The Effects of Host Country Institutions and Corruption on Foreign Direct Investment Flows: Empirical Evidence and Robustness of Indicators

Abstract: Foreign Direct Investment (FDI) and especially its determinants have been a matter of extensive interest in both academic and policy-making environments during the last decades. Although previous academic literature on the effects of institutions and corruption on FDI has generally been conclusive, showing negative influence of host country corruption and positive effects of institutional soundness on the aggregate FDI inflows, it has been ignoring potential interaction effects between various types of institutional host country characteristics, especially possible trade-off effects between corruption and the regulatory, political and legal institutions. This thesis fills this gap by empirically estimating several variations of the constructed model including a set of control, institutional and corruption variables and their interaction terms. For that purpose, an extensive dataset has been applied, containing 2005-2009 data on the bilateral US FDI flows in 171 countries, along with a large variety of the most recent institutional indicators. The main results provide some support for the existence of positive effects of corruption on FDI inflows in host countries with weaker democratic and regulatory institutions, while in host countries with poor legal investor protection, corruption proves to have a more negative effect on FDI inflows. The findings strongly support the expectation that the relationship between the host country corruption, institutions and foreign direct investment is rather more complex than previous academic literature has been assuming. Additionally, both robustness and explanatory power of various applied institutional indicators have been found to vary considerably while explaining the effects of institutions on FDI. These findings should have consequences for the way the models, which try to investigate the effects of institutions and corruption on foreign direct investment, are specified in the future and underline the importance of global regulation and broad institutional development for combating corruption.

Master Thesis
Candidate: Alex Niatsetski (336604)
Economics of Markets, Organisations and Policy
Erasmus School of Economics, Erasmus University Rotterdam
Supervisor: M. Bøg
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B. **List of abbreviations**

BEA	Bureau for Economic Analysis
BERI	Business Environment Risk Intelligence
CEPII	Centre d'Etudes Prospectives et d'Informations Internationales
ES	Enterprise Surveys (WB)
FDI	Foreign Direct Investment
FH	Freedom House
HF	The Heritage Foundation
IAB	Investing Across Borders (IFC)
ICRG	International Country Risk Guide
IFC	International Finance Corporation (World Bank Group)
IIPA	International Intellectual Property Alliance
ILO	International Labour Organisation
IMF	International Monetary Fund
IPR	Intellectual Property Rights
MNE	Multinational Enterprise
OECD	Organisation for Economic Co-operation and Development
UNCTAD	United Nations Conference on Trade and Development
WB	World Bank
WDI	World Development Indicators
WEF	World Economic Forum
WIPO	World Intellectual Property Organisation

I. Introduction

International capital flows have reshaped the international economic landscape in a significant way. These flows take many forms, the major ones being portfolio investment, investment in debt securities and foreign direct investment (FDI). Hereby, multinational enterprise (MNE) activity in the form of foreign direct investment has grown at a faster rate than most other international transactions (Blonigen, 2005). FDI can take various forms (fully-owned enterprises, joint ventures or foreign subsidiaries) and has been a matter of extensive interest within both academic and policy-making environments during the last decades. There exists an enormous amount of studies, articles and policy papers on both the determinants and the effects of this phenomenon within the International Economics field. The main reason for that can be considered the vast amounts of capital which are involved and the importance of those for the economic development of the recipient countries. As for the size, according to UNCTAD, the total world FDI outflows amounted $2.217 billion in 2007 (3% of world's GDP; UNCTAD, 2007). Although the recent global economic crisis forced the global FDI flows to decline to $1.189 billion in 2009, these flows are expected to pick up to $1,3-1,5 trillion in 2011 (UNCTAD, 2010).

Looking at the qualitative importance of FDI, first of all, there is in general a positive empirical relationship between the flows of FDI and growth in world's GDP (Dunning, 2008). The presence of MNEs tends to boost imports and exports by giving the host country a better access to the investors' global networks and furthermore has positive spill-over effects in the host country's local economy, e.g. technology transfers, increase in human capital and total factor productivity through specialist and management skills accumulation (OECD, 2002; Ahlquist, 2006). Apart from the vast amount of both theoretical and empirical evidence of positive effects of FDI on the host country economy, there are also critics who claim that international capital mobility has its negative side-effects as well. Due to fierce policy competition for attracting FDI via favourable tax regimes, FDI can indirectly play its part in the erosion of social protection and general government autonomy. Besides, some critics claim that multinational enterprises (MNEs) are regularly involved in "*propping up corrupt, predatory and abusive regimes*" (Ahlquist, 2006). Despite its importance, the distribution of FDI over the world has been far from even. More than 80 percent of the recipients of FDI inflows and more than 90 percent of the foreign direct investors are located in developed countries (OECD, 2002). The marginal share of global FDI flows that go to developing countries is itself spread rather unevenly, two-thirds of which is going to Asia and Latin America. Within these regions, FDI is as well concentrated in a few countries (China and Singapore in case of Asia). While 62,5 percent of the US FDI outflows was directed towards Europe, 20,2 percent went to Asia and Pacific, 9,1 percent to Latin America and only 0,3 percent to Africa (BEA, 2011).

Considering all the FDI's qualitative and quantitative importance and at the same time its distributional inequality, as illustrated above, the focus in the literature on FDI had primarily been directed towards understanding the potential factors which influence MNE's decision to involve in FDI projects in a particular country. The body of literature on FDI determinants is consequently rather large and diverse. Especially during the last decade and both within the fields of (international) economics and business strategy, the attention has increasingly been shifting from solely the conventional FDI determinants (such as market size and potential, wage levels, tax rates, infrastructure quality, macroeconomic stability and labour productivity) towards the institutional ones. Institutions exist in various forms, depending on which part of the country's regulatory

environment is considered. Those social and legal norms and rules that underlie economic activity are considered not only essential for economic growth of a country (Williamson, 1979; North, 1993; Olxey, 1999), but also for its ability to attract foreign investment[1]. According to Ahlquist (2006), while portfolio and debt securities investors are more concerned about the information on general and fiscal government policies when making their investment decisions, the direct investors, having longer time-horizons, are more interested in political and economic institutions. A large number of studies have been trying to investigate the effects of the host-countries' *regulatory* (bureaucracy, business climate), *political* (democracy, stability), *judicial* (e.g. contract enforcement, (intellectual) property rights protection, rule of law) institutions and *corruption* on the FDI inflows. Most of those studies have found positive effects of institutional soundness on foreign investment (e.g. Busse and Hefeker, 2005; Ahlquist, 2006), some which showing institutions to be as important as (or even more important than) the conventional FDI determinants (Bénassy et al., 2007; Garibaldi et al., 1999). In other studies, corruption in particular has generally been found to negatively influence foreign investment by on the one hand creating additional (direct) cost of doing business (such as bribes) and on the other hand posing risk of non-compliance by the corruption partner due to the lack of enforceability of such informal 'contracts' and the risk of being caught. As for the latter, reputational consequences of such resulting corruption scandals may be great (The Economist, 2011). Consistently, several papers (e.g. Henisz 2000; Javorcik and Wei, 2009 and Al-Sadig, 2009) have found that high levels of corruption in the host country significantly reduce FDI inflows.

The majority of previous academic studies on the effects of institutions or corruption on FDI have been either investigating the effect of one particular institutional area on foreign investment or have been trying to determine which institutional areas have the strongest effects on FDI. Despite their methodological solidness and mostly conclusive empirical evidence in aggregate terms, only a few institutions-FDI studies have tried to investigate possible interactions between various types of institutions while looking at the effects of those on FDI. Thereby, the most of those studies have been concerning interactions between the home and the host countries' institutions.[2] However, the relationship between various institutional properties *within a host country* may be rather complex, especially concerning corruption. For example, Bardhan (1997) showed that in the presence of rigid regulation and inefficient bureaucracy, corruption may increase bureaucratic efficiency by speeding up the process of decision-making. According to the empirical study of Houston (2007), the effects of country's corruption on its economic growth depend on the country's rule of law. In particular, it shows that corruption has positive effects on economic growth in countries with a weak rule of law, while it has negative effects in countries with sound institutions. Similarly, in host countries with different levels of institutional strength, corruption opportunity may in the same way have different effects on FDI location decisions of MNEs. In countries where these strong institutions are absent, corruption may in fact stimulate FDI by lowering the cost of doing business through compensating a foreign enterprise for the inefficient bureaucracy (e.g. through conducting payments in order to speed up bureaucratic processes or bypass unfavourable regulation and thus enhance the efficiency of the system). In host environments with poor democracy, limited media freedom and transparency

[1] And by that, considering the empirically widely proven positive effect of FDI on economic growth, an assumed additional positive indirect effect on the economic growth.

[2] For example, Du et al. (2008) have looked at the effect of cultural distance between the investor and the host country on the strength of the relationship between institutions and FDI. They found that MNEs from the source countries which are culturally more remote from China often invest less in regions with weaker economic institutions, other factors being kept constant. Bénassy et al. (2007) have looked at the effects of institutional distance between the host and home countries.

or lacking independency of judicial power, the risk of being caught and convicted for conducting bribes may besides be assumed to be lower. None of the previous studies on the determinants of FDI have formalized or explicitly investigated the effects of such possible trade-offs between host country's corruption and its various institutional properties on the FDI inflows.[3] This thesis tries to fill this gap by investigating the effect of host country's corruption level on the sensitivity of FDI to the country's various institutional properties. The central question thereby is whether corruption, despite its perceived negative linear effect on FDI in aggregate terms, can mitigate investment in countries with sufficiently weak institutional environments by, for example, compensating for the lack of legally appropriate possibilities for doing business and offering lower risks through the lower degrees of transparency.

Apart from the existence of the described gap in the literature, the robustness of the previously obtained results has rarely been tested using several institutional environment indicators originating from various data sources. The number of such indicators has been growing significantly during the last years, containing larger survey samples and covering more countries with each year. Since the most companies, apart from their own intelligence, while making their investment decisions are also assumed to use various investment climate estimates which are provided by reports published by several institutes, it is furthermore important to test how robust these indicators are amongst each other. This thesis, in addition to investigating the (interaction) effects of the host country institutional environment and corruption on the FDI inflows using an extensive set of recent indicators, will take the analysis further by also empirically assessing the (mutual) robustness of those numerous available institutional indicators of the host country regulatory, political, judicial and corruption environments and testing their explanatory power of the effects of various institutional environment properties (and their interactions) on FDI in order to provide a more complete and more objective picture than the previous literature has mainly been doing.

The main question which this master thesis tries to answer is: *what are the direct and interaction effects of the different characteristics of the host countries' institutional environments on foreign direct investment flows by US multinational enterprises, given the variety of institutional measures?*

This thesis stands out empirically by using numerous disaggregated institutional indicators rather than just trying to capture the whole complex institutional environment by several aggregate indicators (mostly involving using arbitrary weights). Since the US are the largest contributor to the world's FDI outflows (20,9% in 2009) and since the US Bureau of Economic Analysis (BEA) online database provides the most comprehensive set of data on the bilateral FDI flows for over 180 host countries, the focus of the empirical analysis in this thesis lies on the outward bilateral foreign direct investment flows by the US MNEs.[4] The dataset, including an extensive range of both conventional and institutional independent variables for the most recent period (2000-2009) for 171 countries and constructed using various data sources, complemented by the BEA data, will be applied while testing the empirical model. Further, apart from performing the actual empirical and literature studies, this

[3] Al-Sadig (2009) has been the closest, having included some interaction terms to his model as a robustness test, without finding any significant effects of those or sufficiently explaining the rationale behind the potential interaction effects.

[4] One-source-country research method besides allows one not to worry about the source country effects, such as differences in the outward FDI regulation, potential definition and measurement differences (although this has become less of an issue due to the recent implementation of the universal definition of FDI and international efforts to harmonize measurement practices) and other unobserved source country differences which may affect the enterprises decision to involve in FDI in a particular country.

thesis provides an extensive overview of various potential FDI determinants, the indicators which can be used to represent those and the according data sources.

Summarizing the main findings, first, the most host country institutional environment characteristics have proven to significantly affect FDI inflows: depending on the applied measure and model specification, fair legal system, stable and democratic political environment and low levels of corruption mostly prove to enhance foreign multinational activity in a recipient country. As for the effect on the favourable regulatory environment, less convincing evidence of its significance on FDI inflows has been found (except for FDI regulation in the model with interaction effects). Second, looking at the results of the extended model estimation procedure, a large degree of the variability of the according results could be observed, depending on the specification type, the number, the type and the combination of the included institutional indicators. In some specifications, evidence has been found for the positive effects of corruption on FDI inflows in host countries with poor democratic and regulatory institutions, while in host countries with poor legal investor protection, corruption proves to have a more negative effect on FDI inflows. What is obvious from the behaviour of the most regression specifications, is that the relationship between corruption, institutions and foreign direct investment is rather more complex than previous academic literature does suggest. Third, both robustness and explanatory power of various applied institutional indicators have been found to vary considerably while explaining the effects of institutions on FDI.

This thesis is structured the following way. In the next section, a literature review will be provided, where the concepts of FDI, institutions and corruption will be introduced, the theoretical framework will be sketched and various empirical studies will be discussed, which cover both the general FDI determinants and the effects of institutions and corruption on FDI. In the Methodology section, various specification forms of the empirical model will be introduced, the according hypotheses will be formulated, the estimation strategy will be discussed, the used variables and indicators will be clarified and the applied data issues will be dealt with. In the Empirical Results section, the outcomes of the empirical estimation procedure (both for the base-run and the extended models) will be presented and discussed and the results of the various performed tests will be commented upon. Finally, in the Conclusion, the results will be summarised, explained and put into perspective; further, some policy implications will be provided and potential topics for future research will be suggested.

II. Literature review

1. Foreign Direct Investment, Institutions and Corruption: definitions and theories

a. Foreign Direct Investment

A multinational enterprise (MNE) is an enterprise that engages in foreign direct investment (FDI) and owns or, in some way, controls value-added activities in more than one country (Dunning, 2008). As for FDI, the question of which multinational activities exactly fall under it is covered by the benchmark definition, constructed by the OECD and regularly adapted to the continuous evolution of MNEs' complex financing structures. This benchmark definition has been universally adopted in academic and business environments, by supranational organisations (IMF, World Bank, UNCTAD), data-collecting agencies and by the national central banks, governments and institutions of various countries (such as BEA), significantly improving both the accurateness and the international comparability of the FDI measurements. The FDI data, which have both been used in this thesis and have been widely applied within the academic and policy-making research fields, have accordingly been based on the following definition of Foreign Direct Investment: "*Direct investment is a category of cross-border investment made by a resident in one economy (the direct investor) with the objective of establishing a lasting interest in an enterprise (the direct investment enterprise) that is resident in an economy other than that of the direct investor. The motivation of the direct investor is a strategic long-term relationship with the direct investment enterprise to ensure a significant degree of influence by the direct investor in the management of the direct investment enterprise. The "lasting interest" is evidenced when the direct investor owns at least 10% of the voting power of the direct investment enterprise"* (OECD, 2008). Direct investment enterprises may take several forms. In subsidiaries, over 50% of the voting power is held; in associates, between 10% and 50% and quasi-corporations (such as branches) are effectively 100% owned by their foreign parent companies (OECD, 2002).

Due to the limited space and the scope of this thesis, I will restrain the theoretical analysis to the most relevant frameworks: Dunning's eclectic OLI paradigm of international production and its more empirical complement – the Gravity Model of international investment, while mainly focusing on the location-specific determinants of FDI.[5] Starting with the *OLI paradigm*, this widely cited theoretical framework incorporates several (contrasting) types of theoretical approaches and is besides the best equipped to analyse the institutional determinants of FDI (Dunning, 1977). The theory integrates microeconomic theory of the firm, organisational economics and macroeconomic theories of international trade and resource allocation. The OLI framework rests on three pillars (Dunning, 2008). First, ownership-specific advantages (O) represent certain assets, unique to firms of a particular ownership or from a certain host country and not (as favourably) available to the others, which determine the capability and willingness of one country's firms to supply foreign markets. The extent to which a firm possesses and exploits the ownership advantages is the first determinant of the level and structure of firm's FDI. Second, location-specific advantages (L) are available to all types of firms, but are specific to a particular location. These might be countries' Ricardian factor endowments (capital, labour), but also cultural, political, legal, financial or institutional environments in which they are located. More specifically, distance (both physical and institutional) to the investor,

[5] For the interested in the most complete historical overview of FDI-theories, the book of Dunning (2008) is recommended.

government intervention (taxes, FDI assistance, tariffs, quotas), the availability of local clusters, nature of competition in the market and education level of workers are examples of such factors. The spatial distribution of L-type resources, capabilities and institutions is, along with the resulting competitive advantages, uneven among different countries. Third, in order to be able to exploit both the differences in L-type assets between countries and firm-specific O-advantages, market internalization advantages (I) of the hierarchical rather than market path may exist. Combining all the three types of advantages, the general prediction of the paradigm regarding outward FDI flows is that the more of a country's firms (relatively to other countries') possess particular O advantages, the greater the I-incentives are to internalize their use and the more they strategically find it in their interest to use them in a country with favourable L-advantages, the more likely they are to engage in outbound FDI (in a particular set of countries). According to Dunning (2008), four types of motives for MNE activity may be identified: they can seek abroad for natural resources, markets, efficiency or strategic assets and capabilities. Applying the OLI paradigm as a theoretic fundamental to this thesis, since we are mainly interested in the L-type factors which offer some countries better inward FDI attractiveness that others, the O and the I advantages will be assumed as given and equal to all of the investing firms from the sample. In our case this is a plausible assumption, since the aggregated FDI outflows by MNEs, originating from only one home country (the US) in one particular period of time, are used. Having set that straight, the related Gravity Model will now shortly be introduced, which is generally used as a basic framework for analyses of more empirical type and mainly focuses on the L-type advantages.

Tinbergen (1962) and Pöyhönen (1963) were the first to suggest the Newtonian *Gravity Equation* to be applied for the empirical analysis of international trade patterns, while the major formal supporting theoretical framework was provided by Dunning's eclectic OLI paradigm. According to the analogy with physical science, trade flows would be determined just like the attraction between two physical objects: the direction and volume of international trade would positively depend on the attraction of two countries' masses (represented by GDP or population), weakened by distance between them (representing resistance and proxying transport costs) and enforced by a set of variables that capture common institutional characteristics such as languages, culture, trade agreements, and law system (Eita, 2008). Apart from explaining trade patterns differentials, the gravity model has also been found suited to explore the patterns of other cross-border value-adding activities, such as various determinants of FDI flows. Likewise, it suggests that FDI is positively related to GDP levels in both host and source countries and negatively related to the distance between them (Ledyaeva and Linden, 2006). While focussing on the OLI foundations of the gravity model, scholars like Ethier and Markusen (1996) and Rugman (1986) showed that the destination consumption market proved to be an important determinant of foreign production location choice.

b. Institutions

Institutions have been defined by North (1991)[6] as *humanly devised constraints that structure political, economic and social interactions, i.e. "rules of game".* Those constraints may exist as formal rules (e.g. laws, regulations, property rights, social infrastructure) or as informal constraints (e.g. social norms of behaviour, self-imposed codes of conduct, customs and traditions). Institutions are always enforced by some sort of (either formal or informal) sanction. They are meant to constrain

[6] Being the most widespread definition in the academic literature on institutions as determinant of growth, trade and FDI.

possibly arbitrary and opportunistic behaviour in human interactions, thereby making it more predictable and accordingly facilitating division of labour and wealth creation (Kasper and Streit, 1998). As for the last, the way in which formal institutions affect economic efficiency and growth has been extensively explored both theoretically and empirically by scholars within the fields as different as international economics, public choice, institutional economics and political economy during the last decades. Rodrik et al. (2002), for example, in their comparative study of various determinants of economic growth found that when institutional quality was controlled for, the direct effects of economic openness and geographical properties became only marginal or even disappeared, pointing at a the important underlying role of institutional arrangements in the economy. One of the consequences of lacking (both formal and informal) institutions can be considered the incidence of corruption, which will now be defined.

c. Corruption

Corruption is a complex phenomenon which can take many forms (varying from bribery by country's officials to fraud or influence) and has been covered by several definitions in the academic literature. The most common definitions of corruption attribute the phenomenon to the public sector ("*misuse of public office for private gain*"), although private sector corruption is often acknowledged as a main issue too (Hodgson, 2007). Following the common practice in the previous academic literature on corruption as FDI determinant (e.g. Al-Sadig, 2009), Macrae's (1982) definition of corruption, which primarily affects the cost of investment, will be applied in this thesis. He defines corruption as "*an arrangement that involves a private exchange between two parties (the 'demander' and the 'supplier'), which on the one hand has an influence on the allocation of resources either immediately or in the future and on the other hand involves the use or abuse of public or collective responsibility for private ends*" (Al-Sadig, 2009). Applying this definition, corruption can be seen as an additional tax on profits (Bardhan, 1997) and is furthermore expected to increase investment risk, since the according agreements are not enforceable in courts (Al-Sadig, 2009). Apart from wasting valuable resources directly, corruption also does that indirectly by posing moral hazard problems and stimulating unproductive rent-seeking activities by both the corruption-seeking public officials and the favour-seeking economic actors. Looking from the macro-perspective, corruption is considered as one of the main obstacles for the economic development in the economic literature. It has been empirically shown to have a deterring effect on the economic growth (Mauro, 1995) and investment (due to the hold-up problem: Bennett and Estrin, 2006).

2. Empirical literature: general FDI determinants

The number of empirical studies on the determinants of FDI is simply too large to be reviewed thoroughly[7] and, furthermore, each study seems to adapt the applied model specification and combination of explanatory variables to its goal. However, in correspondence with the above described theoretical foundations, several types of FDI determinants tend to reappear in the most gravity model specifications. Those variables thereby not always empirically prove to have the theoretically predicted effects. Although in the next section the results of empirical models, which focus on the institutional variables and are thus more directly relevant for this thesis, will be discussed, it is important to first briefly look at the most appearing general gravity-type variables in empirical literature, in the interest of selecting appropriate control variables for our empirical model.

[7] Comprehensive literature studies of Chakrabarti (2001) and Lim (2001) provide the most complete overviews of those.

Host country *market size*, measured by either GDP (e.g. Aglquist, 2006), GDP per capita (e.g. Nunnekamp and Spatz, 2004) or population (e.g. Henisz, 2000), proves to be not only the most important, but also the only robust factor determining FDI inflows in the empirical studies which apply extended forms of the gravity model (Chakrabarti, 2001). According to Lim, this indicates the market-seeking property of the largest part of world's FDI, since large market size reflects large potential demand and high potential economies of scale (Walsh & Yu, 2010). *Market potential*, represented by the growth rates of GDP or population, has mainly been found to positively affect FDI inflows (Culem, 1988; Chen and Moore, 2010). The effects of *physical distance* on the extent of FDI have often been found negative (Hania, 1999; Ledyaeva and Linden, 2006), while different studies (Barrell and Pain, 1998; Lee and Parker, 2000) have found strong significant *agglomeration (or clustering) effects*, measured by e.g. the FDI stock (indicating the degree of presence of other foreign investors). The degree of *openness*, mostly measured by the percentage of the sum of imports and exports of the GDP, has proven to positively affect FDI in the most studies (Singh and Yun, 1996; Dees, 1998), since the largest share of it is directed towards tradable sectors.

Regarding the further FDI determinants, empirical FDI-effects of *cultural distance* (negative; Wu, 2006), *labour quality* (postitive; Mody (1990); proxied by the educational attainment or literacy levels) and *economical stability* (positive; Schneider and Frey, 1985; Apergis, 1998; proxied by the inflation rate or the balance of payments) have also been mostly found to be conclusive. However, different degrees of mixed evidence have been found for the effects of *trade barriers* (Blonigen and Feenstra, 1996), *wage rates* (Agarwal, 1980; Lee and Parker, 2000), *exchange rate volatility* (Campa, 1993; Kolstad, 1995), *fiscal incentives* (De Mooij and Ederveen 2003; Wheeler and Moody, 1992) and *business/investment climate* (Lim, 2001) on FDI inflows, often influenced by various additional complexities and data imperfections. Although the empirical literature on the determinants of MNE's FDI location decision is rather extensive, for almost all of the perceived independent variables there exist studies with contradicting conclusions. The effects of model specification, level of disaggregation (firm, industry, country) and quality of data on the conclusions are thereby strong. Accordingly, Chakrabarti (2001) concludes that the most determinants of cross-country FDI are statistically quite fragile. Blonigen (2005) accounts that mainly to the fact that regardless of the approach, the underlying motivation for the FDI behaviour complicates the analysis.

3. Empirical literature: institutional FDI determinants

Turning to the empirical effects of institutional factors on the FDI flows in particular, the body of literature has become nearly as substantial as that on the more traditional variables. Most of these studies find positive effects of institutional soundness on foreign investment. The strongest positive effects of institutional quality on FDI flows have been found by Garibaldi et al. (1999), who observed no significant effect of macroeconomic variables (e.g. GDP growth, inflation and liberalization) in their cross-section estimation of FDI determinants, while the estimates of political climate, strength of ownership rights and the existence of special economic zones at the same time proved to have a positive significant effect on FDI inflows. Blonigen (2005) also stated that the quality of institutions is an important determinant of FDI activity through three channels: property rights protection (posing risk of possible expropriation of firm's assets), the functioning of markets (determining additional cost of doing business) and through the effects of institutions on the quality of public goods production and economic infrastructure (potentially influencing profitability). According to Ahlquist (2006), the returns to cross-border investment are in part determined by the actions of foreign

governments, implying the risks of expropriation and political and economic collapse in the limit. Thereby, the influence of political variables on capital flows depends on how various types of ownership structure influence risk and return. In particular, FDI has been found to react more to those political variables than portfolio investment, mainly because of its sunk-costs character and the according long-sightedness. Consequently, he empirically showed that FDI inflows increase under more stable and more democratic regimes. Swansbrough (1972), Nigh (1985) and Lansbury et al. (1996) have also empirically found positive effects of political stability on FDI inflows. According to Bénassy et al. (2007), institutions matter for FDI attractiveness, independently of GDP per capita. In particular, bureaucracy, corruption, information, banking sector and legal institutions prove to be as important determinants of inward FDI as the conventional ones. Furthermore, Stein and Daude (2001) showed that inward FDI is significantly positively affected by a wide range of institutional variables: five out of six Kaufmann's World Governance Indicators (i.e. political instability and violence, government effectiveness, regulatory burden, rule of law and graft) and three of the ICRG's sub-components (risk of repudiation of contracts by government, risk of expropriation and shareholder rights) have been shown to significantly matter. The study of Busse and Hefeker (2005) on the effects of various potential FDI determinants in developing countries concludes that government stability, the absence of internal conflict and ethnic tensions, protection of basic democratic rights and ensured law and order prove to be highly significant determinants of foreign investment inflows. Next, Drabek and Payne (2002), having constructed a measure for non-transparency (consisting of corruption, weak protection of property rights and poor governance), empirically found adverse impacts of it on FDI. On the other side of the research spectrum, there are few studies which fail to find significant effects of such kind. Wheeler and Mody (1992) have shown no presence of significant FDI effects of the variables like regulatory framework, bureaucracy, red tape and judicial transparency and quality in the host country. Piper (1971) and Reuber et al. (1972) failed to find the evidence of significance of political variables, claiming that political instability does not necessarily increases political risk for FDI.

Another way to look at the effect of institutions is to consider institutional distance between the source and the home country: due to the perceived 'psychic proximity' effects (which would reduce perceived uncertainty and learning costs about the target country), MNEs from a particular source country are more likely to invest in institutionally similar host countries. Habib and Zurawicki (2002) provide empirical support for this hypothesis. While the above mentioned studies used either aggregate or industrially disaggregated data on FDI in their more macro-driven empirical models, several studies applied firm-level data in accordance to the theory of the firm, trying to closer simulate the MNE's foreign investment decision making. For example, using firm-level data, Henisz (2000) found that as political hazards increase, the MNEs face an increasing threat of opportunistic expropriation hazards by the government and tend to perform less FDI, while at the same time partnering with a host county firm via joint ventures compared to the fully-owned enterprises becomes more attractive.

Apart from the formal institutions, domestic policy also matters for the ability of a country to attract FDI flows. More specifically, Dabla-Norris et al. (2010) showed that economic fundamentals (such as financial intermediation, the strength of economic reforms, improvement of regulatory and supervisory frameworks and commitment to macro-economic discipline) are crucial determinants of both FDI and the effect of FDI on domestic growth in low-income countries, making those even more

important for the host countries.[8] Regarding the importance of the policy reforms on the FDI inflows, Central and Eastern Europe have been subjected to a great extent of interest by various empirical studies in the 1990s, primarily due to the extensive liberalizing and privatizing reforms which came along with the transition from centrally-planned to market-driven economic structures. Lansbury et al. (1996) found that the further the stage of privatization is in a transition country, the more FDI it tends to attract. Comparingly, beside the importance of geographical distance, the presence of trade relations and macroeconomic stability (in terms of low inflation), the progress of reforms and privatization have been found to be important stimulants for FDI by Hania (1999).

From the described empirical evidence we are able to identify three main categories of institutions which are likely to affect FDI inflows: *regulatory* (economic and business regulation, policy, red tape), *political* (freedom, stability) and *judicial* (fairness, efficiency and independence of the legal system regarding property rights protection, contract enforcement and challenging regulation) ones. Another important factor, which interconnects with these institutional variables, is corruption.

4. Empirical literature: the effects of corruption on FDI

The corruption effects on FDI have also been researched widely. Thereby, the empirical literature on the relationship between corruption and FDI has not managed to universally prove the perceived hypothesis that high level of host country corruption deters FDI (Al-Sadig, 2009). Wheeler and Mody (1992) found that apart from the statistical insignificance of various institutional factors, no significant relationship between the host country risk factor (consisting of 13 combined indicators) and the size of US FDI flows could be observed, degrading the importance of the risk factor to assigning it some small weight as an FDI decision factor. The inability to find that effect could stem from the fact that corruption is not explicitly included into their model (Wei, 2000). Contrastingly, Wei (2000) himself, using a variety of corruption measures, observed that corruption significantly added to firms' costs, withholding FDI from 12 source countries to 45 home countries. Further, Smarzynska and Wei (2002) and Javorcik and Wei (2007) found that corruption reduces inward FDI and shifts the ownership structure towards joint ventures. Hines (1995) also did find a negative significant effect of corruption on inward FDI, while examining the effect of the US anti-bribery legislation (Foreign Corrupt Practices Act, 1977)[9] on the operation of US MNEs in highly-corrupt countries. While using the FDI inflows growth rates into 35 different countries and Business International index of corruption, he found that the Act substantially reduced US FDI flows into countries with more corruption. The studies of Abed and Davoodi (2000) and Al-Sadig (2009) apply comparable methodologies and reach nearly the same conclusions. Using both cross-sectional and panel data analysis, they examine the effect of corruption level on inward FDI (the former focuses on transition economies and uses per-capita FDI). Both studies find that countries with low levels of corruption tend to attract more FDI. However, after controlling for, respectively, the structural reform factor and institutions, the effect of corruption becomes insignificant, leading to the conclusions that structural reform and strengthening institutions are more important than reducing the level of corruption while trying to attract FDI flows. Finally, according to Wu (2006), not only

[8] The effects of FDI inflows on the economic development of recipient countries is in itself a rather broad and interesting field of research, which, due to the importance of the focus, will not be discussed further in this thesis.

[9] Recently, United Kingdom also implemented new anti-corruption legislation, criminalizing not only additional payments to foreign officials, but also a lack of efforts to prevent involvement in corrupt practices at all cost (Economist, 2011). The working of such practices, however, has been questioned, since it might be easily evaded (for example through making use of agents).

corruption level in the host country, but also corruption distance between the source and the host country matters for FDI: MNEs from more corrupt countries tend to invest more in countries with similar corruption levels, while being able to take advantage of their experience and the resulting capacity to engage in bribery and rip their returns from it in more corrupt host countries.

The sometimes contradicting results on the significance of particular institutional factors and corruption in determining FDI most likely originate from the use of different measures of institutional quality and corruption along with different types of data (and different mix of control variables) in various studies. For example, while Wei uses firm-level investment figures, Wheeler and Mody apply aggregate FDI inflows data (Walsh and Yu, 2010). Blonigen (2005) also notes that estimating the degree of institutions' effects on FDI is difficult due to a lack of accurate measurements, which are mostly "*some composite index of a country's political, legal and economic institutions, developed from survey responses from officials or businessmen familiar with the country*". Consequently, the comparability across countries can be questioned when survey respondents vary across countries, since their perceptions of corruption and appropriate institutional quality may also differ[10].

5. Empirical literature: institutional FDI determinants and interaction effects

Out of all the FDI-institutions studies, only a few have tried to investigate possible interactions between the institutions. Some of these studies deserve a special discussion here due to their methodological or thematic proximity to this thesis.

First of all, the study by Al-Sadig (2009) uses panel data to investigate the effect of corruption on aggregate FDI inflows into various host countries. Incorporating corruption in a gravity-type model of FDI determinants, it finds that there is a negative effect of corruption on aggregate FDI inflows, but, more strikingly, that this effect disappears if the quality of institutions is taken into account. Consequently, it concludes that the quality of country's institutions is more important in attracting FDI inflows than low corruption. As a possible explanation for these results, Al-Sadig claims that *"since the willingness to engage in corrupt activities depends on the penalty imposed and on the probability of being caught, a country with good-quality institutions may still be able to attract more FDI inflows despite its level of corruption"* (Al-Sadig, 2009), but does not try to conceptualize or further empirically test this perceived relationship. However, since a rational profit-maximizing multinational firm strives to minimize its costs, we can expect that appealing at court against corruption poses even higher additional cost of doing business abroad (like also claimed by Henisz, 2000). For that reason, as it will appear in the Methodology section, I assume that this perceived relationship between corruption and institutions goes the other way around.

Second, the paper of Nunnekamp and Spatz (2004) takes the degree of intellectual property rights (IPR) protection as the main institutional variable in a gravity-type model of foreign direct investment determinants. It uses interaction terms of IPR measures with various host country characteristics and industry dummies. Accordingly, main finding is that the threat of an unauthorized use of intellectual property related assets and, thus, FDI, depends on industry as well as host country characteristics. Other finding is that stronger IPR protection may help induce high-quality FDI (reflected by higher R&D expenditures of US affiliates). The studies of Henisz (2000) and Javorcik and Wei (2009) also try

[10] Although, as we will see in the methodological an empirical parts of this thesis, both the amount and the quality of such indicators have risen substantially during the last years. Extensions of business surveys with expert surveys and consideration of more objective factors are examples of possible quality improvements.

to investigate interaction effects between the variables which affect the FDI decisions of MNEs, but rather focus on the effects of host country institutions on the FDI location and entry mode choices, given particular level of technological sophistication. Instead of interactions among the institutional indicators or between the institutions and other host country characteristics, in these studies the interplay between institutions, entry mode decision and firm-level characteristics is investigated. Both studies find that corruption and political hazards reduce FDI inflows and shift ownership structure towards joint ventures. Given FDI takes place, technologically more advanced foreign investors or MNEs with a more limited contractual hazard (which also depends on firm-specific characteristics) prefer a wholly-owned entry mode above joint venture. However, holding the level of technological sophistication / contractual hazard constant, the foreign investors tends to chose for a joint venture partner (with local institutional knowledge, experience and connections) in a more corrupt host country.

Finally, Du, Lu & Tao (2008) investigate how the interplay of regional institutions and the cultural distance between the host and the home country gives rise to different patterns of sensitivity of FDI towards regional economic institutions. Using firm-level data on FDI received by various Chinese regions and business survey data on institutional environment in those regions, the study concludes that *"FDI from the source countries that are culturally more remote from China often exhibit a stronger aversion to regions with weaker economic institutions. Moreover, this pattern is often more salient when FDI takes the form of fully-owned enterprises (FOEs) than when it takes the form of joint ventures (JVs)"*. In this paper, Du et al. actually claim that apart from conventional FDI pull factors and economic institutions, cultural distance plays a crucial role and in reality is represented by MNE's knowledge and experience with the local market. Consequently, MNEs tend to give priority to the markets they perceive as psychologically close, given conventional factors and institutional environment. So, psychology in fact affects the rational choice of FDI based on some institutional and economic properties of a host country. Accordingly, institutional distance of a particular kind (for example corruption distance) could be assumed to influence sensitivity of FDI decision to economic institutions in a comparable way. This view is supported by Xu and Shenkar (2002), which claim that it is a combination of both cultural and institutional distance that influences the FDI decision. For example, when an MNE from a country with a high level of corruption makes its decision to invest in a particular country, it will not be scared of bad institutions in the host country to such an extent as an MNE from a relatively low-corruption country, for its experience in dealing with corruption. Bad quality of institutions may even turn into a comparative advantage of MNEs from countries with smaller corruption distance to the host country, as it can be compensated by, basically speaking, the knowledge of how to bribe. This argument goes the other way around than the argument of Al-Sadig (2009), according to which the host country's high corruption level is not a problem for an investing MNE as long as it is mitigated by good institutions, and seems logically more plausible.

III. Methodology

As we have seen in the Literature section above, previous academic research has identified a variety of factors which may determine FDI decisions of MNEs. Thereby, the strength, the direction and the empirical significance of the effects of different variables have proven to enjoy different extents of academic consensus. Since the main purpose of this thesis is to investigate which (interaction) effects various host country institutional environment characteristics and corruption have on the FDI inflows, the relevant insights from the discussed theoretical frameworks and empirical studies have been combined with an extensive (self-constructed) dataset in order to test the empirical model. In this section, first the empirical model in its general form will be introduced, while its purpose will be clarified and (the selection of) the relevant variables will be explained. Second, the more specific base-run empirical model will be constructed in several steps, consisting of a selection of the most relevant control and institutional variables. The introduced variations of this model will be tested in the empirical part, along with its possible extensions. Third, different specifications of the extended model will be introduced, which includes interaction terms between the institutions and corruption. The applied dataset will be discussed in detail in the appendix, where its construction procedure and the properties of different types of data types and sources deserve a special attention.

1. General form equation

Leaning on the theoretical fundamentals of Dunning's OLI eclectic paradigm (especially the L-advantages), the basic econometric specification methodology of the gravity model and the various empirical extensions of it containing diverse additional variables, all of which have been discussed in the previous section, a general form of the empirical model explaining host country specific FDI determinants can be constructed. For that purpose, all the potential FDI determinants have been divided in twenty separate (though not strictly defined) categories. General form means that is not directly meant to be tested empirically, while it contains all the L-type advantages which in previous research (with varying extents of mixed evidence) have empirically been found to affect FDI inflows. Ideally, all the FDI determinants which appear in this model specification would be included in the estimated empirical model. However, adding too much explanatory variables (which tend to intercorrelate) to the gravity-type model can pose the risks of multicollinearity and misspecification and may result is a lack of significance of each single variable (especially if the number of observations is small, reducing degrees of freedom). Furthermore, the effect of many of the included explanatory variables on FDI is not undisputed, since different papers tend to show different results regarding the significance of their effects, depending on the model specification, estimation method, etc. However, this general specification of the model has an illustrative purpose and will be kept in mind when moving towards the actual model specification. It takes the following form:

$$FDI_{i,t} = \beta_0 + \beta_1 Agglomeration_{i,t} + \beta_2 Market\ size_{i,t} + \beta_3 Market\ potential_{i,t} + \beta_4 Distance +$$
$$+ \beta_5 Labour\ cost_{i,t} + \beta_6 Labour\ productivity_{i,t} + \beta_7 Infrastructure + \beta_8 Market\ efficiency_{i,t} +$$
$$+ \beta_9 Openness\ to\ trade_{i,t} + \beta_{10} Macroeconomic\ stability_{i,t} + \beta_{11} Government\ efficiency_{i,t} +$$
$$+ \beta_{12} Corporate\ tax_{i,t} + \beta_{13} Administrative\ environment_{i,t} + \beta_{14} FDI\ regulation_{i,t} + \beta_{15} Corruption_{i,t}$$
$$+ \beta_{16} Property\ rights_{i,t} + \beta_{17} Rule\ of\ law_{i,t} + \beta_{18} Economic\ freedom_{i,t} + \beta_{19} Political\ system_{i,t} +$$
$$+ \beta_{20} Security_{i,t} + \varepsilon, \qquad (a)$$

where *i* is the country subscript, *t* is the time subscript, βs are the unknown parameters and ε is the random disturbance term. The parameters of the main interest are those on the corruption (β_{15}) and institutions ($\beta_{16} - \beta_{20}$) variables. All the variables, which appear in the general model specification, have been extensively clarified in the Appendix III, along with the according indicators and data sources.[11] As for the independent variables, the abbreviations of the according specific indicators, which may be used from the constructed dataset while estimating the empirical model, have also been provided. Further, their expected effect on the dependent variable (FDI) and their index scale are also between the brackets. Regarding the extensive cross-section dataset, which covers all the variables appearing in this model, it has been collected from various data sources for 171 countries for the period between 2005 and 2009. The list of countries can be found in the Appendix I. The process of data collection consisted of several steps, which has been extensively described in the Appendix II (where the data sources are also discussed). In the following sub-sections, where the specific variations of the base-run model will be introduced, the relevant variables and indicators, selected from the dataset, will be described in detail along with the according data sources. In order to derive the empirical model which will be estimated, first we need to return to the basic gravity model specification and then gradually extend it towards our desirable form.

2. Simple gravity-type model specification

As we have seen in Section II.1, the original and most basic specification of the gravity model of foreign direct investment includes the economic sizes (measured by GDP) and populations (POP) of both the host and the source countries and the distance between those countries (DIST):

$$FDI_{i,j} = \beta_0 GDP_i^{\beta_1} GDP_j^{\beta_2} POP_i^{\beta_3} POP_j^{\beta_4} DIST_{ij}^{\beta_5} \varepsilon_{ij}, \quad \text{(b)}$$

where *i* is the host country subscript, j the source country subscript, βs are the unknown parameters and ε is the random disturbance term. Since in our empirical analysis only one source country will be considered (i.e. the US), adding the source country GDP is superfluous.[12] Further, using GDP per capita eliminates the need to include population size separately (Eita, 2007). Finally, the additional variable $X_{i,t}$ captures all the other (in our case, host country specific) factors which may influence the bilateral FDI flows (and will be used to extend this simple form). Following previous academic research, the equation is expressed in a log linear form, which will be applied during the estimation. Consequently, the most basic form of our augmented gravity equation looks as following:

$$ln(FDI/POP)_{ij,t} = \beta_0 + \beta_1 ln\,(GDP/POP)_{i,t} + \beta_2 \ln\,(DIST)_{ij,t} + \beta_3 X_{i,t} + \varepsilon, \quad (1.1)$$

where *i* is the host country subscript, j the source country subscript, *t* is the time subscript, βs are the unknown parameters and ε is the random disturbance term.

[11] By far not all of the described potential FDI determinant variables/indicators will be used in the actual equation which will be estimated in the empirical part. Testing the robustness and the explanatory power of all of the listed indicators, while included in the augmented gravity equation, is at this point outside the scope of this thesis. However, the discussion of those variables/indicators is still important as a context for this thesis. Besides, it can serve the purposes of either the future empirical research or for those who would be interested in further robustness testing of the results of this thesis and for the potential future research.

[12] Stein and Daude (2001), alternatively, using several source countries, have included only source country dummies to capture all the relevant characteristics of the source countries, independently estimating the host country characteristics (Talamo, 2007).

Alternatively, a specification in absolute, not-per-capita terms could be estimated:

$$ln(FDI)_{ij,t} = \beta_0 + \beta_1 ln\,(GDP)_{i,t} + \beta_2 \ln (DIST)_{ij,t} + \beta_3 X_{i,t} + \varepsilon. \quad (1.2)$$

Now, while decomposing the $X_{i,t}$ variable, we once again turn back to the previous empirical literature to see which additional general (i.e. non-institutional) variables proved to be the most robust. Furthermore, data availability, completeness and reliability have also been considered while selecting control variables. Our extended simple gravity-type model specification now consequently contains the following explanatory variables[13]:

Market size: As we have seen in the Literature section, market size, measured by the GDP per capita, is the most widely used and proves to be the most robust FDI determinant variable. Large markets are associated with a broad potential to sell products, acquire inputs, etc., so the expected effect of market size on FDI is positive. In the empirical model, both aggregate GDP and GDP per capita in millions of $ based on PPP valuation (GDP and *GDP/POP; +*), will be applied as an indicator of the market size. The according data have been retrieved from the IMF.

Distance: Along with the market size, distance is the key gravity model variable. Greater physical distance between the home country of the MNE and the host country is expected to negatively affect the location choice for FDI, due to higher additional costs which are expected to be associated with moving, (periodic) travelling, shipment of goods, control of processes, etc. As the measure of distance, weighted physical distance between the US and the host countries[14] is used in the empirical model (*DIST; -*).

Market potential: The host country market potential is estimated by the average annual GDP growth rate (*GDPGR; +*). Growing GDP is likely to result in higher purchasing power of consumers, so the effect on FDI is expected to be positive. The according data have been retrieved from the IMF. Alternatively, following Chen and Moore (2010) and Al-Sadig (2009), market potential can also be estimated by the yearly population growth (*POPGR; +*), data for which have been retrieved from the World Bank's WDI.

Agglomeration: Agglomeration effect is represented by the existing FDI stock in the host country, which signals the direct investors the extent of country's experience with foreign investors. Furthermore, extensive existing FDI stock may point at the comprehensive investment infrastructure and networks, which do not have to be built up first. This effect is thus measured by the existing FDI stock per capita in the recipient country (*AGGL*; *+*), data for which have been extracted from UNCTAD, and is expected to be positively correlated with *FDI*.

Openness to trade: The degree of openness of the economy is considered to represent the international orientation of the economy and thus positively affect FDI. In the literature, it is usually estimated by the sum of the total exports and imports as percentage of the GDP, so this measure will be applied in the testing of the empirical model, for which the WDI data will be used (*OPEN; +*).

[13] Between the brackets are the variables as used in the empirical estimation, along with the expected effect on FDI.

[14] The weighted distance between two countries is a generalized mean of bilateral distances between the largest cities of those two countries, weighted by the share of the city in the overall country's population. It has been calculated by CEPII using data on latitudes, longitudes and population of main agglomerations.

Our explained variable is the logarithmic form of the yearly average bilateral *FDI outflows* from the US MNEs, divided by the population of the recipient country (retrieved from the BEA's Balance of Payments Statistics).

Combining these control variables in accordance with the previous theoretical and empirical outcomes (i.e. appearance, significance, theoretical logic) and data availability and adding those to the equations (1.1) and (1.2), the following two simple gravity specification forms will serve as a basis for the further model extensions:

$$ln(FDI/POP)_{ij,t} = \beta_0 + \beta_1 ln(GDP/POP)_{i,t} + \beta_2 \ln(DIST)_{i,t} + \beta_3 GDPGR_{i,t} + \beta_4 \ln(AGGL)_{i,t} + \\ + \beta_5 OPEN_{i,t} + \beta_6 INST_{i,t} + \gamma_{i,t} + \varepsilon \quad (2.1)$$

and

$$ln(FDI)_{ij,t} = \beta_0 + \beta_1 ln(GDP)_{i,t} + \beta_2 \ln(DIST)_{i,t} + \beta_3 GDPGR_{i,t} + \beta_4 \ln(AGGL)_{i,t} + \beta_5 OPEN_{i,t} + \\ + \beta_6 INST_{i,t} + \gamma_{i,t} + \varepsilon, \quad (2.2)$$

where $INST_{i,t}$ represents all the host country specific institutional factors, which may affect FDI inflows, and $\gamma_{i,t}$ represents the unobserved host country specific effects or those effects which are captured by the unenclosed potential FDI determinants from the general equation (a). Following Al-Sadig (2009) and others by taking population growth instead of GDP growth as a proxy for the market potential, an alternative equation specification can be estimated:

$$ln(FDI/POP)_{ij,t} = \beta_0 + \beta_1 ln(GDP/POP)_{i,t} + \beta_2 \ln(DIST)_{i,t} + \beta_3 POPGR_{i,t} + \beta_4 \ln(AGGL)_{i,t} + \\ + \beta_5 OPEN_{i,t} + \beta_6 INST_{i,t} + \gamma_{i,t} + \varepsilon. \quad (2.3)$$

Finally, in the last variant of the extended simple gravity-type model specification which will be estimated prior to our looking at the effects of institutions and corruption on FDI, logarithmic forms of the absolute measures (thus not per capita) of both FDI and GDP have been included instead:

$$ln\, FDI_{ij,t} = \beta_0 + \beta_1 ln(GDP)_{i,t} + \beta_2 \ln(DIST)_{i,t} + \beta_3 POPGR_{i,t} + \beta_4 \ln(AGGL)_{i,t} + \beta_5 OPEN_{i,t} + \\ + \beta_6 INST_{i,t} + \gamma_{i,t} + \varepsilon. \quad (2.4)$$

3. Base-run model specification including institutions and corruption

In this thesis, the variable of main interest is *INST*. As appeared in the previous sections, a large number of papers have been trying to investigate the effect of the host country institutional environment, represented by e.g. (intellectual) property rights protection, rule of law, contract enforcement, corruption, political stability, democracy, freedom, governance and business regulation, on FDI. Most of these studies, which have already been comprehensively reviewed in the Literature section, found positive effects of various types of institutional soundness on foreign investment inflows. Thereby, we have seen that despite the great variety of the applied institutional host country variables, those can roughly be divided into three categories: *regulation* (REG - including economic and business regulation, policy, red tape), *political system* (POL - freedom, stability, governance) and *judicial system* (LAW – both de jure and de facto: rule of law and the fairness, efficiency and independence of the legal system regarding property rights protection, contract enforcement and challenging unfavourable regulation). *Corruption* (CORR) is considered as a

separate institutional FDI determinant in this thesis and will accordingly be estimated. Considering the above, the following hypothesis regarding the effect of institutions on FDI can be formulated:

Hypothesis 1: *Institutional environment characteristics in the host countries have a significant effect on the FDI inflows: favourable regulatory environment, solid, independent and fair legal system, stable and democratic political system and low levels of corruption all enhance foreign multinational activity in a recipient country.*

Various studies have been using several different indicators from different data sources as proxies for these particular institutional categories (even if not explicitly defined as such). Furthermore, different previously unused new institutional indicators have become available since the regarding papers had been published. Regarding this, the following estimation procedure has been applied. Per combined category of institutional variables, a list of several potential indicators has been constructed, along with a list of possible proxies of corruption. Those lists can be found in Tables 1.1 – 1.4 of Appendix V, where the scales[15], data sources and short methodological descriptions for each indicator are also provided. The elaborate discussion of all the institutional variables and indicators can be found in the second part of Appendix V. In the empirical part, the regarded indicators will first individually, one-by-one be added to the equation (2.3) to check which ones are the most significant when applied in the simple form specification. The according estimated equations take thereby the following forms:

$$ln(FDI/POP)_{ij,t} = \beta_0 + \beta_1 ln(GDP/POP)_{i,t} + \beta_2 \ln(DIST)_{i,t} + \beta_3 POPGR_{i,t} + \beta_4 \ln(AGGL)_{i,t} + \\ + \beta_5 OPEN_{i,t} + \beta_6 REG_{i,t} + \gamma_{i,t} + \varepsilon, \quad (3.1)$$

$$ln(FDI/POP)_{ij,t} = \beta_0 + \beta_1 ln(GDP/POP)_{i,t} + \beta_2 \ln(DIST)_{i,t} + \beta_3 POPGR_{i,t} + \beta_4 \ln(AGGL)_{i,t} + \\ + \beta_5 OPEN_{i,t} + \beta_6 POL_{i,t} + \gamma_{i,t} + \varepsilon, \quad (3.2)$$

$$ln(FDI/POP)_{ij,t} = \beta_0 + \beta_1 ln(GDP/POP)_{i,t} + \beta_2 \ln(DIST)_{i,t} + \beta_3 POPGR_{i,t} + \beta_4 \ln(AGGL)_{i,t} + \\ + \beta_5 OPEN_{i,t} + \beta_6 LAW_{i,t} + \gamma_{i,t} + \varepsilon, \quad (3.3)$$

$$ln(FDI/POP)_{ij,t} = \beta_0 + \beta_1 ln(GDP/POP)_{i,t} + \beta_2 \ln(DIST)_{i,t} + \beta_3 POPGR_{i,t} + \beta_4 \ln(AGGL)_{i,t} + \\ + \beta_5 OPEN_{i,t} + \beta_6 CORR_{i,t} + \gamma_{i,t} + \varepsilon, \quad (3.4)$$

where *REG*, *POL*, *LAW* and *CORR* take different values while different indicators are applied as a proxy of them. Considering the above, the coefficients on *REG*, *POL* and *LAW* are expected to be positive, while the coefficient on CORR is expected to be negative.

Finally, adding all the four variables to the equation (2.3), those limitedly selected indicators will be one by one changed, leaving the rest of the control variables the same and holding the indicators from the other institutional categories constant. By doing so, both the most significant institutional variables and the institutional indicators with the most explanatory power will be identified.[16] Adding those institutional and corruption variables to our simple gravity equation, we arrive at the following base-run model specification:

[15] Looking at those is especially important when analysing the direction of the empirically estimated effects: "-" or "+" indicate whether the indicator is positively or negatively correlated with the variable it represents.

[16] Alternatively, we could have chosen to make a certain composite indicator for each of the institutional category. However, such a method would inevitably imply using weights of some kind, which would mean making certain arbitrary assumptions (For example, regarding the substitutability between those, which may not necessarily be the case (Benassy, 2007)). In order to avoid this and in order to being able to assess the quality of the available institutional indicators (and, doing so, also testing Hypothesis III of this thesis), the described method will be rather applied.

$$ln(FDI/POP)_{ij,t} = \beta_0 + \beta_1 ln(GDP/POP)_{i,t} + \beta_2 \ln(DIST)_{i,t} + \beta_3 POPGR_{i,t} + \beta_4 \ln(AGGL)_{i,t} + \\ + \beta_5 OPEN_{i,t} + \beta_6 REG_{i,t} + \beta_7 POL + \beta_8 LAW + \beta_{10} CORR + \gamma_{i,t} + \varepsilon. \quad (4)$$

The variations of this base-run equation, arising due to the subsequently altering of one indicator belonging to one single institutional variable (i.e. category), will appear in the Empirical Results section. The empirical results of our main interest (i.e. concerning Hypothesis 1) are all based on this gravity-type base-run specification of the model of FDI determinants.

Alternatively, following Wheeler and Mody (1992), two aggregate business climate indicators will be added to the simple GDP-distance gravity equation, replacing the previous institutional determinants and control variables from the extended simple model specification (which all are already in these indexes). These indicators are the Index of Economic Freedom by the Heritage Foundation and the Economic Freedom of the World by the Fraser Institute. The short description of the indexes can be found in Table 1.5 of Appendix V, while the exact composition of both these aggregate indicators, along with a short methodology description, are situated in Appendix III under the title Economic Freedom.[17] The regarding model specifications look as following:

$$ln(FDI/POP)_{ij,t} = \beta_0 + \beta_1 ln(GDP/POP)_{i,t} + \beta_2 \ln(DIST)_{i,t} + \beta_3 ECONFREE\_IEF_{i,t} + \gamma_{i,t} + \varepsilon, \quad (5.1)$$

$$ln(FDI/POP)_{ij,t} = \beta_0 + \beta_1 ln(GDP/POP)_{i,t} + \beta_2 \ln(DIST)_{i,t} + \beta_3 ECONFREE\_EFW_{i,t} + \gamma_{i,t} + \varepsilon. \quad (5.2)$$

4. Extended model specifications including interaction terms

It has already been extensively described in the Literature section how corruption could have rather complex effects on FDI, apart from the direct deterring effects through posing additional risk and costs. In countries where institutions are strong, high corruption can be assumed to have a negative effect on FDI, since the probability of being caught and convicted is high due to free media, solid regulation and well-functioning legal system. However, in countries where these strong institutions are absent, corruption can in fact stimulate FDI by lowering cost of doing business through compensating the foreign enterprise for inefficient bureaucracy. This may occur through conducting payments in order to speed up bureaucratic processes and thus enhance the efficiency of the system. Regarding this, it can be assumed that corruption, despite its negative overall effect on FDI in countries with strong institutions, can mitigate investment in countries with sufficiently weak institutional environments by compensating for the lack of legally appropriate possibilities to engage in contracts, obtain permits, etc. In other words, corruption level in a host country may have an effect on the sensitivity of an MNE's decision to invest in a particular country given the other institutional properties[18]. This leads to our second hypothesis:

[17] For a more detailed description, see the enclosed (or provided upon request) file *Survey Data Methodology*.

[18] In reality, the interplay between corruption and country's institutional properties may even be more complex: apart from the possibility that corruption opportunity may serve as an instrument to compensate for the various types of inefficient institutions, this effect may also be influenced by the type of corruption which is persistent in a particular host country. If corruption mostly takes place at the lowest bureaucratic levels, like only by small bureaucrats who e.g. provide construction permits, while the independent functioning of the courts is not affected by this corruption, corruption allegations may be disputed in court, lowering the risk of involuntary involvement in corruption, making it less important in making their FDI location decision. However, if corruption is present in all (including the highest) levels of bureaucracy and judiciary system, using courts to dispute it would not resolve anything. Besides, disputing in court is expected to pose additional costs to MNEs, which they are expected to avoid as much as possible.

Hypothesis 2: *Corruption, despite its negative overall effect on FDI, can have a positive effect on FDI inflows in host countries with sufficiently weak institutional environments by compensating for the lack of legally appropriate possibilities to engage in business activities efficiently.*

Consequently, the extended version of the model has been constructed in order to test the above hypothesis, examining the effects of corruption on FDI through its interaction with various institutional host country properties. In this extended model, the interaction effects between several most significant institutional indicators from each category and three corruption indicators will be examined. Thereby, three according extended model specification types have arisen. First, considering that irregular payments may take place in order to avoid high taxes and high degree of regulation (permits, FDI restrictions) or to speed-up bureaucratic procedures, including the interaction term between regulatory environment and corruption into equation (4) and estimating its direction and significance will show whether the existence of a higher opportunity to conduct such payments may stimulate FDI in host environments with poor regulatory conditions. In that case β_{11} is expected to have a negative sign:

$$ln(FDI/POP)_{ij,t} = \beta_0 + \beta_1 ln(GDP/POP)_{i,t} + \beta_2 \ln(DIST)_{i,t} + \beta_3 POPGR_{i,t} + \beta_4 \ln(AGGL)_{i,t} + \\ + \beta_5 OPEN_{i,t} + \beta_6 REG_{i,t} + \beta_7 POL + \beta_8 LAW + \beta_{10} CORR + \beta_{11} REG \times CORR_{i,t} + \gamma_{i,t} + \varepsilon. \quad (6.1)$$

Second, the interaction effect between corruption and political environment will be explored. In less democratic political systems with limited media freedom and a low degree of transparency, involving in corrupt practices (both by MNEs and by the local politicians and bureaucrats) may pose a smaller risk of being caught and, as a result, of suffering reputational damage or getting penalized by the source or the home country legislator. Consequently, the opportunity of corruption is expected to be exploited more by MNEs in less democratic and open host countries, so β_{11} is expected to have a negative sign here as well:

$$ln(FDI/POP)_{ij,t} = \beta_0 + \beta_1 ln(GDP/POP)_{i,t} + \beta_2 \ln(DIST)_{i,t} + \beta_3 POPGR_{i,t} + \beta_4 \ln(AGGL)_{i,t} + \\ + \beta_5 OPEN_{i,t} + \beta_6 REG_{i,t} + \beta_7 POL + \beta_8 LAW + \beta_{10} CORR + \beta_{11} POL \times CORR_{i,t} + \gamma_{i,t} + \varepsilon. \quad (6.2)$$

Third, like already argued above, corruption may also be expected to compensate for the weakness of the judicial system: when the property rights are poorly protected, contracts are weakly enforced, the courts are not independent and the rule of law is subject to randomness, settling potential disputes in an irregular way (i.e. through bribes) may compensate for such juridical weaknesses. Furthermore, the chance of being prosecuted for conducting such irregular payments by a court in the host country is in such case smaller due to their limited power. This potential effect is expected to be present more strongly in host countries with high-level corruption (such as patronage systems) than in those where corruption by the low-level bureaucrats prevails:

$$ln(FDI/POP)_{ij,t} = \beta_0 + \beta_1 ln(GDP/POP)_{i,t} + \beta_2 \ln(DIST)_{i,t} + \beta_3 POPGR_{i,t} + \beta_4 \ln(AGGL)_{i,t} + \\ + \beta_5 OPEN_{i,t} + \beta_6 REG_{i,t} + \beta_7 POL + \beta_8 LAW + \beta_{10} CORR + \beta_{11} LAW \times CORR_{i,t} + \gamma_{i,t} + \varepsilon. \quad (6.3)$$

Since including too much control variables can potentially bias the results (especially if we have to cope with a limited number of degrees of freedom), equations including one institutional and one corruption variable, plus their interaction term, will be estimated as well. The general forms of these equations look as following:

$$ln(FDI/POP)_{ij,t} = \beta_0 + \beta_1 ln(GDP/POP)_{i,t} + \beta_2 \ln(DIST)_{i,t} + \beta_3 POPGR_{i,t} + \beta_4 \ln(AGGL)_{i,t} + \\ + \beta_5 OPEN_{i,t} + \beta_6 REG_{i,t} + \beta_7 CORR + \beta_8 REG \times CORR_{i,t} + \gamma_{i,t} + \varepsilon, \quad (7.1)$$

$$ln(FDI/POP)_{ij,t} = \beta_0 + \beta_1 ln(GDP/POP)_{i,t} + \beta_2 \ln(DIST)_{i,t} + \beta_3 POPGR_{i,t} + \beta_4 \ln(AGGL)_{i,t} + \\ + \beta_5 OPEN_{i,t} + \beta_6 POL + \beta_7 CORR + \beta_8 POL \times CORR_{i,t} + \gamma_{i,t} + \varepsilon, \quad (7.2)$$

$$ln(FDI/POP)_{ij,t} = \beta_0 + \beta_1 ln(GDP/POP)_{i,t} + \beta_2 \ln(DIST)_{i,t} + \beta_3 POPGR_{i,t} + \beta_4 \ln(AGGL)_{i,t} + \\ + \beta_5 OPEN_{i,t} + \beta_6 LAW + \beta_7 CORR + \beta_8 LAW \times CORR_{i,t} + \gamma_{i,t} + \varepsilon. \quad (7.3)$$

In the next section, the results of the empirical estimation procedure, which has been described in this section, will be presented and discussed. The above methodological sequence thereby will be followed, so we will start with the estimation results regarding to the most basic form of the model.

5. The institutional indicators: data and robustness

Finally, regarding the great variety of the institutional indicators and the according numerous model specifications that have been discussed it this section and that will be applied in the next Empirical section, it has already been stated in the Introduction that the robustness of the results in the previous studies has rarely been tested using several institutional environment indicators originating from various data sources. Furthermore, the number (and, presumably, the accurateness) of such indicators has been growing significantly during the last years, containing larger survey samples and covering more countries with each year. Particularly, different institutes within the World Bank Group (Enterprise Survey; Doing Business; World Governance Indicators), the IMF (Investing Across Borders), World Economic Forum (Global Competitiveness Report), the Heritage Foundation (Index of Economic Freedom), Fraser Institute (Economic Freedom of the World) and the RS Group (International Country Risk Guide) have all been collecting much institutional data for the most countries of the world, using both surveys among businesses involved in FDI and expert opinions within this field. Since the most companies, while making their investment decisions, apart from their own intelligence are also assumed to use the above mentioned investment climate estimates, it is also important to test how robust these indicators are against each other. Consequently, apart from the actual testing of the perceived (both individual and interaction) effects of institutions and corruption on FDI using the particular set of institutional indicators that we have introduced above (see Appendix V), those indicators will additionally be tested on their robustness and explanatory power compared to the other members of each institutional category. This brings us to the last hypothesis:

Hypothesis 3: *The numerous institutional environment indicators, which are mainly based on survey studies, vary significantly in their ability to capture the real institutional properties and thus have different robustness and explanatory power regarding the effects of a host country's institutional environment on FDI inflows.*

IV. Empirical results

1. Empirical models estimation results

a. Simple model of FDI determinants (control variables only)

Table 1 in Appendix IV presents the estimation results for equations (1.1) – (2.4)[19]. First, from the most simple gravity model estimations (1.1 and 1.2), it (as expected) appears that, independently of per-capita or absolute specification, the host-county market size measured by GDP has a positive significant effect on FDI flows, while the distance between the host and the source country has a negative significant effect. Second, the estimation of equations 2.1 and 2.2 indicates that GDP growth surprisingly does not have a significant effect on FDI flows, although the effects of GDP (in either form), distance and agglomeration are significant and have the expected direction. Using population growth instead of GDP growth (as has been done in the estimation of equations 2.3 and 2.4) appears not only to result in positive significant effect of the variable itself on the FDI flows, it also makes the effects of GDP (in either form), agglomeration and openness on FDI flows positively significant and the effect of distance negatively significant. Thereby, it should be stated that equation 2.3 proves to offer the best fit of our data to the theoretical assumptions regarding the significance of the perceived effects.

b. Base-run model of FDI determinants including one institutions/corruption indicator

To start with, the variations of the base-run model, constructed by sequentially, one-by-one adding of corruption and institutional indicators to the simple form (2.3) and represented by equations (3.1) – (3.4), have been estimated using OLS and the cross-sectional data described in the Methodology section and Appendixes III and V. A selection of the major results of this estimation procedure can be found in the left part of Table I on page 27, while Appendix VI can be consulted for the full range of these results. First, Table 1 of Appendix VI shows that having added different Regulatory Environment indicators to the simple equation, only when estimated by Kaufmann's Regulatory Quality indicator (RegQ), regulatory environment proves to have a (weakly) significant effect on the FDI inflows (column 3.1.1 in Table I). All the other applied measures turned out to be insignificant, in some cases even having an opposite sign to what was expected (e.g. tax). Thereby, the two indicators which were expected to directly affect FDI (ownership and investment restrictiveness), do have a negative effect on FDI inflows, but this effect (slightly) lacks statistical significance. Concerning the control variables, the effects of all of those of the FDI flows remained significant regardless of the regulatory indicator used (only except for equation 3.1.6), having the expected direction and relatively stable strength. Only having added the RegQ indicator, the effect of GDP per capita on FDI became weaker, possibly indicating that when regulatory solidness of host countries is considered, market size becomes a slightly less important (though still crucial) decisive factor in FDI location decision of MNEs.

Second, Table 2 of Appendix VI presents the results of the same procedure, only for the Political System indicators. Here, the stability of the control variables is even stronger: in all specification variations, all of those remain highly significant in explaining variation in FDI flows. As for the political variables themselves, the ones representing political and government stability and effectiveness

[19] All the regressions in this thesis have been run using White standard errors, correcting for potential heteroskedasticity.

Table I: Main estimation results, including the most robust indicators, base-run equations

Dependent variable		Log of FDI flows per capita								
Equation		(3.1.1)	(3.2.7)	(3.3.1)	(3.4.2)	(4.1)	(4.9)	(4.11)	(4.13)	(4.17)
Independent variables										
	Constant	-0.5637 (-0.156)	-2.768 (-0.858)	-1.1045 (-0.320)	0.1237 (0.035)	-4.3587 (-1.086)	-8.1336 (-1.977)*	-1.6346 (-0.441)	-2.4924 (-0.662)	-0.4159 (-0.110)
	Log(GDP/POP)	0.8951 (3.874)***	0.8784 (4.365)***	0.7610 (3.219)***	0.7971 (3.341)***	0.8530 (3.457)***	1.2719 (4.608)***	0.7543 (3.203)***	0.8606 (3.631)***	0.8223 (3.135)***
	Log(DIST)	-0.9739 (-3.003)***	-0.7483 (-2.319)**	-0.9307 (-2.869)***	-0.9680 (-3.015)***	-0.7466 (-2.187)**	-0.6812 (-1.993)**	-1.1329 (-3.429)***	-0.7591 (-2.280)**	-0.9709 (-2.961)***
	POPGR	0.3892 (3.313)***	0.4469 (3.843)***	0.3901 (3.402)***	0.3501 (3.027)***	0.4510 (3.595)***	0.3448 (2.804)***	0.5193 (4.543)***	0.4415 (3.597)***	0.3325 (2.778)***
	Log(AGGL)	0.2339 (2.127)**	0,2533 (2.424)***	0.2449 (2.241)**	0.2567 (2.405)**	0.2836 (2.485)**	0.2688 (2.431)**	0.4472 (3.727)***	0.2527 (2.404)**	0.2457 (2.009)**
	OPEN	0.0090 (3.252)***	0.0101 (3.829)***	0.0085 (3.158)***	0.0090 (3.323)***	0.0099 (3.506)***	0.0101 (3.868)***	0.0105 (3.984)***	0.0101 (3.695)***	0.0106 (3.291)***
REG	RegQ	0.4890 (1.786)*				-0.4651 (-0.936)	-0.7026 (-1.360)	-0.9923 (-2.097)**		
POL	VoiceAcc		0.6326 (3.059)***			0.5549 (1.649)	0.7436 (2.302)**	0.5261 (1.607)	0.6012 (1.997)**	
	PolTerr									0.1244 (0.507)
LAW	PR			0.0286 (2.939)***		0.0338 (1.677)*		0.0470 (2.489)**		
	InvProt						0.2142 (1.912)*			
CORR	CorrRisk							-0.2760 (-1.007)		
	CoC				0.5322 (2.266)**	-0.2939 (-0.5587)	0.0598 (0.138)		0.0483 (0.144)	0.6026 (2.268)**
	Number of observations	101	101	99	101	99	85	90	101	99
	R-squared	0.63	0.65	0.65	0.64	0.66	0.73	0.72	0.65	0.63
	F-statistic	26.50	29.17	28.46	27.34	19.41	22.71	22.35	24.75	22.15

Numbers in parentheses are t-statistics. *Significant at the 10 percent level. **Significant at the 5 percent level. ***Significant at the 1 percent level.

turned out to be insignificant and in two cases had even the opposite than expected sign, while the ones covering the host countries' democratic quality, accountability and freedom proved to have rather significant effects in the expected direction. Specifically, Kaufman's Voice and Accountability (VoiceAcc) indicator has the strongest and the most significant positive effect on FDI inflows (column 3.2.7 in Table I), while EIU's Democracy (Democ) and ICRG's Democratic Accountability (DemAcc) indicators also have strong, positive and significant effects. The Freedom House's indicators also behave in a predictable way: the strength of Civil Liberties (CivLib) has a positive[20], significant effect on the investment decision of MNEs, while this also holds for the press freedom, but the strength of its effect proves to be slightly lower. Third, Table 3 of Appendix VI contains the model estimation data for the indicators representing different measures of the Judicial System quality. Again, all the control variables prove to be stable, except for the equation 3.3.2.[21] The Heritage Foundation's Property Rights (PR) is the only strongly significant legal system indicator (column 3.3.1 in Table I), confirming the proposition that solid property rights protection tends to attract more FDI. Kaufman's Rule of Law (RoL) and WEF's Investor Protection (InvProt) indexes also prove to influence the US FDI flows, although statistically less significantly. Fourth, looking at the various Corruption indicators, Kaufman's Control of Corruption (CoC; column 3.4.2 in Table I) and Transparency International's Corruption Perception Index (CPI) have been shown to significantly negatively[22] affect FDI inflows, as can also be seen in Table 4 of Appendix VI. The other measures also show negative effects, but lack statistical significance (with ICRG's Corruption Risk being 'the best of the rest'). All the control variables again prove to be rather stable. These findings are in line with our first hypothesis and the previous studies, which found negative effects of host country corruption on FDI mostly using one of the three stated indicators as proxies. Finally, Table 4 of Appendix VI also presents the results of adding the two Economic Freedom indicators to the most basic form of the gravity equation (only including market size and distance). Apparently, the negative effect of physical distance loses its significance, while the effect of GDP per capita becomes even stronger and more significant. As for the economic freedom measures, the Heritage Foundation's Index of Economic Freedom turns out to have a positive significant effect on FDI flows, while the Fraser Institute's Economic Freedom of the World proves to have a positive, but statistically insignificant effect.

The above base-run individual-inclusion results confirm our expectations. First, including various institutional indicators into the gravity equation of foreign direct investment determinants resulted in a strong variability of those indicators regarding the statistical significance, magnitude and direction of their effects on FDI flows. Second, leaning on the significant indicators, it can be concluded that various properties of the host country institutional environment soundness have been shown to have a positive effect on FDI inflows (especially the quality of the democratic institutions, government accountability, freedom and property rights protection), while host country corruption have been shown to deter FDI (when measured by CPI or CoC). Third, the base-run results also confirm the findings of Stein and Daude (2001), who found that five out of six Kaufmann's World Governance Indicators proved to have a significant effect on FDI. In our base-run equations, having individually included the institutional variables to the simple gravity equation, Kaufmann's WGI's (especially Voice and Accountability, but also Rule of Law, Government Effectiveness and Control of Corruption) significantly affect FDI inflows in an expected way, being the strongest single source of

[20] Since the index is negatively scaled, the "-" appears in the regression table, indicating a positive effect of the variable.
[21] Where, besides, the effect of FI's Legal System indicator is unexpectedly negative and insignificant and the constant is significant (which altogether may point at a some sort of misspecification).
[22] Again, the effect of the index in positive, thus the effect of corruption is negative due to the alternative scaling.

institutional indicators in explaining FDI.[23] The included control variables thereby proved to have rather significant and stable effects on the dependent variable, regardless of the extended specification form.

In order to rule out a possible presence of sample bias[24], which may have influenced the differences in the significance of the effects of institutional indicators, the same regressions have been run for the (smallest) common sample. This procedure provided comparable results, with an only minor difference that democratic variables became slightly less significant (but their p-values remained still below the critical value)[25], ruling out the possibility of a sample bias. The regressions have also been run for the sample excluding 13 least-developed countries (LDC's – as defined by the UN (UNCTAD, 2011)), which also did not affect the initial results in a significant way.

After having looked at the institutional indicators individually, in the next sub-section their effects on FDI flows will be tested while included jointly in the gravity equation.

c. Base-run model of FDI determinants including several institutions/corruption indicators

The next step involved empirically estimating the variations of equation (4). Thereby, all the three institutional variables and the corruption variable have been jointly included into the equation, following the stepwise estimation process as described in section III.3, i.e. using different combinations of the most significant indicators from the former procedure. This estimation procedure produced the results which are partly presented in Tables 5 and 6 of Appendix VI[26], while the major results are listed in the right part of Table I on page 27.

To start with, looking at the robustness of the control variables, in line with previous research and according to our expectations, all the included variables have passed the test. However, in the joint specifications both the stability and the significance of the control variables turned out to be less strong than in the case of individual inclusion procedure. The market size (represented by GDP per capita in log-form) has proven to be the most robust one to all the changes in the model specification, having remained both strongly significant and stably in magnitude of its effect on the FDI flows. The degree of openness and the market potential (represented by the population growth) have also proven to be rather strong and stable control variables, with openness being exceptionally stable in the value of its coefficient. The physical distance and the agglomeration effect, in their turn, sometimes tended to fall slightly in significance and vary in the strength of their effect on FDI (i.e. their coefficients) when the model specification had been altered, in a mere specification even becoming insignificant.

Concerning the independent variables of our major interest, first, the main picture is that the estimation results turned out to vary significantly (even more than in the single-variable estimations), depending on which combination of indicators representing institutional variables had been

[23] Using those indicators together may have another advantage: this may deliver the most significant results, since the potential biases due to the methodological differences in constructing institutional indicators are then limited.
[24] Since there exist (minor) differences in the sets of host countries for which the data of each indicator are available.
[25] The complete results of this procedure can be provided upon request.
[26] Of course, many more combinations than listed in Appendix VI are possible. However, listing them all would require too much space. Consequently, it should be enough to state that those results are rather in line with the figures in Appendix VII. The complete set of calculation can be provided upon request.

applied.[27] Second, all the four variables have in neither specification been found to have a significant effect on FDI flows at the same time (potential multicollinearity issues will be commented upon in Section 2 of this chapter; see Table 1.7 of Appendix V for the correlation matrix). Third, regarding more particular findings, indicators representing political system institutions (i.e. Voice and Accountability, e.g. regression 4.9) and judicial system (i.e. Property Rights protection, e.g. regression 4.11) again have most often been found to significantly positively influence the FDI flows. Regulatory indicators (i.e. Regulatory Quality), on their turn, have sometimes even been found to have a significant, but unexpectedly negative effect on the FDI flows (like in regression 4.11). However, in most specifications, those remained insignificant. Looking at corruption indicators in this joint model specification, those have either an insignificant effect on FDI flows, or a positive, weakly significant effect. Their behaviour is thus comparable with the regulatory environment indicators. For example, while in both regressions 4.4 and 4.11 property rights protection has a positive, significant effect on FDI flows, control of corruption at the same time has an unexpectedly negative significant effect in regression 4.4 and regulatory quality in regression 4.11. The results of the joint inclusion estimations thus seem to be less easily interpretable than those of the individual inclusion regressions.

Those remarkable findings, along with the fact that all the institutional variables have failed to show significant effect on the FDI flows at the same time, may point at their interaction with each other or at the presence of too many independent variables in the equations. For that reason, a pair-wise analysis has also been performed, i.e. one institutional and one corruption indicator at a time have been included in the simple equation specification. Consequently, various regressions including the possible pairs of the most significant institutional (from each of the three categories) and corruption indicators have been run. This procedure has produced comparable results (shown in detail in Table 7 of Appendix VI), with Voice and Accountability and Property Rights indicators again having the most significant, positive effect on FDI flows. However, there also appeared to be some differences. Now, in neither regression both the institutional and the corruption indicators turned out to be significant at the same time, but the contra-expected significant negative effects of regulatory quality and control of corruption disappeared as well. In the most regressions, either institutional quality appeared to significantly positively influence FDI (with the effect corruption being insignificant, e.g. column 4.13 in Table I) or corruption turned out to have a negative significant effect on FDI (with the effect of institutions being insignificant, e.g. column 4.17 in Table I).[28]

Regarding those last results, some of them thus seem to confirm the empirical results of Al-Sadig (2009). In some specifications, when institutional quality variables[29] are added to the equation together with corruption, the effect of corruption on FDI suddenly becomes insignificant (like in regressions 4.12 - 4.15 in Table 7 of Appendix V), or, in some joint specifications including all four variables, even positive and weakly significant. But contrastingly, in other specifications institutions may also lose their significance when corruption is added (like in equations 4.16 - 4.19 in Table 7 of Appendix V), contradicting Al-Sadig's findings. Two general remarks are in place given these mixed results. First, it needs to be stated that results of a particular study on the effects of institutions or corruption on FDI should be looked upon with awareness of the existing explanatory and robustness

[27] Again, it is unlikely that the variability of sample sizes for each indicator is responsible for this variation. In order to test this, same sample sizes were used in several specifications, which produced strongly comparable results. The only remarkable outcome is that the PR indicator became even more significant in all of the re-estimated regressions. The complete results of this procedure can be provided upon request.

[28] The significance of those results besides appeared to be stronger for the non-LDC sample.

[29] While themselves mostly having a positive effect on FDI.

differences between the available institutional indicators. A deeper investigation into the quality of each particular institutional indicator is thus required to place the empirical results into context, a procedure which is too often left out in the most studies. Second, there are still signs of interplay between the institutional and the corruption indicators. Rather than concluding that some institutional host country properties are more important explanatory variables than corruption (or the other way around), in this thesis the analysis will be taken further by trying to investigate those perceived potential interaction effects in the next sub-section.

Summing up the base-run results, the robustness of the most individual institutional indicators has appeared to be poor in absolute terms. Having applied different model specifications (one institutional variable at a time, in pairs with a corruption variable or including all the four variables), it can be concluded that none has proven to be universally significant, regardless of the applied specification. However, a few indicators may be assumed to having withstood the test satisfactory. For the legal system variable, protection of Property Rights (PR; measured by the HF's index) proved to have a significant positive effect on FDI in the most model specifications with varying amounts and sorts of other institutional variables included. For the political system variable, several (especially democracy-related) variables withstood the significance test while included individually, but Kaufman's Voice and Accountability (VoiceAcc) indicator (being part of the WGI) turned out to be the most robust in the joint-inclusion regressions. While the coefficient before Kaufmann's Regulatory Quality (RegQ) index had proven to be slightly significant and positive when included individually, it turned out to have an opposite effect (with varying significance) when jointly included. The same holds for the most-used corruption indicators (Control of Corruption and Corruption Perception Index), which turned out have a significant negative effect on FDI only in the singe- and some two-variables specifications (when e.g. the Political Terror Scale or DB's Contract Enforcement indicators had been included). Thus, leaning on those significant indicators in the base-run model variations, we found some empirical evidence of positive effects of the sound (political and legal) host country institutions on FDI inflows and of negative effects of corruption. Thereby, the observed patterns of variability of the empirical results, while using different specifications and indicators, are assumed to be attributed not only to the differences in the explanatory power of those indicators, but also to the complex interaction effects between institutions and corruptions, at which we will now look.

d. Extended model of FDI determinants using institutions – corruption interaction terms

In this sub-section, various potential interaction effects between corruption and institutions will be empirically tested, estimating several variations of equations (6.1) – (6.3) while using interaction terms. Tables 1 and 2 of Appendix VII present the full range of results, the main ones being listed in the left part of Table II on page 32. What stands out first, is that several of the main control variables have lost their high significance in the most variants of this type of specification[30]. Only population growth has a strongly significant positive effect on FDI flows regardless of the equation type. GDP per capita also remains to significantly positively affect the FDI flows in almost all the estimated equations, although its significance has mainly become considerably weaker than in the specifications without interaction terms. Physical distance and agglomeration effect have become insignificant in the most of the performed regressions.

[30] Which is in accordance with the findings of Rodrik et al. (2002) and Garibaldi et al. (1999), who concluded that institutions are thus more important.

Table II: Main estimation results, including the most robust indicators, extended form equations

Dependent variable		Log of FDI flows per capita								
Equation	Independent variables	(6.1.2)	(6.1.4)	(6.2.2)	(6.3.4)	(7.1.1)	(7.1.6)	(7.2.5)	(7.2.6)	(7.3.6)
	Constant	-3.7069 (-0.907)	-10.0102 (-2.480)	-14.258 (-2.708)***	-6.3443 (-1.423)	-0.4070 (-0.109)	-6.6166 (-1.698)*	-3.4993 (-0.902)	-3.7008 (-0.977)	-3.3233 (-0.769)
	Log(GDP/POP)	0.6499 (1.925)*	1.5043 (3.584)***	1.9154 (4.283)***	1.1710 (2.971)***	0.5207 (1.485)	1.3474 (3.393)***	0.8433 (2.318)**	0.7562 (2.232)**	1.1267 (2.927)***
	Log(DIST)	-0.5674 (-1.637)	-0.6191 (-1.733)*	-0.6718 (-1.748)*	-0.8001 (-1.949)*	-0.7079 (-2.063)**	-0.7709 (-2.093)**	-0.7824 (-2.515)**	-0.5167 (-1.454)	-1.0177 (-2.540)**
	POPGR	0.3920 (3.085)***	0.2167 (2.190)**	0.3252 (2.740)***	0.2939 (3.157)***	0.3229 (3.128)***	0.1185 (1.592)	0.5171 (4.314)***	0.4101 (3.498)***	0.2414 (3.091)***
	Log(AGGL)	0.4275 (1.825)*	0.1147 (0.418)	-0.0035 (-0.013)	0.2850 (1.080)	0.4742 (2.271)**	0.1661 (0.658)	0.3326 (1.533)	0.3472 (1.647)	0.2406 (1.046)
	OPEN	0.0046 (1.338)	0.0008 (0.2705)	0.0072 (2.642)***	0.0089 (3.157)***	0.0037 (1.338)	-0.0002 (-0.087)	0.0100 (3.371)***	0.0073 (2.646)***	0.0072 (2.677)***
REG	RegQ	0.1277 (0.247)			-0.8479 (-1.469)	0.4226 (0.721)				
	FDIReg		0.4320 (1.838)*	0.4853 (1.414)			0.4651 (2.145)**			
POL	VoiceAcc	0.3257 (0.917)	0.3030 (0.844)		0.6157 (2.157)**				0.5715 (1.745)*	
	Democ			0.0920 (0.649)						
	DemAcc							0.2662 (2.125)**		
LAW	PR	0.0247 (1.179)	0.0205 (1.193)	0.0282 (1.449)						
	InvProt				0.4186 (3.478)***					0.3677 (2.903)***
CORR	CoC	-0.6076 (-1.056)	-4.171 (-8.063)***	-2.4529 (-3.356)***	1.2767 (1.338)	-0.0806 (-1.163)	-3.715 (-7.085)***	-1.2811 (-1.960)*	-0.1780 (-0.566)	1.1686 (1.519)
INTERACT										
	RegQ*CoC	0.1834 (0.875)				0.2371 (1.236)				
	FDIReg*CoC		0.7273 (6.038)***				0.7797 (6.085)***			
	Democ*CoC			0.1941 (2.280)**						
	InvProt*CoC				-0.1947 (-1.963)*					-0.1890 (-1.799)*
	DemAcc*CoC							0.2728 (2.168)**		
	VoiceAcc*CoC								0.2633 (1.314)	
	Number of observations	99	86	84	85	101	87	91	101	85
	R-squared	0.66	0.75	0.72	0.73	0.64	0.73	0.69	0.65	0.71
	F-statistic	16.87	22.42	18.35	19.93	20.49	26.89	22.66	21.44	23.20

Numbers in parentheses are t-statistics. *Significant at the 10 percent level. **Significant at the 5 percent level. ***Significant at the 1 percent level.

As for the institutional variables, first the general picture. Per category, two different indicators which proved to be the most meaningful in the previous estimation rounds, have been used in the regression variations. The Regulatory Quality (RegQ) and Property Rights (PR) indicators turned out to lack statistical significance in each of the regressions, while FDI Regulation (FDIReg), Voice and Accountability (VoiceAcc) and Investor Protection (InvProt) did prove to have positive effects on FDI in several specifications. Referring to the institutions-corruption interaction terms, those appear to be significant in the most of the regressions. Because the results are less straight-forward in this estimation round, rather than further generally describing the determined effects of institutions, corruption and their interactions on FDI, several most remarkable regressions will now be discussed in more detail.

First, having added interaction terms to the regression 4.1 (which included the most individually significant indicators altogether), resulting in the regression 6.1.2, both the most control variables and the PR indicator have lost their significance (with the interaction term being insignificant as well). Using another regulatory indicator (FDIReg) instead of RegQ, as in the regressions 6.1.4 and 6.2.2, provides more significant results (to which we will return later). Second, in regressions 6.3.3 and 6.3.4, irrespective of whether corruption is measured by CoC or by CPI, the Voice and Accountability and Investor Protection indicators have positive and significant coefficients, while the corruption indicators have positive insignificant coefficients, thus pointing at a negative insignificant effect on FDI. The effect of Regulatory Quality is also negative and insignificant. Most importantly, the interaction term between corruption and Investor Protection is negative and significant, implying that in countries with lower investor protection, higher corruption index positively affects FDI, so higher corruption can be concluded to negatively influence FDI inflows in those countries. Accordingly, those regression results indicate that the soundness of political and legal institutional environments have positive effects on the ability to attract FDI, while higher corruption has a re-enforcing negative effect through its interaction with legal institutions. The last is also logically plausible, since in countries where investment is weakly protected, the attitude towards investors is expected to be bad. Accordingly, the risk on non-compliance with corrupt agreements by the authorities can be also expected to be high, so even more damage can occur when MNE is trying to avoid poor investment protection through bribes. Although this finding does not correspond with our second hypothesis, it does not need to reject it, instead potentially pointing at an even more complex relationship: different sub-parts of the legal system seem to interact differently with corruption, which by itself is not a uniform phenomenon as well. Consequently, attitudes towards investors, level on which corruption takes place, etc., can influence whether the opportunity of corruption can be seized to compensate for those weak legal institutions or whether this opportunity is even less available.

Third, in the most other regressions (including the FDI Regulation (FDIReg) and Democracy (Democ) indicators), the interaction terms tend to have the opposite effect and are accompanied by the positive and significant direct effects of corruption, implying even more positive effects of corruption in weaker institutional environments and again pointing at the non-linearities of the corruption effects on FDI. The interactions of corruption indicators with Voice and Accountability and Property Rights, however, are not significant, along with the other variables in their regressions. Finally, regressions 6.1.3 and 6.1.4, after adding the interaction term, the effect of corruption becomes positive and strongly significant, while it has also a positive significant effect through its interaction with FDI regulation. Favourability of FDI Regulatory conditions itself has a positive significant effect

when WGI's corruption measure is applied and a negative significant effect when CPI measure is applied. Since in other equations no such consequence of the change of corruption measure can be observed, it is likely that these equations are misspecified (probably due to some reciprocity between the institutional indicators[31]).

The applied measures of the regulatory environment thus seem to influences strongly the results (probably by interfering with other variables), even when themselves lacking significance. We have also seen previously that those have proven to be not as important as the political and judicial variables in explaining FDI. Furthermore, it appeared in the previous section that including not all of the institutional variables at the same time could prove more meaningful and produce more reliable and easier interpretable results. For those reasons, we have finally run the pair-wise regressions for the equations 7.1 – 7.3 (comparably with what we have done at the end of the last sub-section), only including a particular institutional indicator, a corruption indicator and their interaction term, in order to see whether the results change. Since CPI and CoC proved robust to each-other in almost all the previous pair-wise regressions, we will only use CoC and the interaction term with CoC. The complete results of this procedure are listed in Tables 3 – 5 of Appendix VII, while the most relevant are summarized in the right part of Table II on page 32. Here, control variables are again less significant and less stable than in the individual equations, but slightly more than for the estimation results of equations 6.1 – 6.3. The effects of institutional and corruption variables and their interaction terms are now slightly less significant, which could point out the need to include more institutional properties into the equation, indicating a possible existence of complex interactions between those. Nevertheless, the conclusions which we can draw from this execution appear to be very similar to those from the joint inclusion plus interaction terms.

Some particular specifications provided remarkable results and will now be discussed in more detail. First, considering the fact that having removed two institutional variables from the regression 6.1.2, i.e. having run the regression 7.1.1, the picture does not change much, we can conclude that the multicollinearity between RegQ and CoC (correlation coefficient between the two being 0.91) probably has been causing the lack of individual significance in both specifications and not the presence of other indicators. This seems to be confirmed by the regression 7.1.6, which includes FDIReg instead and provides comparable results with the previous regression 6.1.4. Second, looking at the regressions 7.1.6 and 6.1.4 themselves, the degree of openness is insignificant when FDI Regulation is present in the regression, which could indicate that it is a more important measure of actual openness of a country to foreign investment[32]. FDI Regulation has a positive, significant coefficient, while corruption (measured by CoC) here both directly and indirectly (through its interaction with FDI restrictiveness) affects FDI in a positive, statistically significant way. Thus, leaning on this specification, we can claim that in the host countries where FDI regulation is strict and unfavourable, greater opportunity to pay bribes in order to bypass this strict regulation can compensate for that, just as we hypothesized earlier.[33]

[31] Although, the correlation coefficients between FDIReg and CPI (0.48) and between FDIReg and WGI (0.46) do not differ substantially and are not very high.

[32] It could also be the case that FDI regulation correlates too much with openness, resulting in multicollinearity (openness becomes significant when another regulatory measures are used instead). However, this does not seem to be the case with correlation factor of 0.39.

[33] However, including the CPI corruption measure instead, turns the effect of FDI Regulation into negative significant (just as in the similar specification 6.1.4 without interaction terms); although the signs and the significance of the corruption and

Third, in regression 7.2.5, Democratic Accountability (DemAcc) proves to have a positive significant effect on FDI, while corruption has both a direct positive effect and an indirect positive effect on FDI through its interaction with Democratic Accountability.[34] In the same equation specification, only without the interaction term inclusion, corruption has a negative insignificant effect on FDI, so this regression offers evidence for the importance of interaction of corruption with political institutions, supporting our second hypothesis (stronger than the regression 7.1.6, while being more stable). In less democratic and less transparent environments, corruption opportunity can be seized more easily with less risk, resulting in higher investment than in the host environments with the same corruption opportunity, but a higher degree of democracy. Contrasting results can be seen in regression 7.2.2 (Table 4 of Appendix VII): surprisingly, Political Stability (PolStab) has a negative effect on FDI when added with corruption (which also has a negative effect), irrespective of inclusion of the interaction term. This points at no evidence of an interaction effect in this case. Comparing the positive effect of Democratic Accountability in regression 7.2.5 with the negative effect of Political Stability in regression 7.2.2, several things may be going on: whether the DemAcc index is more accurate – which seems to be the case considering the results of using those indicators in previous model specifications – or democracy is indeed positively affecting FDI, while political stability does the opposite (which sounds contradictory, considering the risk awareness of MNEs and the (survey) evidence of the importance of stability (UNCTAD, 2011; Ahlquist, 2006)).

Finally, the results of regression 7.3.6 are strongly comparable with those of the regression 6.3.4 in the previous estimation round. It is statistically the strongest regression and provides us with more evidence of the interplay between corruption and institutions, but now showing a re-enforcing effect. It indicates that investor protection is an important positive FDI determinant, while corruption has an insignificant negative effect. The interaction effect with corruption is negative, thus when investor protection is low, high corruption index has a positive effect on FDI inflows, so higher corruption has a negative effect on FDI inflows in the host countries where investor protection is weak. As we have already argued, this is logically plausible, since the risk on non-compliance with corrupts agreement exists and even more damage occurs when MNE is trying to avoid poor protection. Without the interaction term, corruption effect is insignificant and the effect of investor protection is smaller, so it can be concluded that corruption re-enforces the effect of weak investment protection.

Summing up the extended model results, some evidence of the existence of interaction effects between corruption and the regulatory, political and legal institutions has been found. The effect of corruption on FDI inflows in host countries with weaker (legal) investor protection proves to be significant and negative in two model specifications. Even more significant (although less robust) results have been found in support of the hypothesized presence of a positive significant effect of corruption on FDI in both democratically and regulatory weaker environments in three other equation specifications. Obviously, just as we expected, the relationship between corruption, institutions and foreign direct investment is rather more complex than the most studies have been assuming. These findings should have consequences for the way the models, which try to investigate

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interaction indicators do not change, the regression is still not completely robust and has to be treated with caution. It can be the case that WEF-indicators are not that reliable to be used in regressions, possibly causing misspecification: often when included, interaction terms and the constant terms become significant.

[34] The interaction term is positive, thus in countries with lower democratic accountability levels, higher corruption index negatively affects FDI, so corruption positively affects FDI.

the effects of institutions and corruption on foreign direct investment, are specified. Furthermore, the variability of the according results again proved to be great, depending on the specification type, the number and the type of the included indicators. However, now the regulatory indicator FDI Regulation (WEF), political indicators Democratic Accountability (ICRG) and Voice and Accountability (WGI) and juridical indicator Investor Protection (DB) have proven to offer the best fit to the data and the applied model specifications, producing the strongest and the most significant results.

2. Model testing: multicollinearity, conditionality, stability, robustness and split-sample approach

In this section, some tests will be performed on the regressions that have been run in the previous section. The results of all the testing procedures that will be described here, can be found in Tables 2 – 4 of Appendix VIII for the most relevant regressions.

First, a broad multicollinearity analysis involving the institutional indicators has been performed. The according correlation matrix can be found in Table 1.7 of Appendix V. A number of remarkable findings are worth stating here. Especially different indicators within the democracy and corruption categories have rather high correlation coefficients between each other. Further, all the corruption indicators correlate strongly with the Property Rights protection, Rule of Law, Government Effectiveness and Regulatory Quality. The WGI sub-indexes (except for Political Stability) have rather high correlation coefficients between each other, potentially posing a risk of multicollinearity when included together in an equation as explanatory variables. Consequently, as we have already seen, inability to find significance of the multiply included individual institutional indicators in several base-run and extended-form regressions could have been influenced by that possible presence of multicollinearity[35]. For the most robust equations including multiple institutional indicators and a cross-term (6.1.4; 6.3.4), the correlation coefficients between some indicators are high (while others do not appear to be extraordinarily correlated), so there may be assumed some presence of multicollinearity as well. As for the most robust equations with one corruption and one institutional indicators plus a cross-term (7.1.6; 7.2.5; 7.3.6), having dropped some independent variables, the included institutional indicators do not have high correlation coefficients between each other. As we have seen, the results of these both types of regressions have proven to be comparable. Accordingly, potential multicollinearity does not seem to pose a considerable risk to our main conclusions on the interaction effects of institutions and corruption on FDI.

Second, conditional specifications have been applied for the equations including only one corruption indicator (either CPI or CoC, equations 3.4.1 – 3.4.2), in order to control whether corruption has a different effect on FDI inflows for different levels of institutional soundness, without including those institutional indicators or the cross-terms (as we have done in the previous sub-section). The results are partly presented in Table 1 of Appendix VIII. Strikingly, when the conditions of below-average level of various institutional indicators had been added, the previously negative, significant effects of corruption (represented by CPI and CoC) on FDI inflows now became positive and insignificant. For the condition implying the lowest-quartile institutional scores, those effects became even more positive and less insignificant. However, it should be stated that the number of observations in these conditional estimations became rather small, presumably being accountable for the lack of

[35] However, including only the indicators which do not have high correlation coefficients with each other in the estimated equations with multiple institutional indicators, did not seem to affect the results significantly in the most cases.

significance of the results and making it difficult to draw reliable conclusions from this execution. Despite that, in combination with our previous results of using interaction terms, these results indicate that we have a certain degree of empirical evidence that for different levels of institutional strength, the effect of corruption on FDI is different and furthermore it can even be reasonably assumed that in weaker institutional environments corruption can have a positive effect on the inflows of foreign investment. For stronger empirical support of these findings, using larger samples (e.g. by means of panel data) is necessary.

Third, the same procedure has been performed for the equations from the last two rounds, which included interaction terms. For example, in the equations 6.3.4 and 7.3.6, after only having excluded the interaction terms, the effect of corruption was still insignificant, but after having restricted the sample to only institutionally weak host countries (InvProt < 5), the corruption effect became strongly negative (while the effect of investor protection itself remained positive and significant in all those specification). The results of this sub-sample procedure confirm the robustness of the investigated results and the according conclusions we drew from the analysis of the cross-terms.

Fourth, having re-estimated all the equations from the last two rounds for the common sample, only in case of regression (7.3.1) evidence of sample bias has been found (where all the variables became very insignificant). The significance, strength and the direction of the institutional variables and their interactions do not change substantially in all the other equations. For the equations of our main interest (6.3.4 and 7.3.6), institutions, corruption and the interaction term all become even more significant. However it should be stated that agglomeration becomes more insignificant, while GDP/POP wins in significance.

Fifth, following Dabla-Norris (2010), in order to control for a possibility of censored data (due to the possible non-randomness of the zero and negative FDI flows data), a Tobit-model instead of OLS have been applied to some of the most important results as a robustness test of the estimation technique, without showing any substantially different findings.

3. Discussion of the applied data: possible drawbacks

A number of drawbacks regarding the used variables and the applied data could be thought of. First, despite that using the FDI flows as dependent variable (like we have done) is common in the empirical literature on FDI determinants, it is also subject to some potential problems. Due to the fact that FDI flows can be negative or zero, using the log-specification can pose biases since such data points are automatically dropped from the sample, potentially biasing the results (Dabla-Norris[36], 2010; Al-Sadig, 2009). Besides, FDI flows in the considered period (2005-2009) may have been affected by the economic crisis and the according uncertainty more than by the real host country fundamentals, potentially posing an additional bias to the results. Furthermore, FDI flows may have a high degree of yearly variability (which we tried to account for by using five-year averages), while institutions tend to be rather persistent, which may pose a certain kind of randomness bias. Using FDI stocks as a dependent variable, though having its own drawbacks, could therefore be considered as an alternative dependent variable (like in Nunnenkamp and Spatz, 2004). Another possible limitation is the use of aggregate FDI data: MNEs investing in the same host country, but which are active in different industries may have different degrees of sensitivity to different corruption levels

[36] Dabla-Norris (2010) tries to tackle this potential problem by adopting a semi-log transformation: $x = sign(x)log(1 + |x|)$.

(Al-Sadig, 2009). Furthermore, this may also hold for firm-level characteristics of MNEs, like the level of technology (Du, 2008) or profitability. Applying sectorally disaggregated or firm-level data could control for those potential biases; the poor availability of such, however, is still an issue.

Applied institutional indicators could hide biases as well, the existence of which is widely recognised in the literature. Since the institutional quality indicators are mainly based on surveys among businesses and local experts in different countries, differences in their perceptions on the various aspects of institutional quality may cause biases (Javorcik and Wei, 2009). One's interpretation of how fierce corruption is in a certain country may not only depend on one's cultural bias, but also on the type of corruption (high- or low-level) in that country. Further, the selection and weighting procedure of the various composites of institutional indexes are often subject to a certain extent of subjectivity, randomness and assuming some substitutability among them (Benassy, 2007). In order to reduce such a risk, we have used the least-possibly aggregated indicators in this thesis. Besides, if those indicators solely represent the perceptions of companies regarding the institutional climate in the potential host countries and since the rational actors are assumed to act according to their perceptions, this could pose a risk of endogeneity on the reliability of the results (Henisz, 2000). However, it has to be stated that the data quality (for both the objective and the subjective indicators) has significantly improved.

Regarding the dataset as a whole, a relatively small number of observations and the according limited number of degrees of freedom in the applied dataset, could have posed a bias to the obtained results. Further testing of the above model specifications using a panel data set (which can be constructed using the collected data for 2000-2009) could investigate that in future research.

V. Conclusion

Global foreign direct investment flows, not the least due to their large (and growing) quantitative magnitude and their qualitative effects in the host countries, have been considered as an important phenomenon within the field of International Economics and have accordingly deserved a considerable amount of interest within both the policy-making and the research environments during the last decades. Thereby, the major focus has been on the FDI determinants and to the increasing extent on the institutional ones: the soundness of various regulatory, political and legal host country institutions have generally been found to attract FDI, while higher corruption has proven to deter it. However, none of the previous studies on the institutional determinants of FDI had investigated the perceived interaction effects between host country's corruption and its various institutional properties while assessing their effects on FDI inflows, i.e. the possibility that corruption has a different effect on FDI in countries with different levels of institutional sophistication. The main purpose of this study was to fill this gap by empirically investigating such hypothesised effects. Additionally, the explanatory power and the (mutual) robustness of an extensive set of recent institutional environment indicators has been empirically assessed. The effect of the host country institutional environment and corruption on the foreign direct investment decision of multinational firms has been re-investigated, applying those indicators. Accordingly, using the theoretical and empirical insights from several theoretical models of FDI location determinants and numerous empirical studies on the effects of various conventional and institutional variables on FDI, an empirical gravity-type base-run model has been constructed. Its various forms, containing a set of control variables and extended by various combinations of institutional indicators (divided into regulatory, political, judicial and corruption categories), have been empirically estimated in several rounds, applying OLS estimation technique. Thereby, an extensive cross-sectional dataset has been used, containing data on the average bilateral FDI flows of US MNEs in 171 countries for the period 2005-2009, along with common gravity variables and a large variety of institutional indicators. Trying to avoid random weighting of indicators and the arbitrarily choosing of particular ones, instead a careful robustness procedure has been performed to identify the most significant indicators. Having done that, the base-run model variations have been extended by various interaction terms between the corruption and the institutional indicators from the other three categories in order to test a number of hypothesised relationships.

The base-run results indicate that the robustness of the most individual institutional indicators has appeared to be poor. Having applied different model specifications (one institutional variable at a time, in pairs with a corruption variable or including all the four variables jointly), it can be concluded that none has proven to be universally significant, regardless of the applied specification. Nevertheless, a few indicators may be assumed to having withstood the test satisfactory: Property Rights indicator for the legal system variable and the most democracy-related indicators and Voice and Accountability for the political system. Having individually been included, Kaufmann's WGI's (especially Voice and Accountability, but also Rule of Law, Government Effectiveness and Control of Corruption) significantly affect FDI inflows in an expected way, being the strongest single source of institutional indicators in explaining FDI (confirming the findings of Stein and Daude, 2001). Relying on those significant indicators in the base-run model variations, some empirical evidence of positive effects of the sound (political and legal) host country institutions and of negative effects of corruption on FDI inflows has been found. In regressions with multiple institutional variables,

regulatory environment and corruption indicators, however, all lost their significant effects on FDI flows. In the most base-run model variations, all the control variables (market size, physical distance, market potential, agglomeration effect and the degree of openness) proved to have the expected, significant and stable effects on the dependent variable.

Looking at the results of the extended model estimation procedure, again a large degree of the variability of the according results could be observed, depending on the specification type, the number, the type and the combination of the included institutional indicators. However, some evidence of the existence of interaction effects between corruption and the regulatory, political and legal institutions has been found. The effect of corruption on FDI inflows in host countries with weaker (legal) investor protection has proven to be significant and negative in certain model specifications, possibly pointing at a re-enforcing deterring effect of corruption on FDI due to a higher risk of non-compliance with corrupt agreements in countries with poor attitude to foreign investors. In several other specifications, results have been found in support of the presence of positive significant effects of corruption on FDI in both democratically (measured by democratic accountability) and regulatory (measured by FDI regulation) weaker environments. These results seem to support the presence of the hypothesized FDI-enhancing effects of a lower chance of being caught for involving in corruption due to non-transparency and of the greater opportunity to by-pass unfavourable regulation by conducting irregular payments. Sub-sample analysis supports these findings. Looking at the particular most robust institutional indicators in the extended model estimations, the indicator FDI Regulation for the regulatory environment variable, Democratic Accountability and Voice and Accountability indicators for the political system variable and Investor Protection indicator for the legal system variable have proven to offer the best fit to the data and the applied model specifications, producing the strongest and the most significant results.

Summarizing, we have found some evidence for all our three hypotheses. Regarding hypothesis 1, the most host country institutional environment characteristics indeed prove to have a significant effect on FDI: depending on the applied measure and model specification, fair legal system, stable and democratic political system and low levels of corruption mostly prove to enhance foreign multinational activity in a recipient country. As for the effect on the favourable regulatory environment, less convincing evidence of its significance on FDI inflows has been found (except for FDI regulation in the model with interaction effects), confirming the findings of Ahlquist (2006) that foreign direct investors, unlike portfolio investors, have longer horizons and thus are more interested in political and economic institutions, rather than general and fiscal government policies. Concerning hypothesis 2, in some specifications evidence has been found for the positive effects of the existence of corruption opportunity in host countries with poor democratic and regulatory institutions. While the effect of poor legal environment first seems opposite to what we expected, it in fact seems to point at an even more complex relationship between corruption, institutions and FDI. The strong evidence which has been obtained for hypothesis 3 explains the lack of robustness of the evidence for the first two hypotheses: looking at the robustness of the various applied institutional indicators, it became clear after all the estimation rounds that the most are not uniform, mutually robust and qualitative enough to be able to explain the effect of institutions on FDI and the interaction effects between corruption and institutions. Further research is required, possibly using panel data for more observations and closer investigating the methodology of the applied indicators. Potential biases of results due to variability of institutional indicators cannot be ignored in future research as well.

Furthermore, despite the presence of some evidence that particular interaction effects exist, the robustness of each of those results has not proven to be very large. What is obvious from the behaviour of the most regression specifications, is that the relationship between corruption, institutions and foreign direct investment is rather more complex than previous academic literature does suggest. In particular, we have clearly shown that the interaction effects between corruption and institutions while affecting FDI inflows are indeed far more complex than the most studies have been assuming. These findings should have consequences for the way the models, which try to investigate the effects of institutions and corruption on foreign direct investment, are specified. Instead of drawing conclusions on the linear effects of institutions and corruption on FDI, future research should take into account such effects. Further empirical testing of the interaction effects is needed, possibly using other types of data (panel; stocks instead of flows; industrially disaggregated; firm-level, etc.) on FDI activity and taking into account industry- or firm-specific characteristics[37]. Besides, there is need to incorporate these insights into the theoretical framework of FDI location determinants.

To conclude with, apart from the implications for future research, the results of this thesis also have several policy implications. Having seen that corruption can have a mitigating effect on FDI inflows in institutionally weak host countries, makes the persistence of corruption even a more serious problem: if it can be used by MNEs to compensate for regulatory inefficiencies or be conducted with a lower risk of being caught, it seems even more difficult to be eliminated. Since the commitment to tackle it is often lacking in host countries with persistent corruption tradition, stricter home-country regulation is needed, which e.g. criminalizes both conducting corruption and the lack of effort to prevent the business from (even indirectly) involving in it. The newest UK anti-bribery law sets the new standard, extending criminalized corruption to the use of services of the local agents and suppliers (The Economist, 2011). As foreign direct investment increasingly originates from the developing countries which themselves have relatively high levels of corruption (e.g. “South-to-South” FDI of Chinese MNEs in the extractive industries in various African countries – World Bank, 2010), expanding the global anti-corruption treaties and regulation seems inevitable. As for the host countries, it becomes even more obvious that broad institutional development is essential not only to be able to attract more (and more qualitative) FDI: it can also be a way to effectively combat the persistent corruption.

[37] For that, FDI data quality and availability has to increase further in the next years.

VI. **Literature**

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Appendix I: List of Countries

Albania
Algeria
Angola
Antigua and Barbuda
Argentina
Armenia
Aruba
Australia
Austria
Azerbaijan
Bahamas
Bahrain
Bangladesh
Barbados
Belarus
Belgium
Belize
Benin
Bermuda
Bhutan
Bolivia
Bosnia and Herzegovina
Botswana
Brazil
Brunei
Bulgaria
Burkina Faso
Burundi
Cambodia
Cameroon
Canada
Central African Republic
Chad
Chile
China
Colombia
Congo, Dem. Rep.
Congo, Rep.
Costa Rica
Cote D'Ivoire
Croatia
Cuba
Cyprus
Czech Republic
Denmark
Djibouti
Dominica
DominicanRepublic
Ecuador
Egypt
El Salvador
Equatorial Guinea
Eritrea
Estonia
Ethiopia
Fiji
Finland
France
Gabon
Georgia
Germany
Ghana
Gibraltar
Greece
Grenada
Guatemala
Guinea
Guyana
Haiti
Honduras
Hong Kong
Hungary
Iceland
India
Indonesia
Iran
Iraq
Ireland
Israel
Italy
Jamaica
Japan
Jordan
Kazakhstan
Kenya
Korea, Republic of
Kuwait
Kyrgyzstan
Latvia
Lebanon
Liberia
Libya
Lithuania
Luxembourg
Macau
Madagascar
Malawi
Malaysia
Maldives
Mali
Malta
Marshall Islands
Mauritania
Mauritius
Mexico
Moldova
Monaco
Montenegro
Morocco
Mozambique
Nepal
Netherlands
Netherlands Antilles
New Zealand
Nicaragua
Niger
Nigeria
Norway
Pakistan
Panama
Papua New Guinea
Paraguay
Peru
Philippines
Poland
Portugal
Qatar
Romania
Russia
Rwanda
Samoa
Saudi Arabia
Senegal
Serbia
Sierra Leone
Singapore
Slovakia
Slovenia
Somalia
South Africa
Spain
Sri Lanka
St Lucia
St. Vincent and the Grenadines
Sudan
Suriname
Swaziland
Sweden
Switzerland
Syria
Taiwan
Tanzania
Thailand
Togo
Trinidad and Tobago
Tunisia
Turkey
Turkmenistan
Uganda
Ukraine
United Arab Emirates
United Kingdom
Unighted States
Uruguay
Uzbekistan
Vanuatu
Venezuela
Vietnam
Yemen
Zambia
Zimbabwe

Appendix II: Data collection procedure

First, after having performed the literature study, a broad list of possible FDI indicators and its determinants, which appeared in previous papers, has been made. Second, these potential determinants have been categorized in twenty different groups, the so-called *broad independent variables.* Per variable it appeared that various studies had used both different proxies and different data sources for those proxies and that recent, previously unused (survey) indicators which fell under the independent variables, were available. Accordingly, a list of possible *indicators* for each of the twenty categories has been made, supplemented with a short description, a list of studies in which those had been used and the links to data sources from which the according data could be retrieved. This resulted in the document *Outline Empirical Part.docx*[38]. Third, a selection of the indicators has been made on the basis of their appearance in the literature and the significance of the proven effect of those on FDI, the availability for retrieval from databanks, the degree of coverage of countries and the author's own judgement.

Fourth, two different data files have been constructed. The first one (*Data FDI.xlsx*) concerns the main dependent variable (FDI) and primarily contains data on bilateral FDI stocks and flows for the years 1999-2009 for the source country the US. The according data have been retrieved from two databases of FDI statistics which the Bureau of Economic Research (BEA – a part of the US Department of Commerce), collects and publishes: (a) the Balance of Payments Statistics and Direct Investment Position Database and (b) the Financial and Operating data of the Foreign Affiliates of US Parent Companies. As concerns the latter, it contains detailed supplementary information on FDI-related economic activities of either all or only majority-owned US affiliates in either all or only the manufacturing sector: assets, employment, employee compensation, sales, capital expenditure, value added, net property, plant and equipment and local R&D expenditure. As it appears from the author's research, compared to the other data sources (UNCTAD, World Bank, IMF, CEPII, Eurostat, various national Central Banks and OECD), BEA provides the most comprehensive set of sectorally-disaggregated FDI indicators for more than 180 countries and territories since 1960. To be able to (if it appears necessary) test for the robustness of the BEA data and the applicability of the results to the European countries, the BEA data have been supplemented by the UK Office of National Statistics and the OECD data on the yearly bilateral FDI stocks and flows for the same host countries and time period for the following source countries: the US, the UK, Germany, the Netherlands and Italy.

The second data file (*Data FDI Determinants.xlsx*) contains various indicators data for each of the twenty independent variables, where each tab represents an independent variable. The according data has been collected for the years 1999-2009 and again two five-year averages have been calculated. Thereby, for different types of independent variables, the according types of data sources have been used. For the conventional FDI determinant indicators (agglomeration effect, market size, market potential, distance, labour costs, labour productivity, infrastructure, openness to trade, macroeconomic stability, tax), mainly the conventional statistical data sources (such as WDI, IMF, UNCTAD, OECD, ILO, Eurostat, CEPII) have been used. For the regulatory environment indicators (markets and economy, general government, FDI regulation, business environment) a mixture of actual data, survey data and expert opinion data has been collected. For the institutional

[38] All the relevant additional documents have either been enclosed or can be provided digitally upon request.

environment data, mainly the survey data (often combined with expert opinion data) has been used from the sources such as The World Bank Group (WGI, ES), IMF (IAB), World Economic Forum, International Country Risk Guide, The Heritage Foundation, Freedom House, Fraser Institute and Polity IV. As for these survey and expert data indicators, the extensive overview of those (including each index' composition and methodology description) can be found in the according *Survey Data.docx* file.

The fifth step in the data collection process has been the selection of appropriate indicators which proved to be the most complete, were judged to be most reliable and were assumed to serve the empirical analysis the most. After this selection procedure, a uniformisation procedure has been performed for the selected indicators, since each data source provided data for its own selection of countries. For a considerable amount of indicators the data were available only for several years. Furthermore, for some indicators (such as FDI outflows, inflation, GDP growth, etc.) high yearly fluctuations have been observed. To correct for the above and so to avoid a certain degree of incompleteness and randomness in the empirical analysis, only the two five-year averages have been used (either 1999-2003 and 2004-2008, or 2000-2004 and 2005-2009, depending on data availability). This procedure has resulted in the research sample containing 171 countries, 72 independent indicators and 243 dependent indicators. Although (by far) not all of the indicators will be used to estimate the empirical model, the resulted comprehensive dataset allows one to make a fast and accurate selection of the needed appropriate sub-variables from an extensive list of indicators and can besides be used for the purpose of future research. Finally, the according file (*Dataset.xlsx*) has been converted into the EViews format (*Dataset.wf1*).

As already stated above, specific indicators from a wide range of data have been selected to test the empirical model. In Appendix III, the dependent variable and the twenty potential location-specific FDI determinant variables, along with the selected or suggested indicators, will be described in detail. In different rounds of the model estimation procedure, different indicators will be applied, so it is important to first look at how those are defined and measured.

Appendix III: General model specification: variables, indicators and data sources overview

FDI: As we have seen in the Literature section, FDI activity can either be captured by the bilateral FDI flows data or the bilateral FDI stocks data in a particular period. In the base-run, the yearly average bilateral FDI outflows from the US MNEs will be used, divided by the population of the recipient country. In the extended model, FDI stocks per capita will be taken. The according data were retrieved from the BEA's Balance of Payments Statistics.

Agglomeration: The agglomeration effect can be defined as the existing FDI stock in the host country, which signals the direct investors the extent of country's experience with foreign investors. Furthermore, extensive existing FDI stock may point at the comprehensive investment infrastructure and networks, which do not have to be built up first. This effect is thus measured by the existing FDI stock per capita in the recipient country (*AGGL* in the empirical model; *+*), data for which have been extracted from UNCTAD, and is expected to be positively correlated with *FDI*.

Market size: As we have seen in the Literature section, market size, measured by the GDP per capita, is the most widely used and proves to be the most robust FDI determinant variable. Large markets are associated with a broad potential to sell products, acquire inputs, etc., so the expected effect of market size on FDI is positive. In the empirical model, GDP per capita in millions of $ based on PPP valuation (*GDP/POP; +*), along with the total population (*POP; +*) will be applied as indicators of the market size. The according data are from the IMF and the WDI.

Market potential: The host country market potential can first be estimated by the average annual GDP growth rate (*GDPGR; +*). Growing GDP for example is likely to result in higher purchasing power of consumers, so the effect on FDI is expected to be positive. The according data are retrieved from the IMF. Alternatively, market potential – as we have seen in previous literature – can also be estimated by the yearly population growth (*POPGR; +),* data for which has been retrieved from the World Bank's WDI.

Distance: First of all, greater physical distance between the home country of the MNE and the host country is expected to negatively affect the location choice for FDI, due to higher additional costs which are expected to be associated with moving, (periodic) travelling, shipment of goods, control of processes, etc. Historically, this proved to be an important FDI determinant, although the deterring effect of physical distance is expected to have lessened with the technological advances within the fields of communication and transportation. As the measure of distance, weighted physical distance between the US and the host countries[39] is used in the empirical model (*DIST;* -). In the future research, several other distance-variables can be considered. Apart from the physical distance, cultural distance has been found to affect the FDI location choice as well (i.e. Du, 2008). The difference in Hofstede's cultural values (*DISTCULT;* -) greatly represent the cultural proximity between countries along several dimensions, but unfortunately are available for a limited number of countries. Therefore, language proximity can also be used as a measure of cultural distance, since the willingness and the ability to learn the foreign language indicates the absence of hostility towards the

[39] The weighted distance between two countries is a generalized mean of bilateral distances between the largest cities of those two countries, weighted by the share of the city in the overall country's population. It has been calculated by CEPII using data on latitudes, longitudes and population of main agglomerations.

investor's culture and the presence of cognitive similarity. CEPII's measure of English proximity (*DISTLANG; +*) can thus alternatively be applied, which is either 1 or 0 depending on whether at least 20% of the population speaks English as mother tongue or second language.

Labour costs: Theoretically, one of the most influential FDI determinants is perceived to be the level of labour costs in the host country, which can be measured in several ways. However, the empirical evidence turns out to be rather ambiguous and the data availability for the selected sample is poor, labour costs will not be included in the empirical model. In future research, the hourly compensation rate in $, data for which are available through the ILO, can be used as a proxy for the labour costs. High hourly compensation is expected to negatively influence FDI (*WAGE; -*). Unfortunately, these data are only publically available for the manufacturing industry in a relatively limited set of countries (mostly OECD). Even a greater data availability problem exists regarding the unit labour costs: the data only concern OECD countries. For that reason, secondly, the unemployment rate can be used as an alternative, less perfect proxy for labour costs, since a high unemployment rate could indicate a large pool of potential employees from which can be drawn, holding down the recruitment costs and offering the foreign employers a favourable wage negotiating position (*UNEMPL, +*). However, this potential relationship might only hold for the cyclical and not for the structural unemployment. In case of the latter, the unemployed may lack crucial skills which the labour market requires. Consequently, the unemployment rate remains an imperfect proxy for the labour costs, although the data is widely available through WDI. Third, the labour regulation indexes can be used to cover the indirect labour costs. The rigidness of hiring and dismissal regulation, strict social security laws and limited part-time work possibilities are all expected to increase the costs of doing business and consequently deter foreign investment. More specifically, either the Enterprise Survey (World Bank) data on the percentage of firms which indicate that labour regulation is a major constraint (LABREGCONS; -) or the average of five different labour regulation indicators constructed by Botero et al. (2004) while using experts survey data (*LABREG; -*), can be considered.

Labour productivity: Opposite to the labour costs, high labour productivity is expected to attract FDI. It is usually estimated in two different ways in the empirical literature on FDI determinants: either directly by GDP per worker of per hour worked or indirectly by the level of education (since the empirical evidence of the positive relationship between education, human capital and labour productivity is overwhelming). In the empirical model, both types of estimates may be applied. As for the first, GDP per person engaged (in constant PPP $), extracted from WDI, can be used (*PRODGDPW; +*). As for education, it can be estimated either by the outcome - adult literacy rate (*LIT; +*), or by the input - secondary school enrolment rate (*SCHOOL; +*), both retrieved from the WDI.

Infrastructure: Both the extensiveness and the quality of physical, electronic and knowledge infrastructure are expected to positively influence FDI to their assumed lowering of time costs of doing business and increasing networking possibilities. As a proxy for the infrastructure quality, several indicators can be applied. Al-Sadig (2009) used urbanisation (more specifically, the urban population growth) as a measure of infrastructure quality, data for which can be extracted from the WDI (*POPGRURB; +*). Second, the WEF's survey index of quality of overall infrastructure (*INFR; +*) may be applied. Alternatively, the quality of the trade-related infrastructure, estimated by the WDI's logistics performance index (INFRTRADE; +), the number of internet users per 1000 people (INTERNET; +) and the WEF's survey index of the quality of electricity supply (ELECT; +), could be used.

Market efficiency: Foreign direct investors are expected to take the degree of market efficiency and the opportunity for free competition in a host country into account while making their entry decision. In particular, a high degree of market dominance by incumbent firms could deter foreign investment through the ability of the incumbent firms to raise entry barriers. Although the degree of market dominance could be highly industry-specific, the general WEF's survey indicator of market dominance (*MARDOM;* -) can be used as a proxy for market inefficiency. Alternatively, a low entry density of new firms into the market may point at the degree of the rigidness of the market. Consequently, the number of newly registered limited liability firms during a calendar year, per 1,000 working-age people (originating from the World Bank's Finance and Private Sector Research) may be applied (*ENTRY; +*). Although it is also plausible that while already being in the market, the opportunity for exercising market dominance of their own by the foreign investors can result in additional monopoly gains and thus make the entry more attractive, market dominance in general is expected to deter the entry of new FDI.

Openness to trade: The degree of openness of the economy is considered to represent the international orientation of the economy and thus positively affect FDI. In the literature, it is usually estimated by the sum of the total exports and imports as percentage of the GDP, so this measure will be applied in the testing of the empirical model, for which the WDI data will be used (*OPEN; +*).

Macroeconomic stability: A stable macroeconomic environment means a lower economic risk of the investment losing its value due to inflation or a volatile exchange rate. Since foreign investors tend to be averse to such risks, the macroeconomic instability is expected to deter investment. Consequently, in empirical models of FDI determinants, the degree of macroeconomic stability could be represented either by the average yearly inflation rate (the GDP deflator *(INFL; -))*,or by the exchange rate volatility, calculated as the standard deviation of the real effective exchange rate index (*EXRV,* -). The data for both indicators have been extracted from the IMF. A less widely applied measure of macroeconomic stability are financial depth (the amount of money and quasi money (M2) as percentage of GDP), current account balance and international reserves as percentage of the country's external debt.

Government efficiency: In addition to the above mentioned factors which attribute to macroeconomic stability, the solidness of government's (financial) behaviour has also been assumed to have an effect on investment risk and consequently on country's attractiveness to foreign investors. A highly negative budget balance (*GOVTBUDG; +*) and government debt (*GOVTDEBT;* -) could eventually result in a high risk of potential debt crises taking place in the future, which can plunge the investment's value. Furthermore, those indicators could signal the availability of economic space for the private sector. The according data have been retrieved from the IMF's Government Finance Statistics. Turning to the general government behaviour which approaches the governance side, various more subjective measurements of government effectiveness can also be used in the empirical analysis. The Kaufmann's World Governance Indicators (WB), which are composed of various expert opinion and survey data indexes, have been most widely used in the literature and capture both regulatory quality (*REGQ;+*) and government effectiveness (*GOVTEFF; +*).

Corporate tax: Since the official corporate tax rate in several countries is very low, but the additional taxes which companies have to pay can still be considerable, the total tax rate may be used in empirical models. The total taxes which MNEs have to pay to the host country's government consist

of official corporate tax, profit tax, labour tax and contributions and other taxes. The total tax rate poses direct costs of doing business and should be considered to affect the FDI decision (*TAXTOTCORP; -*). Not for nothing very sizable amounts of FDI yearly flow to the so-called tax havens, mostly small islands in the Caribbean where many large MNEs are only registered and do not possess any productive facilities . The tax rate data has been retrieved from the World Bank Group's Doing Business Indicators and largely corresponds with the rates reported by the WEF.

Administrative environment: Administrative business environment mainly concerns the amount of bureaucratic procedures and time needed to comply with those. Thus it reflects the ease and the additional costs of doing business in a host country. Several survey data sources yearly gather data on the administrative environment, using expert opinions, regulatory data and the results of surveys among both foreign and local enterprises[40]. Three different indicators can be used separately in the empirical model to control for the administrative environment differences. First, World Bank's Ease of Doing Business Index ranks countries according to nine categories (starting a business, dealing with construction permits, registering property, etc), so the average of these categories can ideally be used. The higher the rank number, the lower FDI inflows are expected to be (*ADMINDB, -*). Second, World Bank's Enterprise Surveys contain statistics concerning managerial perceptions of various facets of business environment in mostly the developing countries. It also includes the indicator of average senior management time spent in dealing with requirements of government regulation (*ADMINES; -*). Further, the IMF's Investing Across Borders data includes the Ease of Establishment Index (*ADMINIAB; +*) and WEF's Global Competitiveness Report includes the burden of government regulation indicator (*ADMINGCR; +*).

FDI Regulation: The factor which potentially directly influences the possibility of MNEs to perform FDI in a particular host country is the present regulation regarding FDI inflows. Thereby, restrictions exist on the foreign equity share of either new investment projects, shares of the local companies or even private equity; in some industries, FDI may even simply be not allowed. Although highly industry-specific, as some industries which have been considered as vital for the host country and thus may be highly restricted for foreign investment, the average FDI restrictiveness in a country is expected to affect the average FDI inflows. Furthermore, the effect of FDI restrictiveness in the manufacturing industries (since it amounts for the largest part of the US FDI flows), which tends to be lower than FDI restrictiveness in other industries, can be looked upon separately. Since the comprehensive OECD's and UNCTAD's FDI restrictiveness measures are only available for the 48 OECD member states from the sample, the more widely available IAB index for both manufacturing and all industries average may rather be used, namely the extent of 'statutory restrictions on foreign ownership of equity in new investment projects and on the acquisition of shares in existing companies', where 100 means that full foreign ownership is allowed (*FDIRESTRIAB, +*). Furthermore, using the subjective 'Business impact of rules on FDI´ business survey indicator (*FDIRESTRWEF; +*) can also be considered.

Corruption: Turning to the institutional independent variables in the general empirical model specification, first corruption in the host country has to be considered. As we have seen in the Literature section, corruption had been found to pose additional costs of doing business, requiring payments to fasten bureaucratic processes or simply get the basic things done. The incidence and the height of such costs are uncertain, as well as whether such a transaction will bring desirable results

[40] The comprehensive description of the survey data sources used in this thesis, along with the according methodology, can be found in the enclosed file *Survey Data.docx*

(since such 'contracts' are not enforceable in courts), so corruption also poses additional investment risks. Consequently, it is expected to negatively influence FDI. There exist several quantitative indicators which try to measure corruption. In most cases, the subjective perceptions of the extent of corruption in a country are used through performing various (managerial) surveys. Again, the potential problem associated with using such subjective indicators is that those perceptions (a) only partly reflect the real extent of corruption and (b) may vary across countries, depending on various (cultural) independent factors. However, since the perfectly objective measures of corruption, such as reliable figures on the sums paid to officials and the incidence of such practices are lacking[41], using subjective measures is inevitable. Furthermore, combining indexes from various survey sources may increase the closeness to the real situation and the degree of data reliability. The most widely used proxies of corruption in the literature are TI's Corruption Perception Index (*CORRTI; +*), WGI's Control of Corruption (*CORRWGI, +*) and ICRG's Corruption Risk (*CORRICRG; +*), whereby for all the indicators holds: the more corruption, the lower the index. Complementarily, WEF's survey data on 'managerial experiences with undocumented extra payments' may be used (*CORRWEF, +*), along with the managerial experiences covered by the World Bank's ES (*CORRES,* -). Possible interactions of the introduced corruption measures with the other institutional indicators which will be explained below, will be discussed and tested in the extended versions of the empirical model.

Property Rights: Protection of physical, financial and intellectual property rights has proven to be one of the important FDI determinants in the previous literature and take a central place in the New Institutional Economics theory. A lack of it poses an additional investment risk of potential expropriation of assets benefitting either the state or the local companies, potentially deterring FDI. This risk consists, as distinguished by Henisz (2000), of a de jure (property rights are insufficiently defined in the laws) and a de facto component (the according laws do exist, but are not strictly of uniformly applied) and is closely interrelated with other properties of the legal system. In the academic literature, the extent of *intellectual property rights protection* is regularly proxied by the number of patent filings, following the logic that when the patent rights are sufficiently honoured, more companies will be willing to file their inventions for protection expecting that their rights will be protected well. That is why three different indicators could be used: the amount of patent applications per capita by the non-residents (*PATNONRES; +*); the average amount of resident patent filings per billion of GDP (*PATRES, +*) and, since the focus of this thesis lies on FDI by the US MNEs, the average number of patents granted to the US applicants (*PATUS; +*), all calculated using the WIPO-data. However, patents seem to be replaced by licenses from a particular level of intellectual property rights protection (Nunnenkamp and Spatz, 2007) and furthermore depend on various other factors (such as technological sophistication of companies, sectoral orientation of the economy, etc.), making the amount of patents an imperfect measure of intellectual property rights. For that reason, the more objective Ginante-Park index of intellectual property rights protection is also used in the empirical estimation (*IPRGP; +*). As for the protection of all the *property rights* categories, several composite indexes will be used: protection of property rights (including financial assets) constructed by WEF (*PRWEF; 1-7; +*); HF's property rights index covering the private property protection by the justice system, efficient contracts enforcement by courts and the absence of corruption and

[41]Otherwise, in case of such transparency, corruption of course would not be such a persistent problem and could be eliminated more easily.

expropriation thereby (*PRHF; 0-100; +*) and the aggregate international property rights index (including physical property rights) by IPRI (*PRIPRI; 1-10; +*).

Rule of Law: Closely interrelated with the previous category of institutional indicators, rule of law covers the more general properties of the legal system and includes the strength of contract enforcement, impartiality of the courts, the ability and willingness to arbitrate the disputes in courts, the efficiency of legal framework, etc. Like the sound property rights protection, solid rule of law and contract enforcement mechanisms are expected to reduce the investment risks and the potential additional costs of doing business and so to stimulate investment. Two general *rule of law indicators* will be used: the first ("rule of law") constructed by the World Bank (*ROLWGI; +)* and the second ("law and order"; aiming at de facto and de jure properties of the legal system respectively) composed by ICRG (*ROLICRG; +*). More specifically, *contract enforcement* may be covered by the DB's "enforcing contracts" rank; *settling disputes* – by the WEF's "efficiency of legal framework in settling disputes (*DISPWEF; 1-7; +*) or the IAB's "arbitrating commercial disputes: laws strength, ease of process and assistance average" (*DISPIAB; 1-100; +*) and the *impartiality and independence of courts* by the WEF's "extent to which the judiciary is independent from influences of members of government, citizens or firms" (*COURTSINDEP; 1-7; +*).

Economic Freedom: Some investment climate indicators provide composite indexes, which could be used by the potential investors to assess the general country properties which may define the attractiveness of a country for doing business in, the so-called economic freedom. Since the economic freedom measures usually consist of a rather broad selection of institutional factors, some of which have been described separately above, it is expected to interrelate with those separate factors substantially. For that reason, it will be used in the regression analysis alone, being assumed to have a property of covering all the institutional properties together. Although using the original, separate and non-standardized indicators in the regression analysis is expected to provide more reliable and complete results than these composite, arbitrarily weighted measures, it is still interesting to look at the significance and the power of the Economic Freedom indicators in empirically explaining the FDI variance between countries. First, the Index of Economic Freedom, composed by the *Heritage Foundation* will be applied. The index is constructed through analysis of ten equally weighted components of economic freedom, some of which are themselves composites of additional quantifiable measures. The scores per component take values between 0 and 100 and are either the result of penalty points subtraction for the absence of a particular kind of freedom or an standardized average of the component's sub-composites. The ten main components are: business freedom, trade freedom, fiscal freedom, government spending, monetary freedom, investment freedom, financial freedom, property rights, freedom from corruption and labour freedom. Those measures have been computed using both actual and survey data from an extensive range of different sources per component. Some of these original data have already been used is this thesis separately. For example, the Business Freedom and Labour Freedom components are constructed of the rescaled measures from the World Bank's Doing Business study, Freedom from Corruption – from TI's CPI and Monetary Freedom – partly from the IMF's inflation figures. The composite index of economic freedom is expected to positively correlate with the FDI flows, after controlling for some general gravity factors (*ECONFREEHF; 0-100; +*). The second, comparable composite indicator of economic freedom has been constructed by the *Fraser Institute* (Economic Freedom of the World), consisting of five general components (size of government, legal system and property rights, access to sound money, freedom to trade internationally and regulation of credit,

labour and business) and a total of 42 underlying variables. Comparably to the HF's Index of Economic Freedom, FI's Economics Freedom of the World Index is an equally weighted average of all its components, which have been calculated using comparable data sources (again, World Bank's Doing Business and WEF's Global Competitiveness Report, etc.). A large amount of papers[42], mostly investigating the effect of institutions and economic and political freedom on the economic growth, have been using the FI's index in their empirical analyses, often as a proxy of the institutional environment[43]. It is expected to positively affect the FDI inflows as well (*ECONFREEFI, 0-10; +)*.

Political System: A great variety of institutes are involved in assessing numerous properties of political systems in different countries. Not only from the perspectives of the political science and public administration, but also from the economists' point of view, such key properties of the political system as the state of democracy, political freedom and stability, civil liberties and political rights, governance, freedom of speech and independent media, can be looked upon as important pre-requirements of economic activity. As appeared in the Literature section, factors as good governance, freedom and democracy have empirically been found to positively affect economic growth. The shape of a country's political system not only underlies all the other FDI determinants which have been discussed above (especially the institutional and regulatory ones), it also in itself tends to correlate with FDI flows. First, *democracy and good governance* imply that government represents the preferences of its citizens and can be held accountable for its policy choices, consequently optimizing those. Since the quality of government decision making is consequently expected to rise, it is also expected to attract more FDI. As democracy indicators, WGI's "voice and accountability" index will be used (*DEMOCWGI; +*). To complement it, ICRG's "government accountability" (*DEMOCICRG; +*), Van Hanen's "index of democratization" *(DEMOCVH; +*), FH's "democracy status" (*DEMOCFH; +*) and EIU's "combined index of democracy" (*DEMOCEIU; +*) may be used. Second, closely interrelated with democracy, *freedom* of speech and press is expected to develop a class of both creative and critical citizens, contributing to the human capital, which in its turn can attract investors. As proxies for the extent of freedom, FH's "civil liberties" (*FREECL; +*) and "freedom of press" (*FREEPRESS; +*) indicators will be used. Third, even if a country is considered as neither free nor democratic, a relatively high extent of *political stability* may still attract foreign investors, indicating a low risk of (possibly violent) regime changes with all their related uncertainties. As proxies for political stability, WGI's "political stability and absence of violence" index can be used (*POLSTABWGI; +*), along with ICRG's "government stability" (*POLSTABICRG; +)* and Gibney and Dalton's "political terror scale" (*POLSTABGD;* -). Last, an indicator which is widely used in the academic literature and combines the above covered properties of political system, Polity IV score could be also alternatively used as a single proxy of political system (*POLSYST; +*).

Security: Apart from the risks of assets expropriation by the state, legal biasness or corruption, more incidental security risks are also expected to deter FDI. More specifically, the extent to which an MNE is exposed to the dangers of robbery, vandalism, (organized) crime, unreliability of police service, (either political or ethnical and religious) tensions or even (external or internal) armed conflict, can pose personal and economical hazards of operating in a country and affect the investment risk.

[42] A complete overview can be found on http://www.freetheworld.com/papers.html

[43] However, the use of the aggregate indicator is not undisputed due to the arbitrary weighting procedure and the fact that Heckelman and Stroup (2000), having examined the components of the index individually, have found that many of those components are negatively, rather than positively correlated with economic growth.

Furthermore, limiting these security risks involves extra measure which cost money, so additional investment costs are expected to be made. Accordingly, WEF's "business cost of crime and violence" (*SECURWEFCV; +*) and "organized crime" (*SECURWEFOC; +*) survey indicators can be considered using as proxies for crime incidence Alternatively, World Bank's (Enterprise Survey) "percentage of foreign firms identifying crime, theft and disorder as major business constraints" can be used (*SECURES; -*). The average of ICRG's "conflict" (internal and external) and "tensions" (religious and ethnic) variables could be applied as a proxy for the deeper insecurities (*SECURICRG, +*).

Appendix IV: Simple gravity-type equation estimation results

Table 1: Regression results

Dependent variable	Log of FDI flows per capita			Log of FDI flows		
Equation Independent variables	(1.1)	(2.1)	(2.3)	(1.2)	(2.2)	(2.4)
Constant	-5.6071 (-1.581)	-3.2086 (-0.910)	-3.0954 (-0.921)	-0.1483 (-0.045)	-1.7711 (-0.583)	-2.0134 (-0.704)
Log(GDP)				1.0726 (11.214)***	0.4332 (2.034)**	0.4789 (2.241)**
Log(GDP/POP)	1.5170 (9.951)***	1.1555 (5.663)***	1.1325 (5.924)***			
Log(DIST)	-0.6147 (-1.784)**	-0.8706 (-2.466)**	-0.9704 (-2.958)***	-0.7888 (-2.168)**	-0.7310 (-2.116)**	-0.7998 (-2.488)**
GDPGR		0.0123 (0.226)			0.0353 (0.667)	
POPGR			0.3644 (3.089)***			0.3715 (3.287)***
Log(AGGL)		0.2142 (1.903)*	0.2752 (2.530)**		0.7719 (3.748)***	0.7735 (4.137)***
OPEN		0.0101 (3.482)***	0.0097 (3.501)***		0.0054 (1.619)	0.0053 (1.694)*
Number of observations	105	101	101	106	102	102
R-squared	0.51	0.57	0.62	0.55	0.66	0.70
F-statistic	53.85	25.97	30.46	63.16	38.02	44.16

Table 2: Descriptive statistics, common sample

	log(FDI/POP)	log(GDP/POP)	log(DIST)	POPGR	log(AGGL)	OPEN
Mean	2.7874	9.1846	8.9837	1.3096	7.7101	99.0681
Median	2.8200	9.3222	9.0740	1.1847	7.5821	81.6319
Maximum	10.2947	11.2643	9.7025	11.4007	11.9851	423.6297
Minimum	-3.4238	5.6759	7.0514	-1.1768	3.1046	25.4264
Std. Dev.	2.5961	1.1702	0.5196	1.4461	1.9335	63.0652
Skewness	0.0741	-0.6183	-1.3497	3.3907	-0.2213	2.8072
Kurtosis	2.9462	3.0794	4.8061	24.7446	2.7703	13.7324
Jarque-Bera	0.1046	6.4620	44.3937	2183.3450	1.0467	617.3834
Probability	0.9490	0.0395	0.0000	0.0000	0.5925	0.0000
Sum	281.5254	927.6398	907.3581	132.2721	778.7174	10005.8800
Sum Sq. Dev.	673.9522	136.9308	26.9970	209.1136	373.8504	397721.4000
Observations	101	101	101	101	101	101

Table 3: Correlation matrix

	log(FDI/POP)	log(GDP/POP)	log(DIST)	POPGR	log(AGGL)	OPEN
Log(FDI/POP)	1.00	0.51	0.71	0.09	-0.21	0.39
Log(GDP/POP)	0.51	1.00	0.62	-0.21	0.02	0.10
Log(DIST)	0.71	0.62	1.00	-0.12	-0.12	0.27
POPGR	0.09	-0.21	-0.12	1.00	0.11	0.05
Log(AGGL)	-0.21	0.02	-0.12	0.11	1.00	0.09
OPEN	0.39	0.10	0.27	0.05	0.09	1.00

Appendix V: Overview of the institutional indicators, per category

Table 1.1: Decomposition of the REG-variable

Indicator name	Code	Code EViews	Scale*	Source	Description
1. Regulatory Quality	RegQ	WGI_RegQ_0509	-3-3; +	World Bank: Kaufman's World Governance Indicators (WGI)	Captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.
2. Total Corporate Tax Rate	Tax	Tax_corporate_total_WEF	0-100 %; +	World Economic Forum (WEF)	Including profit tax, labour tax and others; as % of the profits
3. Ease of Doing Business	EDB	DB_overall	1-183; -	World Bank: Doing Business (DB)	Total composite ranking, consisting of objective indicators covering ease of: starting a business; dealing with construction permits; registering property, getting credit; investor regulation; paying taxes, trading across borders, enforcing contracts and closing a business.
4. Regulation	REG_FI	Econ_freedom_FRAS_reg	1-10; +	Fraser Institute (FI)	Ease of the credit market, labour market and business regulation.
5. Burden of Government Regulation	BGR	Reg_burden	1-7; -	World Economic Forum (WEF)	How burdensome is it for businesses in your country to comply with govern-mental administrative requirements (e.g. permits, regulations, reporting)? 1=extremely burdensome; 7=not burdensome at all.
6. Statutory Restrictions on Foreign Ownership	OwnRestr	FDI_restr_allsec_IAB	0-100; -	World Bank Group (IFC): Investing Across Borders (IAB)	Statutory restrictions on foreign ownership of equity in new investment projects and on the acquisition of shares in existing companies. Average sc.
7. Business Impact of Rules on FDI	FDIReg	FDI_reg_impact	1-7; +	World Economic Forum (WEF)	To what extent do rules governing foreign direct investment (FDI) encourage or discourage it? 1 = strongly discourage FDI; 7 = strongly encourage FDI.

Table 1.2: Decomposition of the POL-variable

Indicator name	Code	Code EViews	Scale*	Source	Description
1. Government Effectiveness	GovtEFF	WGI_Govt_eff_0509	-3-3; +	World Bank: Kaufman's World Governance Indicators (WGI)	Captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.
2. Political Stability and Absence of Violence	PolStab	WGI_psav_0509	-3-3; +	World Bank: Kaufman's World Governance Indicators (WGI)	Captures perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism.
3. Government Stability	GovtStab	Govt_stab_ICRG	1-10; +	International Country Risk Guide	Covers both government's ability to carry out its declared program(s), and its ability to stay in office. The risk rating assigned is the sum of three sub-components: government unity, legislative strength and popular support.
4. Political Terror Scale	PolTerr	Political_terror_GD_US	1-5; -	Gibney & Dalton	Measures respect for the rights associated with the integrity of the person and consists of two variables: one based on the US State Department's *Country Reports*, the other on Amnesty International's *Annual Report*.
5. Index of Democracy	Democ	Democ_index_EIU	1-10; +	Economist Intelligence Unit (EIU)	The poll based on electoral process, political culture and civil liberties, grouping nations into four types of regimes: full democracies, flawed democracies, hybrid regimes and authoritarian regimes.
6. Democratic Accountability	DemAcc	Democ_account_ICRG	1-10; +	International Country Risk Guide	Measures how responsive government is to its people (the less responsive it is, the more likely it is that the government will fall, peacefully in a democratic society, but possibly violently in a non-democratic one). Points

					are awarded on the basis of the type of governance in the country (alternating democracy, dominated democracy, de facto one-party state, de jure one-party state, autarchy).
7. Voice and Accountability	VoiceAcc	WGI_va_0509	-3-3; +	World Bank: Kaufman's World Governance Indicators (WGI)	Captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.
8. Civil Liberties	CivLib	Civil_liberties_FH	1-7; -	Freedom House (FH)	Composite of the checklist scores on: freedom of expression and belief; associational and organizational rights, the rule of law and personal autonomy and individual rights.
9. Press Freedom	PressFree	Press_freedom_FH	0-100; -	Freedom House (FH)	Part of Civil Liberties.

Table 1.3: Decomposition of the LAW-variable

Indicator name	Code	Code EViews	Scale*	Source	Description
1. Property Rights	PR	Property_rights_HER	0-100; +	The Heritage Foundation	100: Private property is guaranteed by the government. The court system enforces contracts efficiently and quickly. The justice system punishes those who unlawfully confiscate private property.
2. Legal System and Property Rights	LegPR	Econ_freedom_FRAS_legpr	1-10; +	Fraser Institute (FI)	Part of EFW. Measure the rule of law and property rights, looking at: impartiality of judges, institutional quality of judicial system and trustworthiness and agility of public property registry.
3. Rule of Law	RoL	WGI_RoL_0509	-3-3; +	World Bank: Kaufman's World Governance Indicators (WGI)	Capturing perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.
4. Law and Order	L&O	Laworder_ICRG	0-6; +	International Country Risk Guide (ICRG)	To assess the "Law" element, the strength and impartiality of the legal system are considered, while the "Order" element is an assessment of popular observance of the law.
5. Enforcing Contracts	Contr	Contract_enf_DB	1-183; -	World Bank: Ease of Doing Business	Ranking. Measures the efficiency of the judicial system in resolving a commercial dispute. The data are built by following the step-by- step evolution of a commercial sale dispute before local courts and are collected through study of the codes of civil procedure and other court regulations as well as surveys completed by local litigation lawyers and by judges (i.e. time, procedures and costs).
6. Settling Disputes Efficiency	Disp	Disputes_settling_WEF	1-7; +	World Economic Forum (WEF)	How efficient is the legal framework for private businesses in settling disputes? 1 = extremely inefficient; 7 = highly efficient.
7. Investor protection	InvProt	Investor_protection_WEF	1-10; +	World Economic Forum (WEF)	Based on WB's Doing Business and various qualitative sources.

Table 1.4: Decomposition of the CORR-variable

Indicator name	Code	Code EViews	Scale*	Source	Description
1. Corruption Perception Index	CPI	Corruption_CPI_0509	1-10; -	Transparency international (TI)	Represents degree to which corruption is perceived to exist among public officials and politicians. Composite index, drawing on expert surveys carried out by a variety of reputable institutions, reflecting views of businessmen, analysts and local experts worldwide.
2. Control of Corruption	CoC	Corruption_WGI_0509	-3-3; -	World Bank: Kaufman's World Governance Indicators (WGI)	Covers perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.
3. Corruption Risk	CorrRisk	Corruption_ICRG	0-6; -	International Country Risk Guide (ICRG)	Assesses corruption within the political system, rather than financial corruption directly faced by firms. It focuses more on actual or potential corruption in the form of excessive patronage, job reservations, 'favor-favors', secret party funding and suspiciously close ties between politics and business.
4. Irregular Payments and Bribes	IrrPay	Corruption_irrpay_WEF	1-7; -	World Economic Forum (WEF)	How common is it for firms to make undocumented extra payments or bribes connected with (a) imports and exports; (b) public utilities; (c) annual tax payments; (d) awarding of public contracts and licenses; (e) obtaining favourable judicial decisions. Average score, Executive Opinion Survey. 1 = very common; 7 = never occurs.
5. Freedom from Corruption	CorrFree	Econ_freedom_HER_corr	0-100; -	The Heritage Foundation (HF)	Part of IEF: composite of CPI and various qualitative sources.

Table 1.5: Description of the aggregate investment climate indicators

Indicator name	Code	Code EViews	Scale*	Source	Description
1. Index of Economic Freedom	IEF	Econ_freedom_HER	0-100; +	The Heritage Foundation (HF)	Average index for the year 2007. Including "freedoms" of Business, Trade, Fiscal, Government Spending, Monetary, Investment, Financial, Property Rights, Corruption and Labour.
2. Economic Freedom of the World	EFW	Econ_freedom_FRAS	1-10; +	Fraser Institute (FI)	Average index for the year 2007. Including Legal System, Property Rights, Size of Government, Trade, Credit Market Regulation and Labour Market Regulation.

*A "+" means the higher the number, the stronger variable which is measured by the indicator, while a "-" indicates the reverse scale effect. For example, the higher the CPI score is, the lower the corruption (which it represents) is or the higher the EDB ranking, the worse the ease of doing business.

Table 1.6: Descriptive statistics for the institutional indicators, separate samples

	RegQ	Tax	EDB	REG_FI	BGR	OwnRestr	FDIReg	GovtEFF	PolStab	GovtStab	PolTerr	Democ	DemAcc	VoiceAcc	CivLib	PressFree
Mean	0.0304	44.0794	88.9880	6.7945	3.2891	89.1522	4.6302	0.0113	-0.0914	8.2669	2.5875	5.6369	4.1429	-0.0594	3.4182	45.4061
Median	-0.1529	40.6500	88.0000	6.7878	3.2000	93.0455	4.7000	-0.1248	0.0040	8.0000	3.0000	5.9000	4.5000	-0.1331	3.0000	45.0000
Maximum	1.9313	278.6000	183.0000	8.7714	5.5000	100.0000	6.5000	2.1927	1.4366	11.5000	5.0000	9.9000	6.0000	1.6091	7.0000	95.0000
Minimum	-2.6772	11.3000	1.0000	4.4259	1.9000	50.0000	2.2000	-2.3521	-3.0380	5.5000	1.0000	1.6000	0.0000	-2.2216	1.0000	8.0000
Std. Dev.	0.9940	26.3126	52.8650	0.9557	0.6510	11.9253	0.7868	1.0067	0.9818	1.5020	1.0484	2.2508	1.6255	1.0096	1.8182	25.0214
Skewness	-0.0777	5.7965	0.0516	-0.1446	0.5010	-1.5335	-0.4480	0.2618	-0.5795	0.2315	0.2601	-0.0662	-0.4933	-0.1170	0.2145	0.1203
Kurtosis	2.4634	51.4708	1.7933	2.6902	3.5171	4.7596	3.2765	2.2226	2.6983	2.1734	2.4583	1.8762	2.0863	1.9620	1.9090	1.6629
Jarque-Bera	2.1848	13040.03	10.2067	1.0032	6.8334	42.7159	4.7267	6.1507	10.0986	4.9747	3.7603	7.9493	10.0198	7.9719	9.4490	12.6893
Probability	0.3354	0.0000	0.0061	0.6055	0.0328	0.0000	0.0941	0.0462	0.0064	0.0831	0.1526	0.0188	0.0067	0.0186	0.0089	0.0018
Sum	5.1	5,554.0	14,861.0	910.5	424.3	7,310.5	597.3	1.9	-15.4	1,099.5	414.0	839.9	551.0	-10.0	564.0	7,492.0
Sum Sq. Dev.	165.0	86,543.9	463,922.0	121.5	54.2	11,519.2	79.2	169.3	162.0	297.8	174.8	749.8	348.8	171.2	542.1	102,675.8
Observations	168	126	167	134	129	82	129	168	169	133	160	149	133	169	165	165

	PR	LegPR	RoL	L&O	Contr	Disp	InvProt	CPI	CoC	CorrRisk	IrrPay	CorrFree	IEF	EFW
Mean	47.0126	5.7032	-0.0482	3.6880	89.9521	3.8132	5.4079	4.1426	-3.49E-05	2.7368	4.2574	42.2621	60.8263	6.7570
Median	45.0000	5.7514	-0.2728	4.0000	89.0000	3.7000	5.3000	3.3000	-0.2785	2.5000	4.0000	34.0000	59.8829	6.8910
Maximum	91.0000	9.0549	1.9043	6.0000	182.0000	6.3000	9.7000	9.5000	2.3783	6.0000	6.7000	97.0000	89.9150	9.0342
Minimum	9.0000	1.9945	-2.5344	0.5000	1.0000	2.0000	2.0000	1.4000	-1.8131	0.5000	2.5000	17.0000	28.5733	2.9726
Std. Dev.	23.8038	1.6892	1.0087	1.3266	53.4201	0.9545	1.5037	2.1400	1.0248	1.1441	1.2147	22.2527	10.2736	0.9230
Skewness	0.5423	0.0345	0.2949	-0.0819	0.0289	0.5843	0.4380	1.0174	0.6206	0.9461	0.4260	1.0632	0.1194	-0.8002
Kurtosis	2.2513	2.4269	2.1865	2.1115	1.7619	2.5788	3.2580	2.9148	2.4197	3.1894	1.9520	2.9038	3.5140	4.7280
Jarque-Bera	11.5068	1.8602	7.1093	4.5231	10.6892	8.2939	4.3785	27.9963	13.1421	20.0412	9.8056	27.3761	1.9408	30.9711
Probability	0.0032	0.3945	0.0286	0.1042	0.0048	0.0158	0.1120	0.0000	0.0014	0.0000	0.0074	0.0000	0.3789	0.0000
Sum	7,475.0	764.2	-8.1	490.5	15,022.0	491.9	681.4	671.1	0.0	364.0	549.2	6,128.0	8,819.8	905.4
Sum Sq. Dev.	89,526.0	379.5	170.9	232.3	473,715.6	116.6	282.7	737.3	175.4	172.8	188.9	71,306.0	15,198.7	113.3
Observations	159	134	169	133	167	129	126	162	168	133	129	145	145	134

Table 1.7: Correlation matrix, institutional indicators

	RegQ	Tax	EDB	Reg FI	BGR	Own Restr	FDI Reg	Govt Eff	Pol Stab	Govt Stab	Pol Terr	Democ	Dem Acc	Voice Acc	CivLib	Press Free	PR	LegPR	RoL	L&O	Contr	Disp	Inv Prot	CPI	CoC	Corr Risk	Irr Pay	Corr Free
RegQ	1.00	-0.12	-0.44	0.65	0.21	0.14	0.54	0.93	0.64	-0.10	-0.59	0.58	0.48	0.77	-0.61	-0.52	0.73	0.72	0.90	0.52	-0.28	0.57	0.44	0.81	0.91	0.64	0.76	0.79
Tax	-0.12	1.00	0.16	-0.32	-0.30	-0.08	-0.32	-0.02	-0.09	0.11	0.10	0.08	0.04	0.09	-0.03	-0.04	-0.15	-0.16	-0.07	-0.18	0.09	-0.20	-0.23	-0.07	-0.03	-0.01	-0.11	-0.06
EDB	-0.44	0.16	1.00	-0.45	-0.27	-0.01	-0.50	-0.47	-0.31	0.02	0.19	-0.19	-0.13	-0.11	0.16	0.08	-0.52	-0.59	-0.46	-0.40	0.61	-0.51	-0.56	-0.54	-0.43	-0.46	-0.59	-0.54
REG_FI	0.65	-0.32	-0.45	1.00	0.42	0.14	0.55	0.59	0.42	-0.10	-0.43	0.38	0.27	0.41	-0.44	-0.35	0.57	0.60	0.60	0.41	-0.33	0.53	0.50	0.62	0.58	0.46	0.55	0.61
BGR	0.21	-0.30	-0.27	0.42	1.00	-0.02	0.52	0.24	0.13	0.19	-0.16	-0.15	-0.28	-0.12	0.14	0.16	0.22	0.30	0.24	0.20	-0.19	0.59	0.30	0.26	0.25	0.18	0.34	0.27
OwnRestr	0.14	-0.08	-0.01	0.14	-0.02	1.00	0.00	-0.04	0.23	-0.10	-0.22	0.16	0.10	0.29	-0.23	-0.22	0.13	-0.03	0.06	0.02	0.10	-0.09	-0.07	0.10	0.11	0.10	0.05	0.08
FDIReg	0.54	-0.32	-0.50	0.55	0.52	0.00	1.00	0.50	0.25	0.13	-0.21	0.10	0.07	0.14	-0.07	-0.04	0.50	0.51	0.52	0.43	-0.13	0.70	0.46	0.48	0.46	0.41	0.54	0.46
GovtEff	0.93	-0.02	-0.47	0.59	0.24	-0.04	0.50	1.00	0.66	0.02	-0.59	0.57	0.44	0.70	-0.55	-0.46	0.75	0.78	0.94	0.58	-0.38	0.67	0.45	0.87	0.95	0.71	0.82	0.85
PolStab	0.64	-0.09	-0.31	0.42	0.13	0.23	0.25	0.66	1.00	0.07	-0.77	0.49	0.39	0.57	-0.56	-0.48	0.58	0.69	0.72	0.59	-0.42	0.40	0.17	0.69	0.69	0.53	0.65	0.66
GovtStab	-0.10	0.11	0.02	-0.10	0.19	-0.10	0.13	0.02	0.07	1.00	0.21	-0.37	-0.47	-0.30	0.34	0.35	-0.11	0.01	-0.01	0.10	-0.03	0.24	-0.03	-0.02	-0.04	0.02	0.01	0.01
PolTerr	-0.59	0.10	0.19	-0.43	-0.16	-0.22	-0.21	-0.59	-0.77	0.21	1.00	-0.51	-0.40	-0.56	0.56	0.56	-0.54	-0.61	-0.67	-0.56	0.30	-0.31	-0.06	-0.60	-0.63	-0.38	-0.56	-0.57
Democ	0.58	0.08	-0.19	0.38	-0.15	0.16	0.10	0.57	0.49	-0.37	-0.51	1.00	0.85	0.82	-0.89	-0.79	0.66	0.51	0.64	0.33	-0.14	0.20	0.25	0.65	0.65	0.57	0.54	0.60
DemAcc	0.48	0.04	-0.13	0.27	-0.28	0.10	0.07	0.44	0.39	-0.47	-0.40	0.85	1.00	0.76	-0.82	-0.75	0.50	0.39	0.49	0.26	-0.05	0.05	0.22	0.47	0.49	0.43	0.38	0.42
VoiceAcc	0.77	0.09	-0.11	0.41	-0.12	0.29	0.14	0.70	0.57	-0.30	-0.56	0.82	0.76	1.00	-0.85	-0.81	0.59	0.44	0.73	0.30	-0.06	0.24	0.21	0.63	0.76	0.54	0.51	0.59
CivLib	-0.61	-0.03	0.16	-0.44	0.14	-0.23	-0.07	-0.55	-0.56	0.34	0.56	-0.89	-0.82	-0.85	1.00	0.91	-0.64	-0.49	-0.63	-0.34	0.16	-0.18	-0.19	-0.65	-0.65	-0.55	-0.54	-0.62
PressFree	-0.52	-0.04	0.08	-0.35	0.16	-0.22	-0.04	-0.46	-0.48	0.35	0.56	-0.79	-0.75	-0.81	0.91	1.00	-0.56	-0.36	-0.57	-0.28	0.06	-0.13	-0.08	-0.56	-0.59	-0.46	-0.43	-0.52
PR	0.73	-0.15	-0.52	0.57	0.22	0.13	0.50	0.75	0.58	-0.11	-0.54	0.66	0.50	0.59	-0.64	-0.56	1.00	0.76	0.85	0.60	-0.37	0.68	0.44	0.91	0.84	0.77	0.84	0.90
LegPR	0.72	-0.16	-0.59	0.60	0.30	-0.03	0.51	0.78	0.69	0.01	-0.61	0.51	0.39	0.44	-0.49	-0.36	0.76	1.00	0.83	0.76	-0.63	0.71	0.40	0.84	0.77	0.65	0.84	0.83
RoL	0.90	-0.07	-0.46	0.60	0.24	0.06	0.52	0.94	0.72	-0.01	-0.67	0.64	0.49	0.73	-0.63	-0.57	0.85	0.83	1.00	0.71	-0.39	0.70	0.39	0.92	0.96	0.76	0.86	0.90
L&O	0.52	-0.18	-0.40	0.41	0.20	0.02	0.43	0.58	0.59	0.10	-0.56	0.33	0.26	0.30	-0.34	-0.28	0.60	0.76	0.71	1.00	-0.54	0.51	0.20	0.67	0.61	0.59	0.67	0.65
Contr	-0.28	0.09	0.61	-0.33	-0.19	0.10	-0.13	-0.38	-0.42	-0.03	0.30	-0.14	-0.05	-0.06	0.16	0.06	-0.37	-0.63	-0.39	-0.54	1.00	-0.32	-0.22	-0.46	-0.36	-0.32	-0.45	-0.46
Disp	0.57	-0.20	-0.51	0.53	0.59	-0.09	0.70	0.67	0.40	0.24	-0.31	0.20	0.05	0.24	-0.18	-0.13	0.68	0.71	0.70	0.51	-0.32	1.00	0.49	0.72	0.68	0.65	0.78	0.74
InvProt	0.44	-0.23	-0.56	0.50	0.30	-0.07	0.46	0.45	0.17	-0.03	-0.06	0.25	0.22	0.21	-0.19	-0.08	0.44	0.40	0.39	0.20	-0.22	0.49	1.00	0.45	0.41	0.40	0.50	0.44
CPI	0.81	-0.07	-0.54	0.62	0.26	0.10	0.48	0.87	0.69	-0.02	-0.60	0.65	0.47	0.63	-0.65	-0.56	0.91	0.84	0.92	0.67	-0.46	0.72	0.45	1.00	0.94	0.84	0.92	0.99
CoC	0.91	-0.03	-0.43	0.58	0.25	0.11	0.46	0.95	0.69	-0.04	-0.63	0.65	0.49	0.76	-0.65	-0.59	0.84	0.77	0.96	0.61	-0.36	0.68	0.41	0.94	1.00	0.80	0.87	0.93
CorrRisk	0.64	-0.01	-0.46	0.46	0.18	0.10	0.41	0.71	0.53	0.02	-0.38	0.57	0.43	0.54	-0.55	-0.46	0.77	0.65	0.76	0.59	-0.32	0.65	0.40	0.84	0.80	1.00	0.79	0.85
IrrPay	0.76	-0.11	-0.59	0.55	0.34	0.05	0.54	0.82	0.65	0.01	-0.56	0.54	0.38	0.51	-0.54	-0.43	0.84	0.84	0.86	0.67	-0.45	0.78	0.50	0.92	0.87	0.79	1.00	0.91
CorrFree	0.79	-0.06	-0.54	0.61	0.27	0.08	0.46	0.85	0.66	0.01	-0.57	0.60	0.42	0.59	-0.62	-0.52	0.90	0.83	0.90	0.65	-0.46	0.74	0.44	0.99	0.93	0.85	0.91	1.00

Appendix VI: Empirical results for the base-run model estimation including institutional/corruption variables

Table 1: Estimation results for the base-run equation including regulatory quality indicators

Dependent variable	Log of FDI flows per capita						
Equation	(3.1.1)	(3.1.2)	(3.1.3)	(3.1.4)	(3.1.5)	(3.1.6)	(3.1.7)
Main independent variables							
Constant	-0.5637 (-0.156)	-6.411 (-1.712)*	-3.1063 (-0.764)	-7.1741 (-2.024)**	-6.7218 (-1.938)*	-9.6579 (-1.989)*	-7.0840 (-2.069)**
Log(GDP/POP)	0.8951 (3.874)***	1.3470 (6.396)***	1.1269 (5.303)***	1.4149 (6.023)***	1.3781 (6.808)***	1.3431 (4.333)***	1.3892 (6.991)***
Log(DIST)	-0.9739 (-3.003)***	-0.8086 (-2.370)**	-0.9399 (-2.725)***	-0.7348 (-2.337)**	-0.8026 (-2.408)**	-0.7306 (-1.934)*	-0.8784 (-2.657)***
POPGR	0.3892 (3.313)***	0.2541 (2.263)**	0.3598 (3.053)***	0.3218 (1.867)*	0.2490 (2.150)**	0.6606 (3.267)***	0.2227 (1.997)**
Log(AGGL)	0.2339 (2.127)**	0.2784 (2.349)**	0.2590 (2.395)**	0.2324 (2.018)**	0.2578 (2.293)**	0.2810 (1.784)*	0.2328 (2.128)**
OPEN	0.0090 (3.252)***	0.0085 (3.258)***	0.0098 (3.556)***	0.0080 (2.915)***	0.0083 (3.020)***	0.0060 (1.638)	0.0071 (2.626)**
REG							
RegQ	0.4890 (1.786)*						
Tax		-0.0008 (-0.075)					
EDB			-0.0003 (-0.074)				
REG_FI				-0.0019 (-0.010)			
BGR					0.0604 (0.221)		
OwnRestr						0.0257 (1.411)	
FDIReg							0.3264 (1.454)
Number of observations	101	85	100	88	87	58	87
R-squared	0.63	0.70	0.62	0.69	0.69	0.67	0.70
F-statistic	26.50	29.90	25.22	30.56	30.14	16.91	31.26

Numbers in parentheses are t-statistics. *Significant at the 10 percent level. **Significant at the 5 percent level. ***Significant at the 1 percent level.

Table 2: Estimation results for base-run equation including political system indicators

Dependent variable	Log of FDI flows per capita								
Equation	(3.2.1)	(3.2.2)	(3.2.3)	(3.2.4)	(3.2.5)	(3.2.6)	(3.2.7)	(3.2.8)	(3.2.9)
Main independent variables									
Constant	-0.0060 (-0.002)	-3.0086 (-0.829)	-0.188 (-0.057)	-2.506 (-0.669)	-4.7778 (-1.364)	-2.346 (-0.705)	-2.768 (-0.858)	-2.6001 (-0.789)	-2.4119 (-0.7304)
Log(GDP/POP)	0.8737 (3.582)***	1.1223 (4.418)***	1.0158 (5.411)***	1.0311 (4.107)***	0.9023 (4.294)***	0.9089 (4.933)***	0.8784 (4.365)***	0.8920 (4.284)***	0.9015 (4.367)***
Log(DIST)	-1.0119 (-3.106)***	-0.9715 (-2.942)***	-1.2330 (-3.707)***	-0.9485 (-2.831)***	-0.7704 (-2.211)**	-1.0757 (-3.227)***	-0.7483 (-2.319)**	-0.7282 (-2.182)**	-0.772 (-2.345)**
POPGR	0.3796 (3.238)***	0.3650 (3.069)***	0.4768 (3.942)***	0.3709 (3.062)***	0.4787 (3.892)***	0.5202 (4.442)***	0.4469 (3.843)***	0.4664 (3.798)***	0.4290 (3.622)***
Log(AGGL)	0.2345 (2.128)**	0.2771 (2.444)**	0.3885 (3.335)***	0.3139 (2.590)**	0.3113 (2.693)***	0.3465 (3.000)***	0,2533 (2.424)***	0.2966 (2.746)***	0.3027 (2.801)***
OPEN	0.0089 (3.234)***	0.0096 (3.392)***	0.0103 (3.936)***	0.0102 (3.089)***	0.0109 (3.633)***	0.0107 (4.205)***	0.0101 (3.829)***	0.0111 (3.630)***	0.0113 (3.678)***
POL									
GovtEFF	0.4752 (1.683)*								
PolStab		0.0166 (0.061)							
GovtStab			-0.1093 (-0.892)						
PolTerr				-0.1180 (-0.522)					
Democ					0.2148 (2.1775)**				
DemAcc						0.2669 (2.248)**			
VoiceAcc							0.6326 (3.059)***		
CivLib								-0.3004 (-2.506)**	
PressFree									-0.0203 (-2.512)**
Number of observations	101	101	91	99	93	91	101	100	100
R-squared	0.63	0.62	0.67	0.61	0.66	0.68	0.65	0.63	0.63
F-statistic	26.34	25.12	28.23	23.91	27.30	30.35	29.17	26.82	26.84

Numbers in parentheses are t-statistics. *Significant at the 10 percent level. **Significant at the 5 percent level. ***Significant at the 1 percent level.

Table 3: Estimation results for base-run equation including legal system indicators

Dependent variable	Log of FDI flows per capita						
Equation	(3.3.1)	(3.3.2)	(3.3.3)	(3.3.4)	(3.3.5)	(3.3.6)	(3.3.7)
Main independent variables							
Constant	-1.1045 (-0.320)	-8.7884 (-2.352)**	0.1918 (0.051)	-1.4269 (-0.398)	-4.1552 (-1.160)	-5.9565 (-1.657)	-5.9211 (-1.736)*
Log(GDP/POP)	0.7610 (3.219)***	1.6157 (5.631)***	0.8518 (3.491)***	1.0734 (4.832)***	1.1701 (5.947)***	1.3306 (6.185)***	1.3292 (6.627)***
Log(DIST)	-0.9307 (-2.869)***	-0.6467 (-2.002)**	-1.0357 (-3.176)***	-1.2116 (-3.541)***	-0.8977 (-2.729)***	-0.8569 (-2.502)**	-0.9217 (-2.789)***
POPGR	0.3901 (3.402)***	0.3280 (1.924)*	0.3703 (3.175)***	0.4427 (3.854)***	0.3319 (2.686)***	0.2333 (2.021)**	0.2582 (2.372)**
Log(AGGL)	0.2449 (2.241)**	0.2346 (2.125)**	0.2600 (2.413)**	0.4036 (3.450)***	0.2640 (2.442)**	0.2438 (2.208)**	0.2413 (2.154)**
OPEN	0.0085 (3.158)***	0.0082 (3.122)***	0.0091 (3.330)***	0.0100 (3.861)***	0.0101 (3.654)***	0.0083 (3.242)***	0.0080 (3.196)***
LAW							
PR	0.0286 (2.939)***						
LegPR		-0.1794 (-1.064)					
RoL			0.4648 (1.817)*				
L&O				-0.1238 (-0.6928)			
Contr					0.0025 (0.6613)		
Disp						0.1358 (0.6783)	
InvProt							0.1945 (1.776)*
Number of observations	99	88	101	91	100	87	85
R-squared	0.65	0.70	0.63	0.67	0.62	0.69	0.71
F-statistic	28.46	31.18	26.55	28.07	25.41	30.37	31.63

Numbers in parentheses are t-statistics. *Significant at the 10 percent level. **Significant at the 5 percent level. ***Significant at the 1 percent level.

Table 4: Estimation results for base-run equation including corruption and economic freedom indicators

Dependent variable	Log of FDI flows per capita						
Equation	(3.4.1)	(3.4.2)	(3.4.3)	(3.4.4)	(3.4.5)	(5.1)	(5.2)
Main independent variables							
Constant	-2.2047 (-0.617)	0.1237 (0.035)	0.4282 (0.129)	-5.8527 (-1.598)	-4.2106 (-1.132)	-9.3135 (-2.677)***	-9.8026 (-2.872)***
Log(GDP/POP)	0.7985 (3.323)***	0.7971 (3.341)***	0.8563 (4.256)***	1.2270 (4.915)***	1.1226 (3.967)***	1.5127 (7.271)***	1.6417 (8.669)***
Log(DIST)	-0.8321 (-2.470)**	-0.9680 (-3.015)***	-1.2785 (-3.921)***	-0.8321 (-2.487)**	-0.8633 (-2.585)**	-0.5302 (-1.588)	-0.4999 (-1.556)
POPGR	0.3502 (2.998)***	0.3501 (3.027)***	0.4421 (3.896)***	0.2507 (2.268)**	0.2947 (2.452)**		
Log(AGGL)	0.2714 (2.425)**	0.2567 (2.405)**	0.3518 (2.975)***	0.2545 (2.319)**	0.2551 (2.178)**		
OPEN	0.0089 (3.256)***	0.0090 (3.323)***	0.0097 (3.792)***	0.0085 (3.372)***	0.0077 (2.747)***		
CORR							
CPI	0.2250 (1.985)**						
CoC		0.5322 (2.266)**					
CorrRisk			0.2854 (1.600)				
IrrPay				0.1239 (0.643)			
CorrFree					0.0139 (1.233)		
ECONFREE							
IEF						0.0462 (2.045)**	
EFW							0.2801 (1.102)
Number of observations	98	101	91	87	93	97	90
R-squared	0.63	0.64	0.68	0.69	0.65	0.59	0.63
F-statistic	25.57	27.34	29.11	30.34	26.51	45.12	49.76

Numbers in parentheses are t-statistics. *Significant at the 10 percent level. **Significant at the 5 percent level. ***Significant at the 1 percent level.

Table 5: Estimation results for base-run equation including all four institutional and corruption variables (1)

Dependent variable		Log of FDI flows per capita						
Equation		(4.1)	(4.2)	(4.3)	(4.4)	(4.5)	(4.6)	(4.7)
Main independent variables								
	Constant	-4.3587 (-1.086)	-10.6664 (-2.398)**	-7.6653 (-1.3635)	-9.1774 (-2.114)**	-3.9001 (-0.932)	-4.8877 (-1.134)	-3.7764 (-0.9385)
	Log(GDP/POP)	0.8530 (3.457)***	1.4879 (4.927)***	1.1863 (3.275)***	1.2493 (4.294)***	0.8410 (3.412)***	0.8397 (3.445)***	0.8461 (3.399)***
	Log(DIST)	-0.7466 (-2.187)**	-0.7148 (-2.068)**	-0.6305 (-1.701)*	-0.6450 (-1.864)*	-1.1266 (-3.3987)***	-0.8659 (-2.445)**	-0.8395 (-2.518)**
	POPGR	0.4510 (3.595)***	0.3343 (2.634)**	0.6757 (3.225)***	0.3980 (3.208)***	0.5433 (4.452)***	0.4863 (3.695)***	0.3667 (2.967)***
	Log(AGGL)	0.2836 (2.485)**	0.2169 (1.946)*	0.1980 (1.285)	0.2426 (2.030)**	0.3963 (3.399)***	0.3206 (2.738)***	0.2976 (2.527)**
	OPEN	0.0099 (3.506)***	0.0074 (2.642)***	0.0082 (2.227)**	0.0090 (3.403)***	0.0106 (4.040)***	0.0104 (3.417)***	0.0090 (3.282)***
REG	RegQ	-0.4651 (-0.936)				-0.8091 (-1.631)	-0.1931 (-0.402)	0.2114 (0.3567)
	FDIReg		0.2763 (1.062)					
	OwnRestr			0.0012 (0.057)				
	Tax				0.0040 (0.349)			
POL	DemAcc					0.2326 (1.617)		
	Democ						0.1209 (0.877)	
	GovEff							-1.0994 (-1.226)
	VoiceAcc	0.5549 (1.649)	0.2889 (0.861)	0.8409 (2.189)**	0.3854 (1.124)			
LAW	PR	0.0338 (1.677)*	0.0314 (1.557)	0.0295 (1.2430)	0.0450 (2.171)**	0.0503 (2.530)**	0.0444 (2.196)**	0.0417 (2.102)**
	RoL							
	InvProt							
CORR	CPI							
	CoC	-0.2939 (-0.5587)	-0.9334 (-1.877)*	-0.9054 (-1.4196)	-1.0034 (-1.986)*	-0.3501 (-0.654)	-0.5954 (-1.129)	0.3641 (0.5321)
	CorrRisk							
	Number of observations	99	86	58	84	90	93	99
	R-squared	0.66	0.72	0.71	0.73	0.71	0.67	0.66
	F-statistic	19.41	21.92	13.32	22.48	22.27	19.15	19.02

Numbers in parentheses are t-statistics. *Significant at the 10 percent level. **Significant at the 5 percent level. ***Significant at the 1 percent level.

Table 6: Estimation results for base-run equation including all four institutional and corruption variables (2)

Dependent variable		Log of FDI flows per capita			
Equation		(4.8)	(4.9)	(4.10)	(4.11)
Main independent variables					
	Constant	-5.0764 (-1.221)	-8.1336 (-1.977)*	-5.0238 (-1.293)	-1.6346 (-0.441)
	Log(GDP/POP)	0.4251 (3.866)***	1.2719 (4.608)***	0.8394 (3.421)***	0.7543 (3.203)***
	Log(DIST)	-0.5588 (-1.548)	-0.6812 (-1.993)**	-0.6183 (-1.750)*	-1.1329 (-3.429)***
	POPGR	0.4251 (3.429)***	0.3448 (2.804)***	0.4532 (3.649)***	0.5193 (4.543)***
	Log(AGGL)	0.2566 (2.346)**	0.2688 (2.431)**	0.3154 (2.734)***	0.4472 (3.727)***
	OPEN	0.0105 (3.788)***	0.0101 (3.868)***	0.0100 (3.554)***	0.0105 (3.984)***
REG	RegQ	-0.0355 (-0.067)	-0.7026 (-1.360)	-0.4580 (-0.949)	-0.9923 (-2.097)**
	FDIReg				
	OwnRestr				
	Tax				
POL	GovEff				
	Democ				
	DemAcc				
	VoiceAcc	0.7505 (2.3239)**	0.7436 (2.302)**	0.5853 (1.747)*	0.5261 (1.607)
LAW	PR			0.0301 (1.468)	0.0470 (2.489)**
	RoL	-1.0248 (-1.283)			
	InvProt		0.2142 (1.912)		
CORR	CPI			-0.1323 (-0.573)	
	CoC	0.8370 (1.319)	0.0598 (0.138)		
	CorrRisk				-0.2760 (-1.007)
Number of observations		101	85	97	90
R-squared		0.66	0.73	0.66	0.72
F-statistic		19.52	22.71	18.57	22.35

Numbers in parentheses are t-statistics. *Significant at the 10 percent level. **Significant at the 5 percent level. ***Significant at the 1 percent level.

Table 7: Estimation results for base-run equation including one corruption and one institutional variable

Dependent variable		Log of FDI flows per capita							
Equation		(4.12)	(4.13)	(4.14)	(4.15)	(4.16)	(4.17)	(4.18)	(4.19)
Main independent variables									
	Constant	-4.1799 (-0.949)	-2.4924 (-0.662)	-4.1424 (-0.921)	-2.0703 (-0.545)	-0.1640 (-0.040)	-0.4159 (-0.110)	-1.2937 (-0.316)	-1.607 (-0.436)
	Log(GDP/POP)	0.8428 (3.571)***	0.8606 (3.631)***	0.7937 (3.234)***	0.8015 (3.256)***	0.7942 (2.998)***	0.8223 (3.135)***	0.8477 (3.549)***	0.8585 (3.607)***
	Log(DIST)	-0.5962 (-1.723)*	-0.7591 (-2.280)**	-0.8174 (-2.429)**	-0.9212 (-2.827)***	-0.8271 (-2.427)**	-0.9709 (-2.961)***	-0.7506 (-2.232)**	-0.8731 (-2.709)***
	POPGR	0.4486 (3.663)***	0.4415 (3.597)***	0.4104 (3.450)***	0.4069 (3.441)***	0.3412 (2.838)***	0.3325 (2.778)***	0.3004 (2.437)**	0.2943 (2.409)**
	Log(AGGL)	0.2829 (2.581)**	0.2527 (2.404)**	0.2809 (2.493)**	0.2478 (2.258)**	0.2775 (2.203)**	0.2457 (2.009)**	0.2628 (2.370)**	0.2527 (2.385)**
	OPEN	0.0101 (3.693)***	0.0101 (3.695)***	0.0086 (3.155)***	0.0085 (3.133)***	0.0102 (3.156)***	0.0106 (3.291)***	0.0095 (3.482)***	0.0097 (3.574)***
REG	RegQ								
	FDIReg								
POL	PolTerr					0.0429 (0.175)	0.1244 (0.507)		
	VoiceAcc	0.6378 (2.242)**	0.6012 (1.997)**						
LAW	PR			0.0382 (2.031)**	0.0388 (2.018)**				
	Contr							0.0041 (1.063)	0.0047 (1.236)
CORR	CPI	-0.0077 (-0.051)		-0.1501 (-0.701)		0.2372 (1.889)*		0.2356 (-2.010)**	
	CoC		0.0483 (0.144)		-0.2859 (-0.615)		0.6026 (2.268)**		0.5453 (2.229)**
	Number of observations	98	101	97	99	97	99	97	100
	R-squared	0.64	0.65	0.65	0.65	0.62	0.63	0.63	0.64
	F-statistic	23.60	24.75	23.12	24.29	20.86	22.15	21.93	23.42

Numbers in parentheses are t-statistics. *Significant at the 10 percent level. **Significant at the 5 percent level. ***Significant at the 1 percent level.

Appendix VII: Empirical results for the extended model estimation including institutions – corruption interaction effects

Table 1: Estimation results for the extended equations including regulation – corruption and political system – corruption interaction effects

Dependent variable		Log of FDI flows per capita					
Equation							
Main independent variables		(6.1.1)	(6.1.2)	(6.1.3)	(6.1.4)	(6.2.1)	(6.2.2)
	Constant	-3.5225 (-0.889)	-3.7069 (-0.907)	-1.5085 (-0.3664)	-10.0102 (-2.480)	-9.1997 (-1.925)*	-14.2584 (-2.708)***
	Log(GDP/POP)	0.7135 (2.077)**	0.6499 (1.925)*	1.4546 (3.383)***	1.5043 (3.584)***	1.9498 (4.208)***	1.9154 (4.283)***
	Log(DIST)	-0.4358 (-1.210)	-0.5674 (-1.637)	-0.6460 (-1.775)*	-0.6191 (-1.733)*	-0.6663 (-1.707)*	-0.6718 (-1.748)*
	POPGR	0.4009 (3.159)***	0.3920 (3.085)***	0.2118 (2.132)**	0.2167 (2.190)**	0.3241 (2.818)***	0.3252 (2.740)***
	Log(AGGL)	0.4205 (1.782)*	0.4275 (1.825)*	0.1249 (0.452)	0.1147 (0.418)	0.0151 (0.057)	-0.0035 (-0.013)
	OPEN	0.0042 (1.215)	0.0046 (1.338)	0.0008 (0.254)	0.0008 (0.2705)	0.0076 (2.877)***	0.0072 (2.642)***
REG	RegQ	-0.3891 (-0.731)	0.1277 (0.247)				
	FDIReg			-0.9786 (-2.695)***	0.4320 (1.838)*	0.4807 (1.470)	0.4853 (1.414)
POL	Democ					-0.3807 (-1.847)*	0.0920 (0.649)
	VoiceAcc	0.3472 (0.988)	0.3257 (0.917)	0.2304 (0.637)	0.3030 (0.844)		
LAW	PR	0.0213 (1.026)	0.0247 (1.179)	0.0176 (0.972)	0.0205 (1.193)	0.0280 (1.384)	0.0282 (1.449)
CORR	CPI	-0.4565 (-1.395)		-1.8101 (-7.138)***		-1.3222 (-3.513)***	
	CoC		-0.6076 (-1.056)		-4.1708 (-8.063)***		-2.4529 (-3.356)***
INTERACTION	RegQ*CPI	0.1796 (1.431)					
	RegQ*CoC		0.1834 (0.875)				
	FDIReg*CPI			0.3285 (6.001)***			
	FDIReg*CoC				0.7273 (6.038)***		
	Democ*CPI					0.1119 (2.574)**	
	Democ*CoC						0.1941 (2.280)**
Number of observations		97	99	86	86	84	84
	R-squared	0.65	0.66	0.74	0.75	0.72	0.72
	F-statistic	16.14	16.87	21.85	22.42	18.40	18.35
	DW-statistic	2.03	2.02	1.62	1.73	2.29	2.41

Numbers in parentheses are t-statistics. *Significant at the 10 percent level. **Significant at the 5 percent level. ***Significant at the 1 percent level.

Table 2: Estimation results for the extended equations including political system – corruption and legal system – corruption interaction effects

Dependent variable		Log of FDI flows per capita					
Equation							
Main independent variables		(6.2.3)	(6.2.4)	(6.3.1)	(6.3.2)	(6.3.3)	(6.3.4)
	Constant	-3.8670 (-0.939)	-3.972 (-0.970)	-3.0950 (-0.766)	-4.2561 (-1.029)	-8.8147 (-2.132)	-6.3443 (-1.423)
	Log(GDP/POP)	0.7398 (1.828)*	0.6872 (2.010)**	0.7473 (1.866)*	0.6779 (1.985)**	1.1829 (3.095)***	1.1710 (2.971)***
	Log(DIST)	-0.4291 (-1.134)	-0.5599 (-1.617)	-0.405 (-1.061)	-0.5408 (-1.554)	-0.8018 (1.924)*	-0.8001 (-1.949)*
	POPGR	0.4375 (3.349)***	0.4221 (3.191)***	0.4066 (3.259)***	0.3977 (3.118)***	0.2984 (3.253)***	0.2939 (3.157)***
	Log(AGGL)	0.3853 (1.608)	0.3903 (1.622)	0.4247 (1.812)*	0.4289 (1.836)*	0.2709 (1.067)	0.2850 (1.080)
	OPEN	0.0067 (2.067)**	0.0061 (1.682)*	0.0047 (1.544)	0.0048 (1.391)	0.0090 (3.299)***	0.0089 (3.157)***
REG	RegQ	0.2520 (0.397)	0.1425 (0.2784)	0.2283 (0.3619)	0.0912 (0.182)	-0.8486 (-1.537)	-0.8479 (-1.469)
POL	Democ						
	VoiceAcc	-0.2337 (-0.4181)	0.3556 (0.992)	0.3517 (1.030)	0.3330 (0.936)	0.6312 (2.251)**	0.6157 (2.157)**
LAW	PR	0.0209 (1.083)	0.0237 (1.130)	-0.0031 (-0.113)	0.0252 (1.215)		
	InvProt					0.7955 (3.050)***	0.4186 (3.478)***
CORR	CPI	-0.3714 (-1.342)		-0.7317 (-1.662)*		0.5900 (1.375)	
	CoC		-0.5962 (-1.065)		-0.9910 (-1.221)		1.2767 (1.338)
INTERACTION	VoiceAcc*CPI	0.1483 (1.351)					
	VoiceAcc*CoC		0.2081 (1.020)				
	PR*CPI			0.0063 (1.535)			
	PR*CoC				0.0076 (0.9397)		
	InvProt*CPI					-0.0900 (-2.069)**	
	InvProt*CoC						-0.1947 (-1.963)*
	Number of observations	97	99	97	99	85	85
	R-squared	0.65	0.66	0.65	0.66	0.73	0.73
	F-statistic	16.03	16.96	16.07	16.91	19.81	19.93
	DW-statistic	2.10	2.07	2.04	2.03	1.99	2.03

Numbers in parentheses are t-statistics. *Significant at the 10 percent level. **Significant at the 5 percent level. ***Significant at the 1 percent level.

Table 3: Estimation results for the extended equations including one regulatory, one corruption indicators and their interaction term

Dependent variable		Log of FDI flows per capita					
Equation		(7.1.1)	(7.1.2)	(7.1.3)	(7.1.4)	(7.1.5)	(7.1.6)
Main independent variables							
	Constant	-0.4070 (-0.109)	-4.9619 (-1.095)	-2.9477 (-0.685)	-4.6968 (-1.016)	-4.7145 (-1.035)	-6.6166 (-1.698)*
	Log(GDP/POP)	0.5207 (1.485)	1.1772 (2.612)**	0.5852 (1.864)*	1.2147 (3.078)***	1.3941 (3.129)***	1.3474 (3.393)***
	Log(DIST)	-0.7079 (-2.063)**	-0.6773 (-1.795)*	-0.5521 (-1.363)	-0.5936 (-1.769)*	-0.7500 (-2.106)**	-0.7709 (-2.093)**
	POPGR	0.3229 (3.128)***	0.2026 (2.181)**	0.2600 (2.990)***	0.2556 (1.407)	0.2682 (2.733)***	0.1185 (1.592)
	Log(AGGL)	0.4742 (2.271)**	0.1919 (0.722)	0.5189 (2.451)**	0.2665 (1.131)	0.0697 (0.257)	0.1661 (0.658)
	OPEN	0.0037 (1.338)	0.0067 (2.230)**	0.0046 (1.694)*	0.0058 (1.902)*	0.0096 (2.432)**	-0.0002 (-0.087)
REG	RegQ	0.4226 (0.721)					
	Tax		0.0108 (1.113)				
	EDB			0.0049 (1.058)			
	REG_FI				-0.2061 (-0.939)		
	BGR					-0.1356 (-0.437)	
	FDIReg						0.4651 (2.145)**
CORR	CoC	-0.0806 (-1.163)	0.7066 (0.969)	0.5839 (1.549)	-1.4945 (-1.336)	1.1037 (1.339)	-3.7151 (-7.085)***
INTERACTION	RegQ*CoC	0.2371 (1.236)					
	Tax*CoC		-0.0110 (-0.771)				
	EDB*CoC			-0.0028 (-0.930)			
	REG_FI*CoC				0.2316 (1.539)		
	BGR*CoC					-0.2558 (-1.102)	
	FDIReg*CoC						0.7797 (6.085)***
	Number of observations	101	85	100	88	87	87
	R-squared	0.64	0.68	0.64	0.69	0.68	0.73
	F-statistic	20.49	20.64	20.51	22.28	20.89	26.89
	DW-statistic	2.04	1.92	1.92	1.89	2.19	1.67

Numbers in parentheses are t-statistics. *Significant at the 10 percent level. **Significant at the 5 percent level. ***Significant at the 1 percent level.

Table 4: Estimation results for the extended equations including one political, one corruption indicators and their interaction term

Dependent variable		Log of FDI flows per capita						
Equation		(7.2.1)	(7.2.2)	(7.2.3)	(7.2.4)	(7.2.5)	(7.2.6)	(7.2.7)
Main independent variables								
	Constant	-0.3068 (-0.075)	-2.3317 (-0.629)	-1.7454 (-0.460)	-4.3898 (-1.023)	-3.4993 (-0.902)	-3.7008 (-0.977)	-2.2690 (-0.708)
	Log(GDP/POP)	0.4973 (1.285)	0.6295 (2.112)**	0.5734 (1.869)*	0.7477 (2.027)**	0.8433 (2.318)**	0.7562 (2.232)**	0.7161 (1.996)**
	Log(DIST)	-0.7116 (-2.044)**	-0.6549 (-1.923)*	-0.7659 (-2.083)**	-0.6080 (-1.741)*	-0.7824 (-2.515)**	-0.5167 (-1.454)	-0.5458 (-1.584)
	POPGR	0.3085 (2.871)***	0.2728 (3.231)***	0.2601 (3.259)***	0.4492 (3.437)***	0.5171 (4.314)***	0.4101 (3.498)***	0.4068 (3.211)***
	Log(AGGL)	0.5071 (2.321)**	0.5371 (2.505)**	0.5333 (2.542)**	0.4207 (1.850)*	0.3326 (1.533)	0.3472 (1.647)	0.3776 (1.669)*
	OPEN	0.0039 (1.294)	0.0053 (1.912)*	0.0063 (1.941)*	0.0065 (2.133)**	0.0100 (3.371)***	0.0073 (2.646)***	0.0070 (2.148)**
POL	GovtEff	0.3166 (0.429)						
	PolStab		-0.6403 (-2.308)**					
	PolTerr			0.3659 (1.805)*				
	Democ				0.1934 (1.455)			
	DemAcc					0.2662 (2.125)**		
	VoiceAcc						0.5715 (1.745)*	
	CivLib							-0.1923 (-1.195)
CORR	CoC	0.0138 (0.022)	0.5822 (1.891)*	0.7507 (1.546)	-0.6637 (-0.927)	-1.2811 (-1.960)*	-0.1780 (-0.566)	0.5879 (1.448)
INTERACTION	GovtEff*CoC	0.1337 (0.799)						
	PolStab*CoC		0.1423 (0.595)					
	PolTerr*CoC			-0.1076 (-0.621)				
	Democ*CoC				0.0900 (0.945)			
	DemAcc*CoC					0.2728 (2.168)**		
	VoiceAcc*CoC						0.2633 (1.314)	
	CivLib*CoC							-0.1728 (-1.388)
	Number of observations	101	101	99	93	91	101	100
	R-squared	0.64	0.66	0.64	0.65	0.69	0.65	0.64
	F-statistic	20.15	21.99	19.92	19.63	22.66	21.44	20.06
	DW-statistic	2.02	2.11	1.96	2.15	2.12	1.97	2.12

Numbers in parentheses are t-statistics. *Significant at the 10 percent level. **Significant at the 5 percent level. ***Significant at the 1 percent level.

Table 5: Estimation results for the extended equations including one judicial, one corruption indicators and their interaction term

Dependent variable		Log of FDI flows per capita					
Equation		(7.3.1)	(7.3.2)	(7.3.3)	(7.3.4)	(7.3.5)	(7.3.6)
Main independent variables							
	Constant	-3.0851 (-0.824)	-1.9220 (-0.491)	-1.1184 (-0.311)	-2.4768 (-0.655)	-5.7812 (-1.337)	-3.3233 (-0.769)
	Log(GDP/POP)	0.5816 (1.648)	0.5708 (1.716)*	0.5763 (1.794)*	0.5596 (1.746)*	1.4182 (3.403)***	1.1267 (2.927)***
	Log(DIST)	-0.6359 (-1.783)*	-0.5969 (-1.695)*	-0.6132 (-1.927)*	-0.5804 (-1.621)	-0.7920 (-1.977)*	-1.0177 (-2.540)**
	POPGR	0.3487 (3.547)***	0.2717 (2.795)***	0.3207 (4.479)***	0.2380 (2.796)***	0.1797 (1.909)*	0.2414 (3.091)***
	Log(AGGL)	0.4913 (2.259)**	0.4990 (2.346)**	0.6347 (3.026)***	0.5324 (2.475)**	0.1355 (0.530)	0.2406 (1.046)
	OPEN	0.0038 (1.445)	0.0043 (1.568)	0.0037 (1.443)	0.0049 (1.817)*	0.0065 (2.274)**	0.0072 (2.677)***
LAW	PR	0.0315 (1.682)*					
	RoL		0.4653 (-0.664)				
	L&O			-0.4675 (-2.732)***			
	Contr				0.0047 (1.234)		
	Disp					0.1590 (0.501)	
	InvProt						0.3677 (2.903)***
CORR	CoC	-0.6609 (-1.185)	0.6730 (1.042)	-0.2997 (-0.424)	0.3826 (1.228)	-0.5267 (-0.756)	1.1686 (1.519)
INTERACTION	PR*CoC	0.0053 (0.663)					
	RoL*CoC		0.1330 (0.718)				
	L&O*CoC			0.1787 (1.290)			
	Contr*CoC				-0.0004 (-0.116)		
	Disp*CoC					0.1084 (0.766)	
	InvProt*CoC						-0.1890 (-1.799)*
	Number of observations	99	101	91	100	87	85
	R-squared	0.65	0.64	0.69	0.64	0.68	0.71
	F-statistic	21.23	20.35	22.51	20.40	20.61	23.20
	DW-statistic	2.06	2.02	2.21	2.05	2.33	2.25

Numbers in parentheses are t-statistics. *Significant at the 10 percent level. **Significant at the 5 percent level. ***Significant at the 1 percent level.

Appendix VIII: Model testing results

Table 1: Re-estimation of corruption effects on FDI using institutional restriction specification

Equation		(3.2.a)	(3.2.b)	(3.2.c)	(3.2.d)
Restriction		FDIReg < 4.9	VoiceAcc < 0	CivLib > 3	PR < 60
	Constant	-6.1515 (-1.291)	-0.4798 (-0.085)	1.8477 (0.2383)	-0.6184 (0.139)
	Log(GDP/POP)	1.3858 (3.811)***	0.8861 (3.370)***	0.8796 (3.089)***	0.7632 (2.773)***
	Log(DIST)	-1.0763 (-2.630)**	-1.2293 (-2.186)**	-1.5009 (-1.8936)*	-0.9952 (-2.444)**
	POPGR	0.6043 (2.965)***	0.5003 (3.698)***	0.5218 (3.535)***	0.4415 (3.545)***
	Log(AGGL)	0.3849 (2.416)**	0.3797 (2.260)**	0.3946 (2.108)**	0.3414 (2.260)**
	OPEN	0.0107 (1.545)	0.0103 (2.292)**	0.0106 (2.123)**	0.0082 (1.606)
CORR	CoC	-0.5323 (-1.742)*	-0.4706 (-0.981)	-0.4936 (-0.956)	-0.0965 (-0.227)
	Number of observations	41	47	41	68
	R-squared	0.63	0.64	0.65	0.47
	F-statistic	9.59	12.04	10.47	9.10
	DW-statistic	2.03	1.80	1.65	1.73

Table 2: Re-estimation of the most-significant regressions including CORR – LAW interactions

Equation		6.3.4	6.3.4	6.3.4	7.3.6	7.3.6	7.3.6
Spec. form		Original	Common sample	Conditional	Original	Common sample	Conditional
	Constant	-6.3443 (-1.423)	-6.3443 (-1.423)	13.27 (2.07)*	-3.3233 (-0.769)	-3.3233 (-0.769)	15.48 (2.40)**
	Log(GDP/POP)	1.1710 (2.971)***	1.1710 (2.971)***	0.67 (1.08)	1.1267 (2.927)***	1.1267 (2.927)***	0.969 (1.36)
	Log(DIST)	-0.8001 (-1.949)*	-0.8001 (-1.949)*	-2.86 (-4.69)***	-1.0177 (-2.540)**	-1.0177 (-2.540)**	-3.170 (-5.60)***
	POPGR	0.2939 (3.157)***	0.2939 (3.157)***	0.27 (1.16)	0.2414 (3.091)***	0.2414 (3.091)***	0.249 (1.04)
	Log(AGGL)	0.2850 (1.080)	0.2850 (1.080)	0.64 (1.36)	0.2406 (1.046)	0.2406 (1.046)	0.455 (0.85)
	OPEN	0.0089 (3.157)***	0.0089 (3.157)***	0.0047 (0.88)	0.0072 (2.677)***	0.0072 (2.677)***	0.003 (0.44)
REG	RegQ	-0.8479 (-1.469)	-0.8479 (-1.469)	-1.54 (-2.62)**			
POL	VoiceAcc	0.6157 (2.157)**	0.6157 (2.157)**	0.38 (0.80)			
LAW	InvProt	0.4186 (3.478)***	0.4186 (3.478)***	0.69 (2.03)*	0.3677 (2.903)***	0.3677 (2.903)***	0.569 (1.52)
CORR	CoC	1.2767 (1.338)	1.2767 (1.338)	1.86 (2.57)**	1.1686 (1.519)	1.1686 (1.519)	0.923 (1.82)*
INTERACTION	InvProt*CoC	-0.1947 (-1.963)*	-0.1947 (-1.963)*		-0.1890 (-1.799)*	-0.1890 (-1.799)*	
	Number of observations	85	85	23	85	85	23
	R-squared	0.73	0.73	0.94	0.71	0.71	0.91
	F-statistic	19.93	19.93	23.49	23.20	23.20	21.84
	DW-statistic	2.03	2.03	0.65	2.25	2.25	0.74

Table 3: Re-estimation of the most-significant regressions including CORR – REG interactions

Equation	6.1.4	6.1.4	6.1.4	7.1.6	7.1.6	7.1.6
Spec. form	Original	Common sample	Conditional (FDIReg<5)	Original	Common sample	Conditional (FDIReg<5)
Constant	-10.0102 (-2.480)	-10.19 (-2.39)**	-15.98 (-2.79)***	-6.6166 (-1.698)*	-6.112 (-1.51)	-10.66 (-1.95)*
Log(GDP/POP)	1.5043 (3.584)***	1.437 (3.68)***	2.49 (4.45)***	1.3474 (3.393)***	1.271 (3.22)***	2.499 (4.05)***
Log(DIST)	-0.6191 (-1.733)*	-0.609 (-1.84)*	-1.02 (-2.56)**	-0.7709 (-2.093)**	-0.786 (-2.42)**	-1.249 (-2.95)***
POPGR	0.2167 (2.190)**	0.239 (2.02)**	0.597 (2.86)***	0.1185 (1.592)	0.109 (1.01)	0.486 (2.39)**
Log(AGGL)	0.1147 (0.418)	0.118 (0.49)	-0.14 (-0.39)	0.1661 (0.658)	0.191 (0.80)	-0.345 (-0.883)
OPEN	0.0008 (0.2705)	0.001 (0.34)	0.007 (1.10)	-0.0002 (-0.087)	-0.0004 (-0.12)	0.005 (0.66)
REG FDIReg	0.4320 (1.838)*	0.469 (1.91)*	1.014 (3.17)***	0.4651 (2.145)**	0.496 (2.02)**	0.701 (2.18)**
POL VoiceAcc	0.3030 (0.844)	0.440 (1.35)	-0.367 (-0.83)			
LAW PR	0.0205 (1.193)	0.029 (1.46)	0.005 (0.21)			
CORR CoC	-4.1708 (-8.063)***	-4.28 (-4.17)***	-3.843 (-2.81)***	-3.7151 (-7.085)***	-3.629 (-3.60)***	-0.817 (-2.28)**
INTERACTION FDIReg*CoC	0.7273 (6.038)***	0.707 (3.45)***		0.7797 (6.085)***	0.772 (3.73)***	
Number of observations	86	84	40	87	85	41
R-squared	0.75	0.76	0.75	0.73	0.74	0.63
F-statistic	22.42	23.18	8.50	26.89	26.68	7.88
DW-statistic	1.73	1.56	2.53	1.67	1.54	2.53

Table 4: Re-estimation of the most-significant regressions including CORR – POL interactions

Equation	7.2.5	7.2.5	7.2.5
Spec. form	Original	Common sample	Conditional (DemocAcc<5)
Constant	-3.4993 (-0.902)	-9.024 (-2.00)**	-8.286 (-1.18)
Log(GDP/POP)	0.8433 (2.318)**	1.674 (4.21)***	1.381 (2.82)***
Log(DIST)	-0.7824 (-2.515)**	-0.684 (-2.01)**	-0.726 (-1.23)
POPGR	0.5171 (4.314)***	0.418 (4.01)***	0.460 (3.17)***
Log(AGGL)	0.3326 (1.533)	-0.07 (-0.35)	0.237 (0.68)
OPEN	0.0100 (3.371)***	0.013 (4.75)***	0.012 (2.28)**
POL DemocAcc	0.2662 (2.125)**	0.242 (2.03)**	0.220 (0.94)
CORR CoC	-1.2811 (-1.960)*	-1.651 (-2.75)***	-1.179 (-2.01)*
INTERACTION InvProt*CoC	0.2728 (2.168)**	0.321 (2.77)***	
Number of observations	91	84	42
R-squared	0.69	0.71	0.70
F-statistic	22.66	23.02	11.52
DW-statistic	2.12	2.32	1.80