EFFECTS OF CORRUPTION AND REGULATORY ENVIRONMENT ON FOREIGN DIRECT INVESTMENT: A CASE STUDY OF AFRICA

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ABSTRACT

The impact of corruption on foreign direct investment (FDI) inflows has been analyzed by many recent studies. Corruption can either reduce FDI as a grabbing hand by raising uncertainty and transaction costs or facilitate FDI as a helping hand by "greasing" the wheels of commerce in the presence of a weak regulatory environment. Using the Feasible Generalized Least Squares (FGLS) methodology on 1995-2011 panel data from 53 African countries, this study finds that corruption facilitates FDI inflows to Africa, which is in line with the helping hand hypothesis. Using the Worldwide Governance Indicators (WGI) data, this study also finds that the overall regulatory environment in Africa is weak, which helps explain the context in which the helping hand hypothesis can be validated in Africa. Finally, it is found that Sub-Saharan Africa suffers from a locational disadvantage in attracting FDI vis-à-vis the rest of the continent.

JEL: D73, F21, O55

KEYWORDS: Foreign Direct Investment, Corruption, Regulatory Environment, Africa

INTRODUCTION

Foreign direct investment (FDI) can be defined as the "net inflows of investment to acquire a lasting interest in or management control over an enterprise operating in an economy other than that of the investor" (World Bank, 2012) or "an investment made to acquire lasting interest in enterprises operating outside of the economy of the investor" (UNCTAD, 2013). Although there exists no universally accepted definition of "controlling interest" or "management interest", a commonly accepted threshold is a minimum of 10% ownership of voting stocks or equivalent by a single investor (Moosa, 2002). FDI can play a significant role in the growth dynamics of host countries in a number of ways, such as providing foreign capital/currency for investment, facilitating transfer of technological knowledge, increasing local market competition, creating modern job opportunities, boosting global market access for export commodities, etc. Developing countries have generally welcomed FDI since the early 1980s. Trends in information and communication technologies (ICT) and globalization have also facilitated capital transfer across the globe. As a result, the annual FDI inflow to the least developed countries (LDCs) has jumped from 0.29% of their combined GDP in 1990 to 4.65% of their GDP in 2010 (World Bank, 2012). In 2012, developing countries received $703 billion in FDI (more than half of global FDI) and remarkably 9 of the 20 largest FDI recipients were developing countries (UNCTAD, 2013).

A sizeable literature has evolved on the determinants of FDI inflows to developing countries. Many studies have focused on the impact of corruption on overall economic performance and FDI, which has led to the emergence of two opposing views - the mainstream view is that corruption harms the economy by breeding inefficiencies and distortions, but the alternative view is that corruption enhances economic efficiency by facilitating decision making processes. The mainstream view holds that corruption impedes FDI as a *grabbing hand* by raising transaction costs for foreign investors (Bardhan, 1997), creating the risk of losing brand goodwill in case of getting tangled up in a corruption scandal (Zhao et al., 2003), providing corrupt firms preferential access to lucrative markets (Habib and Zurawicki, 2002), and negatively affecting important determinants of FDI, such as economic growth (Mauro, 1995) and

education and healthcare services (Gupta et al., 2000). The alternative view holds that corruption extends a *helping hand* to FDI by serving as "speed money" that allows investors to bypass bureaucratic red tape (Huntington, 1968), expediting decision making processes and allowing businesses to avoid heavy government regulations (Lui, 1985), and "greasing the wheels of commerce" in the presence of weak legal and regulatory frameworks (Bardhan, 1997).

The purpose of this study is to analyze the impact of corruption and regulatory environment on FDI inflows to Africa. The study also analyzes whether there exists any regional disparity in FDI inflows between Sub-Saharan Africa and the rest of the continent. The remainder of the paper is organized as follows: the second section presents a review of the empirical literature, the third section discusses the prospects and challenges of FDI in Africa, the fourth section describes the methodology and data, followed by a section on results and policy implications, and the final section concludes the paper.

LITERATURE REVIEW

The empirical evidence found in the FDI literature about the impact of corruption on FDI is mixed. A few studies have found results that support the *grabbing hand* hypothesis, i.e. corruption reduces FDI inflows. For example, Drabek and Payne (1999) found that high levels of non-transparency (a composite measure comprising corruption, weak property rights, poor governance, etc.) reduce FDI inflows. Wei (2000) used bilateral capital flows from 14 home countries to 53 host countries to analyze the effects of corruption on different types of capital flows and found that corruption reduced FDI more than other types of capital flows. Zhao et al. (2003) studied FDI inflows to 40 countries (from three different groups - OECD, Asia and emerging economies) over 1991-1997 and found that corruption and lack of transparency significantly reduced FDI inflows across regions and economic classifications. Voyer and Beamish (2004) studied a sample of nearly 30,000 Japanese FDI projects in 59 countries, and found that corruption had negative effects on Japanese FDI in emerging economies, but not in industrialized economies.

Several studies found no evidence to support the *grabbing hand* hypothesis and several other studies, such as Wheeler and Mody (1992) and Henisz (2000), found results that support the *helping hand* hypothesis. Akcay (2001) studied FDI inflows to a cross-section of 52 developing countries, and using two different indices of corruption, found no evidence that corruption significantly affects FDI. Smarzynska and Wei (2002) found that foreign investors prefer to set up joint ventures with local partners in corrupt transition economies than to establish subsidiaries. Cuervo-Cazurra (2006) found that host country corruption reduces FDI from home countries that are signatories to a prominent anti-corruption legislation (*OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions*). However, the contrary was found for FDI flowing from relatively corrupt home countries to corrupt host countries, which suggests that investors from relatively corrupt home countries are more likely to invest in host countries with high levels of corruption.

Several studies have concluded that other economic factors, particularly domestic institutions, are more significant determinants of FDI than corruption. For example, Abed and Davoodi (2000) found that low levels of corruption attract more FDI in transition economies, but structural reforms exert much stronger impact on FDI vis-à-vis lower levels of corruption. In a recent study, Quazi et al. (2014) found that corruption affects FDI inflows to Africa positively. This present study builds on Quazi et al. (2014) and improves it in several ways: first, this study uses two different proxy variables for corruption (for details, see the *Model Rationale* section) to check for the robustness of estimated results; second, this study analyzes the critical role played by the overall regulatory environment (i.e. regulatory quality, rule of law, and government effectiveness) in Africa vis-à-vis other regions in providing the context in which either the *helping hand* or *grabbing hand* of corruption is played out; and finally, this study investigates whether the Sub-Saharan African countries suffer from a locational disadvantage in attracting FDI vis-à-vis the rest of the continent.

FDI in Africa: Challenges and Prospects

After reaching a peak of $72 billion in 2008, FDI in Africa declined to $50 billion in 2012. Several African economies, such as Nigeria, South Africa, and Egypt, are still ranked relatively high among the top priority FDI host economies. In West Africa, Ghana and Nigeria account for nearly 75% of the sub-region's FDI inflows. Nigeria, the largest oil-exporter in the continent, is Africa's largest FDI recipient. The lingering political crisis in the Niger Delta has repelled away some foreign investment, while FDI in North Africa has also nosedived due to political instability. The onset of the *Arab Spring* caused FDI inflows to this region to plummet by 50% in 2011, which has however rebounded by 35% in 2012. East Africa, home of low reserves of natural resources, has historically received very little FDI. In contrast, commodity-rich Central Africa has fared much better. In Southern Africa the largest FDI recipient is South Africa, which has witnessed a sharp rebound in FDI, but the other major recipient and a major oil-producer, Angola, has suffered a heavy decline. FDI to Sub-Saharan Africa has almost recovered to the pre-2008 level (UNCTAD, 2013).

Recent data on greenfield FDI projects in Africa suggest that the primary sector is facing rising challenges from the manufacturing and service sectors. Although significant FDI is concentrated in the mining industry, the manufacturing sector accounts for over 40% of greenfield FDI. Industries that are currently drawing substantial FDI include construction, electricity, gas and water distribution, transportation and storage, communications, petroleum products and nuclear fuel. Rising demand from an emerging middle class has also drawn huge FDI into banking, retail and telecommunications (ibid).

In recent years, FDI inflow to Africa from several emerging economies, such as China and India, has become significant. This upward trend has been fueled by the growing internationalization of emerging country TNCs (Transnational Corporations) and higher demand for natural resources in these fast-growing economies. China has now become a major investor in Sub-Saharan Africa, primarily to safeguard its access to supplies of raw materials, which are essential for its current drive toward massive industrialization. Among other emerging economies, India, Malaysia and Russia have also invested substantial capital in Africa. The Chinese and Indian investors have invested heavily in infrastructure and manufacturing, particularly in textiles and clothing industries. Since labor costs in Africa are comparable with these emerging countries, these investments do not yield significant savings on labor costs. However, the *African Growth and Opportunity Act (AGOA)* and the European Union's *Everything But Arms (EBA)* initiatives have granted African products special duty-free and quota-free access to developed country markets, which has prompted some of these emergency country investors to relocate their operations to Africa (ibid).

Emerging country investors, many of whom are state-owned enterprises, are generally less concerned than developed country investors about the impact of the global economic downturn on Africa. Their confidence/resiliency has helped the African countries ride out the last global financial crisis relatively well. Another benefit of emerging country FDI is that much of it is invested heavily in labor-intensive manufacturing sector, which has a high potential for job creation. During 2003–2005, the number of jobs created by emerging country FDI in Africa nearly doubled. Chinese investors are playing a vital role in building Special Economic Zones (SEZs) in several African countries. These SEZs should improve the infrastructure network, promote industrialization, boost employment opportunities and facilitate technology transfer. Technologies used by the emerging country TNCs are more compatible with the current technologies in Africa, which should lead to relatively effortless diffusion of knowledge to local producers and ultimately contribute to the structural advancement of local economies (ibid).

METHODOLOGY

Following the current FDI literature, a general-to-specific regression equation is specified below (subscript *i* refers to countries and *t* refers to time).

$$
\begin{aligned}
\text{FDI}_{i,t} = \alpha &+ \beta_1 \text{Corruption}_{i,t} + \beta_2 \Delta \text{FDI}_{i,t-1} + \beta_3 \text{ Economic Freedom}_{i,t} + \beta_4 \text{ Rate of Return}_{i,t} \\
&+ \beta_5 \text{ Infrastructure}_{i,t} + \beta_6 \text{ Human Capital}_{i,t} + \beta_7 \text{ Political Stability}_{i,t} + \beta_8 \text{ Region}_{i,t} + \varepsilon_{i,t}
\end{aligned}
\tag{1}
$$

Model Rationale

Corruption: The main objective of this study is to estimate the impact of corruption on FDI. This study uses two proxy variables for corruption - the *Corruption Perceptions Index* (CPI), developed by the Transparency International and the *Control of Corruption* indicator from the *Worldwide Governance Indicators (WGI)*, developed by the World Bank. On the CPI index, countries receive scores from 0 (highly corrupt) to 10 (very clean), so a higher CPI score reflects less corruption. On the corruption control index, countries are scored from -2.5 (weak control of corruption) to 2.5 (strong control of corruption), so a higher corruption control score also reflects less corruption. If the estimated coefficient of the corruption index turns out positive, that would indicate that less corruption attracts more FDI, which will support the *grabbing hand* hypothesis. On the other hand, a negative coefficient will imply that higher level of corruption attracts more FDI, which will support the *helping hand* hypothesis.

Lagged Changes in FDI (ΔFDI$_{t-1}$): Foreign investors usually tend to avoid unfamiliar territories. Therefore, it is important for countries aspiring to attract FDI to first establish a positive track record, which can help dispel the foreign investors' fear of investing in that country. Incremental lagged changes in FDI ($\Delta \text{FDI}_{i,t-1}$) should contribute positively toward the current level of FDI. *Economic Freedom:* The overall investment climate in a host country plays a critical role in attracting FDI. The annual *Economic Freedom Index*, jointly published by the Heritage Foundation and *Wall Street Journal*, is often used as a proxy for domestic investment climate. This index also includes measures of financial liberalization and trade openness -- variables that have been used in many FDI studies. To avoid multicollinearity among them, these variables are not included separately in the regression equation.

Rate of Return: Higher rate of return on investment should attract more FDI. However, measuring the rate of return on investment in developing countries is difficult as well-developed capital markets are generally absent there. Several studies, such as Edwards (1990) and Jaspersen et al. (2000), have used a proxy variable for the rate of return on investment - the inverse of per capita income. The rationale is that return on investment should be positively correlated with the marginal productivity of capital, which is high in capital-scarce poor countries, where per capita income is low (or the inverse of per capita income is high). Therefore, the inverse of per capita income should be positively related to FDI inflow.

Infrastructure: Access to infrastructure (i.e. electricity, telecommunication, roads, ports, etc.) should boost the locational advantage of a host country and help attract FDI.

Human Capital: Higher level of human capital is a good indicator of the availability of a skilled workforce, which can significantly enhance the locational advantage of a host country.
Political Stability: Political instability/uncertainty usually creates an unfavorable business climate, which drives risk-averse foreign investors away.

Region: Many countries in Sub-Saharan Africa are land-locked, which creates a locational disadvantage for commerce and trade. It can be hypothesized that due to this geographical feature, Sub-Saharan African

countries suffer from a locational disadvantage as a destination of FDI vis-à-vis other African countries. A dummy variable (1 for Sub-Saharan Africa and 0 otherwise) is used to capture the regional difference.

Data

This study uses panel data covering the 1995-2011 period from 53 African countries (47 countries from Sub-Saharan Africa and 6 countries from North Africa). Net foreign direct investment inflows (% of GDP) is used as a measure of FDI, two variables are used as proxy variables for rate of return on investment - natural log of the inverse of per capita real GDP and natural log of the inverse of per capita real GDP adjusted for purchasing power parity (PPP), two variables are used as proxy for infrastructure - natural log of telephone lines per 100 people and natural log of per capita electricity use in kilowatt hours, and human capital is measured by the natural log of per capita healthcare expenditures (two other proxy variables for human capital --natural log of life expectancy at birth and share of GDP spent on healthcare expenditures-- were also included in alternative model specifications; however, statistical properties of the estimated results were not satisfactory). Data on annual FDI inflow, per capita real GDP, infrastructure, and human capital are collected from the *World Development Indicators* (World Bank, 2012), economic freedom index is collected from the *Index of Economic Freedom* (Heritage Foundation/Wall Street Journal, 2012), political stability index is collected from the *Worldwide Governance Indicators* (WGI, 2012), and the two corruption indices are collected from the *Corruption Perceptions Index* (Transparency International, 2012) and the *Worldwide Governance Indicators* (WGI, 2012). Table 1 below presents the summary statistics of variables used in the regression equation.

Table 1: Summary Statistics of Variables

Variables	Mean	St. Deviation	Maximum	Minimum
Foreign Direct Investment (% of GDP)	4.87	10.37	145.20	-82.89
Corruption Perceptions Index	3.08	1.12	6.80	0.69
Corruption Control Index	-0.55	0.60	1.25	-2.06
Economic Freedom Index	53.69	8.33	77.00	21.40
Political Stability Index	-0.47	0.93	1.54	-2.99
Per Capita Income (US$)	1,893	3,077	16,350	50
Per Capita Income (US$ - PPP adjusted)	3,630	5,125	27,346	102
Per Capita Electricity Use (kwh)	829.63	1,245.57	5,108.41	22.82
Per Capita Healthcare Expenditures (US$)	184.74	294.43	2,443.20	9.51

Notes: Table 1 presents the summary statistics of variables used in model estimation. These variables are discussed in details in previous sections (Model Rationale and Data).

RESULTS AND DISCUSSIONS

The regression equation is estimated using the Feasible Generalized Least Squares (FGLS) panel methodology. The White test suggested presence of heteroscedasticity, but there was no sign of autocorrelation. Therefore, the model was estimated with heteroscedastic panels. Estimated results from four versions of the model are presented in Table 2 and Table 3. Since each version was estimated with two proxy variables for corruption (corruption perceptions index and corruption control index), there are eight sets of regression results. Table 2 shows that all the estimated coefficients in Model 1a turned out statistically significant with the correct *a priori* signs, while in Model 1b a few coefficients turned out marginally insignificant with the correct *a priori* signs. Model 2 enhances Model 1 by adding a proxy variable for human capital, which turned out statistically significant with the correct *a priori* signs in both versions. In Table 3 (see next page), Model 3 modifies Model 2 by replacing the proxy variable for infrastructure (i.e. natural log of telephone lines per 100 people is replaced by natural log of per capita electricity use). Finally, Model 4 modifies Model 3 by replacing the proxy variable for rate of return (i.e.

natural log of the inverse of per capita real GDP adjusted for PPP is replaced by the natural log of the inverse of per capita real GDP).

Table 2: Feasible Generalized Least Squares (FGLS) Panel Estimation

Explanatory Variables	Model 1				Model 2			
	Model 1.a.		Model 1.b.		Model 2.a.		Model 2.b.	
	Coefficient	z stat	Coefficient	z stat	Coefficient	z stat	Coefficient	z stat
Constant	-8.67	-5.53	-9.50	-4.24	-9.60	-4.94	-9.95	-3.53
ΔFDI_{t-1}	0.31	4.63**	0.29	3.41**	0.32	3.96**	0.29	3.22**
Corruption Perceptions Index	-0.65	-1.66*			-0.52	-1.21		
Corruption Control Index			-0.34	-0.57			-0.27	-0.35
Economic Freedom Index	0.22	6.32**	0.19	4.83**	0.20	4.84**	0.17	3.72**
Political Stability Index	0.67	2.50**	0.39	1.60	0.58	1.98**	0.36	1.22
Infrastructure (phone)	0.70	1.67*	0.67	1.31	0.67	1.63	0.68	1.38
Rate of Return (PPP)	2.56	6.26**	2.79	6.01**	2.12	4.06**	2.15	3.73**
Sub-Saharan Africa	-1.93	-6.13**	-1.84	-4.51**	-1.92	-6.55**	-1.80	-4.36**
Human Capital					0.29	2.91**	0.30	3.04**
Sample size	63		63		63		63	
Wald χ^2	167.58		113.64		131.08		113.97	
Log Likelihood	-117.54		-119.03		-116.79		-117.72	

** coefficient statistically significant at 5% level of significance, * coefficient statistically significant at 10% level of significance *Notes: Results presented in Table 2 above show that all the estimated coefficients in Model 1a turned out statistically significant with the correct a priori signs, while in Model 1b a few coefficients turned marginally insignificant with the correct a priori signs. Model 2 extends Model 1 by adding a proxy variable for human capital, which turned out statistically significant with the correct a priori signs in both versions.*

The explanatory variables included in the regression equation generally turned out with satisfactory statistical properties. Three variables, incremental lagged changes in FDI, rate of return on investment and human capital, turned out statistically highly significant with the correct *a priori* signs in all versions; political stability turned out statistically highly significant in six versions and marginally significant in two versions, economic freedom and Sub-Saharan Africa regional dummy variable turned out highly significant in four versions, and infrastructure turned out highly significant in one version and marginally significant in six versions. The overall diagnostic statistics (measured by log likelihood and Wald χ^2 statistics) came out satisfactory for all models. The coefficients of both proxy variables for corruption (*Corruption Perceptions Index* and *Corruption Control Index*) turned out negative in all four models, and statistically significant in three versions. These results suggest that there is evidence that less corrupt countries in Africa attract less FDI, which validates the *helping hand* hypothesis of corruption (i.e. more corrupt countries attract more FDI) for this sample. This study finds that corruption facilitates FDI in Africa, which is in line with the *helping hand* hypothesis that corruption "greases" the wheels of commerce in the presence of a weak regulatory environment. The next section analyzes the regulatory environment in Africa vis-à-vis other regions.

Regulatory Environment in Africa and Other Regions

To analyze the regulatory environment in Africa vis-à-vis other regions, this study uses several indicators from the *Worldwide Governance Indicators*, developed by the World Bank. The *WGI* reports governance perception indicators for over 200 economies for six dimensions of governance -- political stability and absence of violence, voice and accountability, government effectiveness, regulatory quality, rule of law, and control of corruption (WGI, 2012). The regression models estimated in this study have used the first dimension (*political stability and absence of violence*) as a proxy variable for political stability and the last dimension (*control of corruption*) as one of two proxy variables for corruption. These six indicators are constructed with data from 31 sources that are compiled from survey responses from a wide variety of institutes, NGOs, international organizations, and private enterprises. The *WGI* data draw on four different types of surveys -- households and firms (9 data sources), commercial business information providers (4 data sources), NGOs (10 data sources), and public sector organizations (8 data sources).

Table 3: Feasible Generalized Least Squares (FGLS) Panel Estimation (Cont'd)

Explanatory Variables	Model 3				Model 4			
	Model 3.a.		Model 3.b.		Model 4.a.		Model 4.b.	
	Coefficient	z stat	Coefficient	z stat	Coefficient	z stat	coefficient	z stat
Constant	0.69	0.36	-1.04	-0.58	0.35	0.19	-1.04	-0.59
ΔFDI_{t-1}	0.22	3.05**	0.29	4.89**	0.23	3.25**	0.29	4.72**
Corruption Perceptions Index	-0.15	-0.65			-0.15	-0.66		
Corruption Control Index			-0.60	-1.84*			-0.61	-1.81*
Economic Freedom Index	-0.003	-0.11	0.01	0.58	-0.01	-0.37	0.003	0.16
Political Stability Index	0.71	3.71**	0.75	4.41**	0.62	3.40**	0.68	4.09**
Infrastructure (electricity)	0.20	1.01	0.15	0.86	0.30	1.53	0.22	1.25
Human Capital	0.21	2.26**	0.31	3.70**	0.22	2.48**	0.33	3.94**
Sub-Saharan Africa	0.12	0.38	-0.09	-0.30	0.37	1.11	0.14	0.44
Rate of Return (PPP)	0.99	2.19**	0.98	2.58**				
Rate of Return					0.32	2.52**	0.30	2.75**
Sample size	204		229		206		231	
Wald χ^2	73.97		116.93		68.29		103.57	
Log Likelihood	-409.04		-447.97		-414.06		-453.5	

** coefficient statistically significant at 5% level of significance, * coefficient statistically significant at 10% level of significance *Notes: In Table 3 above, Model 3 modifies Model 2 by replacing the proxy variable for infrastructure (i.e. natural log of telephone lines per 100 people is replaced by natural log of per capita electricity use), and Model 4 modifies Model 3 by replacing the proxy variable for rate of return (i.e. natural log of the inverse of per capita real GDP adjusted for PPP is replaced by the natural log of the inverse of per capita real GDP).*

This study uses three of the six *WGI* indicators -- regulatory quality, rule of law, and government effectiveness -- to measure the quality of regulatory environment in Africa vis-à-vis other regions. These three indicators are described in the *WGI 2012* report as the following:

"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. Government Effectiveness: captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies."

The *WGI* dataset includes 14 years of data from 1996, 1998, 2000, and 2002-12. For each year covered in the dataset, countries are scored on each one of the three indicators from -2.5 (poor quality) to 2.5 (high quality); so higher scores reflect higher quality of the regulatory environment. Table 4 lists average scores for each one of the three indicators for Africa vis-à-vis five regions (North America, Europe & Central Asia, Latin America & Caribbean, East Asia & Pacific, and South Asia) as well as the world average. On all three indicators, Africa is ranked last among all regions with a highly negative score, which suggests that the overall quality of regulatory environment in Africa is weak in absolute terms and also weaker vis-à-vis other regions in relative terms. This section finds that the overall regulatory environment is weak in Africa, which lends credence to the regression results that suggested that corruption facilitates FDI in Africa by "greasing" the wheels of commerce in the presence of a weak regulatory environment.

Policy Implications

This study has several noteworthy results. First, in addition to the usual determinants of FDI found in the literature, this study finds that corruption is a significantly positive determinant of FDI in Africa. The overall quality of regulatory environment is also found to be weak in Africa, which helps explain the context in which corruption can facilitate FDI. Over time, as the regulatory environment (i.e. regulatory quality, rule of law, government effectiveness, etc.) improves in Africa and eventually catches up with

other regions, it is likely that the impact of corruption on FDI will exhibit the same negative pattern as found in other regions with higher regulatory quality, i.e. the *helping hand* of corruption may in time turn into the *grabbing hand* of corruption. Higher incremental lagged changes in FDI, which is a proxy variable for foreign investors' increased knowledge/understanding about the host country, is found to significantly boost the current level of FDI. This result suggests that if a host country is able to successfully attract incremental FDI, that will boost foreign investors' confidence in an already familiar territory, which in turn will open the door to additional FDI inflow. African countries should therefore undertake strategies to adequately mitigate the risk-averse foreign investors' fear of committing initial investment in Africa, which once dispelled can set a virtuous cycle in motion by attracting additional FDI.

Table 4: Regulatory Environment – Africa vs. Other Regions

Regions	n	Regulatory Quality	Rule of Law	Govt. Effectiveness
North America	3	1.51	1.45	1.52
Europe & Central Asia	54	0.61	0.48	0.59
Latin America & Caribbean	37	0.14	-0.07	0.07
East Asia & Pacific	34	-0.09	0.19	0.01
South Asia	8	-0.60	-0.47	-0.42
Africa	53	-0.67	-0.67	-0.67
World	204	-0.03	-0.04	-0.03

Notes: Table 4 above presents three indicators of the overall regulatory environment in Africa vis-à-vis five regions. On all three indicators, Africa is ranked last among all regions with a highly negative score, which suggests that the overall quality of regulatory environment in Africa is weak in absolute terms and also weaker vis-à-vis other regions in relative terms.

Political stability is found to be a significantly positive determinant of FDI in Africa. African countries should, therefore, steer clear of politically destabilizing events that erode foreign investors' confidence and instead strive to maintain a politically stable environment that is conducive not only to foreign investment, but also to overall economic growth. Higher return on investment is found to exert positive impact on FDI, which suggests that FDI decisions in Africa, like any other region, are influenced by profit seeking opportunities. Higher quality human capital, improved infrastructure and economic freedom can also positively affect FDI inflows, which African countries should take into account when designing long-term strategies to enhance their locational advantage.

Finally, it is found that even after the economic fundamentals (i.e. political stability, rate of return, infrastructure, etc.) are accounted for, Sub-Saharan Africa still suffers from a locational disadvantage vis-à-vis the rest of the continent as a destination of FDI. This locational disadvantage is likely caused by a unique geographical feature of this region -- many Sub-Saharan African countries are land-locked. While this geographical feature is not a policy instrument for Sub-Saharan African countries, it is important to recognize the obstructive role played by their geography in raising transaction costs, which suppress commerce, trade and investment. To offset this locational disadvantage and attract the same amount of FDI as other countries in the continent, the Sub-Saharan African countries will have to attain higher levels in economic fundamentals vis-à-vis their competition.

CONCLUSION

The primary goal of this study is to analyze the role of corruption and regulatory environment on FDI inflows in Africa. The mainstream view in the FDI literature holds that corruption impedes FDI as a *grabbing hand* by raising transaction costs for foreign investors, but the alternative view holds that corruption extends a *helping hand* to FDI by "greasing the wheels of commerce" in the presence of weak legal and regulatory frameworks. Using the Feasible Generalized Least Squares (FGLS) methodology on 1995-2011 panel data from 53 African countries, this study finds that corruption in fact facilitates FDI inflow to Africa. These results are in line with the *helping hand* hypothesis that corruption "greases" the wheels of commerce in the presence of a weak regulatory environment. Using the *Worldwide Governance Indicators (WGI)* data, this study also finds that the quality of regulatory environment in Africa is weak,

which helps explain the context in which the *helping hand* hypothesis can be validated. Finally, it is found that Sub-Saharan Africa suffers from a locational disadvantage in attracting FDI vis-à-vis the rest of the continent, likely due to the location of a high number of land-locked countries in this region.

A possible limitation of this study is that it tests the *grabbing hand* vs. *helping hand* hypothesis only in the context of Africa. This limitation can be addressed by expanding the sample to include more developing countries with weak regulatory environment (particularly from Latin America and Asia), which is an avenue of future research. The research focus of this study is worthwhile as it seeks to further our knowledge of the FDI dynamics in Africa. Results estimated in this study suggest that, in addition to corruption, there are several other significant determinants of FDI in Africa, which include foreign investors' better familiarity with host economy, political stability, higher return on investment, higher quality human capital, improved infrastructure, and overall economic freedom. African countries should, therefore, focus on formulating strategies to promote these economic fundamentals, which will not only attract more FDI inflows in the short run, but also foster a healthy economic environment necessary for their overall economic development in the long run.

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