determinant of FDI, but warn that their study may not be conclusive as they did not attempt control for productivity.[47]

This idea is refuted by Kucera as the "conventional wisdom" that implies foreign investors are driven by profit motives to areas of lower wage standards.[48] He argues this is a misconception and cites a survey of managers of multinationals and experts that shows cost of labor ranking ninth among other considerations such as growth and size of market, political and social stability as well as quality of labor.[49] He argues that cost labor would receive less attention from investors because higher costs of labor imply greater social and political stability (a higher ranked factor) and therefore the desire for greater stability among

43 Bevan and Estrin, 783
44 Resmini, 680
45 Timothy J Bartik, "Business Location Decisions in the United States: Estimates of the Effects of Unionization, Taxes, and Other Characteristics of States" *Journal of Business and Economic Statistics* 3 (1985) no. 1: 18
46 Eva Michalíková and Elisa Galeotti, "Determinants of FDI in Czech Manufacturing Industries Between 2000-2007," *Institute of Economic Studies Working Paper Series* (November, 2010): 29
47 Torissi *et al*., 142-143
48 See Kucera, 2001
49 Kucera, 3

other institutional factors may offset the need for low wages labor.[50] His empirical evidence, which compares workers' rights with levels of FDI, corroborates his hypothesis.[51] He indicates in his paper that transnational corporations are of a generally different character than domestic ones – they tend to pay higher wages, invest in more capital intensive industries, and use more skilled labor among other factors labor.[52]

However, while it may be possible to support such a hypothesis using overall average firm data, in which larger capital-intensive multinationals may outweigh their smaller labor-intensive counterparts in certain situations, it is doubtful that these assertions would withstand a sectoral evaluation that specifically separates labor-intensive industries from others. Kucera lacks this sectoral element in his methodological construct, and his study, while potentially accurate in representing overall transnational behavior with respect to foreign direct investment, may not convey the diversity present in the underlying sectors. A sectoral breakdown may reveal a different conclusion between sectors, and indeed Resmini concludes that different sectors exhibit heterogeneity in preferences and specifically observes differences with respect to labor costs.[53] As such, before rejecting the 'conventional wisdom' outright, we should consider whether certain labor intensive industries may exhibit cost-minimizing behavior more prevalently than their capital intensive counterparts.

Resmini's findings of heterogeneous sectoral preferences of labor costs has important implications on the present research. The presence or absence of particular institutions in a country could affect the wages predominant in that country. In addition, the level of wages present in a country could affect a citizenry's desire or capacity to demand institutional change. Therefore, the sectoral differences noted in wage preferences could drive sectoral preferences for institutions, and as such, this has been considered extensively in the

50 Kucera, 4
51 Kucera, 33
52 Kucera, 4
53 Resmini, 680

development of expectations of the wage-sensitive light manufacturing sector later.

1.1.7 Risk and Stability

There are multitudes of other potential determinants that could affect the locational decision-making of transnational corporations, but the last of which will be given brief attention here are the effects of risk and stability. Bevan and Estrin find, interestingly, that perceptions of host country risk, measured by an index that captures macroeconomic stability, stability of political friendliness to commerce, extent of corruption and political stability, do not play a significant role as a determinant of foreign investments in Central and Eastern Europe.[54] This falls against their expectations, for which the authors offer several possible reasons, including that the risk factor may be included in other variables such as labor cost via exchange rate risk or distance via uncertainty in unfamiliar environment and culture.[55] They also consider it is possible that "the accession process is too big to fail" in Eastern Europe, and therefore individual country risk will be mitigated by that process.[56] Given the number of other findings that corroborate the strength of international integration as a determinant (Section 1.1.5 above), this last explanation is not unwarranted, though risk as an indicator of measures of stability is not eliminated as a determinant.

A number of other studies find political, social, or economic stability to be a significant determinant.[57] This seems to be a straightforward and almost obvious conclusion, but it is an important one. The political, social, or economic stability of an investment location may have significant implications on the profitability of a business venture in terms of future production capabilities, ability to earn profits, and even the potential for expropriation of investment assets in changing political climates. To the extent that these types of stabilities might interrupt the profitability of an investment, these can be said to

54 Bevan and Estrin, 778-779
55 Bevan and Estrin, 783
56 Bevan and Estrin, 783
57 See, for example, Pournarakis and Varsakelis, 2004; Kucera, 2001; and Sethi *et al.*, 2003

comprise 'host country risk', and in this light, these findings are contradictory to Bevan and Estrin's findings above.

1.2 Approaches of Evaluation

The studies described above and others approach the topic with different methodologies at a series of levels of observation. This section will briefly discuss some of the complexities associated with the subject matter and how some of the methodologies attempt to address these issues. First is a discussion of the level of empirical investigation. That is, the level at which the research analyzes the data, being at the industry, firm, country, region, or other level. The section will then address complicating factors of the past studies, methods of overcoming them, and how they relate to the present research. This study will draw from these past researches in the development of its own methodology.

1.2.1 Level of empirical investigation

All of the studies above are an attempt at discerning what motivates a transnational corporation when deciding where to make foreign investments; however, there are several different levels at which the researchers attempt to observe these motivations in action, for example, at the country or regional level or even with decisions at the firm level. Even though our goal is to identify firm-level motivations that are determined by individuals with their own preferences within the firms, as Sethi *et al.* indicate, multinationals "often invest in a particular country or region virtually en bloc, notwithstanding idiosyncratic variations in individual investment decisions."[58] Therefore, many researchers find it beneficial to evaluate the determinants at the country level. However, Resmini argues and shows in her research, that different industries have different factor inputs which they need to efficiently allocate to create their end-product. Therefore firms in different industries will respond in a heterogeneous manner to different country conditions. Based on this, Resmini argues it is

58 Sethi *et al.*, 316

best to evaluate firms at the industry level.[59] These two approaches, evaluating based on the country level because all multinationals should respond the same, and evaluating by industry because different factor requirements call for different preferences, dominate the literature and produce different results when applied, as noted in the discussion above.

Other methods have been justified, such as evaluation of investment into a particular region,[60] of foreign investment out of a particular country,[61] of a gradual change in structure of foreign investment from a certain country,[62] of a shift in investment from one region to another,[63] of location of international investment within a large country's market,[64] and of investment occurring globally,[65] among others. These methods are chosen so as to best fit the researcher's purpose in, for example, controlling for certain factors such as proximity, culture, or other reasons. However, in controlling for many factors, there seems to be a tendency in the literature to not address the fact that not all transnational corporations have the same preferences, and as such, studies may have built within them a flaw that treats preferences as affecting variables in the same direction. In fact, disagreement between whether, for example, labor costs affect FDI may stem from differing industry preferences influencing the different industry make-up of the particular study in alternate ways.

1.2.2 Complicating Factors

As can be readily discerned from the analysis of the studies above, researchers of the causes and implications of foreign direct investment are dealing with an enormously complex research topic. Among the complexities are the interactions between institutions, governments and investors, potential collinearity, and issues of reverse causality. The complex interactions of the actors are an issue on their own accord. As Majocchi and Strange

59 Resmini, 2000
60 See Bevan and Estrin, 2004; Bevan *et al.*, 2004
61 See Majocchi and Strange, 2007
62 See Sethi *et al.*, 2003
63 See Kalotay, 2004
64 See Bartik, 1985
65 See Kucera, 2001

readily admit, the effects of policies on investment flows are too complex to "be captured in a handful of quantitative measures."[66] The dynamism of international markets, the changing preferences of investors, such as those noted in Sethi *et al.* and Kalotay, and the intricately complex factors that affect foreign investment flows prevent researchers from being able to readily identify a set of determinants of FDI.

In addition, reverse causality has far reaching implications. Many studies attempt to determine if institutions bring about increases in FDI flows, however, the case may be that increases in FDI flows bring about developments in institutions. Bevan and Estrin's study on EU accession provides a mechanism on how this could occur. They indicate that the EU accession process encourages FDI by creating the perception of stability. The investments then further develop the institutions that help the host country along on the EU accession process in what the authors term may be "vicious and virtuous circles of growth".[67] In addition, Resmini claims that "the concentration of FDI in particular sectors may affect the path and pace of the restructuring process, reshaping the industrial specialization of the host countries."[68] Following these ideas, foreign investment could be shaping the institutions in which it operates.

1.3 Implications of the Review of the Literature

This review has covered a series of determinants of foreign direct investment as well as a number of complications that arise in researching the effects of the determinants on flows of foreign investment. The discussion on the specific determinants above will help shape the expectations developed later. For example, it is important to understand perceptions of the effect of liberalization in developing expectations of firm behavior in response to such institutions as regulatory quality and markets and trade reform, and the review of the studies

66 Majocchi and Strange, 33
67 Bevan and Estrin, 785
68 Resmini, 667

above has provided a background that supports the expectations of set forth in Chapter 3.

In addition, I have identified gaps in the literature that the present study is intended to help fill. Specifically, the thin research that has been conducted on a sectoral level on different qualities of host country institutions represents the major gap in the literature into which this piece fits. By examining the effect of varying qualities of institutions on foreign investment stock, this research may be able to help confirm the importance of considering heterogeneity at the sectoral level. This is important, as methodologies that do not take such heterogeneity into account may be responsible for the mixed conclusions reached in some of the areas above (for example, with labor costs). Having reviewed the literature on foreign direct investment, I will now describe the research methodology and data sources to be used in this study.

Chapter 2: Research Methodology and Data Sources

As indicated in the introduction, this study will comprise a statistical pattern analysis across countries for three separate years, followed by a qualitative analysis of the patterns observed. This cross-country pattern analysis will compare various institutional qualities with the percentage of total FDI that is made up of the complex sector and the light sector. The analysis will be performed for three separate years to determine whether development of institutions has an impact on sector-specific investments observed. The years of analysis are 1998, 2002, and 2006. These years of analysis can provide snapshots of changing conditions within the region.

The region analyzed is Central and Eastern Europe and the sources of data are the Vienna Institute of International Economic Studies (WIIW) Database on Foreign Direct Investment for data on complex, light and total manufacturing FDI, the World Bank's Worldwide Governance Indicators (WGI) for host countries' governance institutions ratings, and the European Bank for Reconstruction and Development's (EBRD) Transition Indicators for host countries' economic institutional ratings. These datasets and associated calculations can be found in Appendices A, B, and C, respectively.

The WIIW Database on Foreign Direct Investment provides extensive data on provide inward stock of foreign direct investment in Central and Eastern Europe. This database is one of the most comprehensive and highest quality databases on foreign direct investment statistics available for the region and time period, and therefore provides suitable data for the purposes of this study. The countries under evaluation are the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia. Specifically, the database will provide these countries' total foreign direct investment in each country as well as a breakdown of the amount of investment by industry. Foreign direct investment *inward stock*

will be used instead of inflows because I am interested in the presence of the industry in the country, not just the current year's value of investment that entered the country. In this manner, I am also able to evaluate divestiture that is not be a component of FDI inflows, but is important for the present research nevertheless.

Relevant industries will be categorized as light or complex in nature as described in the introduction, and that value divided by total FDI for the year to arrive at the sector's percentage. By dividing by total FDI, I am not only taking into consideration the size of the economy, but also providing a measure by which we can judge the relative extent to which an economy is dominated by complex or light sectors with respect to other economies. The percentages developed will then be compared to the governance and economic indicators.

The WGI measures three categories of institutions, democratic processes, governmental capacity, and respect of institutions, each with a pair of indicators. These indicators are voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. The ERBD Transition Indicators measures thirteen indicators across four broad categories: enterprise friendliness, financial sector development, markets and trade, and infrastructure reform. This study will focus on the average within each of the three governance and four economic categories, turning to their component indicators for additional information when necessary.

The institutional indicators provided by the World Bank and the EBRD are their best estimates and calculations of the quality of the institutions in their respective countries, based on statistical data as well as surveys of government agencies, nongovernmental organizations, business entities and other associations where appropriate.[69] While it is notoriously difficult to measure such institutions quantitatively and the publishing agencies even warn of

69 Kaufmann *et al.*, "Methodologies", 2; European Bank of Reconstruction and Development (EBRD), "Transition Indicators Methodology," *Research and Publications.* Last updated April 29, 2010, accessed May 17 from http://www.ebrd.com/pages/research/economics/data/macro/ti_methodology.shtml.

imprecision inherent in such endeavors[70], these estimates can nevertheless provide strong guidance in understanding what kinds of institutional quality the sample countries presented and more importantly, what foreign investors may have perceived, during the research period.

The graphs will show countries according to their quality of institution indicator across the horizontal axis and percentage of complex manufacturing as a portion of total manufacturing FDI on the vertical axis. Separate graph will be prepared for each institution and year of the study. In this way, it will be evident if there is a relationship between the portion of complex or light investment and the quality of institutions present within the region. These graphs can be observed in Chapter 4.

After graphing the data the resulting patterns (or lack thereof) will be evaluated with respect to the hypotheses presented in the introduction and conceptual development presented below. This study will focus more heavily on the qualitative development of explanations of the trends and their significance than econometric analysis as this study's contribution is more descriptive than relying on econometric proofs. The notorious difficulty in measurement of institutional strength is part of the reason for this paper's strong focus on qualitative analysis of the trends rather than econometric regressions, as econometric regressions within significance can only be as robust as the underlying estimates on which the analyses are based. Therefore, it is more interesting here to visually depict general trends with a subsequent qualitative discussion of the possible causes of those trends and what they may imply in terms of the relationship between the different sectors and the institutions they find important.

70 Kaufmann *et al.*, "Methodologies", 20

Chapter 3: Theoretical Development

Having reviewed the literature and described the methodologies to be used in the research, I will now further develop the hypotheses set out in the introduction as applied to the specific institutions and time periods introduced in the methodologies section. I will provide the theoretical underpinnings for the study's expectations, discussing first the governance institutions and then the economic institutions with respect to both complex and light industries.

Comparing the Central and Eastern European countries' institutional development and sectoral mixes will be indicative what institutions are most important for investing companies in the sectors under examination. In addition, the changes observed between the time periods analyzed can show the changing interests of investor firms in relation to the developmental paths of the host countries and their region. If a pattern is observed that groups countries along an upward sloping imaginary line when comparing institutional quality on the horizontal axis and complex industry FDI as a percentage of total FDI on the vertical axis, then this is indicative that this institution is an important determinant for the sector under evaluation in that particular year of analysis.

I do not expect of course, that the patterns will be clean, straight lines, as no single institution defined here should provide a country with sufficient capabilities to attract investment. Rather, if a pattern is observed that shows the upper most countries in the graph proceeding in the upward sloping line, with other countries beneath that line, it could be characteristic of an institution that is necessary for investment to occur, but not sufficient. In addition, there may be one-off exceptions that are symptomatic of the particular situation of a country, which, for example, may have experienced significant inflows due to a well developed strategy or even international effort even though its institutions are not of a caliber

normally required.

This section will continue, first proceeding through the expectations of the governance institutions as measured by the Worldwide Governance Index, and then exploring the expectations for the economic institutions as measured by the EBRD.

3.1 Governance Institutions

Kaufmann *et al.*'s Worldwide Governance Index provides ratings that are useful for understanding the capacities of a government in three areas with two components in each area. The breakdown is as follows:

- **Democratic process** – the process by which governments are selected, monitored, and replaced
  - Voice and accountability
  - Political stability and absence of violence or terrorism
- **Government capacity** – the capacity of government to effectively formulate and implement sound policies
  - Government effectiveness
  - Regulatory quality
- **Respect for institutions** – the respect of citizens and the state for the institutions that govern economic and social interactions among them
  - Rule of law
  - Control of corruption[71]

These governance institutions support the governments of the countries in providing the standard services that are necessary (but not sufficient) for an economy and society to function. Some of these may directly help firms in a complex industry earn profits, and others may not. I expect that the institutions that would increase a complex industry's profits, decrease its risks, or provide other benefits would have levels of quality that correlate positively with levels of complex investment as a percentage of total FDI when compared across countries in the region.

I also consider, however, that as the countries develop together as a region, many of them will achieve either high quality standards or at least minimally sufficient levels

71 This listing is adapted from Kaufmann *et al.*, "Methodologies", page 4. The bolded headings were created to aid discussion of the averages of the categories.

necessary for investment. In such a case, where most of the entire region exhibits similar quality levels or at least minimum qualities, the pattern may break down. This is because the investor firms choosing a location for investment may see a certain institutional quality as homogenous across the region and that quality will no longer serve as a distinguishing characteristic with respect to decisions made on investing in that region. That is, if the perceived rule of law, for example, is at the same level or at least over a required minimum for each country the investor is deciding between, the investor will not use rule of law as an important deciding factor, but rather something else, that may not have taken precedence when rule of law quality was not homogeneous. The institutions are evaluated individually below, with their expected effect on the average indicator described after the individual evaluation.

3.1.1 Democratic Processes

3.1.1.1 Voice and Accountability

The voice and accountability indicator is designed to measure a country's citizens' ability to participate in government as well as freedom of association, expression, and media. To the extent that this also provides voice to an investing firm in the government this can be very beneficial for firms in the complex sector, as they could be able to influence the regulatory structures under which they must operate. Increased voice and accountability may be detrimental for light industries focusing on low-wage strategies, as active citizenry may be able to influence the passage of, for example, a higher minimum wage or other labor-right laws. Because complex manufacturing industries tend to employ higher skilled workers fewer in number, increased voice and accountability may be more attractive to the extent that it provides citizens a manner of influencing the government to provide programs that provide them with the skill levels required by the complex sector. Therefore, even if increased voice and accountability does not provide voice directly to the firms, complex industry firms may

be attracted to host countries with higher quality levels of this institution.

3.1.1.2 Political Stability

The political stability indicator measures the likelihood political or other violence may destabilize or overthrow a government. This presents an obvious risk for an investing company, and complex industries are expected to be more risk averse due to the size of their investment and other factors. Therefore, following the findings of Pournarakis and Varsakelis, Kucera, and Sethi *et al.*, it is expected that greater political stability should correspond with greater levels of investment.[72] However, in differentiating the effects of the institution on the sectors analyzed from the firm perspective, a smaller labor-intensive investment typical of the light manufacturing sector is both easier to move and less of a loss if the project must be abandoned, than a large capital-intensive investment in the complex industry. I expect, therefore, the light sector to be more willing and able to take the risks presented by instabilities than the complex sector. In addition, I expect that the benefits bestowed on a country by greater political stability come at a cost of maintaining a strong, more involved government that must consequently levy greater taxes. This extra cost may serve as a deterrent for the light manufacturing sector, which may not be willing to pay the cost for added stability it may not need.

3.1.1.2 Expectations for Democratic Processes Composite Indicator

Because of the reasons described above, I expected that levels of both voice and accountability and political stability will correlate with levels of complex investment as a portion of total FDI. The democratic processes composite indicator will exhibit an upwards sloping pattern for complex industries. In addition, because the light sector may be unwilling or able to absorb the higher costs of higher quality levels of these insitutions, I expect its prevelance as a portion of total FDI to be smaller in countries with greater qualities of these

72 See Pournarakis and Varsakelis, 2004; Kucera, 2001; and Sethi *et al.*, 2003

institutions. I do not expect the light sector's patterns to be as strong and clear as the complex industry's, as the light industry can gain benefits from these institutions, but rather are deterred by the higher costs. Conversely, the complex industry patterns should be strong as it is unlikely that a politically unstable economy could provide the investment security needed by the industry. As such, the composite indicator average, democratic processes, is expected to correlate positively with complex industry and negatively with light industry.

3.1.2 Government Capacity

3.1.2.1 Government Effectiveness

Government effectiveness, measuring the quality of public services, civil service, and policy formation and implementation, is an important institution in development. The effectiveness of a government may increase the predictability with which the government deals with its investors and also the efficiency with which the investors may start business in the host country. However, the reduction in costs of entry may be offset by higher taxes imposed by the government to support the services related to efficiency. In addition, the greater the complexity and the larger the monetary commitment, the more important this institution may be to the potential investor. Therefore, while I expect both sectors to benefit from higher levels of government effectiveness, I also expect the complex sector to be in a better position to take advantage of that benefit and bear the higher costs (e.g. imposed by taxation) associated with the efficiency. As such, I expect the quality of the indicator to be suggestive of the level of complex investment in a host country as a portion of total FDI. For the light sector, the added benefit of investing in an economy with a high level of effectiveness may not fully outweigh the added cost of the government maintaining such a quality of effectiveness. In this respect, I believe the correlation between the level of light sector investment as a portion of total FDI will be weak and negative, if even at all observable.

3.1.2.2 Regulatory Quality

The effect of regulatory quality on the mix of foreign investments in a country is not straight forward. A first assumption may be that companies try to avoid regulation in general, and that it would consequently have a negative correlation, where increased regulatory quality drives away further complex investment. However, upon further consideration, one could expect that high regulatory quality comes along with established markets, well functioning governments, and reliability of expectations in terms of government behavior. In this light, the ability for a company to predict what types of regulations it will face after investment would likely be of more importance to the complex industry, which could not relocate easily when the regulatory climate changes from its favor, than the highly mobile light industry. In addition, regulations in an industry have the potential to raise the barriers to entry for that industry, allowing situations to arise where monopoly rents are easier to obtain, an element Bevan *et al.* find may be attractive for investors[73] as described in Section 1.1.4 above. Therefore, unless the regulations specifically attempt to increase competition in the industry, larger firms that are able to handle the higher (perhaps bureaucratic) barriers to entry, would be attracted to the country because of the higher potential for monopoly rents. This may particularly be the case when discussing foreign direct investment because the type of firm that is prone to make such investments is a larger transnational company, that may be more naturally able to handle the higher barriers to entry.

The WGI provides some guidance on this in its definition of the regulatory quality indicator: the "perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development."[74] Given that the index is attempting to identify regulations that permit and promote private sector development, I expect that complex industry would be attracted to countries with greater regulatory quality. I expect that light

73 Bevan *et al.*, 61
74 Kaufmann *et al.*, "Methodologies", 4

industry would not be driven necessarily to countries with higher regulatory quality, as those regulations may inhibit the lower wages these industries generally seek.

3.1.2.3 Expectations for Government Capacity Composite Indicator

Therefore, in combination with the expectations for government effectiveness, I expect the composite indicator of government capacity should show positive correlations with complex industry when compared across countries. While I expect the two institutions to not be strong attractors of light industry, I do not expect the light industries to be particularly averse to government effectiveness or regulatory quality, exhibiting active avoidance of countries with high marks on these indicators. Therefore, with respect to government capacity indicators, I do not expect light industry to show much correlation in either direction.

3.1.3 Respect for Institutions

3.1.3.1 Rule of Law

Rule of law should be a prerequisite institution for investment to occur as contracts cannot be efficiently enforced without rule of law, among other clear reasons. However, this would be a more important factor for complex industry than for light industry, and therefore countries with higher measures of rule of law should also exhibit higher foreign investment in complex industry as a percentage of total FDI. However, rule of law may only be necessary at a certain minimum level, and after a minimum level is attained other institutions may take precedence in the eyes of the decision-making firms. If this is the case, I expect the above pattern to be prevalent early on, in the years 1998 and perhaps 2002, but less so in 2006.

3.1.3.2 Control of Corruption

Similarly to regulatory quality, arguments exist which could shift the pattern observed in opposite directions. Again at first glance, control of corruption may not be attractive to all transnational investors, as corrupt officials can allow certain investors able to pay the price to partake in cost saving activities that may otherwise be illegal, such as pollution, violation of

labor rights, and other activities. However, it is unlikely this is such a dominant practice in the sectors under study that it would shift the investment patterns significantly. Indeed, control of corruption is likely actively attractive to certain sectors, and in particular, complex. For example, certain corrupt practices may place assets of the firm at risk for seizure, entail corrupt payments that are difficult to explain in good light to home country investors and governments, and even introduce a high level of unpredictability of what will be necessary to continue operations or how under-the-table agreements would be affected when powers shift in the host country. Similarly to government effectiveness, that attractiveness may increase with the complexity and size of the investment under consideration. As a result, I expect the level of control of corruption to correlate positively with the level of complex investment located within a country as a portion of total FDI.

However, control of corruption can be extremely expensive for a host country to implement, because incentives need to be provided for, or disincentives need to be levied against, government actors to prevent corruption. Those incentives should presumably be greater than the incentives to participate in corrupt practices, and the disincentives, in terms of criminal prosecution and incarceration, would necessarily be expensive as well, and these are likely paid for through taxes levied on individuals and businesses. As light industries do not have large investments at risk and corrupt activities and payments may likely be proportionate to the size of investment, light industries probably would not benefit to the same extent as complex industries from control of corruption. They would nevertheless experience some of the costs of the control of corruption as implemented in the host country. Due to this cost, I expect light industries to show a negatively correlating pattern, decreasing in level with increases in control of corruption across countries.

3.1.3.3 Expectations for Respect for Institutions Composite Indicator

Given the above concepts regarding rule of law and control of corruption, I expect the government capacity composite indicator to show patterns of higher levels of complex investment as a portion of total FDI correlating with higher quality of government capacity when compared across countries. In addition I expect decreasing levels of light industry investment with increasing government capacity when compared across countries.

3.1.4 Summary of Governance Expectations

I expect that each of the governance institutions will show patterns that are suggestive of their importance to the complex industry sector. In addition, I expect that the democratic processes and respect for institutions indicator averages should show patterns that are suggestive of the light industry's lack of attraction to these institutions. The patterns observed with government capacity, however are expected to be suggestive of neither importance or aversion for the light sector. Having examined the expectations and their underlying reasoning for the governance institutions, I will now turn to the expectations relating to the economic institutions as measured by the EBRD.

3.2 Economic Institutions

In addition to the governance institutions measured by the World Bank, economic institutions measured by the EBRD can be used to evaluate differing preferences between the two manufacturing sectors. The three broad categories of enterprise friendliness, financial sector development, and markets and trade be treated similarly to governance institutions with respect to their expected effects on the mix of complex and light industry invested into an economy. Those institutions expected to benefit complex industries will be should have greater portions of complex investment as a component of total manufacturing FDI. The breakdown of the institutions in these categories are as follows:

- **Enterprise friendliness**
  - Large scale privatization
  - Small scale privatization
  - Governance and enterprise restructuring
- **Markets and trade reform**
  - Price liberalization
  - Trade and foreign exchange system reform
  - Competition policy
- **Financial sector development**
  - Banking reform and interest rate liberalization
  - Securities markets and non-bank financial institutions[75]

The expectations for these categories are presented below.

3.2.1 Enterprise Friendliness

The enterprise friendliness indicator encompasses small and large scale privatization as well as governance and enterprise restructuring.[76] The indicators take into account the ease of business set up and operation as well as the transfer and operation of assets from public ownership to private. The two manufacturing sectors evaluated here are both likely to benefit from such privatization and restructuring. Increases in enterprise friendliness may be indicative of a government's commitment to private investment, and again as with several of the governance indicators above, the larger the investment the more benefit may be obtained from the increase in the institutional quality. I expect that countries with greater enterprise friendliness will attract more complex industry than other countries.

3.2.2 Markets and Trade

The markets and trade category includes indicators involving price liberalization, trade and foreign exchange system as well as competition policy.[77] This indicator is of particular interest because it may not be a determinant, and in fact may be a repellant, for the complex industry. While quality trade and foreign exchange systems would certainly benefit the complex industry, it would also benefit any international investor and so would not be

75 These categories and their constituent institutions are presented as divided by the EBRD, however, the averages of each category are calculated by the author. See EBRD, "Transition Indicators Methodology,"
76 EBRD, "Transition Indicators Methodology"
77 EBRD, "Transition Indicators Methodology"

expected to correspond to increases in the portion of total FDI that is comprised of complex sector investments, and the same can be said for investments in the light industry sector. However, domestic price liberalization and competition policies may directly inhibit some of the market strategies of some complex industries, and indeed, Bevan *et al.* find price liberalization and competition policy to be negatively correlated to FDI.[78] Because of the larger investments and expertise required in complex industries, they may find the ability to acquire monopolistic power and extract resulting rents as advantageous. Even if a particular industry is not characterized by monopolistic rent-seeking, strong competition policies that actively work to increase competition would be expected to decrease prices (and, indeed, this may be their political purpose), and thereby decrease the expected margins of profit and consequently returns on investment as well.

In addition, as part of the measure of competition policy, the EBRD includes the break up of dominant conglomerates as a component of a higher score in its calculation of the measure.[79] While dominating conglomerates may not be a feature of every industry in the complex sector, a state's behavior of and commitment to breaking them up would undoubtedly affect the complex sector more than the light sector. Therefore, countries with stronger reforms in markets and trade may be more attractive for light industry than for complex industry. My expectation is, then, that countries that exhibit greater reform in the markets and trade average indicator should exhibit lower portions of total FDI in the complex sector and greater portions in the light industry sector when compared across countries in the region.

3.2.3 Financial Sector Development

Financial sector development is expected to benefit complex industries far more than light industries. This is because the financial sector development category includes

78 Bevan *et al.*, 61
79 EBRD, "Transition Indicators Methodology"

development in banking reform, interest rate liberalization, securities markets and non-banking financial institutions.[80] While banking reform could benefit the both of the manufacturing sectors concerned here, the other factors included in this average would probably be of greater benefit to the larger investments of complex industry both in terms of handling the finances for the investments as well as raising equity for them. With these structures in place, complex industry would be more supported by a higher quality indicator. Furthermore, the higher in quality a financial sector is, the more likely greater amounts of governmental resources are expended on its development and maintenance. The light industry would find it more difficult to keep its production prices low while needing to pay the additional taxes such an infrastructure may require. Therefore it is likely that countries with a high rating in financial sector development also have higher portions of investment in the complex industries.

3.3 Summary of Conceptual Development

The hypotheses presented in the introduction posited broadly that countries exhibiting certain qualities of institutions should attract certain mixes of investments, and specifically, that complex industries should be attracted to institutions that help them achieve a profit and light industries should avoid institutions to which they are averse. This section has narrowed those hypotheses down, having presented each of the institutions to be analyzed and developed corresponding expectations.

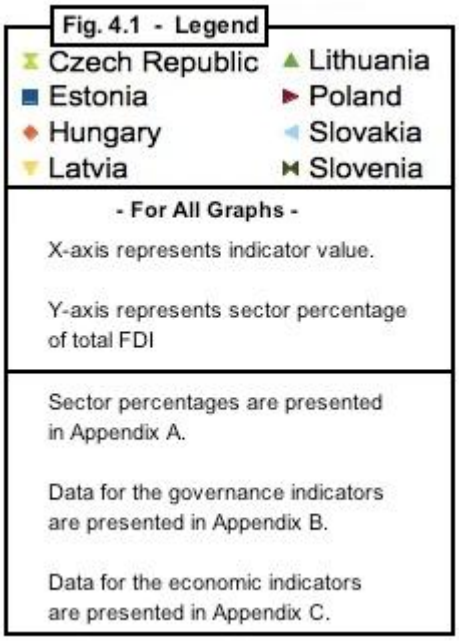
Overall, countries with higher ratings in the financial sector development indicator are expected to also exhibit higher investments portions in complex industries, as these institutions should be attractive for high risk, large investment, capital intensive projects, as the larger investments, larger costs, and larger returns would need a quality financial sector in order to provide the banking services necessary to handle the transfers, transactions, and the

80 EBRD, "Transition Indicators Methodology"

equity raising capabilities necessary to fund the projects. Enterprise friendliness is expected to also be beneficial for complex industries, and therefore a similar pattern is expected to be observed correlating this indicator's measure with greater portions of complex investment. Markets and trade reforms are expected to benefit light industries disproportionately to complex industries, and therefore here I expect to see less complex investment located in countries with higher reforms in this indicator, complimented with more light investment.

As can be understood from the discussion above, in dealing with this complexity we must be aware that there is an uncountable number of factors that go into the determination of where and in what size an investment will be located in a foreign country: these include determinants such as institutions, but also economic and geo-political events that can cause outliers in the pattern analyses. Because of the obvious complexity associated with the research area, robust econometric correlations are difficult to obtain and are beyond the scope of this paper. Instead, the remainder of this paper will comprise a more qualitative discussion of the observed patterns that can support or refute the expectations developed above regarding the relationships between the social, political, and economic institutions and the sectoral mix of investments located within a country. Further research can include robust econometric analyses that can then prove or disprove the hypotheses developed here, but a theoretical, qualitative discussion based on observed investment trends can help develop what those econometrics should test.

Chapter 4: Statistical Evaluation and Results

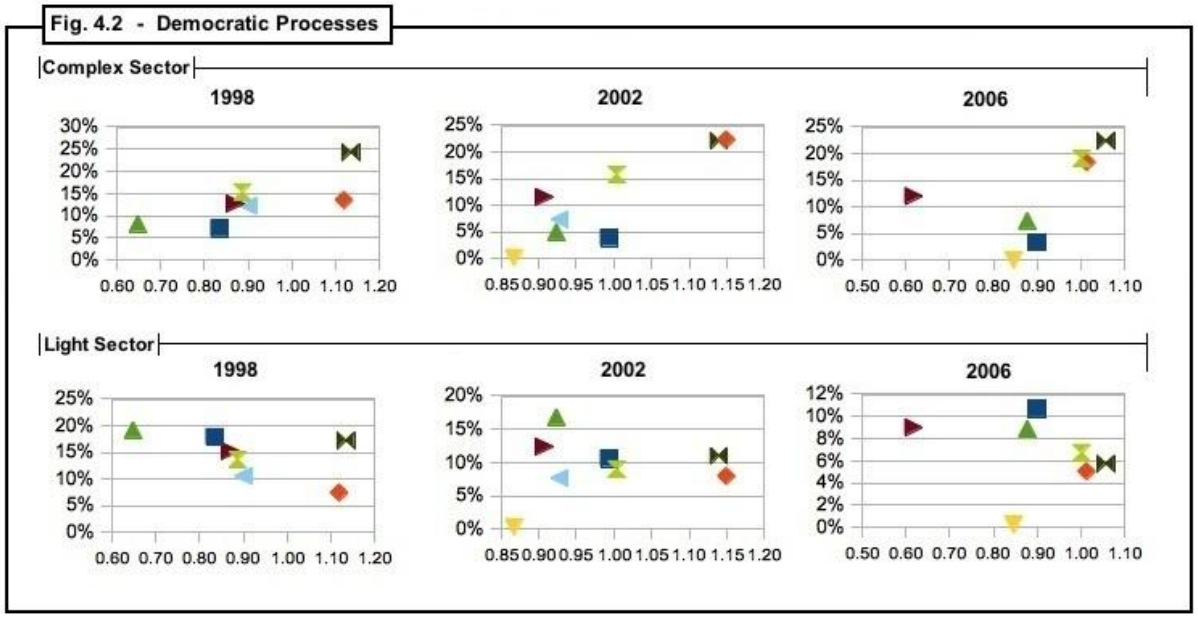


Having developed expectations of what might be observed in the statistical analysis in the last section, this section will examine the actual patterns produced in the graphs in the appendices. The analysis will proceed with a similar structure as Chapter 4 on conceptual development, starting with a discussion of the results of the cross-country patterns observed with the WGI's governance institutions and then continuing with the EBRD's economic institutions. Instead of presenting each indicator as was done in the section above, this chapter will focus on the indicator averages as analyzed in the graphs. The discussion below refers to the figures presented with the analyses. The legend in Figure 4.1 above indicates how all graphs in this study should be interpreted.

4.1 Governance Institutions

4.1.1 Democratic Processes

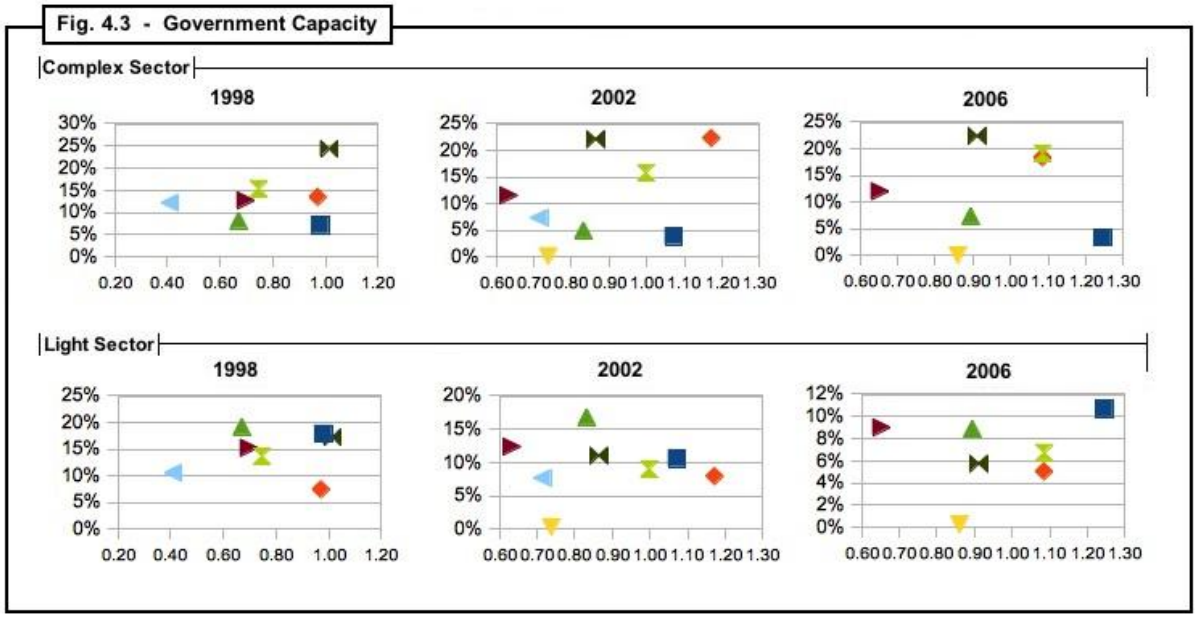
In Figure 4.2 below, it is evident that in each of the years 1998, 2002, and 2006, the democratic processes average shows a positive correlation between the indicator level and the portion of total FDI that comprises complex investments as expected in the previous chapter. In addition, there are general downward-sloping groupings observed in the comparison involving light industry, however, these patterns are not as clear as with the complex sector patterns, particularly in 2006. These patterns possibly indicate a light-industry aversion to countries with strong democratic process institutions but are strongly indicative of the attraction complex industries have to countries with such institutions. Another interesting

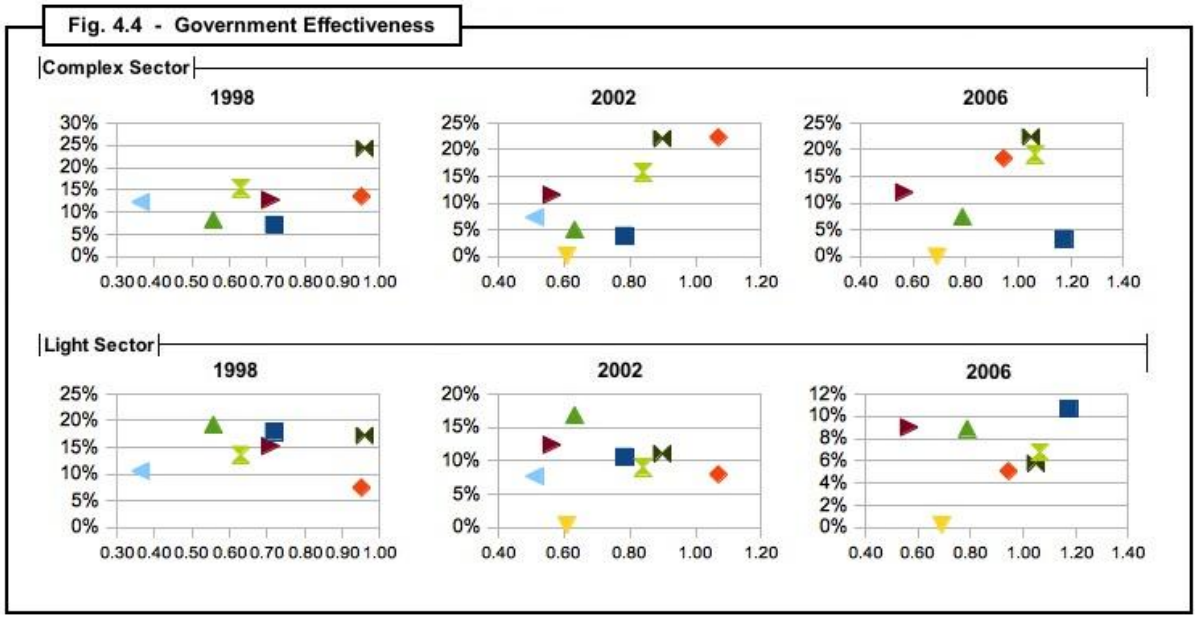


observation here is that there is clustering of some countries beneath others at the same institutional quality, yet the upper most countries create an upward sloping line in the complex industry graphs. This can be indicative that voice and accountability is a necessary but not sufficient condition for complex investment. This should not come as a surprise, as no institution can be itself sufficient to support significant complex industry FDI.

4.1.2 Government Capacity

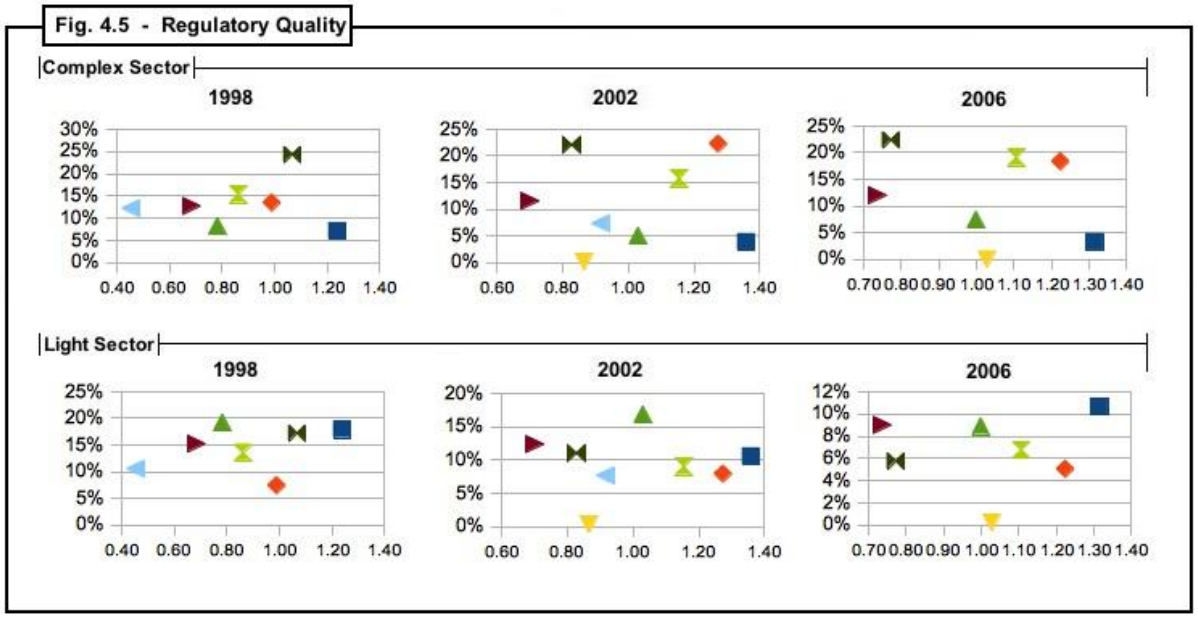
The patterns that can be observed in Figure 4.3 below with respect to the measurements of government capacity and its correlation with complex and light investment present a challenge. In 1998 the institution appears to be of importance to complex investors as a rather weak pattern of a slightly upward sloping line emerges among the countries, however, that pattern is all but lost in 2002 and 2006. To understand the drivers of this observation, I have presented graphs of the component institutions, government effectiveness (Figure 4.4) and regulatory quality (Figure 4.5), separately in addition to the government capacity average graph. Figure 4.4 shows government effectiveness as having maintaining the expected patterns in each of the years of analysis for both complex and light industries, in that complex was expected to show an upwards slope and the light sector was expected to show discernible patterns. However, regulatory quality in Figure 4.5 does not show strong, if





any, patterns in any of the years observed for either sector. This indicates that while government effectiveness may be an attractive quality for the complex sector, regulatory quality receives no such support as desirable to complex or light investors.

The finding that regulatory quality may not be a desirable institution for complex investors is in contradiction to the expectation developed above, and there are several possible reasons for this lack of attraction. First, there is the possibility that the expectation is incorrect and regulatory quality is not a factor of strong consideration in the locational decision-making process of complex industries, or at least, not one of much greater importance than in light industries. However, due to the concomitant benefits of regulatory



quality mentioned in Section 3.1.2.2 above, those being established markets, well functioning governments, and reliability of expectations in terms of government behavior with respect to investments and business practices, this possibility seems unlikely.

Second, there could be a perceived fear of over-regulation on the part of complex sector investors present in countries with high regulatory quality. However, because the very definition the WGI uses for determining the indicator's value includes "regulations that permit and promote private sector development"[81] it seems unlikely that this should be the case. The argument could be made that it is the *perceptions* of over-regulation, even if factually unsubstantiated, that could be driving the observed results; however, the WGI uses perceptions in calculating its values, and in fact, uses perceptions of businesses in addition to governments and NGOs. Therefore, these perceptions of the perceived quality of the present regulations should be included in the evaluation, and if the regulations were perceived as having negative impacts on private development, this should be reflected in the overall rating and consequently the graphs of analysis.

It is possible however, that perceptions of regulatory quality in a particular economy could be skewed by prevalence of certain mixes of investment, and this possibility should be considered. For example, some industries may expect more, less, or different 'optimal' levels of regulatory quality, and one country, dominated by the complex sector may prefer certain regulations it perceives as quality,

81 Kaufmann *et al.*, "Methodologies", 4

while another dominated by the light sector may perceive different regulations perceived as quality. Based on a survey of stakeholders in each economy, each country could possibly achieve the same rating, but the underlying regulations would in fact be different, making cross-country comparisons difficult or unfruitful. In this situation, complex investors would prefer countries with a certain regulatory quality of 'complex' regulations and light investors could prefer a similar quality of 'light' regulations. This would skew graphs in analyses such as mine, whilst allowing for the importance of regulatory quality in the minds of investors.

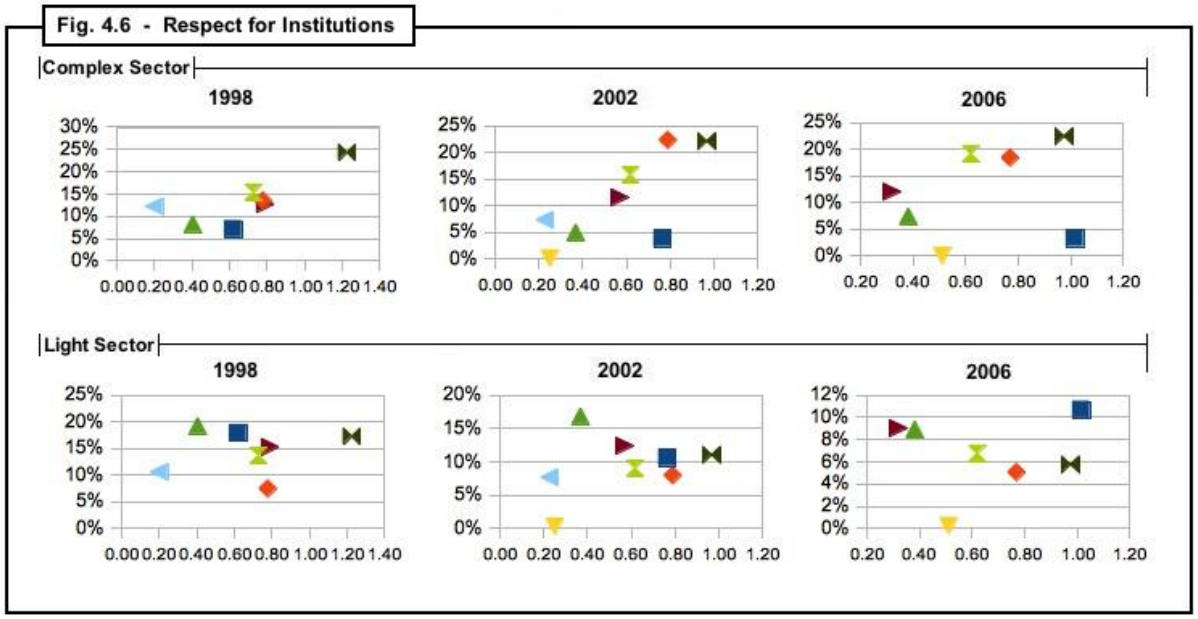
Finally, even as early as 1998, countries in the region already exhibited relatively high regulatory quality indicator values, with most at or exceeding 0.8, and with those under that value remaining low in complex investment as a portion of total FDI. This could be indicative that complex investors only require a certain (minimal) level of regulatory quality, after which it is no longer a major factor in the decision-making process, as the increased level of regulatory quality may not outweigh other factors after that point. As the region had reached a relatively high level of regulatory quality already by 1998, the patterns observed for that year and after do not show the indicator as important in the eyes of investors. I consider the last two scenarios to be hold the highest potential among the three for explaining the deviations from the expectation. Further research would be necessary to support either conclusion, which could involve similar evaluations on earlier data, when regulatory quality was still actively developing in the region, or an analysis on a country-by-country basis of the specific types of regulations enacted and their relative attractiveness to the industries.

It should be noted, however, that even if the one believes that complex industry is not attracted to countries with high levels of regulatory quality, the figure shows that there is also not an active aversion to it. To the extent that regulatory quality tends to develop concomitantly with other institutions, the potential or perceived aversion to regulatory quality is not so great that it renders a particular economy wholly unattractive to investment. This is important for developing countries to understand, as it could imply that development of

regulatory quality along with other institutions could be part of a package of reforms that can benefit the overall economy without harming the prospects for an increasingly complex mix of manufacturing investments.

4.1.3 Respect for Institutions

The results for the analysis on the respect for institutions composite indicator are presented in Figure 4.6. In the complex industry sector, the indicator average correlates with higher levels of investment across the countries for each of the years analyzed. These correlations are as laid out in the expectations above. There are several countries which fall below the general pattern line, indicative that respect for institutions is a necessary but not sufficient condition for higher levels of complex investment. With regards to the light industry sector, there can be observed a weak, but in general negative, correlation between light investment levels as portions of total FDI and measures of institutional qualities across countries. This is in line with the conceptual development above, if a bit weaker than expected.



4.1.4 Summary of Governance Indicator Results

Democratic processes and respect for institutions correlate as expected with both complex and light sectors, with the light sector correlation with respect for institution weaker than expected. The government capacity composite indicator did not correlate as expected with complex industries across countries and so its components were analyzed separately. This separate analysis showed that government effectiveness correlates with investment levels in complex industry, but that regulatory quality does not. This analysis will now move on to the economic institution indicators and their patterns observed in relation to levels of sectoral investment.

4.2 Economic Institutions

4.2.1 Enterprise Friendliness

The enterprise friendliness composite indicator's patterns are fairly weak at first glance. For the complex industry in 1998, there is no real discernible pattern, however, in 2002 and 2006, stronger patterns can be observed, with the major exception of Slovenia. In fact, if Slovenia is removed, the patterns are fairly strong in the two later years. The pattern shows again that the institution may be a necessary, but not sufficient institution for complex

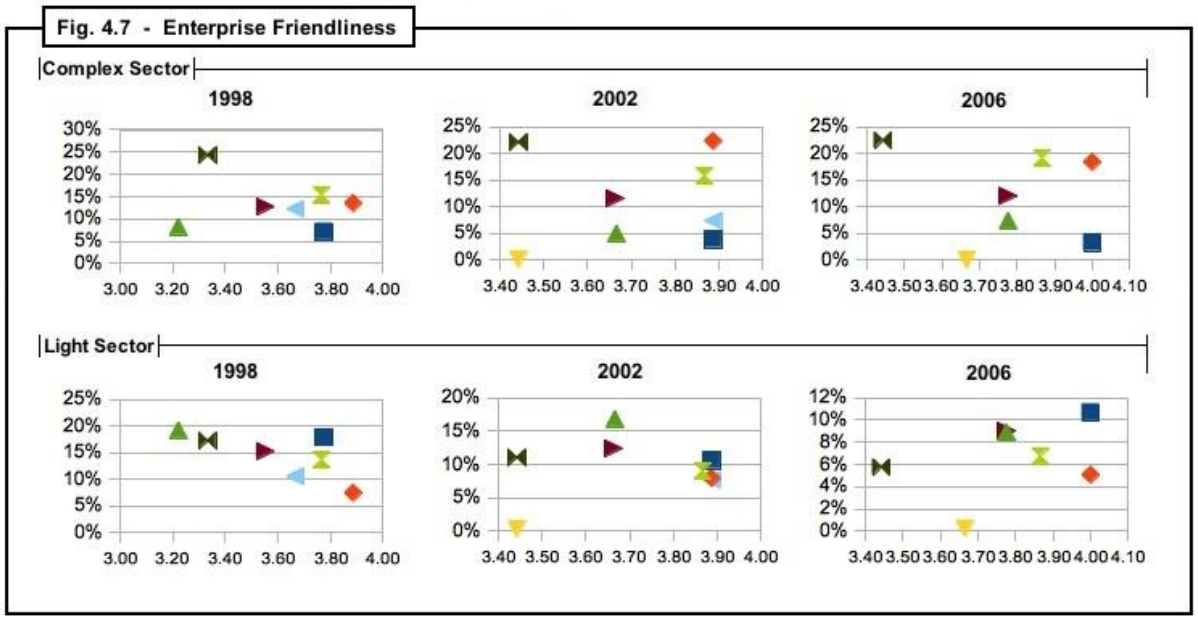


Fig. 4.7 - Enterprise Friendliness

investment.

The developmental path of the pattern over the three years analyzed is indicative that enterprise friendliness may have only become an important factor in complex investment after some other conditions were met in the region. For example, it may be that other institutions set countries apart from each other with respect to determinants of complex investment earlier on in the region's development. However, as the region homogenized in qualities of that determinant, other (previously secondary) determinants became distinguishing factors of an economy. In this way, it can be expected for complex sector investors to change the preferences exhibited in this analysis. This is discussed in more detail later.

The light industry shows an early slight aversion to enterprise friendliness in 1998, which becomes ambiguous later, but could still be present if Slovenia is again removed from consideration. This is in line with expectations as enterprise friendliness would conceptually be attractive for light industries, but to the extent to which it comes with higher costs of operation in a country in the form of taxes or higher wages, could be a deterrent for investment. Therefore the ambiguity present in the graphs could be caused by the varying levels of attractiveness enterprise friendliness may hold for light industries in different forms of implementation across countries in the region.

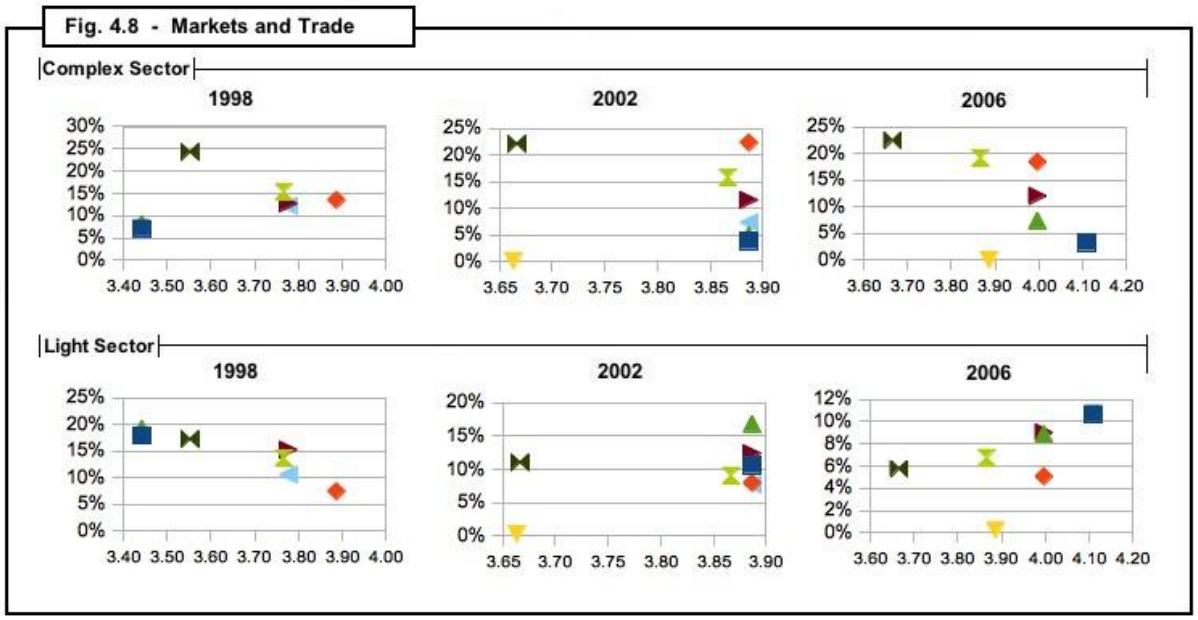
4.1.2 Markets and Trade

The graphs for the markets and trade indicator in Figure 4.8 show a pattern that negatively correlates the value of the indicator with the level of complex investment as a portion of total FDI in 1998 and 2006. The graph for 2002 is not very revealing as many of the countries in the region converged on a single level of quality as measured by the EBRD, thereby creating a near vertical line in the graph showing the different levels of complex investment with most countries falling between the indicator values of 3.87 and 3.89. The

values re-differentiate by 2006, revealing again the expected pattern of decreasing levels of complex investment for higher measures of the indicator compared across countries. Incidentally, analyses of the years 2001 and 2003 show similarly confused data due to similarities in the countries' assigned indicator values and as such those graphs are not presented.

The light industry shows a slight negative correlation in 1998, the same confusion as the complex industry in 2002 (of course, as the cause is the indicator, not the sector), and then interestingly, a positive correlation in 2006, indicating a possible change in desirability of the institution by the light industry. The positive correlation in 2006 is in line with the expectations for the light industry, however, the pattern observed in 1998 asks for further explanation.

The change in perceived preferences in the light industry may have several causes. There could be a preference for a certain institutional mix that is not evaluated in this study and the response of the light industry to the changes in the institutional mix are being reflected in the graphs for the markets and trade institutions. We've already observed, for example with enterprise friendliness in Section 4.2.1 above, a strengthening of the patterns observable over time and I have proposed that this may be due to the increasing importance



the institution has in light of the homogenization of other institutional qualities in the region. That is, because other factors previously used by firms to distinguish economies have homogenized across the region, new factors will become the discriminating elements of consideration. In this regard, it is also possible that in a certain institutional mix present in 1998, light industry found market reform to be unattractive, but in the new setting of 2006 (2002 perhaps showing a transitionary period), new institutional settings have rendered market reforms less attractive to the light industry. This is a necessarily vague conjecture, as studying the interactions of these institutions would require analyses beyond the scope of this study, but with this explanation, I proffer a point from which we can begin to descry what factors are here at work.

Another observation to note in Figure 4.8 is that in 1998 the quality of the indicator of the countries of the region approaches 3.9 with higher values corresponding to lower levels of light sector investment. In 2002, most of the countries are just under 3.9, and in 2006 with one exception, the indicator values are above 3.9 with increasing light sector investment. I do not mean to pretend there is something 'magic' about a score of 3.9 as an average of the ERBD's market and trade reform indicators, but that we do observe a pattern of lower light sector investment in countries with higher market and trade reforms up to a certain value in 1998 and then the opposite pattern above that value in 2006. What can also note that there is a large decline in light sector investment as a portion of total FDI in the region from 1998 to 2006, from a high of 19% in Lithuania down to a high of 11% in Estonia. What we may be observing is not a net divestiture from the region (as the data indicate an increase in the *amount* of light FDI, but less than the increase in the amount of other types of FDI, resulting in a lower percentage), but perhaps a change in the mixture of light industries that comprise the light sector. It is possible that a divestiture has occurred disproportionately from industries within the light manufacturing sector that are averse to market reforms (indeed, this

could have occurred partly *because* of the market reforms as the region exhibits consistent increases in this measure).

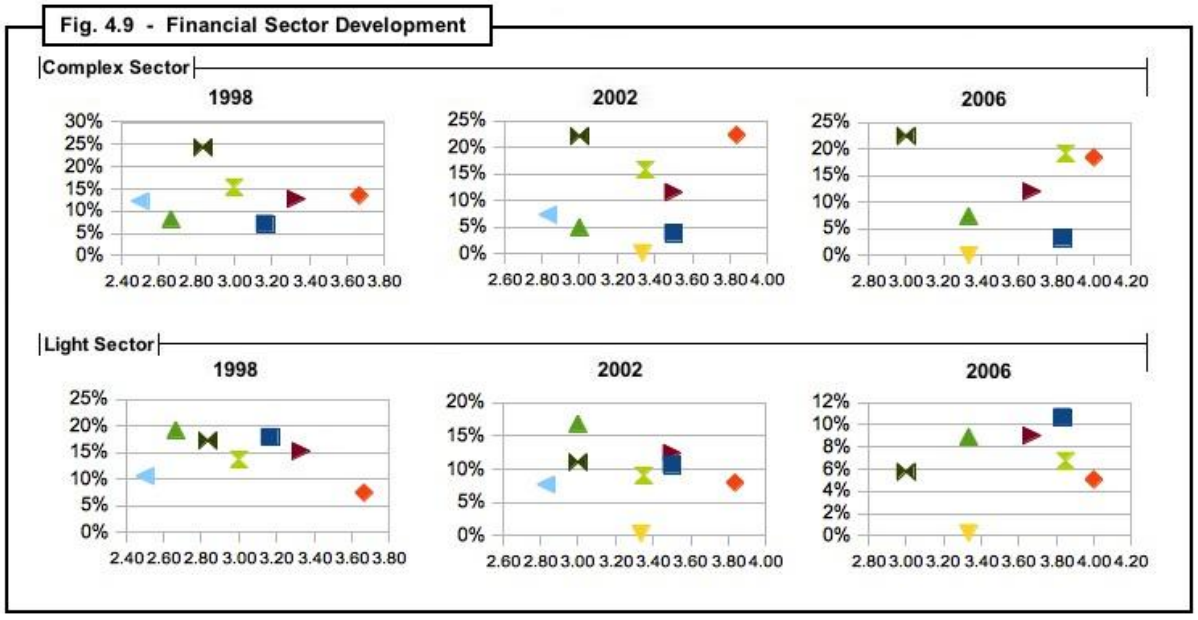
Therefore, in 2006, what we are observing, may be the remnants of the light industry that is in fact attracted to increases in this indicator. This could also explain the overall ambiguity of the 2006 light sector patterns across the institutions analyzed. The definition of light manufacturing industry used in this study loses some of its meaning by 2006, as some of the industries may have disproportionately divested from the region, leaving a light manufacturing sector that is operating under different preferences than are assumed in this study. While it is difficult to conclude with confidence what this means for light sector institutional preferences specifically, this explanation can add credence to heterogeneity at the at the sectoral level among the industries, supporting one of the goals of this paper in exemplifying heterogeneity of preferences. As mentioned in the review of the literature, Majocchi and Strange found they could not predict preferences for the broad manufacturing sector because of what they proposed may be heterogeneity within the manufacturing sector.[82] Indeed, there is undoubtedly also be heterogeneity at the sectoral level defined in this study, which includes a number of industries within the light sector category. Further research could investigate this heterogeneity of the light sector, or of any sector, but this is beyond the scope of the present research.

4.2.3 Financial Sector Development

The final institution to be discussed is measured by the financial sector development composite indicator presented in Figure 4.9. The financial sector development indicator shows ambiguous results in 1998, but strongly correlates with complex investment as a portion of total FDI in 2002 and 2006 with the exception of Slovenia. This shows the same pattern of institutional development and perceived importance for the complex industry as

82 Majocchi and Strange, 33

was observed with the enterprise friendliness indicator above. With respect to the light industry, there is a downward sloped pattern observed in 1998 and 2002 with ambiguity prevailing in 2006, which is again similar to the patterns noted for enterprise friendliness and generally in line with expectations developed above, being that development of the financial sector is an expensive endeavor for a government to achieve. With this added expense needing support that may come in the form of taxes on business or on wages (which implicitly tax businesses in reducing the wages their workers take home), firms in the light industry may be unwilling or unable to operate in the more expensive environment, when less expensive alternatives are available. This would be especially true considering firms in the complex sector would be better equipped to take advantage of the benefits offered by a well developed financial sector, being movement of capital, banking abilities, and abilities to raise equity.



4.2.4 Summary of Economic Indicator Results

Enterprise friendliness and financial sector development exhibit similar patterns that are generally in line with expectations. They show ambiguity early on in 1998 and develop into stronger patterns in 2002 and 2006 with higher quality institutions relating to more investment from the complex industry as a portion of total FDI and less investment with the light industry as a portion of total FDI. The markets and trade reform indicator is also in line with expectations for the complex industry for the years that show interesting data (1998 and 2006), with 2002 revealing little of interest as many of the countries converged on a single indicator value. The light industry revealed interesting results in that it showed an unexpected negative correlation with the 1998 negative correlation between indicator value and light industry investment as a portion of total FDI, followed by a positive correlation 2006. This change could be the result of heterogeneity of preferences within the sector in response to changing institutional conditions.

4.3 Analysis and Implications of Results

Taken together, these patterns provide support for the hypotheses presented in the introduction; the quality of certain institutions does correlate with different mixes of sectoral-specific foreign direct investments for the complex and light manufacturing industries. The complex manufacturing sector prefers countries with developed institutions of democratic processes, government capacity, respect for institutions, enterprise friendliness, and financial sector development. Though the evidence presented in this study does not provide support for regulatory quality as a determinant of complex investment, it also does not eliminate such a possibility. The evidence also indicates that complex sector is not attracted to countries with higher levels of markets and trade reform. Conversely, the light industry (at least the light industry that remains invested in the region in 2006) is attracted to countries with higher levels of markets and trade reform, but not necessarily to other reforms that may entail higher

costs of operation within the countries without direct added benefit to the light industry, such as the governance indicators, enterprise friendliness, and financial sector development for the reasons described in the previous section.

An interesting conclusion that can be drawn from the above analysis is that the complex industries appear to have been influenced strongly by relative levels of governance institutions in 1998 in determining where to locate investments. In 2006, the patterns are less pronounced, but present nevertheless. The interesting element here is when we compare this observation to the economic institutions of enterprise friendliness and financial sector development. Neither of these institutions had shown any kind of correlation between relative strength in indicator value and level of complex investment, but as time when on, in 2002 and 2006, the countries showed patterns where complex investment was attracted to countries with greater levels of institutional quality in these categories. This indicates that there may have been a shift in what institutions attracted sectoral-specific foreign direct investment during the study period.

Early on in the development of the region (in this study, observed in 1998), governance indicators were most important. This would not be surprising, as minimal levels of governance (such as rule of law) would indeed make investment virtually impossible in terms of guaranteeing profit. However, as governance indicators developed within the region as a whole, investors may have begun to seek other ways to differentiate the economies from one another in order to make the locational investment decision. After 1998, it appears that economic institutions became a more prevalent factor of the new considerations that complex investors used to differentiated the region.

This weakening of governance indicator patterns over time with the concomitant formation of patterns in the economic indicators in complex investment in the region has important implications for regional development, as well as the mix of investments the region

attracts. As the region develops, its governance quality appears to be an important prerequisite for complex investment. Prior to this development, light industries were likely attracted to the economies significantly due to the fact that lower qualities of these institutions tend to provide cheaper labor as well as that the light industries are not as concerned with the investment risk that these institutions tend to mitigate. However, as the region attains a certain, more homogeneous level of institutional governance quality, the governance institutions lose their impact in the decision-making process at the regional level of complex industries. This is not to imply governance institutions are no longer important, but rather that they do not distinguish one economy from another in terms of attractiveness as they did in the earlier years of the study. Consequently, new factors are able to distinguish the economies from one another. The results of this study indicate that economic institutions may form a component of that new set of factors, as these institutions begin to distinguish the economies from one another only after the decline of trends in governance.

Therefore, several important conclusions can be drawn here. The first is in line with the hypothesis in the introduction: Complex sectors are in fact attracted to countries with institutions that maximize their ability to earn a profit, minimize their risk, or both, while light manufacturing sectors are averse to institutions which raise their costs of operation either directly or indirectly (through business or wage taxes, for example) that do not directly benefit their operations. A second important conclusion deals with a main goal of the study: The evidence presented here is strongly in favor of the existence of heterogeneity of institutional preferences at the sector, and likely at even more detailed, levels. The third conclusion is that the institutional preferences of sectoral investors has the propensity to change within a region as that region develops over time. These conclusions have important implications for transitional development.

One such implication is that countries in transition may be tempted to create policies

and work towards achieving the goals of those policies without paying attention to the changing regional environment. For example, the government of a country may recognize that its governance institutions are at such a low quality that investment is hindered, and then may consequently identify steps to increase those governance institutions. Even if it is successful in implementing policies that develop those institutions, it must keep an eye to what the market is demanding, especially if its neighbors are heading down the same path. On one hand it must be sure to at least stay on par with its neighbors in terms of the institutions that are minimally required for the desired investments to occur, on the other hand, it must also ensure that it is not ignoring the development of institutions that may become a greater differentiator for the country among its neighbors when the region has achieved a relatively homogeneous or acceptable level of governance institutions.

Furthermore, this study can serve as a warning that simplistic or ideological solutions to developmental problems are not helpful in determining a best response to the problem of transition. These results are indicative that institutional determinants for foreign direct investment are complex, multidimensional, and dynamic. When facing such problems, the solutions must likely also be complex, multidimensional, and dynamic. Through reviewing the results, it is apparent that none of these institutions are sufficient alone for development, but many are indeed necessary for development to occur. As a result, simplistic or ideological solutions may not have the flexibility to deal with the changing complexities of a given situation.

Conclusion

I began this study by proposing that different institutions may attract sector-specific investments based on the institutional qualities that are perceived to be most beneficial to that sector at certain points in time. The research performed is a small step in a long march towards understanding the relationships between development and globalization. My main point in this thesis is to evaluate the attraction, aversion, or indifference of sector-specific investments towards particular institutions and in so doing, achieve the broader objective of showing that investing firms cannot be seen as homogeneous blocs that enter and exit entire regions for the same reasons. Rather, there is an intricate interaction of near infinite determinants perceived in a country with requirements proposed by investors with imperfect knowledge. The imperfection of knowledge, the vast number of determinants, and the interaction of the investors in both using and creating the institutions are all issues of complexity that many research agendas attempt to ignore in an effort of simplification. This simplification is indeed warranted and necessary in many research designs, but must be understood in the methodology, so as to not confuse or conflate the results.

The conceptual expectations across three categories of governance institutions and three categories of economic institutions relating their quality to certain expected sectoral mixes of investments extends the literature from the currently prevalent discussion of *whether* institutions matter to *in what way* they matter and for whom. Specifically, I use the current literature to develop expectations on how governance and economic institutions may affect the investment mix in terms of complex and light industries. This has, however, broader implications on future research – the fact that I have shown observable differences between sectoral institutional preferences indicates that future research taking such differences into account in their methodologies may produce more robust results. Conflating sectoral

preferences to 'en bloc' investment behavior risks missing important conclusions regarding developmental patterns through, for example, combining sectors with opposite preferences and therefore observing no trends.

Further research on the area could include empirical statistical analyses that include robust econometrics within ranges of significance that test for correlations between the institutional indicators and the levels of sector-specific investment they attract. More interesting in my opinion, however, is research that aims to answer the questions that have surfaced in this study. For example, while I have offered conjectures as to why regulatory quality is the only governance institution that does not appear to serve as a significant determinant for complex sector investment, it would be interesting to research exactly why that may be. Is it indeed because regulatory quality was developed earlier than other institutions, has a lower threshold of necessity in that a low level is sufficient for to satisfy the needs of complex investment, or is it for some other yet unidentified reason?

What other institutions may be important in regional development and investment attraction? For example, it is becoming increasingly acknowledged that social institutions such as education, gender equality, and strength of community are also important for the stability of a country and development of an economy. With the development of such indices as SIGI, the Social Institutions and Gender Index, by the OECD, there are new possibilities to easily incorporate social institutions into the research agenda. Further research could analyze the effect of investments on social development and also the attraction certain social institutions have on investment.

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Appendix A – WIIW Data

Foreign Direct Investment Data	Total FDI			Complex Sector			Light Sector		
	1998	2002	2006	1998	2002	2006	1998	2002	2006
Czech Republic	$12,255	$36,884	$60,621	$1,880	$5,804	$11,566	$1,669	$3,323	$4,083
Estonia	$1,561	$4,035	$9,617	$111	$157	$317	$279	$427	$1,027
Hungary	$23,041	$38,329	$66,357	$3,116	$8,548	$12,196	$1,718	$3,046	$3,355
Latvia	$1,325	$2,679	$5,702		$5	$2		$9	$14
Lithuania	$1,384	$3,818	$8,377	$114	$191	$622	$266	$642	$744
Poland	$19,231	$46,139	$94,603	$2,450	$5,340	$11,383	$2,935	$5,714	$8,523
Slovakia	$2,490	$8,563	$29,102	$304	$628		$263	$656	
Slovenia	$2,370	$3,948	$6,775	$576	$872	$1,518	$408	$436	$390

Sectoral Percentages	1998	2002	2006	1998	2002	2006
Czech Republic	15.34%	15.74%	19.08%	13.62%	9.01%	6.74%
Estonia	7.13%	3.88%	3.30%	17.89%	10.57%	10.67%
Hungary	13.52%	22.30%	18.38%	7.46%	7.95%	5.06%
Latvia		0.17%	0.04%		0.32%	0.25%
Lithuania	8.22%	5.01%	7.42%	19.21%	16.80%	8.89%
Poland	12.74%	11.57%	12.03%	15.26%	12.38%	9.01%
Slovakia	12.21%	7.34%		10.56%	7.66%	
Slovenia	24.31%	22.08%	22.40%	17.23%	11.03%	5.75%

The data presented here are the data used in the preparation of the sectoral graphs presented in the text. The source for the data is the WIIW Database on Foreign Direct Investment. The Complex and Light Investment Totals as well as the Sector Percentages of Total FDI are calculated by the author using WIIW data.

Appendix B – WGI Data

	Voice and Accountability			Political Stability			Democratic Processes		
	1998	2002	2006	1998	2002	2006	1998	2002	2006
Czech Republic	0.95	1.00	1.00	0.83	1.00	1.00	0.89	1.00	1.00
Estonia	0.99	1.06	1.01	0.68	0.93	0.78	0.84	0.99	0.90
Hungary	1.08	1.17	1.07	1.16	1.12	0.95	1.12	1.15	1.01
Latvia	0.81	0.85	0.85	0.13	0.89	0.85	0.47	0.87	0.85
Lithuania	0.89	0.92	0.90	0.41	0.93	0.86	0.65	0.92	0.88
Poland	1.05	1.08	0.80	0.70	0.74	0.43	0.87	0.91	0.62
Slovakia	0.71	0.99	0.97	1.09	0.87	0.75	0.90	0.93	0.86
Slovenia	1.20	1.12	1.08	1.07	1.16	1.04	1.13	1.14	1.06

	Government Effectiveness			Regulatory Quality			Government Capacity		
	1998	2002	2006	1998	2002	2006	1998	2002	2006
Czech Republic	0.63	0.84	1.06	0.86	1.16	1.11	0.75	1.00	1.09
Estonia	0.72	0.79	1.17	1.24	1.36	1.31	0.98	1.07	1.24
Hungary	0.95	1.07	0.95	0.99	1.27	1.22	0.97	1.17	1.08
Latvia	0.58	0.61	0.69	0.87	0.87	1.03	0.73	0.74	0.86
Lithuania	0.56	0.63	0.79	0.78	1.03	1.00	0.67	0.83	0.89
Poland	0.71	0.56	0.57	0.68	0.70	0.74	0.70	0.63	0.65
Slovakia	0.36	0.51	0.95	0.45	0.92	1.14	0.41	0.71	1.05
Slovenia	0.96	0.90	1.05	1.07	0.83	0.77	1.01	0.86	0.91

	Rule of Law			Control of Corruption			Respect for Institutions		
	1998	2002	2006	1998	2002	2006	1998	2002	2006
Czech Republic	0.90	0.83	0.85	0.56	0.41	0.39	0.73	0.62	0.62
Estonia	0.65	0.80	1.07	0.59	0.73	0.96	0.62	0.77	1.02
Hungary	0.85	0.98	0.91	0.71	0.60	0.63	0.78	0.79	0.77
Latvia	0.30	0.45	0.65	0.17	0.05	0.37	0.23	0.25	0.51
Lithuania	0.55	0.51	0.60	0.26	0.23	0.16	0.41	0.37	0.38
Poland	0.84	0.73	0.39	0.75	0.41	0.25	0.79	0.57	0.32
Slovakia	0.30	0.38	0.54	0.10	0.07	0.46	0.20	0.23	0.50
Slovenia	1.26	1.08	0.90	1.19	0.86	1.05	1.23	0.97	0.98

The above data was accumulated from the Worldwide Governance Index by Daniel Kaufmann, Aart Kraay, Massimo Mastruzzi, published by the World Bank Group, and accessible at www.govindicators.org. The column on the right was calculated by the author and is the data used in Figures 4.2 through 4.9 in this study.

Appendix C – EBRD Transition Indicators Data

	Large Scale Privatization			Small Scale Privatization			Enterprise Restructuring			Enterprise Friendliness Average		
	1998	2002	2006	1998	2002	2006	1998	2002	2006	1998	2002	2006
Czech Republic	4.00	4.00	4.00	4.30	4.30	4.30	3.00	3.30	3.30	3.77	3.87	3.87
Estonia	4.00	4.00	4.00	4.33	4.33	4.33	3.00	3.33	3.67	3.78	3.89	4.00
Hungary	4.00	4.00	4.00	4.33	4.33	4.33	3.33	3.33	3.67	3.89	3.89	4.00
Latvia	3.00	3.33	3.67	4.00	4.33	4.33	2.67	2.67	3.00	3.22	3.44	3.67
Lithuania	3.00	3.67	4.00	4.00	4.33	4.33	2.67	3.00	3.00	3.22	3.67	3.78
Poland	3.33	3.33	3.33	4.33	4.33	4.33	3.00	3.33	3.67	3.55	3.66	3.78
Slovakia	4.00	4.00	4.00	4.33	4.33	4.33	2.67	3.33	3.67	3.67	3.89	4.00
Slovenia	3.00	3.00	3.00	4.33	4.33	4.33	2.67	3.00	3.00	3.33	3.44	3.44

	Price Liberalization			Trade & Foreign Exchange System			Competition Policy			Markets and Trade Reform Average		
	1998	2002	2006	1998	2002	2006	1998	2002	2006	1998	2002	2006
Czech Republic	4.30	4.30	4.30	4.30	4.30	4.30	2.70	3.00	3.00	3.77	3.87	3.87
Estonia	4.33	4.33	4.33	4.00	4.33	4.33	2.00	3.00	3.67	3.44	3.89	4.11
Hungary	4.33	4.33	4.33	4.33	4.33	4.33	3.00	3.00	3.33	3.89	3.89	4.00
Latvia	4.33	4.33	4.33	4.00	4.33	4.33	2.33	2.33	3.00	3.55	3.66	3.89
Lithuania	4.00	4.33	4.33	4.00	4.33	4.33	2.33	3.00	3.33	3.44	3.89	4.00
Poland	4.33	4.33	4.33	4.33	4.33	4.33	2.67	3.00	3.33	3.78	3.89	4.00
Slovakia	4.00	4.33	4.33	4.33	4.33	4.33	3.00	3.00	3.33	3.78	3.89	4.00
Slovenia	4.00	4.00	4.00	4.33	4.33	4.33	2.33	2.67	2.67	3.55	3.67	3.67

	Banking Reform & Interest Rate Liberalization			Securities Markets & Non-Bank Financial Institutions			Financial Sector Development Average		
	1998	2002	2006	1998	2002	2006	1998	2002	2006
Czech Republic	3.00	3.70	4.00	3.00	3.00	3.70	3.00	3.35	3.85
Estonia	3.33	3.67	4.00	3.00	3.33	3.67	3.17	3.50	3.84
Hungary	4.00	4.00	4.00	3.33	3.67	4.00	3.67	3.84	4.00
Latvia	2.67	3.67	3.67	2.33	3.00	3.00	2.50	3.34	3.34
Lithuania	3.00	3.00	3.67	2.33	3.00	3.00	2.67	3.00	3.34
Poland	3.33	3.33	3.67	3.33	3.67	3.67	3.33	3.50	3.67
Slovakia	2.67	3.33	3.67	2.33	2.33	3.00	2.50	2.83	3.34
Slovenia	3.00	3.33	3.33	2.67	2.67	2.67	2.84	3.00	3.00

The above data was accumulated from the Transition Indicator Indexed published by the European Bank of Reconstruction and Development and is accessible at the website below. The column on the right was calculated by the author and is the data used in Figures 4.2 through 4.9 in this study.

http://www.ebrd.com/pages/research/economics/data/macro.shtml.