Does Corruption Act as a Deterrent to Foreign Direct Investment in Developing Countries?

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Abstract. *Developing countries institute policies to attract Foreign Direct Investment (FDI) that promotes growth and development. Corruption disrupts and complicates the implementation of policies that govern the inflows of FDI and the operations of foreign firms; such interference with policies is more than likely to disrupt and lower the inflows of FDI. This paper evaluates whether or not corruption reduces inflows of FDI into each and every developing country. Our study shows that developing countries with high growth rate (> 6% annual GDP growth) attract more FDI than countries with low growth rates although they are both steeped in corruption. Multi-national Corporations (MNCs) seem willing to cope with corruption in countries with high growth rates.*

Keywords: corruption, Foreign Direct Investment, developing countries

Introduction

The study of international business has become of critical importance in the 21st century, serving many critical roles in the relationship between both developed and developing nations. It allows businesses in the first-world to achieve resource and production efficiencies while expanding into new markets, all of which allow them to maintain product and financial competitiveness. It also fuels development in developing countries, thereby transforming the "developing" from a euphemism for "underdeveloped" into an active process towards becoming developed. Foreign Direct Investment (FDI) inflows a developing country needs to improve its economic condition. FDI increases capital stock and can increase a country's output and productivity.

However, corruption threatens to derail the progress of developing nations by staunching the flow of FDI into these countries. Sadly enough, the more underdeveloped a nation is, the greater appears to be its level of corruption. Officials engage in a mad scramble to pocket as much of the incoming financial resources as possible for themselves and their families and friends, even if at the cost of future development. The pocketing of bribes drives up the cost of doing business, the cost to consumers and adds to market impenetrability, thereby making the host country less attractive to more FDI.

Host country governments are constantly seeking to attract more international business, and this can only be harder if a country becomes known for attracting the wrong kinds of MNCs who constantly engage in corrupt practices. This will only cement their place among the collection of corrupt countries which will scare away good FDI for several reasons. Firstly, large developed countries have laws against the bribery of foreign public officials. Cementing your country's reputation as a corrupt FDI location will surely bring more scrutiny to the operations of MNCs from home countries with strong anti-corruption laws, thereby making it more difficult for them to operate in your country. Additionally, cementing your place as a corrupt country means that the costs and risks associated with FDI will be known to be that much greater (since pervasive corruption appears to be the big deterrent of FDI) and so investment in your country will be less attractive. Additionally, if it becomes an accepted fact that MNCs within a host country operate corruptly, then incoming MNCs can expect that they will be required to engage in corrupt practices in order to survive there, and this becomes an additional entry barrier to your country, especially for MNCs from countries without experience in dealing with corruption and laws against it.

And why should home counties care about corruption, passing laws and making it illegal for their MNCs to bribe foreign officials? Well, first of all the reliance on corrupt practices undermines not just the host country's image, but also the home countries. This can conceivably taint not just a group of investment locations, but also home country investment sources. If locations can become tainted with a reputation for attracting dirty FDI, then home countries can also become conceivably tainted and have their FDI politely rejected by desirable locations. So a developed country's businesses

can only become noncompetitive if it relies on corrupt practices. Additionally, MNCs which become powerful by corrupting foreign officials will become very skilled in the practice (convinced of its correctness) and try it back home so that all the arguably tainted money made by bribing officials may come back to haunt the home country.

In this paper, we seek to evaluate whether corruption affects FDI inflows into every developing country. Developing countries need to attract more FDI, so our study has huge implications for policy decision makers and governments in the developing countries.

The rest of the paper is organized as follows. Section I consists of literature review and theory development, Section II explains the methodology and the motivations for the dependent and independent variables, Section III deals with data collection. Section IV presents the empirical results, and Section V concludes with summary and future research suggestions.

I. Literature Review and Theory Development

The study of the effect of corruption on FDI is predictably fraught with contradictions and opposing perspectives. Within the study of corruption's effect on FDI, there are several camps. The first major camp comprises those who are primarily interested in the purely economic rationale for practicing or avoiding corruption. Most believe that lower corruption relates to higher inflows of FDI, they believe that lowering of corruption causes a greater inflow of FDI. Within this camp, there is a much smaller but possibly equally important camp composed of those who reverse the relationship, proposing that increasing FDI results in a lowering of corruption within a country.

There is another paradigm which addresses the moral aspects of corruption's effect on FDI. This is divided among two camps including the "moralists" who believe corruption is bad and should be avoided at all costs, while the "revisionists" see it as a possible obstacle to the successful execution of business transactions and nothing more. In fact, some argue that it is probably justified since it accommodates competition in some cases. In fact, some revisionists think of corruption as a good thing in transition economies, since it aids in the speedy execution of transactions (especially when institutions are being reformed but have not yet settled into a productive pattern of regulation), thereby allowing businesses to place a value on and consequently negotiate a price for the "expedition of government processes."

FDI

Stephen Hymer's widely referenced 1961 thesis on FDI has turned out to be the seminal work on FDI and the MNC. Literature on FDI has been revised and taken several tracks, but Hymer's work has stayed relevant after nearly half a century. Hymer in his seminal work, posited that:

Firms undertake operations in a foreign country in order to appropriate fully the returns to certain abilities which they possess. They chose this method rather than an alternative such as licensing because the imperfections in the market prevent the fullest realization of profits unless the firms exercise some control. (Hymer, 1960/76, p. 3).

What influences FDI – country characteristics

Demonstrating the inherent difficulty in operating as an MNE, Rugman (2005) studies the largest MNEs. He points out that while the 500 largest firms in the world are branded as MNEs, in fact almost all of them operate mainly within their home regions within the triad of North America, EU and Asia.

Lim (2003) points to a 1988 UNCTAD report on *Incentives and foreign direct investment,* which indicates that Economic factors including market size, cost of labor, raw materials and strategic assets and technology are some of the key determinants of FDI. Other factors include business facilitation such as investment promotion, incentives and administrative services.

FDI patterns are affected by other country factors such as market size and growth, nearness to markets, legal and political factors as well as economic conditions. Host country similarity to the home country is also expected to affect investment patterns (Davidson, 1980).

The view exists that host governments need to use strategic marketing at a national level in order to secure FDI, equating marketing a country as an attractive location for FDI, similar to the manner in which companies market their products (Lim, 2008). Spending in investment promotion has been shown to positively influence FDI (Morisset & Andrews, 2003). They find that an increase of 10% spending on country promotion yields an increase of 10% in FDI and that, on average, creating one job requires about $400 of promotion.

What influences FDI – government policies

Trade barriers, fixed exchange rates, tax-laws which discriminate against foreign goods, bad labor and wage policies which create factor disparities are some government-based disruptions which motivate FDI. For example, a trade barrier may cause a firm to invest in production facilities inside those barriers in order to get around the barrier and access the market (Calvet, 1981).

(Root, 1978) investigated several variables for their effect on FDI such as corporate taxation, tax incentives and other policy variables (including attitudes to joint ventures, local content requirements and limitation on foreign personnel). Only corporate taxation was found to be significant.

What deters FDI – country characteristics

Sethi et al. (2002) point out that even if a country's investment incentive agencies put in place the best investment promotion strategies, but the country lacks economic and political stability (a feature of which is high levels of corruption), then incentives to investment coupled with the best markets and low-wage factors would still not be enough to attract FDI.

Corruption

Transparency International has added greatly to the body of knowledge on corruption through its researching and annual publishing of the Corruptions Perception Index (CPI), which started in 1995. Corruption has been defined by Getz and Volkema (2001) as "The abuse of public roles and resources for private benefit or the misuse of office for non-official ends". The usual forms in which it manifests itself in international business are bribery, extortion and embezzlement (Robertson & Watson, 2004). Kaufmann et al. (2003) describe corruption as an indication of a lack of respect for the rule of law, on the part of both the "corrupter" (usually a private citizen or business trying to buy their way around a rule or process) and the "corrupted" (usually an official accepting money for those favors), in essence pointing to a "failure of governance".

Rodriguez et al. (2005) indicate that corruption usually rewards less-productive firms with incentives by awarding them contracts (which should have gone to more productive and efficient firms), in exchange for bribes. This acts as a penalty of sorts for firms who strive to be competitive through greater innovation and productivity. Many studies have indirectly addressed corruption as being part of a package of economic and political risk of foreign countries (Habib & Zurawicki, 2006).

Problems in defining/measuring corruption

There is an inadequate level of research on Multinational corruption due to a) difficulty in deriving definitions of corruption, b) the delicate nature of conducting research on the area, c) data collection problems, d) lack of consensus on political, social and economic effects of corrupt practices.

For a firm to operate successfully in a corrupt environment, it must also deal successfully with the uncertainty of corruption which results from the secrecy imperative and the fact that bribing one official does not preclude the bribing of others in order to guarantee the completion of government process. (Shleiffer & Vishny, 1993). Corruption discourages foreign investment because it is not "preannounced". In addition, there is little-to-no enforceability of arrangements between the briber and the bribee, thereby injecting arbitrariness and uncertainty into the process of doing business (Wei, 1997). Firms therefore have great difficulty and risk in understanding the nature of the particu-

lar type of corruption present in a country as different from its form in other countries (Rodriguez et al., 2005).

Aspects of corruption and their effect on FDI

Important aspects of corruption are **pervasiveness** and **arbitrariness**. **Pervasiveness** is the probability that an average firm will come across corruption in the course of doing business in a country. It gauges the extent to which a firm will find corruption unavoidable in carrying out its commercial activities (Cuervo-Cazurra, 2008). In order to gain legitimacy, firms are likely to consistently choose environments which reflect their norms and values so as to avoid having to be "remade in the image" of their new environment (Suchman, 1995).

The **arbitrariness** of corruption, on the other hand, is the ambiguity coupled with the corruption practiced in a nation. This is *caused by* a lack of properly codified laws, which results in variability in what is legitimate (and naturally, what can be made legitimate for a price). Arbitrariness also *causes* the laws which *are* properly codified to be interpreted with inconsistency, leading to unstable application, supposedly depending on the price you are willing to pay (Ahlstrom & Bruton, 2001). In situations of highly arbitrary corruption, there is inconsistent application of the law, and so it cannot be predicted which bribes will be effective, providing the business person with quite a conundrum. Oldenburg (1987) found that officials may drop hints like "I will think about it" suggesting that the potential briber must guess at how much of — and whether — a bribe will be effective. Exacerbating this situation is the fact that middlemen who collect bribes may or may not pass them. So, it is doubly hard to say what works and what does not (Banerjee, 1997). Cuervo-Cazurra (2008) proposes that corruption can have a positive or negative effect on FDI depending on whether it acts as "sand" or "grease" in the wheels of commerce. The author proposes that corruption acts as *sand* by simply increasing costs where the markets are well established (and supposedly do not need substitute mechanisms) while introducing uncertainty since there is no legal recourse for failure to deliver on the promise, something that a contract would have provided. Cuervo-Cazurra (2008) proposes that in the absence of market institutions, however, corruption *greases* the wheels of commerce and may encourage FDI, making transactions happen faster and in some cases, allowing transactions to be completed when they otherwise would not have been possible. Corruption supposedly side-steps excessive or misguided regulations, thereby increasing competitiveness, since parties which normally would not have access to government decision making can gain access through corrupt processes. Leff (1989) posits that corrupt practices are part of the "effective" versus the "formal" system, allowing a firm to pay a price for the speeding up of an input, in effect, simply placing a business value on the input, which is equivalent to its worth to the firm. Kaufman and Wei (1999) find that the level of bribes a firm has to pay is related to the level of difficulties (not ease) that they face in doing business.

Studies of the effect of corruption on FDI

Dutta, Kar and Saha (2017) found that if a highly corrupt country lowers its corruption score, then FDI inflows increase for an equivalent rise in human capital stock. Hossain (2016) showed than a 1% decrease in the level of corruption leads to about 8-11% increase in FDI inflows. Hakimi & Hamdi (2017) discovered that corruption is a serious hurdle to economic growth in MENA countries since it affects investment activities and FDI inflows. Fahad & Ahmed (2016) concluded that corruption impacts negatively upon inward FDI in post – conflict countries in the long-run. Gossel (2018), on the other hand, found that corruption helps in bringing in more FDI in Sub-Saharan Africa.

Pervasive corruption is found to be more of a deterrent to FDI due to extensive and well documented knowledge about it and its effect in increasing costs to the producing firm. Because the investing firm is more aware of its nature, it will act more as a deterrent to FDI than its lesser known and more ticklish counterpart, arbitrary corruption. Arbitrary corruption drives up uncertainty in the investment, but this is already indirectly factored into the equation for transition economies and so is somewhat taken for granted as part of a package of risks due to policies and practices which negatively affect business practices (Cuervo-Cazurra, 2008).

It should also be pointed out that corruption has been found to affect FDI more substantially than its local counterpart—local investment (Habib & Zurawicki, 2001). Absolute difference in the level of corruption between two countries has also been shown to have negative impact on FDI, according to Habib and Zurawicki (2002).

It has been shown that transition economies receive large amounts of FDI despite suffering from high levels of corruption. A potential explanation of this is that corruption substitutes for market mechanisms which would not be present due to badly designed or excessive regulation. As Huntington (1968) puts it:

> … *corruption produced by the expansion of governmental regulation may help stimulate economic development. Corruption may be one way of surmounting traditional laws or bureaucratic regulations which hamper economic expansion* (p. 68).

Why does corruption affect FDI negatively?

Tainting of the MNC's corporate image

Investors may simply make a moral judgment sometimes and stay away in droves from countries which are perceived as corrupt because they do not want to be associated with them, for example, some African countries which received little FDI (Habib & Zurawicki, 2001). As mentioned before, there is also the issue of laws and conventions against bribing foreign officials. It is natural that MNCs would not want to put themselves in harm's way, finding themselves in the unhappy position of having to choose

between offering bribes in order to keep their business afloat and staying out of jail by being isomorphic with home-country regulations.

Unmanageability of host country location

Corruption negatively affects the flow of FDI since it causes delays and uncertainties in business processes and naturally raises the cost of doing business (Habib & Zurawicki, 2002). Corruption in the form of bribery represents resources that could be allocated in ways that are more efficient to the transacting of business, thereby causing a "distortionary effect". The bribes and extortion paid by the companies distort the real cost of doing business (Robertson & Watson, 2004).

Companies which must pay bribes to do business lose precious time wrangling with the bureaucrats who take and require them (Kaufman & Wei, 1999). It also stifles competitiveness since it supplants efficiency and quality as drivers of organization competitiveness. Additionally, despite the fact that market-seeking firms can absorb some amount of corruption (much better than efficiency seekers can), it causes earlier saturation of the market since prices are higher and demand for products peak earlier, making the market less attractive to new entrants (Brouthers, Gao & McNicol, 2008).

Cuervo-Cazurra (2006) points out that corruption does not have an equal level of unattractiveness to all investors with FDI to spend because there is a difference in cost to various investors. Those who have laws against bribing foreign officials will think twice about investing in corrupt countries and so will limit the FDI into those countries, while those investors from corrupt countries (who likely have few laws dealing with it) already have experience (and would apparently know how to deal with the corruption) are undeterred by it. They may in fact *seek out* highly corrupt countries in which to invest.

Studies argue that the type of host country corruption affects the entry mode chosen by MNCs. They argue based on their 2-dimensional framework (of pervasiveness vs. arbitrariness) that the more pervasive the level of corruption, the more likely the MNC is to choose wholly owned subsidiary over local partnership in order to maintain internal legitimacy (so as not to get caught in a situation where a subsidiary it can only partially control taints its image by engaging in corrupt practices). The more arbitrary the corruption is, the more likely the MNC will enter through joint-ventures in order to increase external legitimacy: integrating with the corrupt environment and coping with the uncertainty it brings with it. (Rodriguez et al., 2005).

II. Methodology and Variable Descriptions

In developing countries which are de-regulating, due to the newness of the process of liberalization, many red-tape regulations introduced will be exploited by corrupt, opportunistic officials. Previous literature has shown that corrupt countries have more

burdensome regulations. Some studies suggest that over-regulation leads to corruption, whereas other studies argue the opposite: that more regulations is the result of corruption. We hypothesized that the level of corruption in a high-growth developing economy is related to the number of new regulations.

- ▫ *Hypothesis 1:* Level of corruption is related to the number of regulations introduced (post-liberalization).
    - Dependent Variable: Corruption (Transparency International Corruption perception index);
    - Independent Variable: # of regulations implemented in host country (post liberalization);
    - Control Variable: Dummy variable coded 0 for the country with growth rate < 6%, coded 1 for growth rate > 6% (World Bank world-development indicators).

In developing countries, institutions and regulations are ineffective, and some previous researchers propose that corruption can grease the wheels of commerce, and can make transactions faster and, in some cases, allow transactions to be completed when they otherwise would not have been possible. Other researchers believe corruption adds extra cost and uncertainty to doing business and as such would hinder FDI inflow. We hypothesized that increasing corruption will (at least temporarily) promote the expediency of business transactions for MNCs and thus lead to higher FDI inflows.

- ▫ Hypothesis 2: Inflow of FDI into a developing country with a high growth rate (> 6% annually) is:
    - ▫ 2a - Positively related to the level of corruption (corrupt home country);
    - ▫ 2b - Negatively related to the level of corruption (non-corrupt home country).

    - Dependent Variable: FDI inflows (UNCTAD – World Investment Reports);
    - Independent Variable: Absolute level of corruption in home country (Transparency International Corruption perception index);
    - Independent Variable: Relative level of corruption in home country (home-country value minus host-country value) (Transparency International Corruption perception index);
    - Independent Variable: Dummy variable coded for MNC from home country with/without anti-corruption laws;
    - Control Variable: Dummy variable coded 0 for the country with growth rate < 6%, coded 1 for the growth rate > 6% (World Bank world-development indicators).

Previous researchers have shown that FDI inflows are affected by a number of factors. Countries with a large market size and / or low labor costs have location advantage in attracting FDI. On the other hand, FDI inflows are negatively impacted by high production costs. In order to isolate the effect of corruption on the dependent variable (FDI), we controlled for other factors which create location incentives (such as market-size or low labor costs) or discouragement (high production costs) for FDI so as to absorb their effect on the dependent variable.

- Control Variable: Cost of labor {ILO Yearbooks of Labor Statistics – (Bevan et al., 2004)};
- Control Variable: Production Costs (Bevan et al., 2004);
- Control Variable: Market size as indicated by GDP {IMF International Financial Statistics - (Bevan et al., 2004)}.

We carried out hypotheses testing by using ordinary least squares regression between the dependent variable and the respective independent and control variables for each hypothesis.

III. Sample and Data

Our sample consists of all countries in the world from the World Bank databases during 2004-2017. Specifically, we obtained data on worldwide FDI inflows, country gross domestic products, country GDP growth rates, worldwide governance indicators[1] and worldwide average labor costs from the economics database of the World Bank[2]. In addition, we retrieved data on corruption perception index from the website of the Transparency International Organization[3] for the period 2004–2017. For regression analyses, we created a dummy variable taking the value of 1 if a country has a GDP growth rate in a certain year greater than 6 percent, and zero otherwise. Table 1 provides the total worldwide FDI inflows for 192 countries during the ten-year period (2004–2014). The descriptive statistics of the data is shown below.

TABLE 1: **Worldwide total FDI inflow during 2004–2017**

Variable	**Mean**	**Minimum**	**Maximum**	**Median**	**N**
Total FDI inflow during 2004–2017 (in USD)	111.731.928.700	1.392.893 Angola	3.383.385.000.000 United States	10.066.220.000	**192**

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[1]   http://info.worldbank.org/governance/wgi/index.aspx#home
[2]   http://data.worldbank.org/
[3]   http://www.transparency.org/research/cpi/overview

Table 2 presents the worldwide average GDP growth rate for the period 2004-2017. There are 33 countries, most of which are developing countries, having GDP growth rates greater than 6 percent during 2004-2017.

TABLE 2. **Worldwide average GDP growth rate during the period 2004-2017**

Variable	Mean	Minimum	Maximum	Median	N
Growth rate 2017	3.12295	-5.9 Yemen	8.15 Ireland	3.16355	**192**
Average GDP growth rate 2004-2017	3.710314	-3.26 South Sudan	10.99 Qatar	3.83	**192**

Table 3 shows the list of countries ranked by received FDI with corresponding Corruption Perception Index (2017).

TABLE 3. **Panel A: List of Countries by FDI received during 2004-2017 (in million USD) and Corruption Perception Index (2017)**

Variable	Mean	Minimum	Maximum	Median	N
Total FDI scaled by GDP	0.072177	0.099 Angola	0.3263 Hong Kong	0.02963	**165**
Corruption Perception Index (2017)	43.07	9 Somalia	89 New Zealand	39	**180**

TABLE 3. **Panel B: Top 25 Countries by FDI received during 2004-2017 (in million USD) and Corruption Perception Index (2014)**

Variable	Mean	Minimum	Maximum	Median	N
Total FDI scaled by GDP	0.079718	0.00118 **Italy**	0.25966 Luxembourg	0.03193	**25**
Total FDI inflows (in million USD)	429.284	112.572 Norway	3.383.385 United States	3.25176	**25**
Corruption Perception Index (2017)	65.07	29 Russian Federation	84 Sweden	72	**25**

The CPI index is compiled annually by the Transparency International ranking countries by their perceived levels of corruption, as determined by expert assessment and opinion survey. The CPI index currently ranks 180 countries on a scale from 100 (clean) to 0 (highly corrupt).

On average, most of top 25 countries are developed economies with very high CPI scores (Tabel 3, B).

In addition to CPI index, we also used the World bank Worldwide Governance Indicators (average score) consisting of five broad dimensions of governance for 214 countries over the period 2004–2017 as shown in Table 4.

TABLE 4. **Worldwide aggregated (average) and individual governance indicators for 214 economies over the period 2004–2015, for five dimensions of governance.**

Variable	Minimum	Maximum	Median	N
Corruption	-1.68 Somalia	2.37 Denmark	-0.26	**209**
Regulatory	-2.39 Korea, Dem. Rep	2.019 Singapore	-0.13	**209**
Government	-2.25 Somalia	2.22 Singapore	-0.11	**209**
Voice account	-2.19 Korea, Dem. Rep.	1.67 Norway	0.12	**204**
Rule of Law	-2.41 Somalia	2.02 Finland	-0.17	**209**

Five indicators include voice and accountability, control of corruption, regulatory quality captures, regulatory quality and government effectiveness[4]. The details of these indicators are described in the World bank handbook as follows:

Voice and accountability captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media. Control of corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. Government effectiveness captures perceptions of the quality of

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[4] The Worldwide Governance Indicators (WGI) are a research dataset summarizing the views on the quality of governance provided by a large number of enterprise, citizen and expert survey respondents in industrial and developing countries. These data are gathered from a number of survey institutes, think tanks, non-governmental organizations, international organizations, and private sector firms. The WGI do not reflect the official views of the World Bank, its Executive Directors, or the countries they represent. The WGI are not used by the World Bank Group to allocate resources.

public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies [...] and the credibility of the government's commitment to such policies (Kaufmann et al., 2011).

Regulatory quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. Rule of law captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.

We report the average scores of the five aggregate indicators in their standard normal units, ranging from approximately –2.5 to 2.5, with higher values corresponding to better governance.

IV. Empirical Results

We hypothesize that the association between inflow of FDI and the level of corruption (governance) is conditional on the high GDP growth rate. Specifically, we test Hypothesis 2a: The **Inflow of FDI into a developing country with a high growth** rate (> 6% annually) is positively related to the level of corruption (governance). Our regression models are as follows:

$$FDI\_Inflow \ (actual \ value) = \alpha_0 + \alpha_1 GDP\_growthrate + \alpha_2 CPI + \alpha_3 Laborcost +$$
$$+ \alpha_4 GDP + \alpha_5 \ HighGDPgrowth \ DUMMY + \varepsilon i \tag{1}$$

where *FDI inflow* is the total FDI inflow each year during 2004-2017; *GDP_growth rate is the yearly GDP growth rate; CPI is the yearly Corruption Index Indicator; GDP is the log of total yearly GDP during the sample period.*

HighGDPgrowth DUMMY is a dummy variable taking the value of 1 if GDP growth rate is greater than 6 percent in a given year, and zero otherwise.

$$Scaled \ FDI\_Inflow \ (scaled \ by \ GDP) = \alpha_0 + \alpha_1 GDP\_growthrate + \alpha_2 WGI +$$
$$+ \alpha_3 Laborcost + \alpha_4 GDP + \alpha_5 \ HighGDPgrowth \ DUMMY + \varepsilon i \tag{2}$$

where Scaled *FDI inflow* is the total FDI inflow scaled by GDP each year during 2004-2014; *GDP_growth rate is the yearly GDP growth rate; WGI is the yearly worldwide governance index; GDP is the log of total yearly GDP during the sample period.*

HighGDPgrowth DUMMY is a dummy variable taking the value of 1 if GDP growth rate is greater than 6 percent in a given year, and zero otherwise.

Table 5 reports the regression results of the association between high FDI inflows and better high-level transparency (high level of anti-corruption or better governance)

coupled with high GDP growth rate. Table 5 (Model 1) reports the results from a regression using CPI as one of the control variables. As predicted, Panel A coefficients on CPI are significantly positive (0.017 and p-value<0.001), indicating that there is a strong association between transparency and the inflows of FDI. The coefficient on the high GDP dummy variable is also statistically significant. This is consistent with our conjecture that countries with high GDP growth rate are more likely to receive more FDI during the sample period.

Table 5 Panel B reports the coefficients on CPI and other control variables based on the regressions using the total FDI inflows scaled by total GDP as the dependent variable. Consistent with the results in Panel A, the coefficient on CPI is positive and statistically significant at 1 percent (0.042 with t-statistics=3.12), indicating that countries with high CPI more likely received higher level of FDI inflows. While the coefficient on GDP growth rate is not statistically significant, the coefficient on GDP growth rate dummy is highly significant. Again, these results support our prediction that very high growth GDP countries would experience higher level FDI inflows.

Table 5 presents cross-sectional regression results for the sample period 2004-2017. The dependent variable, *FDI Inflow*, is the log of total FDI inflows in a given year during sample period. Control variables include GDP, GDP growth rate, labor cost, CPI (corruption perceptions index), and a dummy variable for high GDP growth rate country.

TABLE 5. **Regression Analysis Using CPI as a proxy for Anti-Corruption**

Model 1		
Variables	**Dependent Variable**	
	Panel A: Log (FDI Inflows)	Panel B FDI Inflows/GDP
Intercept	1.042 (3.9)	0.2213 (5.41)
GDP	0.89 (3.41)	-0.016 (-2.39)
GDPGrowth Rate	0.106 (1.32)	-0.059 (1.29)
CPI	0.017*** (3.91)	0.042*** (3.12)
Labor Cost	-0.132*** (-2.60)	-0.146*** (-4.9)
High Growth Dummy	0.435*** (3.96)	0.412*** (7.60)
R-squared	0.61***	0.16

*Note: Standard errors of the coefficients are in parentheses. *, **, and *** indicate significance at 10%, 5%, and 1% levels, respectively. All variables are winsorized at 1 and 99 percentile to avoid outliners.*

As a robustness check, we re-run our regressions with World Governance Indicators as a proxy for the level of anti-corruption in each country instead of Corruption Perceptions Index (CPI). We use Voice and Accountability Index, Control of Corruption Index, Regulatory Quality Index, Regulatory Quality Index, Government Effectiveness Index in Model 2, respectively.

Table 6 presents coefficients on these indicators along with other control variables. Consistently with the results from Model 1, all coefficients are positive and statistically significant.

This table presents cross-sectional regression results for the sample period 2004-2017. The dependent variable, *FDI Inflow*, is the log of total FDI inflows in a given year during sample period. Control variables include GDP, GDP growth rate, labor cost, WGI indicators, and a dummy variable for high GDP growth rate country.

TABLE 6. **Regression Analysis Using WGI as proxy for level of anti-corruption**

	Dependent variable (FDI inflows)				
Variables	**Model 2**				
	Regulatory Indicator	Corruption Indicator	Government Indicator	Rule of Law Indicator	VoiceAccount Indicator Indicator
Intercept	1.826*** (2.14)	1.536 (1.42)	1.746* (1.82)	1.678* (1.71)	1.395 (1.12)
GDP	0.8316*** (24.8)	0.8652*** (24.77)	0.8526*** (24.68)	0.8423*** (24.62)	0.8613*** (24.14)
GDPGrowth Rate	0.1856*** (2.54)	-0.1224 (-1.7)	-0.1470 (-1.64)	-0.1456 (-1.66)	-0.122 (-1.32)
CPI	0.4782*** (5.68)	0.2324*** (3.48)	0.2729*** (3.84)	0.2576*** (3.26)	0.0614*** (2.82)
Labor Cost	-0.1920*** (-3.45)	-0.1621*** (-2.76)	-0.1526*** (-2.68)	-0.1624*** (-2.78)	-0.285*** (-2.19)
High Growth Dummy	0.5316*** (3.86)	0.5167*** (3.26)	0.5326*** (3.18)	0.5384*** (3.29)	0.5164*** (3.21)
Rsquared	0.59	0.61	0.60	0.59	0.58

*Note: Standard errors of the coefficients are in parentheses. *, **, and *** indicate significance at 10%, 5%, and 1% levels, respectively. All variables are winsorized at 1 and 99 percentile to avoid outliners.*

V. Conclusion

Developing nations try their best to attract FDI, but their systems and regulations are ineffective and not fully functional, and it creates greater opportunities of corruption. There is extensive previous literature on the association between inflow of FDI and the level of corruption. Our paper adds to the literature by making the association between the inflow of FDI and the level of corruption conditional on high GDP growth rate. Some earlier studies have shown that high corruption in developing countries leads to high inflows of FDI because bribery mitigates the impact of institutional inefficiency and benefits FDI inflows. Other studies have shown that high corruption is a disincentive for FDI inflows because bribery increases the risk and uncertainty faced by investors, and it is an additional cost of doing business.

Our paper clearly demonstrates that higher FDI inflows to highly corrupt countries are conditional on high GDP growth rate. International investors are not deterred by high corruption if it is associated with high growth. They are willing to invest in highly corrupt countries if they have high GDP growth rate. International investors are looking for higher growth opportunities, and they are willing to accept corruption as a cost of doing business if it leads to higher returns in high GDP growth countries.

In terms of economic policy, there is a clear message to the policy makers. The developing countries should take steps to improve their investment climate and undertake institutional reforms to raise their growth rates because FDI inflows are sensitive to higher growth rates.

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