

# Does corruption matter for FDI inflows?

## Experiences from Indonesia

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### ABSTRACT

The effects of corruption have long been debated, but it is only recently that its effect on FDI inflows has been studied. Previous empirical studies have provided scattershot evidence on this effect, with several failing to find any significant relationship with a purely quantitative approach. In contrast, this study seeks to address the impact of corruption on FDI inflows by applying a mixed-method approach, including both a quantitative and a qualitative component. The quantitative study employs a two-way fixed effects panel data model, seeking to statistically determine how corruption affects FDI inflows and whether this effect depends on the main motives for FDI inflows to a certain country. The quantitative study is complemented by a qualitative case study on Indonesia, in order to examine relations and effects that are not possible to detect by a strictly quantitative approach. Our results confirm that the effect of corruption depends on several factors that have not previously been studied in this setting. First of all, the motives for FDI are critical in determining the investors' sensitivity to corruption. Second, the effect of each level of corruption depends on its nature. Third, the profitability of the host market can compensate for the cost of corruption. Forth, the attitude and policies of the investing company determines how it is affected by corruption. Thus, we conclude that corruption indeed has a deterring result, but has no real impact on investments as long as profits are expected to be positive, the costs of corruption included.

**Keywords:** Economics of corruption, Foreign Direct Investment, Institutional quality, Indonesia

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“We need to deal with the cancer of corruption [...] We can give advice, encouragement, and support to governments that wish to fight corruption—and *it is these governments that, over time, will attract the larger volume of investment.*”

– James Wolfensohn, President, The World Bank [1995-2005]<sup>1</sup>

## 1 Introduction

Foreign direct investment (FDI) has served as one of the most important factors to increased globalization over the last decades (Jungnickel 2002). Although empirical evidence on the growth benefits of FDI has been ambiguous (Lipsey 2002), potential positive spillovers have been found to include higher average wages and better working conditions in developing countries as well as technology transfers from foreign to domestic firms (Graham 2000, Romer 1993, Lipsey & Sjöholm 2011). Thus, FDI is in most cases considered a desirable type of investment to attract and countries compete on a global basis to attract these flows (Caetano & Caleiro 2005). However, countries differ in their ability to attract FDI (Lipsey & Sjöholm 2011 p.36). Which country characteristics that are identified as important determinants of FDI location vary substantially between scholars.

Investors are thought to take the level of corruption into account when making decisions where to invest abroad (Caetano & Caleiro 2005). Recent research has established that corruption has negative socio-economic effects.<sup>2</sup> However, the empirical literature on the effect of a host country's level of corruption on FDI inflows has not been able to prove the commonly expected effects. Some studies have found evidence of a negative link between corruption and FDI inflows whereas others have failed to find any significant relationship. Therefore, corruption can still be hypothesized to play a “double-edged” role with regards to its impact on FDI inflows.

We seek to understand the reasons for these mixed results. Does corruption have any real effect on FDI inflows to a country or is its effect negligible relative to the effects of other factors? How does this potential effect work – does it affect FDI directly or via other determinants of FDI? Does the potential effect depend on the type of corruption? Does the effect of corruption depend on the motives for FDI and therefore differ between types of countries? Thus, the purpose of this thesis is to *contribute to the existing empirical work on corruption as a determinant of FDI, by seeking to understand its effect relative to other FDI determinants and further investigate whether its effect differs depending on the motive for FDI and different natures of corruption.*

We seek to address the outlined purpose by applying a mixed-method approach, including both a quantitative and a qualitative component. Some factors that are thought to affect the FDI inflows, such as the nature of corruption and policy changes, are hard to measure quantitatively. This, together with the fact that evidence from earlier empirical research is scattershot, contributes to our belief that the mixed-method approach provides a more comprehensive examination of our research questions than a strictly quantitative study would have done by itself.<sup>3</sup>

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<sup>1</sup> From the 1996 speech at the annual meetings of the World Bank and the International Monetary Fund. Cited in Wei (2000a p. 1).

<sup>2</sup> Scholars have proposed theories linking corruption to lower economic efficiency and growth (Murphy, Shleifer & Vishny 1991, Mauro 1995). Also, the World Bank (2011) has identified corruption as “the single greatest obstacle to economic and social development.” Throughout this thesis, we will isolate our evaluation of the effects of corruption to FDI and business.

<sup>3</sup> The use of qualitative approaches in economic research has increased substantially for the past 10 – 15 years, including “mixed-methods” projects. For a comprehensive overview, see Starr (2012).

The quantitative study will be conducted by empirically reexamining the effects of corruption on FDI flows aggregated at country level. This is done by employing an econometric estimation based on annual FDI data with observations from 1990 to 2011 for 121 host countries. In order to control whether the effect of corruption on FDI depend on the motives for FDI, and therefore differ between different types of countries, estimations will be run on samples only including emerging economies and resource rich countries.

The qualitative study will be employed in the form of an explanatory case study, with the aim to investigate corruption as a determinant of FDI inflows to Indonesia over time. We recognize the difficulty of generalizing findings from an individual case study (Yin 2009). Nevertheless, we believe that our research question, due to its complexity, will benefit from being investigated through a case study delimited to one single country. The choice of Indonesia as our case subject was made for several reasons. Indonesia is an emerging and resource rich economy, with one of the highest growth rates in the world (U.S. & Foreign Commercial Services 2012). Corruption in the country is large and widespread, with an increasing degree of unpredictability in its nature in recent years (Kuncoro 2003). Coincidentally, its FDI inflows have for long been lower than could be expected from its size and other country characteristics, especially compared to its East Asian neighbors (Lipsey & Sjöholm 2011 p.36). Thus, Indonesia should provide a basis for an interesting case study on the effects of a host country's level and nature of corruption on its FDI inflows.

The study is organized as follows. The next section comprises of a review of the previous research on the nature of corruption, its role as a determinant of FDI and other locational determinants and motives for FDI. In the third section, we present the empirical methods used to formulate a theory of the determinants of FDI and introduce our data. The results from our econometric analysis are presented in the fourth section. The fifth section introduces Indonesia as a recipient of FDI and presents the results of our qualitative analysis. Lastly, in the sixth section, our conclusions are presented and discussed in a broader perspective with regards to the current state of knowledge. Some potential areas for further research are also discussed.

## **2 Previous research**

### **2.1 Corruption**

#### **2.1.1 Definition**

There is no universal and widely acknowledged definition of corruption since it is subject to cultural, legal, moral and sectorial factors (World Economic Forum 2011). Corruption can occur on various scales, in many forms and at all levels. In general, most definitions imply two willing actors, usually but not always including a public official (Klitgaard 1988, Rose-Ackerman 1997).<sup>4</sup>

We will follow the widely used definition provided by the Non-Governmental Organization (NGO) Transparency International (TI) (2009 p. 14), where corruption is defined as the “*misuse of entrusted*

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<sup>4</sup> These definitions often claim that corruption takes place in the public sector as it primarily involves government officials. There are, however, several forms of corruption in the private sector. Bowles (2000) writes about some of them including collusion in asset valuation, insider trading and information brokerage.

*authority for private benefit*". The definition is broad and is generally agreed to comprise activities such as bribery, fraud, embezzlement and extortion in both the public and the private sector.

### **2.1.2 Nature of corruption**

The nature of corruption is grounded in a country's social and cultural history, political and economic development, bureaucratic traditions and policies (Akçay 2006). It is often described from its degree of predictability and efficiency. In general, scholars try to distinguish whether the corruption is organized (predictable) or disorganized (unpredictable). Organized corruption where the conditions regarding the terms of the bribe are predictable is thought to benefit the actors involved economically, whereas disorganized corruption, which increases uncertainty, impedes the economic activity (Shleifer & Vishny 1993, Charap & Harm 1999, Rodriguez, Uhlenbruck & Eden 2005). The effect of corruption on business can also depend on how public officials treat private industry (Varkkey 2012). Predictability is especially important for foreign multinational enterprises (MNEs), whose knowledge of local conditions is relatively poor: arbitrariness and uncertainty about whether bribery will have favorable outcome are more harmful to foreign firms with limited knowledge of local conditions (Lee & Oh 2007).

The reasoning above might pose as an explanation for the double-edged role corruption is sometimes hypothesized to play for FDI. Corruption may be an efficient mean for foreign firms to get around ill-functioning bureaucracy in societies where corruption is thought to be predictable and private industry enjoy the support of the public officials (Méon & Sekkat 2005). On the other hand, in societies where the nature of corruption is disorganized and where public officials extort private property, corruption deters FDI. It is worth having in mind that this view on corruption does not take into account the often-illegal aspect to it.<sup>5</sup>

## **2.2 Foreign Direct Investment**

### **2.2.1 Definition**

The most common explanation of what FDI entails is based on the definition provided by the Organization for Economic Cooperation and Development (OECD) (1996) and the International Monetary Fund (IMF) (1993). According to this definition, FDI generally has two broad characteristics. First, as a matter of convention, FDI involves a 10% threshold value of ownership.<sup>6</sup> Second, FDI consists of both the initial transaction as well as subsequent transactions between the direct investor and the direct investment enterprises. It could take the form of green field investment, acquisitions or joint ventures with a local company. The country from which the investment originates is commonly referred to as the "source country" and the receiving country as the "host country". Developed regions remain the largest source of FDI, with outflows largely exceeding inflows (UNCTAD 2010).

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<sup>5</sup> Laws such as FCPA in the US, the UK Bribery Act and the Swedish anti-bribery legislation prohibit national companies operating abroad to engage in bribery.

<sup>6</sup> FDI implies that the investor exerts a significant degree of influence on the management of the enterprise resident in the other economy. The 10% threshold is not always followed to by all economies systematically. For a detailed overview of the FDI definitions and coverage in selected developing and developed economies, see IMF (2003).

## 2.2.2 Corruption as a determinant of FDI

Today, corruption is generally viewed as an “additional cost of doing business or a tax on profits” for companies (Wei 2000a, Al-Sadig 2009 p.267). For example, with a sample coverage of bilateral investment from twelve source countries to 45 host countries, Wei (2000a) finds that “an increase in the level of corruption from that of Singapore to that of Mexico would have the same negative effect on inward FDI as raising the tax rate by 50 percentage points.”

From a theoretical viewpoint, the effect of corruption can be described as either “greasing the wheels” or “sanding the wheels” (Méon & Sekkat 2005). The first view argues that corruption “greases” the wheels of commerce, especially in the presence of preexisting government failures such as excessive bureaucracy and red tape (Leff 1964, Huntington 1968, Bardhan 1997).<sup>7</sup> Recent studies have however left that view in favor of the “sanding the wheels” view, proving that corruption indeed has a negative impact socioeconomically (Myrdal 1968, Mauro 1995, Tanzi & Davoodi 1997, Abed & Gupta 2002).<sup>8</sup> However, these studies have a developmental focus rather than a strictly economical one, and therefore focus more on aggregated socioeconomic effects than on FDI inflows specifically.

Studies on the effect of corruption on FDI inflows specifically are scarcer. Egger and Winner (2006) describe the effect of corruption on inward FDI inflows as a “helping hand” or a “grabbing hand”. The helping hand effect indicates that corruption can be beneficial for FDI inflows, especially in the presence of preexisting government failures (see Lui 1985, Shleifer & Vishny 1994). As of recent, most scholars highlight the grabbing hand effect of corruption, which suggests that corruption is costly for firms (Wei 2000a, Smarzynska & Wei 2000, Egger & Winner 2006, Al-Sadig 2009). The relative importance of the two aspects determines whether the overall impact of corruption on FDI inflows is negative or positive, rendering it an empirical question as to which of the two effects that dominate.

Although recent research underline the importance of the “grabbing hand” effect, the empirical literature on the effect of a host country’s level of corruption on FDI inflows has not been able to prove this effect. Several studies have failed to find any significant relationship between the host country’s perceived level of corruption and its FDI inflows (Wheeler & Mody 1992, Alesina & Weder 1999, Akçay 2001). In some studies, where only a weak significant relationship has been found, it is argued that there are other determinants of FDI more important than corruption, which makes corruption less significant (Egger & Winner 2006, Al-Sadig 2009).

The negative effect of corruption on FDI may seem a paradox, as large inflows of FDI and high levels of corruption co-exist in some countries. Lipsey and Sjöholm (2011), studying FDI inflows to East Asia, suggested that there might be other country characteristics such as cheap labor and large markets that make up for the potential negative effect of corruption. A common explanation is that of the double-edged nature of corruption, as described earlier (see Shleifer & Vishny 1993, Charap & Harm 1999, Rodriguez, Uhlenbruck & Eden 2005). However, we believe that there are additional explanations to this paradox. Drawing on the OLI framework (Dunning 1980) presented below, we believe that the importance of corruption as a determinant of FDI also depends on the motives for FDI, and therefore differ between different types of host countries.

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<sup>7</sup> For a comprehensive overview, see Méon and Sekkat (2005).

<sup>8</sup> Ibid.



### 2.2.3 Motives for FDI

As explained above, the reasons prompting firms to undertake FDI might impact the importance corruption plays for the FDI inflows. The motives for FDI have been part of various theories and paradigms of international production, which are largely based on earlier empirical research. One of the foundations stones of these is the “New trade theory”, which was introduced by Paul Krugman in 1979. It involves a key assumption regarding production, which has implications for FDI decisions: that production favors economies of scale. The theory argues that, if transport costs to a given market outweigh the fixed costs of establishing a foreign affiliate, the firm will choose to serve the foreign market via FDI rather than through exports. The theory sheds some light as to why firms decide to invest in the form of FDI, but it does not discuss the different motives thoroughly.

A framework combining most of the earlier theories and models is the Eclectic paradigm, also known as the OLI framework, which was developed by Dunning (1980).<sup>9</sup> The paradigm provides a flexible framework explaining the foreign activities of firms in terms of Ownership, Location and Internalization advantages. In his framework, Dunning describes three types of market entry: Licensing, exports and FDI. In order to make investments in the form of FDI, the firms should be able to find advantages in all these determinants. Although the paradigm has been criticized for not being mutually exclusive and collectively exhaustive (Dunning 2001) and does not directly address the distinction between horizontal and vertical FDI, it remains a helpful way of organizing the motivations for FDI practically.

In connection to the Eclectic Paradigm, Dunning (1993, 1998) identified and organized four types of FDI and their respective type of MNE activities: Resource seeking, market seeking, efficiency seeking and strategic asset seeking. These can have implications for the relative importance of the FDI determinants. Resource-seeking investments are made in order to establish access to specific resources that either are not available at the investor’s home country or can be obtained at a lower cost abroad. These resources typically consist of basic material, cheap and well-motivated unskilled or semi-skilled workers or expertise in technological capacity (Dunning 1993 p. 57). Market seeking FDI on the other hand, consists of firms that invest in a particular country or region in order to serve these markets. Apart from market size and expected market growth, one reason for which market-seeking firms may undertake foreign investment is that production and transactions cost of serving a local market from an adjacent facility may be lower than when supplying the market from a distance. Another common reason is that firms may consider it necessary, as part of their global strategy, to have a have a physical presence in the leading markets served by its competitors (Dunning 1993 pp. 58 – 59). The motivation for efficiency seeking firms is to rationalize their production, distribution and marketing activities through common governance and synergy building among geographically dispersed operations (Dunning 1993, pp. 59 – 60). Lastly, strategic asset seeking firms engage in FDI to promote their strategic objectives. Their objective is usually that of sustaining or enhancing their international competitiveness (Dunning 1993 p. 60). According to Dunning (1998 p. 54), the resource and market seeking motives typically characterize initial FDI, while the latter, efficiency and strategic asset seeking characterize sequential FDI (Dunning 1998 p. 54).

Thus, it is reasonable to believe that firms place different emphasis on different determinants of FDI, such as corruption, depending on what their strategic motive with their FDI is. In a quantitative study, it easier to group countries based on their type (which depends on basic underlying characteristics)

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<sup>9</sup> A summary of earlier works on FDI motivations can be found in Boddewyn (1985) and Dunning (1993).

than it is to reveal the actual motives for FDI directly due to lack of adequate data. For simplicity, we will therefore assume that the motives of FDI in the general case can be connected to types of countries with certain characteristics.

#### **2.2.4 Development level as a motive for FDI**

As suggested above, the importance of different FDI determinants might vary depending on the strategic motive of the FDI. It is not certain that the factors that attract FDI to developed countries would be the same as those that attract FDI to emerging economies. Emerging economies tend to have poorer institutions and lower development indicators than their rich counterparts, but on the other hand offer lower wages (Walsh & Yu 2010 p. 3). Therefore, it is reasonable to believe that the importance of corruption as a determinant for FDI will differ between these groups of countries. Empirical evidence are however scarce and contradictory, with Egger and Winner (2006) concluding that corruption is more important to FDI inflows in emerging economies than in advanced, while Al-Sadig (2009) receives results which indicates the opposite.

Furthermore, emerging economies offer investors an opportunity to grow in an unsaturated market, often to lower cost than in an advanced economy. It can therefore be assumed that a large fraction of the FDI to emerging economies is market seeking. Due to the low costs, some parts of the FDI can also be assumed to be resource seeking. Therefore, we believe it is important to examine whether corruption as a determinant of FDI differs between advanced and emerging economies, both statistically and in our qualitative study.

#### **2.2.5 Natural resources as a motive for FDI**

Even though natural resources would be expected to increase a country's wealth and consequently also attract large levels of FDI to the country, empirics suggest otherwise. This is sometimes attributed to the "resource curse", which refers to the paradox that countries with a relatively large endowment of natural resources tend to grow more slowly and have worse development outcomes than countries that have more modest resources (Auty 1993). Sachs and Warner (1995) also demonstrated the resource curse phenomenon by comparing growth rates and resource abundance. Hereby, "natural resources" are analyzed by way of measuring resource-based exports, namely agriculture, minerals and fuels, as a share of GDP. The resource curse is in turn an extension of the Dutch Disease, which refers to the relationship between the increase in exploitation of natural resources and a decline in the exports, which results in less income and consequently has negative welfare effects. Various political issues such as rent-seeking and domestic conflict are also apparent. It is also this insight that connects the resource curse to corruption in terms of politicians using public resources for private gain (Brollo et al. 2010).

The above-mentioned factors indicate that the importance of corruption might differ between countries with different degrees of resource abundance. Furthermore, resource rich countries offer investors an opportunity to either extract the resources or work as a supplier to those companies. It can therefore be assumed that the motivation for FDI to resource rich countries can in large parts be resource seeking. Therefore, we believe it is important to examine whether corruption as a determinant of FDI differs between resource rich and non-resource rich countries, both statistically and in our qualitative study

## 2.2.6 Locational determinants of FDI

As presented above, Dunning (1980, 1981) argues that there are determinants of FDI related to locational advantages. The locational advantages relate to the characteristics of the host countries and to the importance for the firm to operate and invest in the country in question. These factors also make companies decide on which foreign country that is the most attractive to invest in when comparing one FDI location to another. According to Dunning (1981), the locational advantages embody roughly three elements: *economic advantages* (demand and production conditions, cost factors), *political advantages* (government policies) and *social and cultural advantages* (cultural diversities, openness toward foreign investments and free enterprise, absence of corruption, institutions). An example of these factors could be large domestic markets, availability of natural resources, an educated labor force, low labor cost, good institutions (the clarity of country's law, efficiency of bureaucracy and the absence of corruption), political stability, corporate and other tax rates among others. Several studies on locational determinants of FDI have been conducted, with notable examples such as Kravis and Lipsey (1982) and Wheeler and Mody (1992).<sup>10</sup>

Until recently, there was a strong consensus in the literature that MNEs decided on FDI location mainly on the basis of strong economic fundamentals in the host country, such as market size, labor and the macroeconomic environment and that other locational advantages were of secondary interest (Dunning 1993, Globerman & Shapiro 1999, Shapiro & Globerman 2001). However, there are examples where inflows differ substantially among countries with similar economic fundamentals, such as the countries in South East Asia (Lipsey & Sjöholm 2011). Thus, there is reason to believe that decisions on FDI locations also depend on institutional and qualitative factors.

Due to the complexity in analyzing investment decisions across countries, the country characteristics that are identified as important when deciding FDI location vary substantially between scholars. In our study, we will base our selection of FDI determinants on previous empirical research as well as the theory on locational advantages presented by Dunning (1981). For a more detailed overview, see the quantitative research design section.

## 3 Quantitative Research Design

In this section, we first present our hypothesis, which draws on previous research. Second, we present the econometric specifications and equations. Third, the necessary assumptions needed in order to use these specifications, as well as the statistical tests connected to them, are discussed. Lastly, we present the data, specify the choice of our variables and discuss potential issues with our data.

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<sup>10</sup> The study conducted by Kravis and Lipsey (1982) is one of the first comprehensive ones on locational determinants of FDI. Referring to the U.S. experience at the industry level and argue that host market size and the extent of "openness" of the host country are the major determinants for locational decisions. Wheeler and Mody (1992) also study the locational decisions of the U.S. multinationals and using country data, emphasize in the importance of agglomeration economies for locational decisions. Among other things, market size and labor cost are also found to be important.

### 3.1 Hypothesis

Our hypothesis is that the effect of corruption is negative for FDI inflows. Although empirical evidence is scattershot, previous research indicates this effect. The hypothesis will be tested by running econometric regressions as well as by a qualitative study.

Hypothesis:  $H_0: \beta_1 \geq 0$     $H_1: \beta_1 < 0$

We expect corruption to be less statistically significant when institutional and qualitative variables are included in the equations than when only macroeconomic variables are controlled for. The reason for this is that corruption is thought to be closely correlated with our qualitative and institutional variables, and multicollinearity increases the variance of the corruption coefficient (Wooldridge 2009 pp. 96 - 97).

We expect corruption to have a negative effect on FDI inflows in all our samples. However, we believe that the statistical and economic significance of corruption will differ depending on what types of countries that are analyzed. There are two reasons for this. First, we believe that different types of countries attract FDI with different motives (Dunning 1993, 1998). We assume that the motivation for FDI to resource rich countries to a larger extent is resource-seeking (Dunning 1993, 1998) than that of other types of countries. We expect resource-seeking FDI to be less sensitive to corruption, since the local advantages of the host country in form of certain resources are harder to substitute or find in other countries. Therefore, we believe that of marginal effect of corruption on FDI will be smaller in resource rich countries. Along the same line of reasoning, emerging economies offer lower wages than advanced (Walsh & Yu 2010 p. 3), which is another resource-seeking motivation (Dunning 1993 p. 57). However, we believe that the decrease of the marginal effect of corruption is smaller compared to that of the resource abundant countries. It is intuitive that companies have a smaller pool of countries to invest in when they want to exploit a certain natural resource as compared to countries offering low wage labor.

Second, we believe that the more unpredictable corruption is in its nature, the more it impedes economic activity (and therefore reduce FDI inflows). We therefore expect the marginal effect of corruption on FDI inflows to be larger when the nature of corruption is unpredictable, than when corruption is predictable. However, data on predictability of corruption on a national level over time for a large set of countries does not exist. Therefore, this hypothesis will not be tested for in the quantitative study, but analyzed in the qualitative part.

### 3.2 Econometric Specification

#### 3.2.1 Two-way fixed effects specification

Studies on how corruption impacts FDI inflows have been conducted before, as outlined in the previous research section. However, most of these studies, with the exceptions of Egger and Winner (2006) and Al-Sadig (2009), use a cross-sectional methodology to test the relation between corruption levels and FDI inflows. In this setting, using panel data has several advantages as compared to cross-sectional analyses. The sample size is much larger when using panel data than if just pure time-series or cross-sectional data were employed, which gives more degrees of freedom and more efficiency. This results in an increase in the reliability of the estimates of the regression coefficients (Baltagi 2005

p. 5). Furthermore, panel data accounts for individual heterogeneity and allows us to difference-out unobserved fixed effect.

There is reason to believe that there are unobserved constant country-specific effects, such as religion, culture and historical aspects, that are correlated with corruption and FDI (Al-Sadig 2009). We control for these unobserved country-specific effects by using fixed effects (FE) estimations. Intuitively, there is also reason to believe that there are unobserved factors that are specific in time, that are assumed to be invariant across countries, such as business cycles. We could for instance expect both FDI and corruption to increase during economic booms. These effects are referred to as “time-specific effects”. The necessity of including these effects in our specification, in order to avoid endogeneity, is confirmed by a joint significance test of all the year dummies.<sup>11</sup>

In this study, a two-way fixed effects panel data method will be employed. The two-way fixed effects method takes into account both country-specific fixed effects and time-specific effects. Given the panel structure of the data, the benchmark equation to investigate the effects of corruption on FDI inflows may be built up in the following linear form:

$$(0) \log(FDICP)_{i,t} = \beta_0 + \beta_1 CORRUPT_{i,t-1} + X_{i,t-1}\beta_2 + \alpha_i + \gamma_t + u_{i,t}$$

where  $X$  represents a set of control variables, which will be presented in the next section. The index  $i$  refers to the unit of observation,  $t$  refers to the time period,  $\beta_1$  is the coefficient, i.e. the effect of the variable,  $\alpha_i$  refers individual specific unobserved factors,  $\delta_t$  refers to the time specific unobserved effects, and  $u_{i,t}$  is the idiosyncratic (or individual and time-varying) error. The most important results of the equations are the statistical significance and the sign and magnitudes of  $\beta_1$ , i.e. the marginal effect of corruption on the FDI inflows. The marginal effects of the control variables are of secondary interest. To rule out that our baseline equation is misspecified, we ran Ramsey’s RESET test. According to the test, we cannot reject the null hypothesis that the equation is correctly specified (p-value 0.3776). The real relations between the variables are not likely to be completely linear, but the test result at least support that the linear estimation is not misleading.<sup>12</sup>

Previous research has indicated that higher levels of FDI are significantly associated with lower corruption levels (Selowski & Martin 1997, Larraín & Tavares 2004). In order to avoid reverse causality, which means that the explanatory variables are affected by our explained variable (FDI), all of our independent variables are lagged one year. This approach is a common way to tackle the problem of potential endogeneity between FDI and the explanatory variables (see Egger & Winner 2006, Al-Sadig 2009, Dabla-Norris et al. 2010, Lipsey & Sjöholm 2011), since it also takes into account that investment decisions seldom are made in real time.<sup>13</sup>

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<sup>11</sup> The test is run on the regression with only corruption and macroeconomic variables, and on the regression including all variables for all our four different samples. The year dummies are highly significant for all our samples and regressions.

<sup>12</sup> The Ramsey regression equation specification error test (RESET) is a general specification test to test whether nonlinear combinations of the estimated values help explain the dependent variable. The idea behind the test is that, if nonlinear combinations of the explanatory variables have any power in explaining the dependent variable, and then the model is misspecified (Wooldridge 2009 p. 303 – 304).

<sup>13</sup> There is no optimal number of years the variables should be lagged and previous studies have differed in their approach (from one year to five years). We assume that decisions are likely to be based on the most recent data available, and will therefore use a lag of one year on the explanatory variables in this paper.

A potential issue with our qualitative and institutional variables, including corruption, is that they are highly correlated with each other. Table 1 reports the correlation matrix for the full sample. For the correlation matrix for the samples with emerging economies and resource rich countries, see tables 7 and 8 respectively in the appendix. We address this problem by running several regressions with different sets of control variables. First, we establish a baseline equation, where only macroeconomic control variables are included. In a later stage, institutional and qualitative control variables are added in turn. This approach is a common way to address the potential problem with high multicollinearity (Walsh & Yu 2010). Thereafter, all the institutional and qualitative variables are added, and as an extra control, variables with particularly interesting effect on the coefficient of corruption are omitted in order to further establish their effects. In order to rule out the case of perfect multicollinearity, we ran a VIF (Variance Inflation Factor) test. The VIF is below 4 for all regressions, which is well below the limit value of 10, affirming that perfect multicollinearity is not a problem.

The regressions are also run in different samples. The exact specifications will be presented below.

### 3.2.2 Samples

In order to test the hypothesis of corruption having different effects on FDI with different motives (which is thought to be connected to the type of host country), we run the same regressions on three different samples: One sample with all countries in our data set, one sample with only emerging economies and one sample with only resource rich countries.

The first sample consists of 121 countries. The sample with emerging economies consists of 90 countries. For simplification, we denote OECD countries as “advanced” and non-OECD as “emerging” economies. When denoting countries as “resource rich”, we have used the authoritative “Guide on Resource Revenue 2007” by IMF. The guide lists mineral- and hydrocarbon-rich countries.<sup>14</sup> In our dataset, 38 countries are defined as resource rich. For a complete list of countries, see table 9 in the appendix.

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<sup>14</sup> The definitions are as follows: “A country is considered rich in hydrocarbons and/or mineral resources if it meets either of the following criteria: (i) an average share of hydrocarbon and/or mineral fiscal revenues in total fiscal revenue of at least 25 percent during the period 2000-2005 or (ii) an average share of hydrocarbon and/or mineral export proceeds in total export proceeds of at least 25 percent...”



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**TABLE 1: CORRELATION MATRIX, FULL SAMPLE**

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Variables	1	2	3	4	5	6	7	8	9	10	11
log (FDICP)	1										
CORRUPT	-0.3837	1									
WAGE	0.7609	-0.5994	1								
MKTSIZE	-0.1151	0.1049	-0.1256	1							
CLUSTER	0.4761	-0.0732	0.2706	-0.1211	1						
RESIDOPEN	0.4856	-0.0372	0.2976	0.0249	0.6784	1					
MKTGRWTH	-0.007	0.2621	-0.2015	0.2318	0.0166	0.1159	1				
LAW	0.5108	-0.6444	0.6481	0.0048	0.1701	0.2145	-0.1113	1			
BURE	0.611	-0.6667	0.7883	0.0202	0.1976	0.2045	-0.174	0.6576	1		
INFRA	0.6918	-0.6544	0.8783	-0.0795	0.252	0.2468	-0.2147	0.6771	0.7836	1	
HUMCAP	0.7004	-0.5171	0.8598	-0.0782	0.2108	0.2643	-0.2186	0.5888	0.7163	0.7962	1



### 3.3 Econometric Estimation

We had the choice to control for the unobserved country- and time-specific effects correlated with corruption by either employing a FE or a random effects (RE) equation. If the  $x_{i,t}$  is uncorrelated with the error term,  $u_{i,t}$ , RE are more suitable to use. If the  $x_{i,t}$  is correlated with the error term,  $u_{i,t}$ , FE estimators should be used instead (Wooldridge 2009 p. 493). In order to test which method was the most appropriate for our analysis, we ran a Hausman test. The Hausman test indicated that RE would not be appropriate for our regressions in the full sample and the non-OECD sample, but could not rule out that RE could be the valid method for the resource rich sample. However, in most kinds of settings, using FE estimators are considered to be a more convincing method than RE for estimating *ceteris paribus* effects (Wooldridge 2009 p. 493). Therefore, FE was used all through our analysis.

The two-way fixed effects equations are estimated using panel data. The fixed effects estimator does not suffer from an endogeneity problem, i.e. it is unbiased, if the idiosyncratic errors  $u_{i,t}$  are uncorrelated with each explanatory variable across all time periods (Wooldridge 2009). Additional assumptions are that the errors  $u_{i,t}$  are serially uncorrelated and, for valid standard errors and t-statistics, that the errors  $u_{i,t}$  are homoskedastic (Wooldridge 2009). Finally, the idiosyncratic errors are assumed to be independent and normally distributed. These assumptions are discussed below.

The error term  $u_{i,t}$  is often referred to as the idiosyncratic error or individual- and time-varying error, because it represents unobserved factors that change over time and affect  $y_{i,t}$ . As mentioned above, we remedy part of the potential endogeneity by including country and time-fixed effects into the equation. We also control for another type of endogeneity, reverse causality, by lagging the explanatory variables one year.

The usual assumption is that  $u_{i,t}$  it is iid (independently and identically distributed) but this is clearly violated in many cases. Standard errors are biased if the error terms of individual observations are correlated with each other and this is not taken into account in the estimation. A natural generalization is to assume “clustered errors” i.e. that observations within group  $i$  are correlated as a result of an unobserved cluster effect, implying correlation in  $u_{i,t}$  within  $i$ , but that groups  $i$  and  $j$  do not have with each other correlated errors (Wooldridge 2009 p. 495). The standard errors may be clustered by both countries and by year. We assume that the latter error correlations might be completely (in most parts) due to common shocks. In that case, the introduction of our time-fixed effects would absorb all the year clustering, and one-way clustering on countries would be appropriate (Wooldridge 2011). The most common approach to clustering is to use a generalization of the White robust formula where a correlation is also allowed among observations in the same group or cluster. This approach called clustered standard errors yields standard errors that are corrected for any form of heteroskedasticity as well as arbitrary correlation between error terms within groups. This is the approach we will employ in this paper, clustering on the country level.

### 3.4 Quantitative Data

#### 3.4.1 Sources and basic facts

The data used below are annual FDI data with observations from 1990 to 2011 for 121 countries. Data on corruption (CORRUPT), law and order (LAW) and quality of bureaucracy (BURE) are drawn from

the International Country Risk Guide (ICRG), provided by the PRS Group. Other macroeconomic, institutional and qualitative indicators are drawn from widely applied statistical databases of UNCTAD, UNESCO and the World Bank. For an overview of the descriptive statistics of the variables used, see tables 10 – 12 in appendix.

### 3.4.2 Dependent variable

The dependent variable is the log form of the accumulated FDI inflows per capita (FDICP) a host country receives on a yearly basis. By logging our dependent variable, the coefficients of the explanatory variables show the change in FDI inflows per capita in log points, which is approximately the same as the percentage change. The log form of the FDI data (previously used by among others Wei 2000a and Al-Sadig 2009), was applied for comparability across countries. The FDI data was retrieved from the database of UNCTAD, and is measured as FDI per capita in US dollars at current prices and current exchange rates as annual inward flow to the sample countries.

### 3.4.3 Key explanatory variable

**Corruption:** The key explanatory variable is the perceived level of corruption (CORRUPT) as measured by ICRG corruption index. According to ICRG, the corruption index is “a measure of corruption within the political system that is a threat to foreign investment.” Originally, the index is a rank from 0 (very corrupt) to 6 (very clean). In order to get a more intuitive scale in our analysis, we have inverted the index, so that the 0 rank stands for a very clean country and the 6 rank stands for a very corrupt country.

As stated in the hypothesis, we expect corruption to have a negative effect on FDI in all our samples.

### 3.4.4 Control Variables

A set of control variables is needed in order to isolate the partial effect of corruption on FDI. Including the right control variables increases the chances of finding a causal effect of corruption on FDI, but in order to reliably determine or reject causality, we will complete this research with a qualitative study of the effects of corruption on FDI.

The choice of the control variables was based on the previous empirical studies on determinants for aggregate FDI inflows. In addition to this, Dunning’s theories on FDI locational advantages (1981) were used as a guideline. Drawing on the research design of Walsh and Yu (2010), we make a distinction between macroeconomic and institutional and qualitative variables. Market size, market growth, wage level, openness to FDI and clustering effects are counted macroeconomic variables. Law and order and bureaucracy quality (institutional quality), quality of infrastructure and quality of human capital are counted as institutional and qualitative variables.

In order to make changes more comparable between different countries we will use logs for the variables that vary largely across nations. The variables in question are the proxies for market size and wage level.

**Market size:** The size of the host market also represents the potential demand in the host country. The importance of the market size has been confirmed in many previous empirical studies (Resmini 2000,

Wei 2000a, Hayakawa, Kamura & Lee 2013). To proxy for market size (MKTSIZE), we follow literature and use total population in log form. The figures are drawn from the World Bank.

Since this variable is used as an indicator of the market potential for the products of foreign investors, the expected sign is positive.

**Market growth:** The growth of the home market is indicative of a vibrant economy. A government that has generated economic growth in the past is likely to attract more foreign investors to its country. To proxy for market growth (MKTGRWTH), we use a three-year average of the percentage annual real GDP growth rate. Scholars such as Wheeler and Mody (1992), Hines (1995) and Al-Sadig (2009) have proven that there is a positive and significant relationship between performance in GDP growth and FDI inflow. The data comes from the World Bank's Development Indicators.

Since market growth often is synonym with an increase in investment opportunities, we believe it to have a positive effect on FDI inflows.

**Wage level:** Wage levels (WAGE) have been argued to be a major component of total production cost and of the productivity of firms. This is particularly true for labor-intensive production activities where a higher wage level would deter FDI. However, wages may also increase the demand for goods and services, which is positive for FDI (Hayakawa, Kimura & Lee 2013). Therefore, empirical results have not provided homogenous results. Schneider and Frey (1985) and Akçay (2001) find a negative and significant relationship, whereas Wheeler and Mody (1992) and Hayakawa, Kimura and Lee (2013) find a positive and significant relationship. The data sets on wage levels across countries only exist for a limited period of time. Therefore, to proxy for wage levels we will use the log form of real GDP per capita, following the example of Hayakawa, Kimura and Lee (2013) since GDP per capita indicates the wage levels in the country. The data is retrieved from the World Bank's Development Indicator.

We believe that the wage level will have a small negative effect on FDI inflows, due to higher production costs.

**Openness to FDI:** It is a standard hypothesis that openness promotes FDI (Hufbauer & Elliot 1994, Lipsey & Sjöholm 2011). However, a decrease in openness is not always associated with lower levels of FDI. A decrease might be associated with higher levels of horizontal FDI, as investing firms can benefit from circumventing trade barriers through building production sites abroad (Walsh & Yu 2010 p. 5). In the literature, the degree of openness is usually measured by the sum of exports and imports as a percentage of GDP. However, in order to get a more precise measure of openness of trade policy than a simple ratio of trade to output, we use a variable termed the "residual openness" (RESIDOPEN) introduced by Lipsey & Sjöholm (2011). The variable is a residual from an equation relating the standard measure of openness (the ratio of exports plus imports to GDP), to a country's population and land area. In doing so, we take account of the fact that larger countries, in terms of both population and land area, trade less, relative to GDP, than small countries with the same degree of deliberate trade restriction. The variable measures whether the ratio of exports and imports to GDP is large or small given the size of the country. To estimate the residual openness, we use figures from UNCTAD's Data on Goods and Services Trade Openness and the World Bank.

Since it is a standard hypothesis that openness promotes FDI, we expect the net effect of residual openness to FDI to be positive.

**Clustering effects:** Clustering effects (CLUSTER) refer to foreign firms appearing to gather together either due to linkages among projects or due to herding. New investors often choose to mimic investment location decisions by other investors, in order to benefit from positive spillovers. A large stock of FDI can also be interpreted as a signal for good investment environment (Walsh & Yu 2010 p. 5). Therefore, we use the existing FDI stocks as a percentage of GDP in the host country as a proxy for clustering effects. Evidence for these effects is widespread (Wheeler & Mody 1992, Barrell & Pain 1999, Campos & Kinoshita 2003, Hayakawa, Kamura & Lee 2013). The data is retrieved from UNCTAD's database.

Based on previous empirical work, we expect the clustering effects to have a positive impact on FDI inflows.

**Quality of institutions:** Institutional quality is a likely determinant of FDI for several reasons. Poor institutions tend to increase costs and therefore reduce profits and subsequently investments. The high sunk costs of FDI also make investors sensitive to the uncertainty that arises from poor institutions. There is no given way to measure quality of institution, but different approaches have been taken in different studies. The most common measures, also used in this thesis, are quality of bureaucracy and quality of law and order. As mentioned earlier, some studies find that corruption becomes statistically less significant when controlling for institutional variables, which suggests that quality of institutions is closely correlated to the corruption variable in attracting FDI inflows (Egger & Winner 2006, Al-Sadig 2009). Dunning (1981) mentioned intuitions to be an important political as well social and cultural locational factor when firms deciding FDI location.

**Quality of law and order:** Law and order (LAW) assesses one aspect of institutional quality, namely how strong and impartial the legal system is and the observance of law. A well-functioning judicial system is important to investors, as it reduces business risk. Al-Sadig (2009) uses the law and order as a proxy for institutional quality. The data is in the form of an index and is retrieved from the ICRG presented by the PRS group. The index of the quality of law and order runs from 0 (very low) to 6 (very high).

We expect the effect of law and order to be positive on FDI since it creates a more secure investment climate.

**Quality of bureaucracy:** Poor institutions with excessive red tape increase the costs of business and therefore reduce investments. Although empirical evidence on the importance of quality of bureaucracy (BURE) is weak, the majority of the business leaders interviewed pointed out this to be one of the most important factors when doing business abroad. Al-Sadig (2009) uses the variable in a sensitivity analysis, and finds it to be significant. The variable is thus interesting for studying the effects of corruption by comparing the results of regressions including and excluding BURE. The data for is retrieved from ICRG, presented by the PRS group. The data is presented in the form of an index from 0 (very low) to 4 (very high).

As the quality of bureaucracy is thought to improve the business climate and decrease the risk related to doing business, it is expected to affect FDI inflows positively.

**Quality of infrastructure:** The quality of a host country's infrastructure is sometimes included in the production cost. However, the effect of quality of infrastructure on FDI is ambiguous in previous

empirical studies. Root and Ahmad (1979), Wheeler and Moody (1992), Sekkat and Varoudakis (2007) prove that good infrastructure is a necessary condition for foreign investors to operate successfully, whereas Quazi (2005) claims insignificant effect of infrastructure on FDI. Existing data on the quality of a country's overall infrastructure is scarce and has figures for only a couple of years. Following the logic of Sekkat and Varoudakis (2007), we have therefore chosen to use the indicator "telephone lines per 100 people", retrieved from the World Bank's Development Indicators as a proxy for infrastructure quality (INFRA).

A higher quality of infrastructure is expected to positively affect FDI inflows, since it makes transactions go smoother.

**Quality of human capital:** An educated labor force can learn and adopt new technology faster and is generally more productive than an uneducated, which can boost the locational advantage of a country. Schneider and Frey (1985), Wei (2000a), Egger and Winner (2006) and Al-Sadig (2009) found the level of human capital to play a key role in attracting FDI. We control and test for the impact of quality of human capital (HUMCAP), using the general secondary education enrollment rate as a proxy. The data is retrieved from UNESCO's database.

A higher quality of human capital is expected to positively affect FDI inflows, since it increases the supply of qualified labor and thus the productivity.

### 3.4.5 Data issues

One advantage of using data from ICRG, the World Bank, UNESCO and UNCTAD is that they are widely used and trusted by the research community. However, the data might still suffer from measurement errors that will give us biased results. This is especially the case for our education data, retrieved from UNESCO and used as a proxy for the variable HUMCP. Although the source is the most reliable one available, total population, ages and enrollment ratio is hard to measure in countries with weak census routines, which undermines the trustworthiness of the data.

Due to the difficulty in assessing the absolute value of corruption and quality of institutions, we used an estimate of the corruption determinant based on a survey of perceptions.<sup>15</sup> Perception data is more apt to be biased and have larger measurement errors than data originating from direct observations. However, we believe that firms deciding where to invest base their decisions largely on perceptions of corruption rather than data based on actual observations.

Another potential weakness of the data analyzed is the use of proxies. Due to the absence of reliable data on the variables we wish to control for, the majority of our explanatory variables are measured by proxies. The proxies used are generally accepted in similar research settings and the aggregate effect of these is expected to give acceptably correct results since the potential errors are likely to cancel each other out.

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<sup>15</sup> Data on perception of corruption is often based on indicators of corruption assembled by private risk-assessment firms. Aside from the ICRG rating, another popular measure is the Corruption Perceptions Index (CPI) provided by TI that dates back to 1995. However, one of the main disadvantages of CPI is that the index is not comparable over time.

## 4 Empirical Results

In this section, we first present the equations used in our quantitative analysis. Second, the regressions are run on the full sample of countries. Since the results from the equations in the full sample motivate a more thorough investigation of the interactions between corruption and quality of institutions, a sensitivity analysis is presented in connection to these results. Third, the results from the equations in the emerging country sample are presented. Fourth, the results from the equations in the resource rich country sample are presented. Lastly, the results are interpreted and discussed in connection to previous literature.

### 4.1 Presentation of equations

Nine different regressions are run for each of the three samples. Equation (1) employs only corruption and macroeconomic variables in order to predict the FDI per capita inflows.

$$(1) \log(FDIP)_{i,t} = \beta_0 + \beta_1 CORRUPT_{i,t-1} + \beta_2 MKTSZ_{i,t-1} + \beta_3 MKTGRWTH_{i,t-1} \\ + \beta_4 \log(WAGE)_{i,t-1} + \beta_5 OPEN_{i,t-1} + \beta_6 CLUSTER_{i,t-1} + \alpha_i + \delta_t + \varepsilon_{i,t}$$

Equation (3) – (6) adds the institutional and qualitative variables, one in turn, into Equation (1). Equation (3) adds LAW, (4) adds BURE, (5) adds HUMCAP and (6) adds INFRA to the macroeconomic control variables. Equation (2) consists of all the explanatory variables, by adding all the institutional and qualitative variables at the same time to Equation (1).

$$(2) \log(FDIP)_{i,t} = \beta_0 + \beta_1 CORRUPT_{i,t-1} + \beta_2 MKTSZ_{i,t-1} + \beta_3 MKTGRWTH_{i,t-1} \\ + \beta_4 \log(WAGE)_{i,t-1} + \beta_5 OPEN_{i,t-1} + \beta_6 CLUSTER_{i,t-1} + \beta_7 HUMCAP_{i,t-1} \\ + \beta_8 LAW_{i,t-1} + \beta_9 BURE_{i,t-1} + \beta_{10} INFRA_{i,t-1} + \alpha_i + \delta_t + \varepsilon_{i,t}$$

Equation (7) – (9) omits different qualitative variables from Equation (2), in order to further determine their impact on the coefficient and significance of corruption. Equation (7) omits BURE from equation (2). Equation (8) omits LAW from equation (2). Equation (9) omits both BURE and LAW from equation (2).

### 4.2 Results from full sample

The full sample consists of 121 countries. The results from this sample are presented in table 2 and in a sensitivity analysis in table 3.

#### 4.2.1 The estimated effect of corruption

As can be seen in all the regression results, the coefficient of corruption is never statistically significant, but always has the expected sign (i.e. a negative effect on FDI inflows). This supports the findings of Wheeler and Mody (1992), Alesina and Weder (1999) and Akçay (2001), who find a statistically insignificant negative relation between the level of corruption in the host country and the amount of FDI it receives. Since the standard errors are large, between 1.5 and 3 times larger than the coefficient, the coefficient of corruption might actually be zero or positive. When adding institutional and qualitative control variables to the baseline equation, the p-value of corruption increases,

confirming our hypothesis that these control variables decrease the statistical significance of corruption.

The largest negative effect of corruption on FDI can be found in regression (9), where all variables except LAW and BURE are included. The coefficient of corruption is -0.0612, compared to -0.0331 in regression (2), which includes all the qualitative variables. The fact that excluding BURE and LAW from the full regression increases the predicted effect of corruption could be due to omitted variable bias – that LAW and BURE affect both FDI inflows and corruption but in opposite directions. Omitting these variables will then result in a larger coefficient of corruption, but the relationship is not fully causal.

However, the increased magnitude of the coefficient of corruption does not necessarily indicate omitted variable bias, but could be due to the phenomenon we will here call “bad control variables”. This refers to the possibility that countries with bad institutions are those that also suffer from high corruption. If this is the case, controlling for bad institutions does not allow for a much variance in corruption, and this blocks the negative effect that corruption may really have on FDI inflows. Furthermore, if part of the causal negative effect that corruption has on FDI goes via LAW and BURE, keeping these control variables constant only allows for the part of corruption that affects FDI directly, or via factors that are not included in the regressions, to show in the coefficient. Thus, the real effect of corruption could in this case be larger than what the regression results indicate. These effects will be further discussed later in this section.

The smallest magnitude of the estimated effect of corruption on FDI inflows is -0.00229, which is found in regression (3). Thus, only adding LAW to the macroeconomic variables decreases the estimated negative marginal effect of corruption from about 4.4 percent to about 0.2 percent, and increases its p-value from 0.517 to 0.974.<sup>16</sup>

Coincidentally, when adding one qualitative and institutional variable in turn to equation (1), the largest increase in adjusted R-squared occurs when LAW is added. The adjusted R-squared increases from 0.434 to 0.442.<sup>17</sup> This suggests that LAW is the qualitative variable that best explains the variation in FDI inflows. However, it is still possible that some of the actual effect of corruption on FDI inflows goes via LAW, which means that LAW is a bad control variable. As explained above, even if LAW explains FDI inflows, keeping it constant can distort the actual effect of corruption.

#### **4.2.2 The estimated effect of the control variables**

Most of the control variables are statistically insignificant. Only MKTGRWTH is positive and highly significant in all the regressions. The results reported in table 2 show that a one percentage-point increase in MKTGRWTH, *ceteris paribus*, is predicted to increase the FDI inflows by approximately 6 percent. LAW is always positive and statistically significant at the 10 percent significance level. It is also economically significant. A one-point increase in the index is predicted to increase the FDI

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<sup>16</sup> For small values, the log point increase is approximately equal to percentage increase (Wooldridge 2009 p. 43).

<sup>17</sup> R-squared is a measure of how much of the total variation in FDI inflows is explained by the regression. A more accurate measure of this is the adjusted R-squared, which is adjusted for the degrees of freedom (Wooldridge 2009 pp. 200-201)

inflows by 15 – 20 percent. INFRA is positive and significant at the 10 percent significance level in all regressions except (6). For INFRA, the corresponding effect is around 3 percent in all regressions.

Except for these, the majority of the variables are insignificant in most regressions. One possible reason for the insignificance could be small variation over time or between countries. Looking at the dataset, we can see that the variation of our variables between countries is large, and the variation over time is neither negligible nor changing at a constant rate. The use of year dummies in order to control for time specific effects increases the demands for variation in the data, since there must be variation across the countries for each year. This does not seem to be a problem however - there is variation. Furthermore, as discussed in the econometric specification section, omitting the year dummies is expected to provide substantial omitted variable bias, due to for instance economic booms.

Most of the control variables have the expected sign in all regressions except WAGE and RESIDOPEN in a few cases and HUMCAP consistently. WAGE (proxied by GDP per capita) is unexpectedly positive in regression (5). However, this unexpected effect will be ignored since it is highly insignificant with a p-value of 0.842. RESIDOPEN is negative in regression (2), (5) and (7)-(9). As explained earlier, we expected positive effects of this variable. The variable is highly insignificant in all regressions, but less so when the coefficient is negative. The results point to a negative effect of openness to trade, but the results are so insignificant that they are not considered any further.

HUMCAP is negative in all regressions. Although the effect of the variable is also statistically insignificant, this seems more noteworthy than the other unexpected results, since it is consistently negative and contradicts the literature. This could, but does not necessarily, indicate that something is wrong about the equation specification. HUMCAP correlates strongly with WAGE, BURE and INFRA. However, in the regressions where BURE and INFRA are excluded, HUMCAP is still negative. HUMCAP stays negative and insignificant also when we exclude WAGE from regression (1) and (2). Going back to the previous research and research design sections we can also conclude that the equation is not likely to suffer from any severe omitted variable bias, even though it is impossible to know for certain. As mentioned above, lack of variation in the data set does not seem to impose any weakness to our estimations. Thus, the equation specification seems to be reliable, and the unexpected sign could very well be due to measurement errors in the data on education, as discussed earlier. Measurement errors are a common cause of unexpected results, and do not necessarily imply that the estimated effect of corruption on FDI is flawed.



**TABLE 2: REGRESSIONS – FDI INFLOWS AND CORRUPTION, FULL SAMPLE**

Independent variables	Two-way Fixed Effects Model								
	Dependent variable: Log of FDI per capita: 1990 – 2011								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CORRUPT	-0.0441 (0.0678)	-0.0331 (0.0821)	-0.00229 (0.0706)	-0.0396 (0.0693)	-0.0539 (0.0812)	-0.0423 (0.0673)	-0.0382 (0.0800)	-0.0539 (0.0810)	-0.0612 (0.0788)
WAGE	-0.0476 (0.0836)	-0.301* (0.166)	-0.130 (0.0825)	-0.0591 (0.0875)	0.0257 (0.128)	-0.201 (0.146)	-0.289* (0.167)	-0.224 (0.170)	-0.206 (0.171)
MKTSIZE	0.0464 (0.0640)	0.0551 (0.145)	0.0380 (0.0618)	0.0442 (0.0655)	0.180 (0.126)	0.0231 (0.0678)	0.0594 (0.145)	0.118 (0.132)	0.125 (0.133)
CLUSTER	0.00128 (0.00139)	0.00129 (0.00153)	0.00113 (0.00140)	0.00128 (0.00139)	0.00172 (0.00153)	0.00116 (0.00144)	0.00129 (0.00152)	0.00141 (0.00150)	0.00141 (0.00149)
RESIDOPEN	0.000257 (0.00423)	-0.00318 (0.00563)	0.000126 (0.00415)	0.000251 (0.00424)	-0.00182 (0.00540)	0.000138 (0.00430)	-0.00323 (0.00554)	-0.00288 (0.00573)	-0.00295 (0.00563)
MKTGRWTH	0.0683*** (0.0129)	0.0512*** (0.0168)	0.0672*** (0.0130)	0.0686*** (0.0128)	0.0524*** (0.0176)	0.0704*** (0.0133)	0.0510*** (0.0170)	0.0521*** (0.0169)	0.0518*** (0.0171)
LAW		0.156** (0.0695)	0.197*** (0.0610)				0.157** (0.0700)		
BURE		0.0333 (0.119)		0.0250 (0.0940)				0.0461 (0.121)	
HUMCAP		-0.00541 (0.00500)			-0.000992 (0.00507)		-0.00538 (0.00499)	-0.00473 (0.00506)	-0.00468 (0.00504)
INFRA		0.0325** (0.0127)				0.0134 (0.0103)	0.0326** (0.0126)	0.0298** (0.0132)	0.0298** (0.0132)
Constant	2.032 (1.243)	3.594 (3.073)	1.981 (1.245)	2.089 (1.277)	-0.249 (2.598)	3.365** (1.651)	3.509 (3.107)	2.511 (2.871)	2.382 (2.914)
No. of Obs	2,341	1,719	2,341	2,341	1,720	2,335	1,719	1,719	1,719
No. of Groups	120	116	116	116	116	116	116	116	116
R-squared	0.441	0.460	0.449	0.441	0.446	0.443	0.460	0.455	0.454
Adjusted R-squared	0.434	0.460	0.442	0.434	0.437	0.436	0.450	0.455	0.445

NOTES: All the independent variables lagged one year. Robust standard errors in parentheses. \*, \*\* and \*\*\* indicate statistical significance at 1 percent, 5 percent, and 10 percent levels, respectively.

### 4.2.3 Sensitivity analysis

The results from the statistical analysis above indicate that corruption has no significant effect on the per capita FDI inflows. However, it is noteworthy that the effect of corruption decreases when BURE and LAW are included in the regressions. This supports earlier findings that the effect of corruption decreases when institutional variables are added (Egger& Winner 2006, Al-Sadig 2009). In order to investigate the relationships between corruption and BURE and LAW respectively further before we go on to other samples, a sensitivity analysis is performed already at this point. Since the interaction effects are thought to be general for all types of countries, the sensitivity analysis will not be repeated for the sample with emerging economies or research rich countries.

The sensitivity analysis examines whether the effect of corruption depends on the quality of BURE or LAW. Table 3 presents the results from the regressions where interactions between corruption and LAW and corruption and BURE are included. In column 1, FDI inflows are regressed on the corruption variable, BURE and CORRUPTBURE. In column 2 it is regressed on the corruption variable, LAW and CORRUPTLAW. In column 3 and 4, all our control variables are included, since they are expected to cause omitted variable bias when excluded.

In column 1 and 2, corruption is positive, with a predicted marginal effect of on FDI inflows of about 31.7 and 30.9 percent respectively – much higher than in our previous regressions. When interacted with BURE (column 1), corruption, BURE and the interaction are all statistically significant at a 10 percent significance level. When interacted with LAW, corruption is insignificant, but LAW and the interaction are both significant at the 5 percent significance level. In both cases, corruption has a positive effect, as opposed to our previous regressions. This may be explained by the fact that we expect omitted variable bias in these two regressions. The results of these regressions are therefore not of much interest.

In column 3, where all the variables are added to the regression with the CORRUPTBURE interaction, the marginal effect of corruption is negative and insignificant, about -4.5 percent. The interaction term is also negative (about -2.8 percent) and insignificant. The total effect of corruption for a one-point increase in the corruption and bureaucracy index (i.e. the direct effect of corruption plus the interaction effect) is predicted to decrease FDI inflows by -7.3 percent. Thus, the higher the quality of the bureaucracy in a country, the larger is the effect of corruption on its FDI inflows.

A possible explanation to this is offered by the theory of corruption being a “helping hand” or a “grabbing hand” when it comes to FDI. In economies where the quality of bureaucracy is so low that it induces obstacles to doing business, corruption may have a positive effect on FDI levels by remedying the problem of dysfunctional bureaucracy to some extent. In countries with a high quality of bureaucracy, this positive effect of corruption is likely to be close to zero. This result in a negative coefficient of the interaction term – if the bureaucracy is of high quality, the negative effect of corruption is generally larger than if the quality of the bureaucracy is low.

In column 4, where all the control variables are added to the regression with the CORRUPTLAW interaction, the direct marginal effect of corruption on FDI inflows is negative and insignificant, about -11.8 percent. The coefficient of the interaction term in this regression is practically zero (about -0.007 percent) and very statistically insignificant. This suggests that the effect of corruption on FDI inflows does not depend on the country’s quality of law and order.

However, the results presented above should be interpreted with some degree of caution, as the coefficients of variables that are statistically insignificant offer no real evidence of our hypothesis.

**TABLE 3: SENSITIVITY ANALYSIS, FULL SAMPLE**

Independent variables	Dependent variable: Log of FDI per capita: 1990 – 2011			
	(1)	(2)	(3)	(4)
CORRUPT	0.317* (0.186)	0.309 (0.231)	-0.0452 (0.157)	-0.118 (0.150)
LAW		1.116*** (0.154)	0.00894 (0.0712)	0.0120 (0.111)
BURE	1.582*** (0.197)		0.183 (0.199)	0.0969 (0.0970)
CORRUPTBURE	-0.112* (0.0578)		-0.0277 (0.0467)	
CORRUPTLAW		-0.107** (0.0479)		-6.63e-05 (0.0296)
log WAGE			0.739*** (0.113)	0.729*** (0.110)
log MKTSIZE			-7.34e-10** (3.58e-10)	-7.51e-10** (3.58e-10)
CLUSTER			0.00712 (0.00443)	0.00704 (0.00446)
RESIDOPEN			0.0152*** (0.00441)	0.0151*** (0.00441)
MKTGRWTH			0.0675*** (0.0171)	0.0680*** (0.0169)
HUMCAP			0.00718 (0.00454)	0.00718 (0.00455)
INFRA			0.000847 (0.0103)	0.00235 (0.00990)
Constant	0.139 (0.725)	-0.0974 (0.869)	-3.971*** (1.076)	-3.672*** (0.957)
No. of Obs	2,514	2,514	1,714	1,714
R-squared	0.359	0.284	0.741	0.741

NOTES: All independent variables are lagged one year. Robust standard errors in parentheses. \*, \*\* and \*\*\* indicate statistical significance at 1 percent, 5 percent, and 10 percent levels, respectively.

### 4.3 Emerging economies sample

The emerging economies sample consists of 90 countries, and the results from this sample are presented in table 4. The same nine regressions as in the case with the full sample were run, in order to examine potential differences.

#### 4.3.1 The estimated effect of corruption

Just as in the full sample, corruption is never statistically significant, but always has a negative effect on FDI inflows. The standard errors are much smaller for the corruption variable in this sample than in the full sample and the results are therefore more statistically significant. This goes in line with the findings of Al-Sadig (2009). This indicates that the effect of corruption is dependent on the type of

country – emerging or advanced. Just as in the full sample, adding institutional and qualitative control variables to the macroeconomic variables decreases the statistical significance of corruption.

The predicted marginal effect of corruption is larger than in the regressions with the full sample and the magnitude of the coefficient does not vary as much between the different regressions. The size of the coefficient lies between -0.091 and -0.138. This is partly due to the fact that the effect of LAW is not as strong as in the full sample. It still decreases the coefficient of corruption, but the change is not as remarkable. One possible explanation is that less of the effect of corruption goes via LAW or that LAW has smaller effect on the countries level of corruption. This, in turn, indicates that corruption is more independent when looking at only emerging countries. Corruption is close to being statistically significant at the 10 percent significance level in the baseline equation that controls for only macroeconomic variables, with a p-value approximately 0.11, which can be compared to the p-values exceeding 0.50 in the full sample. Thus, the specifications generate more reliable results when the sample is delimited to countries of the same type, even though there is still no clear evidence to support any conclusions.

Judging from the results of regression 1 – 5, it seems clear that the more variables that are added to the equation, the smaller the predicted effect of corruption becomes. The number of explanatory variables seems to correlate with the adjusted R-squared too, supporting that all the variables contribute to determine the FDI inflows.

#### **4.3.2 The estimated effect of the control variables**

In contrast to the full sample regressions, MKTGRWTH is significant only in some of the regressions. INFRA is not statistically significant in this sample. LAW is still always positive and significant at the 10 percent significance level, and the predicted effect it has is even larger in this sample.

**TABLE 4: REGRESSIONS – FDI INFLOWS AND CORRUPTION, EMERGING ECONOMIES**

Independent variables	Two-way Fixed Effects Model								
	Dependent variable: Log of FDI per capita: 1990 – 2011								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CORRUPT	-0.138 (0.0863)	-0.0931 (0.108)	-0.0910 (0.0903)	-0.139 (0.0903)	-0.127 (0.102)	-0.136 (0.0859)	-0.0964 (0.104)	-0.116 (0.105)	-0.123 (0.102)
WAGE	0.144 (0.134)	-0.164 (0.220)	0.0783 (0.134)	0.147 (0.142)	0.0414 (0.167)	0.0190 (0.188)	-0.159 (0.225)	-0.0907 (0.226)	-0.0806 (0.232)
MKTSIZE	0.0441 (0.108)	0.0715 (0.161)	0.0355 (0.105)	0.0450 (0.107)	0.159 (0.137)	0.0375 (0.113)	0.0737 (0.162)	0.142 (0.142)	0.147 (0.144)
CLUSTER	0.00255 (0.00216)	0.00118 (0.00261)	0.00224 (0.00217)	0.00255 (0.00216)	0.00201 (0.00248)	0.00219 (0.00234)	0.00118 (0.00260)	0.00168 (0.00253)	0.00168 (0.00251)
RESIDOPEN	0.000257 (0.00423)	-0.00343 (0.00634)	0.000126 (0.00415)	0.000251 (0.00424)	-0.00182 (0.00540)	0.000138 (0.00430)	-0.00347 (0.00618)	-0.00286 (0.00638)	-0.00292 (0.00618)
MKTGRWTH	0.0585*** (0.0147)	0.0349 (0.0225)	0.0541*** (0.0149)	0.0585*** (0.0145)	0.0369 (0.0224)	0.0616*** (0.0156)	0.0347 (0.0229)	0.0392* (0.0222)	0.0388* (0.0226)
LAW		0.187** (0.0899)	0.241*** (0.0793)				0.187** (0.0902)		
BURE		0.0167 (0.136)		-0.00605 (0.114)				0.0315 (0.139)	
HUMCAP		-0.0140 (0.00872)			-0.0105 (0.00843)		-0.0139 (0.00868)	-0.0115 (0.00873)	-0.0114 (0.00866)
INFRA		0.0207 (0.0208)				0.0198 (0.0187)	0.0207 (0.0208)	0.0173 (0.0218)	0.0172 (0.0218)
Constant	-0.0412 (2.251)	2.513 (3.519)	-0.323 (2.220)	-0.0575 (2.253)	0.193 (2.932)	0.730 (2.617)	2.480 (3.544)	1.259 (3.260)	1.187 (3.297)
No. of Obs	1,697	1,133	1,697	1,697	1,134	1,692	1,133	1,133	1,133
No. of Groups	89	86	89	89	86	89	86	86	86
R-squared	0.447	0.472	0.458	0.447	0.463	0.448	0.472	0.465	0.465
Adjusted R-squared	0.438	0.458	0.449	0.437	0.450	0.439	0.458	0.450	0.451

NOTES: All the independent variables lagged one year. Robust standard errors in parentheses. \*, \*\* and \*\*\* indicate statistical significance at 1 percent, 5 percent, and 10 percent levels, respectively.

## **4.4 The resource rich country sample**

This sample consists of 38 countries and the same nine regressions as in the full sample and the emerging economies sample are run. The results are presented in table 5.

### **4.4.1 The estimated effect of corruption**

The results differ substantially from those of the other samples. The p-value of corruption drops from 0.924 in equation (1), where only macroeconomic variables are included, to 0.268 in equation (2), where all the institutional and qualitative variables are added. This indicates that the multicollinearity between corruption and the institutional and qualitative variables is smaller in this sample. This is supported by the fact that the correlations between the institutional and qualitative variables are lower as compared to the full sample, see table 7 in appendix. The increase in statistical significance of corruption when adding the qualitative and institutional variables is unique for this sample, as the statistical significance in the two previous samples decreases when these control variables are added. This effect also contradicts our hypothesis and the results achieved in the previous research. However, as mentioned earlier, previous research has not used samples delimited to only resource rich countries.

The predicted effect of corruption is now positive. Corruption is not statistically significant in any regression, just as in the other samples, and the magnitude of the coefficient varies more across the regressions here than in the other samples, from 0.012 to 0.149, but the coefficient is consistently positive. As in the other samples, the coefficient of corruption is more positive when LAW is added.

The p-values for the corruption variables are lower than in the full sample, but not as low as in the emerging economy sample.

### **4.4.2 The estimated effect of the control variables**

Just like in the sample with emerging economies, MKTGRWTH is significant in only some of the regressions. LAW is, as in the other samples, always positive and significant at the 10 percent significance level. The predicted effect is much larger than before. A one-point increase in the LAW index increases is predicted to result in an approximately 30-40 percent increase in the FDI inflows.

**TABLE 5: REGRESSIONS – FDI INFLOWS AND CORRUPTION, RESOURCE RICH COUNTRIES**

Independent variables	Two-way Fixed Effects Model								
	Dependent variable: Log of FDI per capita: 1990 – 2011								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CORRUPT	0.0122 (0.128)	0.149 (0.132)	0.107 (0.136)	0.0233 (0.139)	0.0967 (0.122)	0.0349 (0.130)	0.149 (0.125)	0.105 (0.132)	0.106 (0.122)
WAGE	0.441* (0.223)	-0.0241 (0.386)	0.214 (0.205)	0.414* (0.229)	0.205 (0.359)	0.250 (0.316)	-0.0246 (0.392)	0.0641 (0.429)	0.0634 (0.435)
MKTSIZE	0.169 (0.168)	0.0332 (0.184)	0.226 (0.171)	0.169 (0.169)	0.0451 (0.199)	0.156 (0.184)	0.0329 (0.184)	0.0425 (0.204)	0.0422 (0.204)
CLUSTER	0.00104 (0.00359)	0.00312 (0.00744)	0.000401 (0.00305)	0.00104 (0.00355)	0.00412 (0.00734)	0.00103 (0.00455)	0.00312 (0.00743)	0.00420 (0.00728)	0.00420 (0.00727)
RESIDOPEN	0.00694 (0.00885)	0.0105 (0.00964)	0.00638 (0.00918)	0.00633 (0.00879)	0.00876 (0.0103)	0.00827 (0.00935)	0.0105 (0.00985)	0.0101 (0.00988)	0.0101 (0.0103)
MKTGRWTH	0.0525** (0.0199)	0.0277 (0.0250)	0.0404* (0.0204)	0.0532** (0.0201)	0.0361 (0.0259)	0.0536** (0.0216)	0.0277 (0.0254)	0.0357 (0.0252)	0.0358 (0.0255)
LAW		0.311** (0.149)	0.411*** (0.139)				0.311** (0.149)		
BURE		-0.00240 (0.194)		0.0573 (0.183)				-0.00359 (0.198)	
HUMCAP		-0.00583 (0.00896)			--0.000609 (0.00999)		-0.00583 (0.00895)	-0.00198 (0.00914)	-0.00198 (0.00914)
INFRA		0.0300 (0.0291)				0.0267 (0.0289)	0.0300 (0.0290)	0.0254 (0.0324)	0.0254 (0.0323)
Constant	-3.751 (3.964)	0.999 (4.606)	-4.537 (4.080)	-3.695 (3.987)	-0.0938 (4.482)	-2.489 (4.669)	1.001 (4.621)	0.821 (5.002)	0.823 (5.018)
No. of Obs	703	473	703	703	474	699	473	473	473
No. of Groups	38	37	38	38	37	38	37	37	37
R-squared	0.422	0.494	0.448	0.422	0.475	0.426	0.494	0.479	0.479
Adjusted R-squared	0.399	0.458	0.425	0.398	0.442	0.402	0.460	0.443	0.444

NOTES: All the independent variables lagged one year. Robust standard errors in parentheses. \*, \*\* and \*\*\* indicate statistical significance at 1 percent, 5 percent, and 10 percent levels, respectively.

## 4.5 Interpretation of Results

Corruption is never statistically significant in any of our samples. Just as several other studies before us, we therefore fail to find evidence that corruption has an effect on the FDI inflows to a country. However, the results have certain implications for how different FDI motives affect the importance of corruption for FDI.

The predicted effect of corruption is negative for most countries in the world but the effect may change depending on the type of host country. Contradicting our hypothesis, the negative effect of corruption seems to be larger for emerging economies than for the full sample of countries. This indicates that the negative effect of corruption is smaller for advanced economies than for emerging. This also contradicts earlier research, which argues that the often lower wage levels and higher growth rates in emerging economies make investors less wary of high corruption levels (Egger & Winner 2006, Walsh & Yu 2010). As mentioned earlier, most of the FDI inflows originate from advanced economies (UNCTAD 2010). Therefore, one explanation to these unexpected results might be that foreign MNEs are less familiar with the local conditions in emerging economies, which makes them especially vulnerable to arbitrariness and corrupt behavior (Lee & Oh 2007).

The effect of corruption for resource rich countries is smaller and sometimes even positive. The quantitative study cannot prove any reasons for *why* the results look like this, but a reasonable conclusion could be that resource-seeking FDI is less sensitive to corruption. This holds especially true for the extractive industries, since there are not that many countries to choose from if you need to extract a certain mineral. Therefore, the companies intending to invest abroad are directed to a certain group of countries, no matter its level of corruption. Coincidentally, resource rich countries tend to have a higher degree of corruption (Auty 1993). This may explain why the estimated effect of corruption on FDI is smaller for this type of countries, but it does not explain why the effect is sometimes positive.

However, if the real effect of corruption on FDI inflows is indeed positive, the common view on the effects of corruption as “sanding the wheels” can be questioned. Can corruption after all “grease the wheels” for resource seeking FDI? Within this sample of countries, do government failures such as rigorous bureaucracy and red tape make the process more efficient when they engage in corruption? This could be a possible explanation for the estimated positive effect corruption has in resource rich countries. Since these results are not statistically significant, they do not provide enough evidence to question the common view of the negative effects of corruption. However, they provide incentives to investigate the question further. This will be done in the qualitative section.

When adding institutional and qualitative variables to the full sample and the emerging economies sample, corruption becomes less statistically significant than when they are not included. As mentioned above, this goes in line with previous research. This is likely to be due to multicollinearity. However, in the sample with resource rich countries, the effect is the opposite – adding institutional and qualitative variables increases the statistical significance of corruption. Coincidentally, the correlations between corruption and the institutional and qualitative variables are smaller than in the other samples, which may explain why the variance does not increase as in the previous samples. The lower correlation may possibly be attributed to the resource curse, that may be seen as a third factor that affects corruption as well as other development indicators, which potentially disconnects some of



the correlation between them. However, there may be other explanations to this, and the issue will be discussed further in the qualitative section.

The results in all the samples show that there is a relationship between LAW and corruption, where it seems like the former influences the latter in a systematic way. This could be due to omitted variable bias, which makes the effect of corruption seem larger than it should really be when LAW is excluded. This would be the case if LAW affects corruption and FDI inflows in opposite directions. For instance, higher quality of LAW could increase FDI (by offering a safer business climate) but also decrease corruption (by increased control and risk for punishment of corrupt behavior). Not controlling for LAW could then make the negative effect of corruption seem larger than it really is. As discussed above, the effect could also be due to bad variables. It is likely to be a little bit of both. This implies that whether the regressions include LAW or not, the results are not completely right and causal – a shortcoming of the quantitative method. The same type of relationship is found between BURE and the effect of corruption on FDI, providing the same problem. This might be a reason why previous research typically fails to find statistically significant evidence of the effect of corruption once qualitative control variables are added to the regressions.

Another interesting result is found in the sensitivity analysis, which shows that the negative effect of corruption on FDI is larger when the quality of bureaucracy is high as compared to when it is low. This goes in line with the theory that the better the quality of the host country's bureaucracy, the smaller is the positive effect of corruption. If the bureaucracy works well, speed-money is not as badly needed and the positive effect declines.

To conclude, corruption is never statistically significant. Therefore, our results do not offer any real evidence. However, there are some surprising results, whose reliability and causes are best investigated by a qualitative analysis.

## **5 Corruption as a determinant of FDI in Indonesia: A case study**

In this section, we first motivate the need for a qualitative case study of Indonesia, drawing from the empirical results from the quantitative analysis. Second, we present our samples and method of data collection. Third, we describe Indonesia as a recipient of FDI, its level of corruption and FDI inflows over time and provide a motivation for it as the country of choice for our case study. Fourth, we analyze what implications corruption has for investors and competition. Fifth, we analyze how the nature of corruption affects FDI. Lastly, we connect back to the theories on FDI determinants, outlining the motivations for FDI to Indonesia.

### **5.1 Motivation for a case study**

There are shortcomings to applying a strictly quantitative method when analyzing the effect of corruption on FDI. Although our methodology is accurate and the data more up-to-date than other studies within the same field, the effects of corruption on FDI inflows seem to be far too interlaced with other determinants of FDI to satisfactorily disentangle the causal effect of corruption on FDI inflows. In our quantitative analysis, some surprising results and relationships between variables were recognized, that could not be explained solely on the statistical information. Furthermore, the quantitative approach is not equipped to single-handedly answer whether the nature of corruption, type of the host country and the motivations for FDI alter the importance of corruption.

By applying a mixed-method approach we believe that we can provide a more comprehensive examination of our research questions and answer some of the questions that were raised in the statistical analysis. The quantitative approach statistically singles out the significance of corruption as well as other FDI determinants, whereas the qualitative study allows for a deeper understanding of a phenomenon as complex as corruption is (Stokes & Bergin 2006 p.28, Gill et al 2008 p. 292).

The qualitative analysis is conducted in the form of an explanatory case study, which seeks to explain the presumed causal links between corruption and FDI inflows in Indonesia (Yin 2009). In order to conduct a meaningful analysis, the phenomenon must be analyzed in a bounded context (Miles and Huberman 1994). Therefore, we believe that our research questions will benefit from being investigated through a case study delimited to one single country.

## **5.2 Sample and method of data collection**

The qualitative study was realized mainly through in-depth semi-structured interviews conducted with senior Indonesia-based executives from companies across a broad spectrum of sectors, financiers for companies seeking to operate in Indonesia, corruption experts, representatives from Indonesian civil society, international NGOs, Indonesian authorities and representatives from the international diplomatic community in Stockholm, Denpasar, Jakarta and Surabaya between December 2012 and March 2013.

The interview method is especially appropriate for exploring the complex topic of corruption (Gill et al. 2008 p. 292) because it allows for a deeper understanding of the problem than would have been obtained by purely quantitative methods or the use of focus groups (Stokes & Bergin 2006 p.28). In order to avoid biasedness due to badly articulated questions, we also use documentation in the form of official reports and research as sources (Yin 2009 p. 102). The interviewees had the choice to remain anonymous, since corruption and investments decisions are delicate topics. A considerable amount of the investors interviewed chose to remain anonymous and will not be referenced directly in the text.

As mentioned earlier, delimitations of scope are needed in order to conduct a meaningful case study (Miles and Huberman 1994). Therefore, we delimited our sample of interviewees in Indonesia to investors from source countries with anti-corruption laws applying to the investors' activities in foreign countries. These companies are expected to be more sensitive to corruption than FDI from other source countries, since they have a larger judicial pressure to refrain from bribes. This is important to keep in mind when drawing conclusions from this analysis.

A list of investors active in Indonesia was compiled through public information provided to us by embassies and chambers of commerce. The investors were active in a wide range of sectors and industries and of all sizes. Participation was purely voluntary. Therefore, another source of biasedness might come from self-selection, i.e. the possibility that only a certain type of companies and investors are willing to participate in the interviews. To correct for this, we have also included three other subgroups, apart from the investors (companies and financiers). They consist of foreign experts with experiences from the market, representatives from Indonesian civil society and representatives from Indonesian authorities. These groups can give complementary views on the situation for investors in Indonesia, which we believe reduces the risk of biasedness due to self-selection. For an overview, see table 6.

**TABLE 6: INTERVIEW GROUPS**

Subgroup	Type	Function
A	Active foreign companies in Indonesia	Foreign investor
B	Foreign financiers with experiences from the Indonesian market	Foreign investor
C	Foreign experts with experiences from the market	Corrector
D	Representatives from Indonesian civil society	Corrector
E	Representatives from Indonesian authorities	Corrector

### 5.3 Indonesia as a recipient of FDI

Indonesia is of particular interest when analyzing the impact of corruption on FDI inflows. It is a developing country with a large potential domestic market of nearly 250 million inhabitants and currently one of the highest growth rates in the world (U.S. & Foreign Commercial Services 2012). Corruption in the country is large and widespread (Transparency International 2012).

Indonesia is rich with minerals, coal and oil and can be counted among the resource abundant countries (IMF 2007). As mentioned earlier, the resource curse is a phenomenon where resource abundant countries have less economic growth and worse development outcomes than countries with fewer natural resources. Although Indonesia has showed a remarkable growth rate, it is believed to have suffered from the Dutch disease. This manifested itself when Indonesia greatly increased its export revenues after the oil booms in 1974 and 1979 (McCawley 1980).

There have been some recent studies concerning FDI in Indonesia (see for example Dhanani & Hasnain 2002, Effendi & Soemantri 2003, Lipsey & Sjöholm 2004 and 2011). However, none of these studies have specifically examined the impact of the Indonesian corruption on the country's FDI inflows.

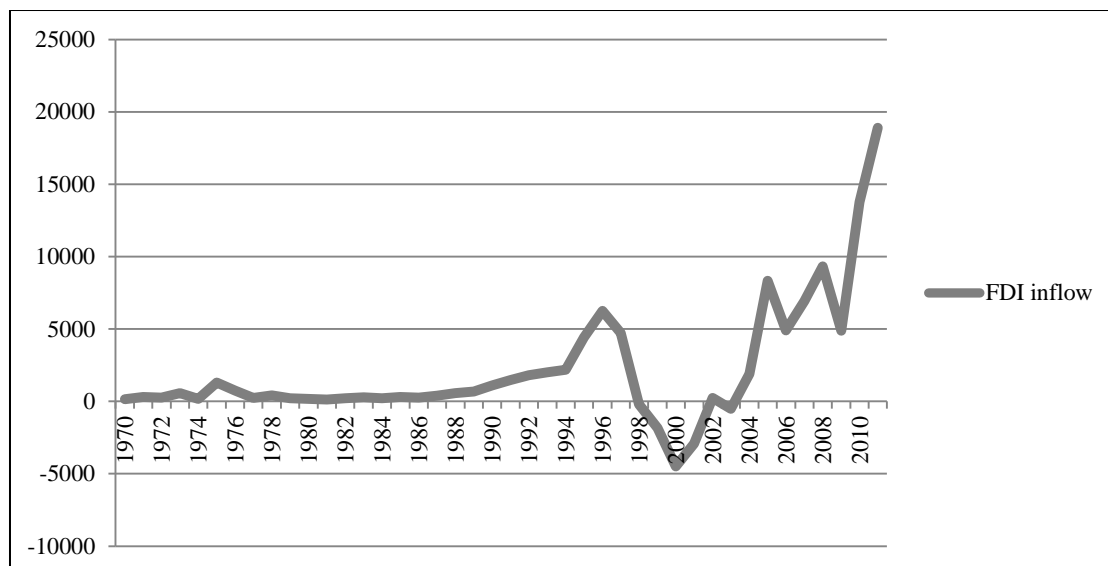


Figure 1: FDI inflows to Indonesia from 1970 - 2011. Source: UNCTAD Stat (2012).

The Indonesian attitude toward FDI has always been rather ambivalent (Athukorala 2002). The relevant legal framework concerning FDI in Indonesia was first established in 1967. Initially, FDI

inflows to Indonesia were concentrated to the oil and gas sector. After the 1970s, other sectors within the country started to receive foreign investments as well (Thee 2006). During the same period, FDI inflows to other countries within East Asia also surged. FDI inflows to the region accelerated after the opening of China, around 1990 (Lipsey & Sjöholm 2011).

Although FDI in Indonesia has increased a lot in percental terms during the last few years, it is considered an outlier within the East Asian region. Lipsey and Sjöholm (2011) argue that Indonesia has received lower inflows than could be expected from its size and other country characteristics, especially within the manufacturing sector. UNCTAD (2010) confirms Indonesia's under-performance in terms of FDI inflows relative to predictions based on a set of country characteristics. Coincidentally, corruption has been identified as a major impediment for foreign investment by financial agencies such as Standard & Poor's (2012). However, as seen in table 7, large FDI inflows and high levels of corruption co-exist in many East Asian countries. This may seem a paradox given that corruption is thought to have a negative effect on business activity.

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**TABLE 7: CORRUPTION AND FDI INFLOWS IN EAST ASIA**

<b>Country</b>	<b>Corruption index (ICRG)</b>	<b>FDI per capita</b>
<b>Singapore</b>	1.50	12336.94
<b>Hong Kong</b>	1.50	11675.57
<b>Malaysia</b>	3.50	414.63
<b>Thailand</b>	4.00	137.69
<b>South Korea</b>	3.00	96.32
<b>China</b>	4.00	92.01
<b>Indonesia</b>	3.00	78.02
<b>Philippines</b>	4.00	13.30
<b>Taiwan</b>	3.00	-84.43

Sources: ICRG (2013) and UNCTAD Stat (2012)

The majority of the FDI that Indonesia receives comes from its neighboring countries. In 2012, almost two thirds of its FDI came from countries in Asia. Source countries in America and Europe stood for approximately a fourth of the FDI received in 2012 (BKPM 2013).

## 5.4 Historical and political implications for corruption levels and FDI

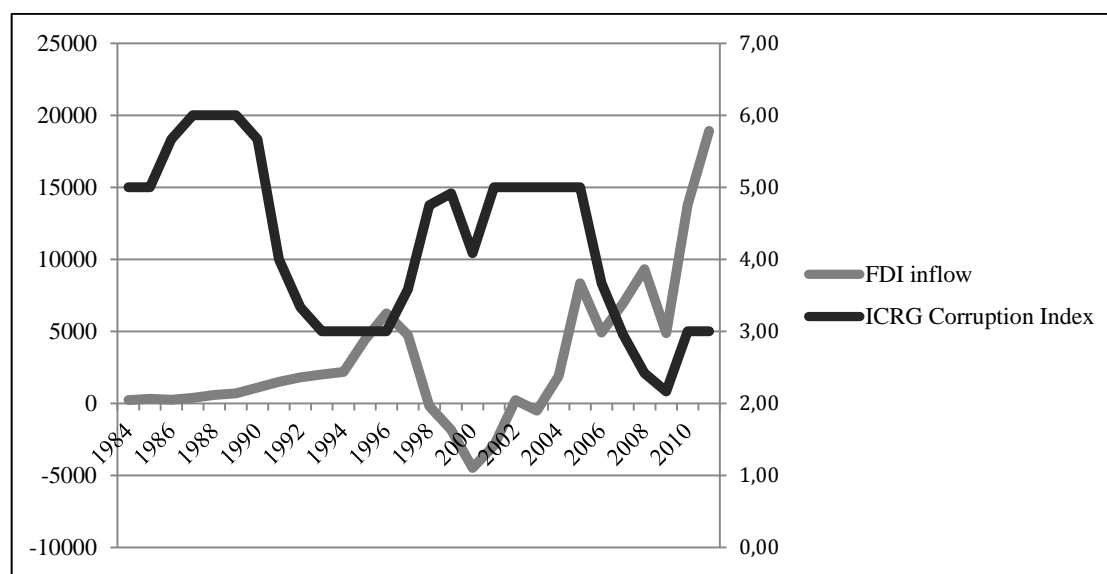


Figure 2: FDI inflows and corruption level in Indonesia 1984 – 2011. Source: UNCTAD Stat (2012) and ICRG (2013).

Figure 2 shows the level of corruption and FDI inflows in Indonesia 1984 - 2011. As seen in the graph, a high level of corruption in Indonesia coincides with low FDI inflows, and vice versa. Within this time period, there were certain economical and political events, which are likely to have had severe implications for both corruption levels and FDI inflows. As seen in the figure above, there are two points in time (around 1996 and 2002) that are of particular interest.

Indonesia was democratized in 1999 (Lipsey & Sjöholm 2011). Before that, the authoritarian President Suharto ruled the country. The time preceding the fall of Suharto was marked with political instability and opposition movements against the President grew strong. One of the most notable examples was the opposition leader Megawati Sukarnoputri, who started a new party when Suharto removed her as a political leader in 1996 (Hellwig & Tagliacozzo 2009 p. 433). The July 1997 Asian financial crisis resulted in an economic and political turmoil, which marked the end of Suharto's regime in 1998. As a result of the crisis, GDP declined by 13.2 percent in 1998 and FDI inflows dropped (Sidik, 2007, pp. 36–37). Not only the decline in GDP level, but also the political instability contributed to the decrease in FDI inflows (Interview B3). As a consequence of economic and political instability, corruption levels tend to increase (PwC 2011 p. 2). After the crisis, the trade regime deteriorated, resulting in rising corruption in the customs services and increases in the time and money required to clear goods (Athukorala 2002). Hence, these national events likely affected both FDI inflows and corruption simultaneously. Following the democratization, a process of regional decentralization was introduced in 2001. Under this law, local governments were given the power to create local regulations (Kuncuro 2008). After the decentralization, the number of districts almost doubled. As the resource curse describes, Indonesia's vast natural resources worsen corruption in the country, as different political parties fight over the power of them (Interview D3). This problem was not as severe before the democratization and decentralization in 1999, as the resources belonged to the ruling elite in respective region. This may have contributed to an increase in the level of corruption (Interview D1).

Around 2002, the trend for both corruption and FDI seem to change again. Under Law No. 30 of 2002, the Corruption Eradication Commission (KPK) was established. KPK is an independent ministry with

persecuting power, which convicts several high profile officials every year. For the foreign investor community, this was seen as a great political effort to fight corruption (Interview A6, Interview B2, Interview B3). Although the success of KPK is disputed, they have accomplished 332 convictions since their foundation and the vast majority of our interviewees recognize their work as important (KPK 2012, Bertelsmann Foundation 2012). A contributing reason for the steadily declining corruption levels is the President Susilo Bambang Yudhoyono (SBY) efforts to fight corruption (he has profiled himself as Mr. Clean). It is possible that this effort to fight corruption has also increased the country's attractiveness to investors.

Today, measures to combat the new rise in corruption have been introduced. The Investment Coordinating Board (BKPM) is responsible for issuing investment licenses to foreign entities and has launched a National Single Window for Investment, a "one-stop-shop", in 2010 which will allow foreign investors to apply for licenses and other services online (BKPM). The role of BKPM is debated among the investors interviewed and during the last few years, Indonesia is thought to have become more protectionists, especially to foreign investors (Interview A5). Nevertheless, the work of BKPM is expected to reduce the opportunities of corruption (Interview A5, Interview A7). Coincidentally, FDI levels have started to increase rapidly in Indonesia the last few years. Another explanation to this is that Indonesia, due to its rather closed economy, has not suffered economic losses from the latest global financial crisis (U.S. Commercial services 2012).

## **5.5 The nature of corruption**

The decentralization process changed the nature of corruption in Indonesia (Kuncoro 2008). Before the fall of Suharto, corruption was limited to his closest circle and somewhat predictable. After the decentralization, corruption became more unpredictable in its nature. Foreign investors encountered corruption in various settings and levels, and at several stages of the investment process (Interview B3, Interview A6, Lipsey & Sjöholm 2011.) Using the terminology of Shleifer and Vishny (1993), the corruption in Indonesia can be described as "organized" before the decentralization, while the corruption after is "unorganized".

"Before the decentralization you paid one bribe to Suharto and that's it, now it is not predictable, you may have to pay at 6, 7, 8, or 9 stages. This is much worse for companies."

– Interview D3

The research on decentralization is not clear on whether it moderates or spurs corruption (Kuncoro 2006b). Decentralization can create competition between jurisdictions that reduces corruption while increased fragmentation of the bribe collecting system result in a larger and less predictable corruption. The decentralization in Indonesia resulted in a lower level of corruption, but one that was more unpredictable and therefore harmful.

"The worst part is the unpredictability, which is a consequence of *both* corruption and slow bureaucracy. At any time your case can get completely stuck."

– Interview C2

The fact that not only the level of corruption, but also its nature, is important to foreign investors may be one contributing factor to the statistical insignificance in the quantitative study. The variance of the

observations based on only the *level* of corruption and *level* of FDI inflows may be large due to the different effect that corruption has depending on the type of corruption.

When analyzing a project or an investment, corruption is usually considered as one of the costs, mainly to inefficiencies and lost business (Interview A8, A9). However, the unpredictable nature of the Indonesian corruption makes it hard to estimate the costs, which is problematic when possible projects and investments are compared and evaluated.

“The key take away is that the companies would want to invest more, but things like corruption makes it hard. The problem is not the level of corruption, but the unpredictability. Not knowing when, to whom and how much to pay, and when you have paid enough to just get all you need.”

– Interview D3

Lipsey and Sjöholm (2011) argue that the predictable type of corruption is the most common type in East Asia. This makes Indonesia different from its neighbors and could have a part of the explanation of why Indonesia attracts less FDI than what would be expected from its size, GDP and growth.

## **5.6 Effects of corruption for firms and investments**

As mentioned before, corruption is usually considered as a cost when analyzing a potential investment. The interviewees do not refer to actual bribes as costs, since most of them have zero tolerance policies, but the costs are thought to consist of for instance lost business, the extra time it takes to get the necessary permits and licenses and the costs for agents or consultants that would not be needed if the system was well-functioning. Several of our interviewees have examples of processes that have taken twice the time or more to get started, due to inefficiencies in the system caused by corruption. In a survey conducted in 2001, Henderson and Kuncoro (2004) found that firms operating in Indonesia in 2001 spent on average over 8% of their costs on bribes and over 10% of management time in “smoothing business operations” with local officials.

There are companies that have chosen not to enter Indonesia and those that have chosen to leave due to problems with corruption. Some investors present also avoid certain types of investments for the same reason (Interview A5). However, although the investors interviewed were well aware of the corruption in Indonesia, they could not really isolate its effect on potential investments. For example, one interviewee first said that corruption almost never has any impact at all on the investment decisions. At a later stage, the investor said that the head office in the home country makes the investment decisions over a certain value and have rejected a number of projects in Indonesia due to the high levels of corruption. Contradictions and change of views during interviews were common and demonstrate the complexity of the issue. The general view seemed to be that the effect corruption has on investments is not of great importance as long as the net present value of the investment is positive. Thus, the effect should vary between zero and slightly negative. None of the interviewees saw corruption as something they could benefit from in the long run.

The consequences for the firm of the costs of corruption depend on the size and type of the foreign company. Large MNEs generally have the financial resilience to take on the additional costs caused by the inefficiencies and thereby avoid engaging in corruption (Interview A4). However, small and medium sized companies (SMEs) do not have the same financial muscles. Therefore, it can be extremely hard for them to operate in Indonesia without getting involved in corruption (Interview E2).

The general view among our interviewees was that large MNE's usually benefit from investing in Indonesia, but SME's should think twice, due to corruption and poorly functioning bureaucracy.

In addition to the size of the company, the industry in which it is active affects the degree, and consequently, the effects of corruption. Ministries and NGO's in Indonesia point out that the industries working with natural resources (such as the extractive), i.e. the primary sector, is particularly corrupt (Interview C2, Interview D3). The primary sector stands for a sizeable share of the FDI to Indonesia and other resource rich countries (BKPM 2013). The extractive industry is particularly corrupt and the regulatory and bureaucratic processes are not transparent (Interview D3). This further increases the unpredictability of the business climate and increases the costs for the companies (Interview D3, Interview D4). Nevertheless, the extractive industry is very profitable and few companies reject investments in Indonesia due to the corruption in this sector (Interview D2).

“The corruption is nothing compared to the profits”

– Interview A8

The relative insensitivity to corruption within the extractive industry is explained by basic supply and demand theory. If one company does not want to make use of the resources in a country due to corruption, there is always another company willing to take its place, since access to resources is limited and there are great profits to make. This supports our hypothesis that resource rich countries face a smaller negative effect of corruption on FDI inflows. From the interviews, there is no support for the quantitative results, which indicated that corruption has a positive effect on FDI in resource rich countries.

## **5.7 The effect of corruption on competition**

A general view among our interviewees is that corruption distorts competition. This is pointed out as the greatest problem with corruption from an investor point of view. For companies that do not employ a zero tolerance policy toward corruption, the costs induced by corruption are in some ways different than those faced by the companies that do have a strict policy, or are bound by anti-corruption laws from the country of origin. For these companies, corruption can even be an advantage (Interview A5, Interview A9, Interview C2).

The investors interviewed are exclusively from countries with anti-corruption laws. The fact that the impact of corruption on FDI depends on the origin and policy of the foreign direct investor to some extent may, in similarity to the nature of corruption, add to the statistical insignificance of corruption in our quantitative study.

“There are two playing fields; one for us, one for them. We can't compete as we cannot do what they can.”

– Interview with anonymous investor

A few interviewees from MNEs estimate that they lose business to a value of tens of millions of euros per year due to corrupt competitors. However, it is stressed that it is very hard to know when there is actually corruption behind the lost business, and when the competitor was actually better (Interview A5).



Although a zero tolerance policy against corruption sometimes causes investors to lose business, it can also create a competitive advantage. The idea is that politicians as well as other companies soon learn that it is pointless to put the company in difficult situations in order to demand bribes, since they will never pay the bribe anyway. In this scenario, the effect of corruption on the company is minimized, and reinvestments should not be affected at all by corruption. However, this view is primarily supported by experts that do not have any direct experience of the market (Interview C5). Most of the experts and investors operating directly on the market doubt that it is possible to achieve a competitive advantage that way. The reasons for introducing zero tolerance policies to corruption are rather connected to the brand and trademark (Interview A6, Interview D3).

## **5.8 Locational advantages and motives for FDI in Indonesia**

Firms are thought to weigh several locational advantages (economic, political, social and cultural) of different host countries against each other when deciding which country to invest in (Dunning 1980, 1981). Therefore, the level of FDI inflows does not only depend on the nature and level of corruption in the host country, since there might be positive aspects of a country that make up for the negative effect of corruption (Dunning 1981, Lipsey & Sjöholm 2011 p. 43). There might also be locational disadvantages of Indonesia, other than corruption, which explains its low levels of FDI as compared to neighboring countries with equal levels of corruption. In order to isolate the effect of corruption on FDI, we will go over some of these, and the importance companies put to them as FDI determinants.

### **5.8.1 Locational advantages of Indonesia**

All investors present in Indonesia agree that there are risks and costs connected to markets with a high degree of corruption. Even so the, the Indonesian market is profitable and promising enough to motivate large investments. The main positive characteristics that are accentuated in interviews are the vast size and growth of the market, together with demographic factors. Indonesia is South East Asia's largest economy with 240 million people, 50 % of whom are under the age of 30 (U.S. & Foreign Commercial Service 2012), and a rapidly growing middle class (World Economic Forum 2011, p.2).

It was also the economic advantages of investing in Indonesia that the foreign investors emphasized the most. Among the most frequently mentioned factors were its fast and stable growth, huge potential market and growing young population. Furthermore, the Indonesian market is not yet saturated, since the country is still developing (Interview A2, Interview C4). These factors can make up for the costs that corruption induces to investments.

“In the end, corruption is so small in comparison to other things, that it doesn't really affect the investments. Investments become more expensive, 1-5% I would say, but they are still profitable. It depends on the company though; if it is small it would have to think twice.”

– Interview A8

Firms with operations in the extractive industries as well suppliers to the industry highlighted Indonesia's resource abundance as one of the reasons for wanting to enter the market. An important issue that was raised was that investors look for certain resources or country characteristics, and invest where they find this, regardless of the level of corruption, since there are profits to make (Interview

D3). However, as mentioned before, Indonesia's vast natural resources are also thought to worsen corruption in the country, as different political parties fight over the power of them (Interview D3).

The fact that Indonesia is quite stable politically was also mentioned as an important advantage for investors (Interview C1).

### **5.8.2 Locational disadvantages of Indonesia**

Except for corruption, the low quality of Indonesia's institutions was identified as one of the largest disadvantages of the country, bureaucracy and the legal system in particular (Interview A3, Interview A4, Interview A6). Corruption and the quality of the institutions are closely connected in Indonesia. The bureaucracy is slow moving and the processes often different to understand for foreigners (Interview E1). Therefore, the bureaucracy provides incentives for corruption in the form of facilitation payments. The incentives for corruption do in turn create incentives for (often under-paid) government officials to complicate the bureaucracy and other institutional processes further (Interview A8, Interview C1, Interview D1). Similarly, Indonesia's judicial system operates irregularly and opaquely and foreign firms are often advised by legal experts to resolve disputes through arbitration outside Indonesia (Business Anti-Corruption portal 2012). Military, business and political interests still play a role within the legal system and the use of bribes to influence prosecutions in civil and criminal cases is common (Bertelsmann Foundation 2012, Interview A7). An ill-functioning judicial system, where penalties can be avoided by paying a bribe to the right person, allows for civil servants and public officials to engage in corrupt behavior without any severe risks. Thus, corruption also decreases the institutional quality, which increases the business uncertainty and costs of doing business in Indonesia.

"You have to obey some types of regulations and follow certain proceedings. But in reality rules are bended and adjusted, I call it smart interpretation. Ambiguity is purposely built in to the laws."

– Interview D5

Other important disadvantages with Indonesia as a host country of FDI were the quality of its infrastructure its shortage of skilled labor and its mounting protectionism.

"Over the last two years, maybe three, Indonesia has become more and more protectionist. Trade agreements with ASEAN and China increased the influx of cheap Chinese products dramatically and many domestic producers went bust. This fueled the protectionism."

– Interview C2

However, as several of the interviewees pointed out, institutional and qualitative factors, are of secondary importance to purely economic factors: The quality of institutions might be considered when entering the country for the first time but they are most often not considered when choosing to make further investments in the country (Interview A6). A point that is worth highlighting is that foreign firms seem to be more wary with potential institutional risks when investing in developing countries (Interview A7, Interview C4). Consequently, in profitable markets such as Indonesia, corruption and institutions of low quality are not seen as a severe problem, as long as the companies can still make a profit.

### **5.8.3 FDI motives for investing in Indonesia**

The motives for FDI and the respective types of MNE activities (resource seeking, market seeking, efficiency seeking and strategic asset seeking) can also have implications for the relative importance of the locational determinants. When examining the FDI inflows to Indonesia, it becomes clear that a substantial part of the FDI flow to sectors exploiting Indonesia's natural resources. Of the total FDI inflows, the primary sector receives 24%. Additionally, there is a large industry related either as distributors or customers to the primary sector. For a detailed overview of the fractions of FDI to different sectors and industries, see table 13 in appendix. Indonesia as an FDI location also offers other resources valuable to companies other than natural, namely cheap labor (Interview A2, Interview A6, Interview C7).

As mentioned above, the majority of the interviewees also pointed at Indonesia's future market potential as one of the major reasons for them to invest. In almost all of the cases, the firms stated an intention to establish fully in Indonesia, since presence in the country was important for their future businesses. Companies that had been present in Indonesia for a longer period than roughly ten years (and that were already fully established on the market) cited efficiency and strategic seeking reasons for their FDI decisions. However, these were in clear minority. Efficiency and strategic seeking motives were most often discussed in connection to a planned expansion or start of production in Indonesia. The relatively low share of efficiency and strategic seeking FDI might be due to the fact that Indonesia is a young market for foreign firms. Thus, it can be concluded that a substantial part of the FDI that flows to Indonesia is resource seeking and market seeking.

## **6 Conclusion**

The aim of this thesis was to understand the impact of corruption on FDI inflows, by seeking to understand its effect relative to other FDI determinants and further investigate whether its effect differs depending on the motives for FDI and different natures of corruption. The outlined purpose was first addressed by a quantitative study with a global scope, which statistically singled out the significance of corruption as well as of other FDI determinants. Since evidence from using this approach is scattershot and sometimes fails to find statistically significant results, it was complemented by a qualitative case study. The scope of the case study was delimited to Indonesia as a host country for FDI and the selection of participating investors was made from a pool of source countries with anti-corruption laws that apply to the investors' activities in foreign countries.

Applying a strictly quantitative approach, we fail to obtain any real evidence on the effects of corruption on FDI, as the results are not statistically significant for corruption in any of our samples. Nevertheless, the results can give us indications as to how this relationship works. A high level of corruption seems to deter FDI, more so for emerging economies than for advanced. However, this does not seem to be the case for resource rich countries, where a small positive effect on FDI can be observed. The results are striking, particularly since these types of countries have not been studied in this setting before. Since the results are insignificant, we cannot establish that corruption can be beneficial for natural resource seeking FDI.

Corruption seems to be severely interlaced with other institutional and qualitative FDI determinants, which renders it irrelevant to only look at the direct effect of corruption. In particular, corruption

seems to affect the quality of bureaucracy and the legal system in a way that has implications for FDI inflows. Thus, the statistical analysis fails to provide real evidence on whether the “helping hand” or the “grabbing hand” effect of corruption dominates as well as about the magnitude of a potential effect.

The qualitative study provided a more nuanced view of the effects of corruption. Factors that are not taken in to account for in the existing literature on the subject turned out to be essential for the evaluation of the impact of corruption on FDI inflows.

Primarily, the motives for FDI largely determine its sensitivity to corruption. By identifying the motives of FDI, some characteristics of different types of host countries can be recognized to affect the impact of corruption on FDI inflows. When the factors that match the motives for FDI are scarce or limited to a small amount of countries the impact of corruption on FDI decreases. This is true for many natural resources for instance, while cheap labor is possible to find in most emerging economies. Evaluating a general effect of corruption on FDI can therefore be misleading, and is also a credible reason to why the quantitative results are insignificant.

Resource-seeking FDI is a larger share of the total FDI in natural resource rich countries than in others. This implies that corruption has a smaller, but still negative, effect for FDI inflows to resource rich countries. In our case study, we found no support for a positive effect of corruption on FDI in resource rich countries, as the quantitative study implied. For market seeking FDI, economic growth, development and demography of the host country are factors that affect its attractiveness to FDI. Economies that offer promising markets may attract a high level of FDI, regardless of the level of corruption. The reason for this is that corruption is accounted for as a cost by the investors. It is not primarily bribes that constitute the cost for the investors, but secondary costs like risks and inefficiencies caused by corruption. As long as the benefits from the attractive market are large enough to cover the costs of corruption however, the level of corruption does not significantly hamper investments. However, when an initially large economic growth declines and the profitability of the firms declines, the firms become more cost sensitive. Therefore, the cost of corruption, and therefore the negative impact of the prevailing corruption levels on future FDI decisions, will be more apparent. It is important to note that these conclusions are based on FDI from a closely defined type of source countries. Companies that are freer to use corruption for their own benefits are probably affected differently. This might be an explanation as to why quantitative studies, which do not distinguish between different source countries and types of FDI, do not generate any significant results.

Furthermore, a general view from the research community today is that the effect of corruption on FDI can be compared to a tax on profits or a direct cost (e.g. Wei 2000a). Rather, it should be described as a cost that is very hard to calculate for. Describing corruption as a tax or a direct cost is misleading, since the largest costs connected to corruption are not direct bribes. Distorted competition is one of the major factors in this regard, that may be beneficial or harmful for FDI depending on the attitude and policies of each company. Our qualitative study is made on companies that are negatively affected by the distorted competition caused by corruption. However, our findings suggest that FDI from companies that engage in corruption may benefit from the distorted competition caused by corruption. This is another likely cause of the large variance in the results from qualitative studies that do not differentiate between the types of FDI.

The harmful effects of corruption not only depend on the absolute level of corruption, but to an even larger extent on its nature. The nature of corruption impacts its predictability. Unpredictable

corruption is more harmful to FDI inflows than predictable, without regards to the absolute level of corruption. Disorganized corruption causes unpredictability, which severely increases the cost at each level of corruption, and thus deters FDI. The existing literature on the impact of corruption on FDI does not take into account that measuring the effect of the level of corruption is not the same as measuring the total effect of corruption on FDI. Not taking the nature of corruption into account may lead to results that do not truthfully describe the reality. Ignoring the nature of corruption may also, in similarity to ignoring the motives for and types of FDI, cause large variance and statistically insignificant econometric results.

As mentioned above, there are aspects of corruption that may interact with other institutional and qualitative FDI determinants. Therefore, corruption can be said to have both direct and indirect effects on FDI inflows. In addition to the direct costs and risks imposed by corruption, there are two indirect effects that are particularly important. Corruption creates incentives for politicians to delay and complicate bureaucratic processes, in order to increase the facilitation payments. This deters FDI since it decreases the efficiency. Similarly, corruption reduces the quality and reliability of the legal system and the popular observance of the law. This increases the business risks, and thus acts deterrent for FDI.

To conclude, corruption is in general accounted for as a cost by foreign investor. When corruption makes the calculated costs larger than the benefits, potential investments are not made, because of the corruption. Consequently, corruption has a negative effect on FDI inflows to the country, but the magnitude of the effect hinges on several other factors.

## **6.1 Suggestions for further research**

The conclusions drawn in this paper point to determinants of the effect of corruption on FDI that is not included in previous studies on this topic. Therefore, research that goes deeper into the motives of FDI, and how those are connected to the impact that corruption has on FDI, would be desirable. Also, in order to bring more confidence into the general conclusions, our results could be tested for other countries and in more general settings and not only delimited to one country. Another interesting topic for further research is the change in the attitude toward corruption when then profitability deteriorates, which was something we touched on in our analysis. The above-described topics could potentially benefit from being investigated by a mixed-method approach.

In future research, country characteristics and FDI could also be taken into account in the statistical analysis. An econometric investigation with more emphasis on these factors could generate more accurate estimations of the reality. While country level data classified by industry is not available across a wide variety of countries, FDI data disaggregated into primary, secondary, and tertiary flows allows some distinctions to be drawn between the determinants of different industries, which may be valuable in determining the motives for FDI.

Lastly, the socioeconomic effects of foreign investors with strict anti-corruption policies could be studied. Just like corruption can create incentives to deteriorate the quality of bureaucracy and legal system, companies that do not accept corruption can create incentives to improve the quality of institutions. This suggests that FDI with a zero-tolerance policy to corruption should be more attractive to the host country, due to positive socioeconomic spillovers. This in turn makes it interesting to define different types of FDI based on the investors' corruption policies and analyze its socioeconomic impact.

## **7 List of non-confidential interviews**

### **A: Active foreign companies in Indonesia**

**A1:** Ålund, Dennis (Feb 26<sup>th</sup> 2013), Founder and CEO, Oddbit, Denpasar, Indonesia.

**A2:** Avila, Noel (Feb 13<sup>th</sup> 2013), General Manager, PT. Atlas Copco Indonesia, Jakarta, Indonesia.

**A3:** Benje, Mikael (Feb 15<sup>th</sup> 2013), Head of Scania Representative Office, Scania Representative Office in Indonesia, Jakarta, Indonesia.

**A4:** Lindkvist, Ola (Feb 26<sup>th</sup> 2013), Head of Business Development in Indonesia, IKEA, Jakarta, Indonesia.

**A5:** Nielsen, Lars (Feb 15<sup>th</sup> 2013), Chief Representative, SAAB, Jakarta, Indonesia.

**A6:** Ohlsson, Kent (Feb 12<sup>th</sup> 2013), Service Manager, ABB, Jakarta, Indonesia.

**A7:** Olsson, Michael (Feb 14<sup>th</sup> 2013), Owner/CEO, BM Olsson, Jakarta, Indonesia

**A8:** Penggabean, Reagan (Feb 27<sup>th</sup> 2013), CEO, Iron Road Indonesia (former regional manager at PT Indokomas Buana Perkasa), Jakarta Indonesia.

**A9:** Syaifudin, Markus (Feb 11<sup>th</sup> 2013), Regional Sales Manager for South East Asia, Billerud Korsnäs/Billerud Asia Pacific, Jakarta, Indonesia.

### **B: Foreign financiers with experiences from the Indonesian market**

**B1:** Åstrand, Martina (Jan 25<sup>th</sup> 2013), CSR Analyst, Credit Management, Svensk Exportkredit (SEK), Stockholm, Sweden.

**B2:** Engelberth, Carl (Jan 24<sup>th</sup> 2013), Executive Director, Chief Representative South East Asia, Svensk Exportkredit (SEK), Stockholm, Sweden.

**B3:** Fredriksson, Johan (Jan 25<sup>th</sup> 2013), Senior Country Policy Advisor, Exportkreditnämnden (EKN), Stockholm, Sweden.

**B4:** Lindstedt, Marie (Jan 25<sup>th</sup> 2013), Compliance Officer, Svensk Exportkredit (SEK), Stockholm, Sweden.

### **C: Foreign experts with experiences from the market**

**C1:** Brown, Martin (Feb 12<sup>th</sup> 2013), Senior Consultant, Control Risks, Jakarta, Indonesia.

**C2:** Johansson, Daniel (Feb 28<sup>th</sup> 2013), Deputy Head of Mission, Embassy of Sweden in Jakarta, Jakarta, Indonesia.

**C3:** Lundgren, Einar (Jan 30<sup>th</sup> 2013), Chief Legal Advisor (retired), Skanska, Board Member, Transparency International Sweden, Institutet mot mutor, Stockholm, Sweden.

**C4:** Milfors, Erik (Feb 28<sup>th</sup> 2013), Country Manager for Indonesia, Business Sweden, Jakarta, Indonesia.

**C5:** Nygren, Birgitta (7<sup>th</sup> Dec 2012), Board Member, Transparency International Sweden, Stockholm, Sweden.

**C6:** Rosendahl, Anna (Jan 21<sup>st</sup> 2013), Programme Manager/Advisor, Department for Global Cooperation, Swedish International Development Agency (SIDA), Stockholm, Sweden.

**C9:** Synnerström, Staffan (March 1<sup>st</sup> 2013), Senior Advisor, World Bank Indonesia, Jakarta, Indonesia.

#### **D: Representatives from Indonesian civil society**

**D1:** Arsyad, Roslita (Feb 13<sup>th</sup> 2013), Asia-Pacific Regional Associate, Revenue Watch Institute, Jakarta, Indonesia.

**D2:** Haryadi, Dedi (Feb 12<sup>th</sup> 2013), Deputy Secretary General, Transparency International Indonesia, Jakarta, Indonesia.

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## 9 APPENDIX

**TABLE 7: CORRELATION MATRIX, EMERGING ECONOMIES**

Variables	1	2	3	4	5	6	7	8	9	10	11
log (FDICP)	1										
CORRUPT	-0.0837	110000									
WAGE	0.6784	-0.4388	1.0000								
MKTSIZE	-0.0831	0.0067	-0.4211	11.0000							
CLUSTER	0.5281	-0.0732	0.2706	-0.1211	1						
RESIDOPEN	0.5713	-0.0372	0.2976	0.0249	0.6784	1					
MKTGRWTH	0.1354	0.2621	-0.2015	0.2318	0.0166	0.1159	1				
LAW	0.2881	-0.6444	0.6481	0.0048	0.1701	0.2145	-0.1113	1			
BURE	0.4163	-0.6667	0.7883	0.0202	0.1976	0.2045	-0.174	0.6576	1		
INFRA	0.6673	-0.2334	0.7441	-0.0581	0.5166	0.5762	-0.0619	0.3478	0.4476	1	
HUMCAP	0.5952	-0.5171	0.8598	-0.0782	0.2108	0.2643	-0.2186	0.5888	0.7163	0.7962	1

**TABLE 8: CORRELATION MATRIX, RESOURCE RICH COUNTRIES**

Variables	1	2	3	4	5	6	7	8	9	10	11
log (FDICP)	1										
CORRUPT	-0.0837	1									
WAGE	0.6784	-0.2488	1								
MKTSIZE	-0.0831	0.0667	-0.1311	1							
CLUSTER	0.5281	-0.1106	0.3936	-0.1136	1						
RESIDOPEN	0.5713	-0.0910	0.4806	0.0314	0.7177	1					
MKTGRWTH	0.1354	0.1547	-0.0782	0.2580	0.0221	0.1194	1				
LAW	0.2881	-0.3184	0.3254	0.0922	0.2141	0.3037	0.0820	1			
BURE	0.4163	-0.3110	0.5097	0.1263	0.2778	0.3195	0.0059	0.3071	1		
INFRA	0.6673	-0.2334	0.7441	-0.0581	0.5166	0.5762	-0.0619	0.3478	0.4476	1	
HUMCAP	0.5952	-0.0998	0.7457	-0.0239	0.2585	0.3761	-0.1109	0.2694	0.4451	0.6834	1

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**TABLE 9: LIST OF ALL COUNTRIES IN SAMPLE**

Albania	Congo•	Guinea-Bissau	Mali	Portugal°	Turkey°
Algeria•	Congo, DR•	Guyana	Malta	Romania	UAE•
Angola•	Costa Rica	Haiti	Mexico•°	Russia•	Uganda
Argentina	Cote d'Ivoire	Honduras	Mongolia•	Saudi Arabia•	UK°
Australia°	Cuba	Hong Kong	Morocco	Senegal	United States°
Austria°	Cyprus	Hungary°	Mozambique	Sierra Leone•	Uruguay
Bahamas	Czech Republic°	Iceland°	Myanmar	Singapore	Venezuela•
Bahrain•	Denmark°	India	Namibia•	Slovakia°	Vietnam•
Bangladesh	Dominican Republic	Indonesia•	Netherlands°	South Africa•	Yemen•
Belarus	Ecuador•	Iran•	New Zealand°	South Korea°	Zambia•
Belgium°	Egypt	Ireland°	Nicaragua	Spain°	Zimbabwe
Bolivia	El Salvador	Israel°	Niger	Sri Lanka	
Botswana•	Ethiopia	Italy°	Nigeria•	Sudan•	
Brazil	Finland°	Jamaica	Norway•°	Sweden°	
Brunei•	France°	Japan°	Oman•	Switzerland°	
Bulgaria	Gabon•	Jordan•	Pakistan	Syria•	
Burkina Faso	Gambia	Kenya	Panama	Taiwan	
Cameroon•	Germany°	Lebanon	Papua New Guinea•	Tanzania	
Canada°	Ghana•	Liberia•	Paraguay	Thailand	
Chile•°	Greece°	Madagascar	Peru•	Togo	
China	Guatemala	Malawi	Philippines	Trinidad & Tobago•	
Colombia•	Guinea•	Malaysia	Poland°	Tunisia	

° OECD countries, •Resource rich



**TABLE 10: DESCRIPTIVE STATISTICS, FULL SAMPLE**

Variable name	Sample: 121 host countries (1990–2011)				
	Obs	Mean	Std. Dev.	Min	Max
log (FDICP)	2521	3.985918	2.375033	-7.875937	10.01334
CORRUPT	2645	2.98990	1.307337	0	6
MKTSIZE	2662	16.3342	1.563426	12.43768	21.01901
MKTGRWTH	2640	3.500868	4.021081	-33.44725	52.95994
WAGE	2623	7.79235	1.66743	3.998296	10.64314
RESIDOPEN	2524	1.20e-08	27.14283	-38.2553	193.5363
CLUSTER	2632	36.7714	85.51337	0	1607.406
INFRA	2631	18.71196	20.00683	.0057592	74.68775
HUMCAP	1901	73.69423	31.72667	5.05618	162.3487
LAW	2645	3.787177	1.424615	0	6
BURE	2645	2.236689	1.151078	0	4

**TABLE 11: DESCRIPTIVE STATISTICS, EMERGING ECONOMIES**

Variable name	Sample: 90 host countries (1990–2011)				
	Obs	Mean	Std. Dev.	Min	Max
log (FDICP)	1874	3.334209	2.273926	-7.875937	9.420354
CORRUPT	1970	3.451015	.9862544	1	6
MKTSIZE	1980	16.23741	1.615178	12.43768	21.01901
MKTGRWTH	1958	3.828814	4.402532	-33.44725	52.95994
WAGE	1941	7.136345	1.388374	3.998296	10.54424
RESIDOPEN	1848	-1.21e-09	29.80841	-38.26458	193.5195
CLUSTER	1956	38.04299	96.90457	0	1607.406
INFRA	1950	9.739416	12.16446	.0057592	61.83967
HUMCAP	1284	59.57181	27.1499	5.05618	111.8416
LAW	1970	3.291942	1.212688	0	6
BURE	1970	1.781726	.9231708	0	4

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**TABLE 12: DESCRIPTIVE STATISTICS, RESOURCE RICH COUNTRIES**

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Variable name	Sample: 38 host countries (1990–2011)				
	Obs	Mean	Std. Dev.	Min	Max
log (FDICP)	757	3.74936	2.091108	-5.735352	9.154434
CORRUPT	834	3.427808	1.048251	0	6
MKTSIZE	836	16.21507	1.56587	12.43768	19.30579
MKTGRWTH	836	3.817775	5.289976	-33.44725	52.95994
WAGE	832	7.387706	1.470516	3.998296	10.64314
RESIDOPEN	777	1.83e-08	19.03127	-39.54813	58.50353
CLUSTER	828	49.44505	137.0323	0	1607.406
INFRA	830	9.590437	10.93838	.0057592	62.89533
HUMCAP	543	66.14173	25.62017	10.68379	124.7874
LAW	834	3.324341	1.302591	0	6
BURE	834	1.866107	.9172054	0	4

**TABLE 13: FDI FLOWS TO INDONESIA BY SECTOR AND INDUSTRY 2012**

Country	Value in million USD	Value in % of total
		<b>24.2</b>
<b>Primary sector</b>	<b>5,933.1</b>	
Food Crops & Plantation	1,601.9	7.0
Livestock	19.8	0.08
Forestry	26.9	0.11
Fishery	29.0	0.12
Mining	4,255.4	92.01
<b>Secondary Sector</b>	<b>11,770.0</b>	<b>78.02</b>
Food Industry	1,782.9	13.30
Textile Industry	473.1	1.93
Leather Goods & Footwear Industry	158.9	0.65
Wood Industry	76.3	0.31
Paper and Printing Industry	1,306.6	5.3
Chemical and Pharmaceutical Industry	2,769.8	11.2
Rubber and Plastic Industry	660.3	2.69
Non Metallic Mineral Industry	145.8	0.59
Metal, Machinery & Electronic Industry	2,452.6	10.0
Medical Preci. & Optical Instru, Watches & Clock Industry	3.4	0.014
Motor Vehicles & Other Transport Equip. Industry	1,840.0	7.5
Other Industry	100.2	0.41
<b>Tertiary Sector</b>	<b>6,861.7</b>	<b>28.0</b>
Electricity, Gas & Water Supply	1,514.6	6.2
Construction	239.6	0.98
Trade & Repair	483.6	1.97
Hotel & Restaurant	768.2	3.13
Transport, Storage & Communication	2,808.2	11.4
Real Estate, Ind. Estate & Business Activities	401.8	1.64
Other Services	645.8	2.63
<b>Total</b>	<b>24,564.7</b>	<b>100</b>

Source: BKPM (2013).