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The Role of Institutional Quality in FDI Inflows in Sub-Saharan Africa (SSA)

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The Role of Institutional Quality in FDI Inflows in Sub-Saharan Africa

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Abstract

During the period 2000 to 2008, Africa's collective GDP grew at an annual rate of 4.9 percent. Even though previous studies argue that strengthened and improved institutional quality is key determinant for attracting foreign direct investment to Africa, we find no evidence to that effect. Using a panel data for 45 Sub-Saharan African countries (SSH), we estimate the role of institutional quality (governance) in attracting FDI inflow during the 1996-2007 period. After controlling for country and time specific effects and the economic environment of the host country, we find no significant evidence of the impact of institutional quality on FDI inflow in our analysis. This finding may suggest that FDI inflow to SSH is potentially motivated by the abundance of raw materials and natural resources than good governance.

Key words: institutional quality, governance, economic growth, FDI, SSH countries.

JEL Classification: F21, O43, O57, P45

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Introduction

The lack of adequate internal capital, access to technological know-how, and access to international markets makes the flow of Foreign Direct Investment (FDI) one of the key alternative sources to fill the resource gap in the developing world. FDI inflows can be utilized to integrate host countries into the global economy, and global equity markets, to spur economic growth and development. FDI inflows can also enhance the productive capacities of host countries through investments in infrastructure, power, education and other services that may be relevant to tap global equities. Because of the potential growth opportunities from FDI, developed and developing countries are competing to attract FDI by providing incentives and improving their investment environment.

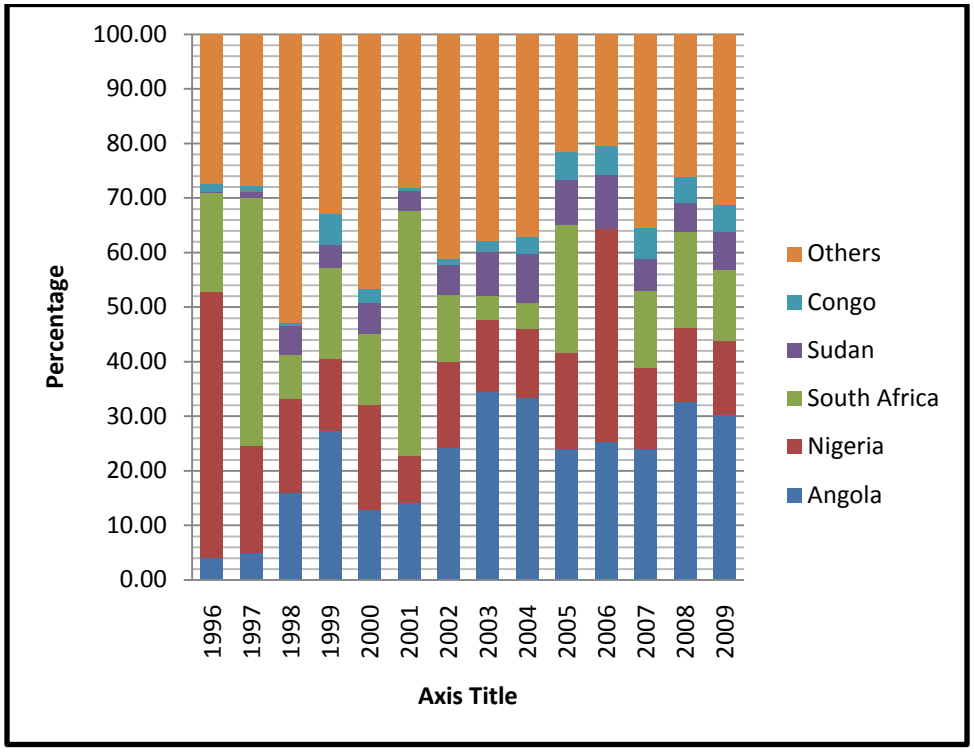
FDI inflow to Africa reached a record high of $72 billion in 2008, from $5.6 billion in 1995, but decreased by 18.8 % to an estimated $58.8 billion in 2009. This surge in FDI to the region was partially driven by the boom in global commodity prices, new oil fields in Africa and by the desire of major investors to diversify sources of supply as well as by improvement in governance (Thomsen, 2005). As a result of the commodity price boom, income on inward FDI grew by 31% in 2007, and the rate of return on investment in Africa was the highest among developing regions in 2006 and 2007. A large proportion of FDI in 2007 concentrated on expanding projects related to natural-resource exploitation, partly through reinvested earnings (UNCTAD, 2008).

Despite higher inflows, Africa´s share of global FDI remained at an average of 2.68% and accounting for only 8.3% of FDI inflow to developing economies for the 1995-2009 period (see table A1). Even though transnational corporations (TNCs) from the United States and Europe are the main investors, Africa is witnessing the rise of new sources of FDI. TNCs from developing and transitional economies have increasingly been investing in Africa over the past few years. They accounted for 21% of flows to the region over the 2005–2008 periods, compared to 18% in 1995–1999. Investors from

China, Malaysia, India and the Gulf Cooperation Council (GCC) are among the most active. This flow of new FDI is concentrated mainly on oil and gas extraction and on infrastructure (UNCTAD, 2008).

An average of 73% of the total investment in Africa was in SSH countries (Table A1). Investment in SSH countries is mainly directed to oil exporting or resource rich countries such as Angola, Nigeria, South Africa, Sudan, and Congo (Figure 1 and Table A2). These five countries account for more than 66% of FDI inflow to the region during 1995-2009.

Figure 1 Percentage Distribution of FDI Inflow in SSH Countries: 1996-2009

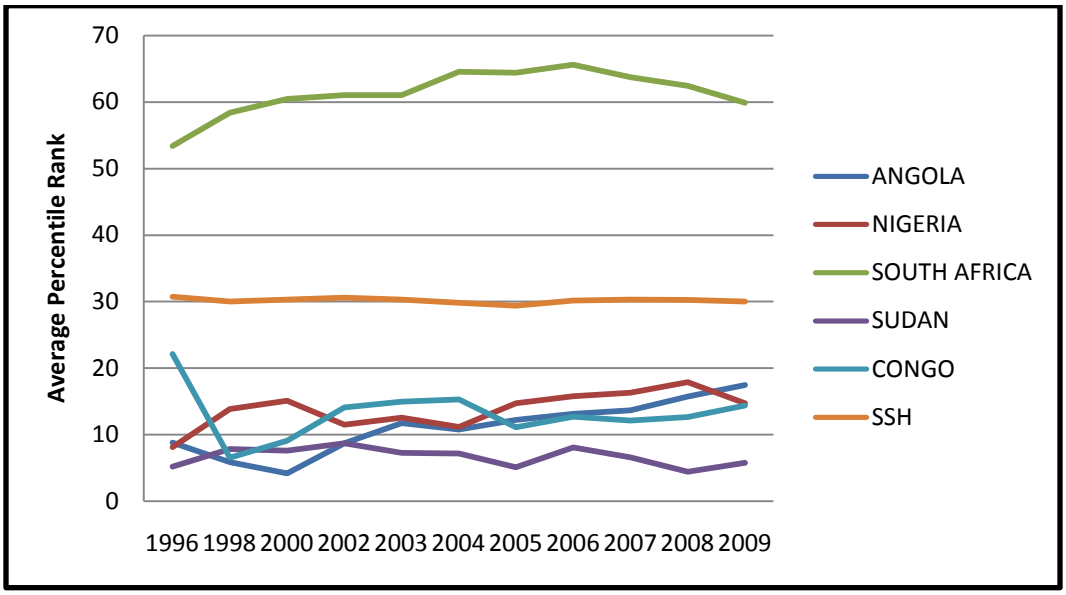


Source: Authors calculation from UNCTAD FDI data 2010.

Institutional quality in a country is largely defined by the degree of property rights protection, the degree to which laws and regulations are fairly applied and the extent of corruption (IMF, 2003). With a goal of improving the investment environment, and thus stimulating growth in the SSH region, international development agencies and non-governmental organizations (NGOs) have been advocating

for "good governance" and institutional reforms to enhance institutional quality (Thomsen, 2005). These reforms are deemed crucial to economic performance, and in enticing FDI flows. Despite limited empirical evidence about the nature of relationship between institutional quality and FDI, once resources and other factors are controlled, policy seems to have advanced in implementing these institutional reforms. Consequently, this has fuelled policy debate about the role of institutional quality in determining competitiveness to attract FDI.

Figure 2 Average Institutional Quality[5] in Major FDI Recipient SSH Countries: 1996-2009



Source: World Governance Indicators, World Bank, 2010.

Prior studies suggest that institutional quality is one of the key determinants of the surge of FDI inflows to the SSH region (Thomsen, 2005; Asiedu, 2006; Naude and Krugell, 2007). However, anecdotal evidence of the flow of FDI to oil rich countries Angola, Nigeria, and Sudan and diamond-rich countries Sierra Leone, Liberia, and Congo with relatively lower institutional quality raises some questions. Some countries with high volumes of FDI inflows are well known for their low institutional

[5] Average institutional quality for every year is computed by taking the average of the six institutional indicators (voice and accountability (VA), political instability and violence (*PV*), government effectiveness (*GE*), regulatory quality (*RQ*), rule of law (*RL*) and control of corruption (*CC*)) from the World Governance Indicators, 2010

quality and poor governance. As shown in Figure 2, with the exception of South Africa, the major recipients of FDI in SSH have an average institutional quality below the average of SSH countries and are ranked in the bottom 20th percentile. As shown in figures 3.1 -3.6 (see the appendix), they are ranked in the bottom 15th percentile in all dimensions of institutional quality. For example, Angola, one of the countries with the highest FDI inflow not only in SSH but also in the developing world is consistently ranked on the bottom 10% from 1998-2009 (World Governance Indicators, 2010). The only positive change in governance achieved by Angola is related to the end of the civil war and improved political instability (Figure 3.3). These anecdotal evidences raise numerous questions about the role of institutional quality for inflow of FDI, particularly in light of evidences from prior studies that showed a positive relationship (Asiedu, 2006; Naude and Krugell, 2007).

This paper aims to examine the role of institutions in attracting FDI inflow to SSH. The main premise forwarded in this paper is that quality of governance is not a key determinant of FDI inflow to SSH, We test this hypothesis using FDI inflow per capita and by creating an institutional quality index using six indicators from the World Bank World Governance Indicators (World Bank 2010). We distinguish ourselves from past studies by using a current and comprehensive data set of institutional quality indicators (1996-2007) and 45 SSH countries. This allows us to access the role of institutional quality on the current surge of FDI inflow to SSH countries.

Literature Review

Recently, there has been a growing interest on the links between host country governance (institution quality) and FDI inflows. These include Wheeler and Mody (1992), Knack and Keefer (1995 and 1997), Wei (1997 and 2000), Hausmann and Arias (2000), Daniele and Marani (2006), Kostevc, Redek, and Susjan (2007), Ghosh (2007), Naude and Krugell (2007), and Masron and Abdullah (2010).

Even though there is a consensus on some of the main determinants of FDI inflow, there seems to be no consensus on strong positive role of institutional quality.

Studies by Wheeler and Mody (1992), Hausmann and Arias (2000), Ghosh (2007), and Adam and Filippaios (2007) found no relationship or negative relationship between host country institutional quality and FDI inflow. Wheeler and Mody (1992) found that a composite measure of risk factors, which includes institutional variables such as the extent of bureaucratic red-tape, political instability, corruption and quality of the legal system, do not affect location of US foreign affiliates. Hausmann and Arias (2000) studied the effects of institutional variables on the composition of capital inflows, including FDI to Latin American Countries, using six different institutional variables compiled by Kaufmann, Kraay, and Mastruzzi (2009). They used the share of FDI from total capital flow and from total GDP as indicators of the inflow of FDI. They found that countries that are riskier, less financially developed and have weaker institutions tend to attract less capital but more of it in the form of FDI. When examining the effects of their institutional variables on FDI as a share of GDP, only a small subset of the institutional variables – regulatory burden and government effectiveness—remain significant after including some controls. They also did not found any statistically significant relationship between institutional variables and FDI share in total capital inflows. Their summary measure of institutions, the first principal component of Kaufmann's six institutional variables, does not have statistically significant effects on FDI inflow in all cases.

In his study on the relationship between trade openness and FDI liabilities, Ghosh (2007) includes measures of institutional quality essentially as a robustness check on these correlations. The study argues that although there is evidence supporting the positive role of institutional quality, the results are not consistent and robust to different specifications.

Using a sample of 105 developing and developed countries, Adam and Filippaios (2007) tested the relationship between governance quality, in particular the civil and political liberties of a host country, and FDI flow from US firms normalized by GDP. The study found that FDI flows to countries with low civil but with high political liberties to be negative and conclude that a threshold level of civil liberties exists, below which repression of civil liberties is associated with more FDI. The results are explained by different economic motives for FDI in different groups of countries. Efficiency-seeking motives dominate the investment decisions in less liberal developing countries. The only reason why there is a flow of FDI to most autocratic and repressive regimes among the developing countries is seeking of raw materials and natural resources, or a market-seeking motivation. They also find a negative relationship between control of corruption and FDI inflow which indicates that US investors prefer to deal with a corrupted regime.

Many other studies provide evidence on the role of institutional quality on FDI inflow. In the case of African countries, Asiedu (2006) tested the role of institutions on FDI inflow using a panel of 22 SSH countries for the period 1984-2000. Three institutional indicators- degree of corruption, rule of law, and political risk are used in the analysis. The study found that besides natural resources and large markets, institutional indicators such as less corruption, low political instability, and a reliable legal system have a positive effect in attracting FDI to these economies. After applying GMM techniques on a panel of 40 African countries for the period of1970-1990-, Naude and Krugell (2007) find mixed results. Political stability and voice and accountability are negatively related to FDI inflow, while regulatory

burden and rule of law show a positive impact, and lastly, government effectiveness has no impact. In their analysis, it is not clear how they constructed the panel data for institutional indicators. It seems that they implicitly assumed current institutional quality is the same as past institutional quality by using institutional indicators for 1999 while their data for FDI inflow is for 1970-1990. It is hard to find robust results using such strong assumption. Even though, both of these studies employ many of the governance indicators, it seems that they suffer from multicollinearity as all of the indicators are used in the equations together. These variables are highly correlated to each other. For example high or low corruption is strongly correlated to rule of law and government effectiveness (see table A4 in the appendix).

The impact of four public governance dimensions (degree of democracy, provision of public goods, macroeconomic policies, and security of property rights and contracts) on FDI is tested by Aze´mar and Desbordes (2009). The study used a panel data for 70 developing countries, including 28 SSA countries, over the 1985–2004 period. They found that FDI tends to be attracted by large and well governed developing countries. More specifically, government accountability, human capital accumulation, the quality of macroeconomic policies and the security of property rights and contracts are key determinants of FDI. However, external debt, physical infrastructure (as measured by per capita stock of fixed telephone lines), low-intensity territorial conflict, medium political constraints and the degree of political rights do not appear to matter.

Studies in other parts of the world also found positive relationships. Using data on bilateral FDI stocks from OECD countries, Wei (1997, 2000) finds that corruption, as well as uncertainty regarding corruption, has strong negative effects on FDI location. Daniele and Marani (2006) use principal component analysis to develop an institutional efficiency index for a cross section of 129 countries based on six indicators (voice and accountability, government effectiveness, regulatory burden, rule of

law, political instability, and control of corruption). They found that institutional quality is a major determinant of FDI inflow. The institutional efficiency index and individual indicators with the exception of political instability play a positive role in attracting FDI.

Building on the work of Daniele and Marani (2006), Masron and Abdullah (2010) construct an institutional quality index and use panel fixed effect estimation. Masron and Abdullah (2010) found a strong positive relationship between their institutional quality index and FDI inflows for eight Asian countries. Kostevc, Redek, and Susjan (2007) investigated the same issue in transitional economies and their results show that institutional quality significantly influenced the level of FDI, along with budget deficit, insider privatization, and labor cost.

The literature discussed above clearly show that the role of institutions in attracting FDI depends on the sample of countries included in the study, data type (cross section or panel), estimation technique, and the control variables used in the model. Therefore, it seems difficult to determine the role of governance in attracting FDI. To our knowledge there are three studies that try to investigate these relationship in SSH countries. These studies do not address the current surge in FDI in SSH countries and its relationship with institutional quality. With the exception of Naude and Krugell(2006) that use similar institutional variables, the other two studies use different measures of institutional quality. They also provide mixed results and are not conclusive. The work by Asiedu (2006) and Naude and Krugell (2007), also seem to suffer from multicolinearty and warrant further investigations that will overcome these weaknesses. We believe that this study will give a different perspective and will be good addition and to the scarce literature on the role of institutional quality on FDI inflow in SSH countries.

Model and Data Description

We propose the following empirical model to explain the relationship between the flow of *Foreign Direct Investment (FDI) and institutional quality (governance) indicators (IQ)* in SSH countries of Africa:

(1) $$FDI_{i,t} = f(EI_{i,t}, IQ_{i,t})$$

Where *FDI* is the inflow of Foreign Direct Investment to SSH countries at time *t* and *IQ* is governance indicator. $EI_{i,t}$ is a set of economic indicators of the host country (*i*) at time *t* which are assumed to influence the flow of FDI. We assume that FDI inflow to host countries is driven by profit maximizing behavior of Multinational Corporations. They can be attracted among others by cheap and abundant labor, natural resources, tax incentives, local market size or purchasing power, and conducive investment environment.

Daniele and Marani (2006) discuss three potential channels through which institutions may affect FDI inflows. First, the presence of good institutions tends to improve factor productivity and subsequently stimulates investments, regardless domestic or external. Second, good institutions will result in a reduction in investment related transaction costs (i.e. corruption-related costs). Finally, by definition FDI generally involve high sunk costs. Therefore, with good institutions (i.e. proper property right enforcement, effective legal systems) will give more security to multinational firms.

The empirical equation to be estimated is:

(2) $$FDI_{it} = \alpha_i + \delta_t + \beta_1 log\, IQ_{i,t-1} + \beta_2 logGDP_{i,t-1} + \beta_3 GFCF_{i,t-1} + \beta_4 LF_{i,t-1} + \beta_5 log\, CPI_{i,t-1} + \beta_6 Trade_{i,t-1} + \varepsilon_{it}$$

The dependent variable is total annual FDI inflow per capita from the rest of the world to 45 SSH host countries over the period 1996-2007. On the right-hand side of equation (2), we use five economic variables: real GDP per capita as a proxy for market size and potential demand of local consumers; gross

fixed capital formation as percentage of GDP (GFCF) as proxy for the level of investment in infrastructure; trade openness (Trade) as measure for market liberalization; consumer price index (CPI) as a proxy for macro economic instability; and total labor force (LF) as proxy for human capital in the host country. $t = 1,\ldots,T$ are time periods; $i = 1,\ldots,N$ are panel members; α_i denote country-specific effects, δ_t is the deterministic time trend, and ε_{it} is the estimated residual. *IQ, GDP, LF,* and *CPI,* are all in log form. All the variables in the model are lagged one period in order to control for a possible endogeniety problem and to take into account the fact that FDI location choice decisions are based on past information.

As defined above, *IQ* is institutional quality (governance) constructed using a principal component analysis on six different individual dimensions. We adapt the definition used by Kaufmann, Kraay, and Mastruzzi (2009 and 2010) and define governance as "the traditions and institutions by which authority in a country is exercised". This includes voice and accountability (VA), political instability and violence (*PV*), government effectiveness (*GE*), regulatory quality (*RQ*), rule of law (*RL*) and control of corruption (*CC*). The first two variables (VA and PV) capture the process by which authorities are selected and replaced; they include indicators that measure aspects of the political process, civil liberties, and political rights, intended to assess the extent to which citizens are able to participate in the selections of governments. The next two clusters (GE and RQ) refer to the ability of the government to formulate and implement policies. While *GE* encompasses perceptions of the quality of the provision of public services, *RQ* focuses more on policies themselves, including whether those policies are market-friendly or so excessively regulatory that they become an obstacle or burden for trade, business and development. The last group (RL and CC) indicates the level of respect that citizens have for the state and national institutions, focusing specifically on rule of law (*RL*) enforcement and the degree of control of corruption (*CC*).

If governance matters for the flow of FDI, all of these indicators should have positive and statistically significant coefficients. As shown in Table A4, in the appendix, these variables are highly correlated to each other. Including them together in one equation will create a multicollinearity problem, making estimation of the partial effects of the highly correlated variables more difficult. Wooldridge (2009) suggests dropping some of the variables or combining them. For this reason, we estimated equation (2) using the combined aggregate IQ index and each of its six dimensions. The data source for IQ is the World Bank World Governance Indicators (WDI).

Data sources for GDP per capita, gross fixed capital formation, FDI inflow, and labor force are from UNCTADstat (2010) World Investment Report. CPI is the annual inflation rate for a country as reported in IMF World outlook 2009 and data for trade comes from Penn World. Table A3 in the appendix gives the descriptive statistics of all the variables in the model.

Estimation Results and Discussion

We estimated equation (2) using panel data analysis with cross section and period fixed effects. The cross-section fixed effects accounts for fixed differences between countries- unmeasured variables that do not change in the study period but that differ across countries. The period fixed effect controls for an aggregate time trend - one that accounts for unmeasured variables common to all countries, such as, autonomous technological change effects as well as globalization.

In order to control for serial correlation, we used white coefficient covariance method that is robust to serial correlation (White, 1980). Generally, all the equations performed well with adjusted R^2 of over 70% and high F value. The sign of the intercept in all the equations is negative and significant indicating that, if all independent variable were null, FDI inflow would go down.

Our key independent variable- institutional quality appears not to be an important factor in attracting FDI in SSH African countries. Thus, both the overall index and the different individual dimensions of institutional quality are not statistically significant (table 1). This is not surprising as majority of the countries score very low in almost all governance indicators. As discussed in the introduction of the paper, the flow of FDI is directed to resource-rich countries regardless of their

Table 1 Estimation Results Using Period and Cross Section Fixed Effect

Variables	IQ Eq	CC Eq	RL Eq	RQ Eq	GE Eq	VA Eq	PV Eq
Log $GDPPC_{t-1}$	**265.77*** (38.37)	**269.61*** (36.56)	**266.75*** (35.99)	**258.91*** (38.17)	**270.014*** (41.27)	**276.25*** (40.3)	**263.39*** (36.98)
$GFCF_{t-1}$	-2.87 (2.11)	-2.94 (2.01)	-2.93 (2.08)	-2.96 (2.03)	-2.69 (1.94)	-2.69 (1.98)	-2.89 (2.11)
Log LF_{t-1}	**299.53*** (162.97)	**299.94*** (163.38)	**269.02*** (158.3)	**279.85*** (160.84)	**319.19*** (167.64)	**302.37*** (177.1)	**281.99*** (160.09)
Log CPI_{t-1}	**22.78**** (11.35)	**23.66**** (11.33)	**23.37**** (10.52)	**24.11**** (11.27)	**23.14**** (11.74)	**22.19*** (12.49)	**21.1*** (10.92)
$Trade_{t-1}$	0.19 (0.46)	0.23 (0.42)	0.15 (0.44)	0.18 (0.45)	0.12 (0.39)	0.18 (0.46)	0.17 (0.45)
Log IQ_{t-1}	8.906 (35.12)						
Log CC_{t-1}		42.63 (28.73)					
Log RL_{t-1}			54.08 (42.20)				
Log RQ_{t-1}				29.54 (23.83)			
Log GE_{t-1}					-39.82 (57.01)		
Log VA_{t-1}						-49.36 (43.13)	
Log PV_{t-1}							14.82 (16.93)
Intercept	**-4083.47*** (1376.74)	**-4138.46*** (1387.52)	**-3873.06*** (1345.55)	**-3897.52*** (1364.57)	**-4226.98*** (1422.43)	**-4117.47*** (1465.15)	**-3916.54*** (1339.67)
Adj R^2	0.719	0.719	0.72	0.719	0.719	0.72	0.719
F statistic	21.516	21.586	21.626	21.573	21.432	21.623	21.56
observation	458	458	458	458	447	458	458

Note: ***, **, and * denote significance at 0.01, 0.05, and 0.10 level respectively.

governance quality. Our findings are similar to Wheeler and Mody (1992) and support the conclusion of Adam and Filippaios (2007). Furthermore, it is in line with the description of our data set and UNCTAD

(UNCTAD, 2009) that major recipients of FDI in SSH are resource-rich countries like South Africa, Nigeria, Angola, and Sudan.

In all the equations, the coefficients of GDP per capita and labor force are positive and significant. Gross fixed capital formations as percentage of GDP and trade openness are not significant in all the equations. Even though we were expecting to find a negative relationship between CPI as a proxy of macroeconomic instability and FDI inflow, we found a positive and statistically significant relationship in all the equations. Looking at the descriptive data (Table A3), we suspect that the combination of countries in our sample that includes countries with hyperinflation (Zimbabwe) and other countries with low inflation rate could be one of the reasons for the unexpected sign.

Conclusion

The analysis presented in this study has highlighted the role of institutional quality and governance on FDI flow to Sub-Saharan Africa during the period 1996-2007. By using a panel dataset of 45 countries and 11 years, we have found that FDI inflows are not significantly influenced by institutional quality. From this, we conclude that improving institutional quality as a policy strategy in order to compete and attract FDI may not be critical to SSH countries.

This study also finds that economic factors such as GDP per capita and abundant labor force are important determinants of the flow of FDI. In contrast to previous research, this study reveals that gross fixed capital formation and openness of trade have no impact on FDI inflow. Our findings can provide an analytical foundation for the evaluation of country policies and institutions aimed at making SSH countries more attractive to foreign investors. In line with this finding, the paper provides evidence on the major economic and institutional determinants of FDI where strong emphasis should be placed by policymakers in these countries on GDP per capita and human capital.

Our findings by any means do not discount the role and need for good governance in SSH countries. Governance is one of the important factors that should be developed to initiate and sustain economic development. Even though, we found no evidence in our study that supports a direct positive role of good governance in attracting FDI, the relationship could be indirect. If good governance can enhance the quality of human capital and GDP growth, it can indirectly influence FDI inflow. We will explore this issue in our future extension of this study.

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APPENDICES

Table A1 FDI Inflow in Millions to Developing World and Africa 1995-2009

YEAR	World	Developing economies	Africa	America	Asia	SSH
1995	342544.20	115943.16	5655.40	29513.01	80084.33	4439.18
1996	388998.17	147077.80	5957.04	46262.90	94185.85	4489.26
1997	486476.18	190723.95	11032.58	73504.46	105813.82	8381.08
1998	707185.19	190729.50	9592.92	85466.63	95296.60	6990.43
1999	1087500.29	228079.39	11962.28	104083.41	111536.78	9001.57
2000	1401466.41	256465.22	9828.99	97672.45	148735.08	6813.06
2001	825280.34	214696.48	19995.27	80434.89	114039.87	15108.09
2002	628114.12	176063.06	16073.87	58513.96	101344.58	12914.63
2003	565739.01	183911.74	20417.61	45954.96	117179.84	16505.35
2004	732396.61	291919.08	21735.35	95221.19	174589.79	16805.23
2005	985795.64	330129.87	38197.20	75918.61	215768.80	28266.07
2006	1459133.28	434365.87	55382.41	94557.08	283112.82	35772.99
2007	2099972.91	564929.90	63091.81	163612.24	336922.39	40743.53
2008	1770872.84	630012.53	72178.78	183195.01	372738.95	50681.61
2009	1114189.32	478349.04	58564.61	116554.61	301366.54	43313.42

Source: Computed by authors from UNCTAD: UNCTADstat(2010)

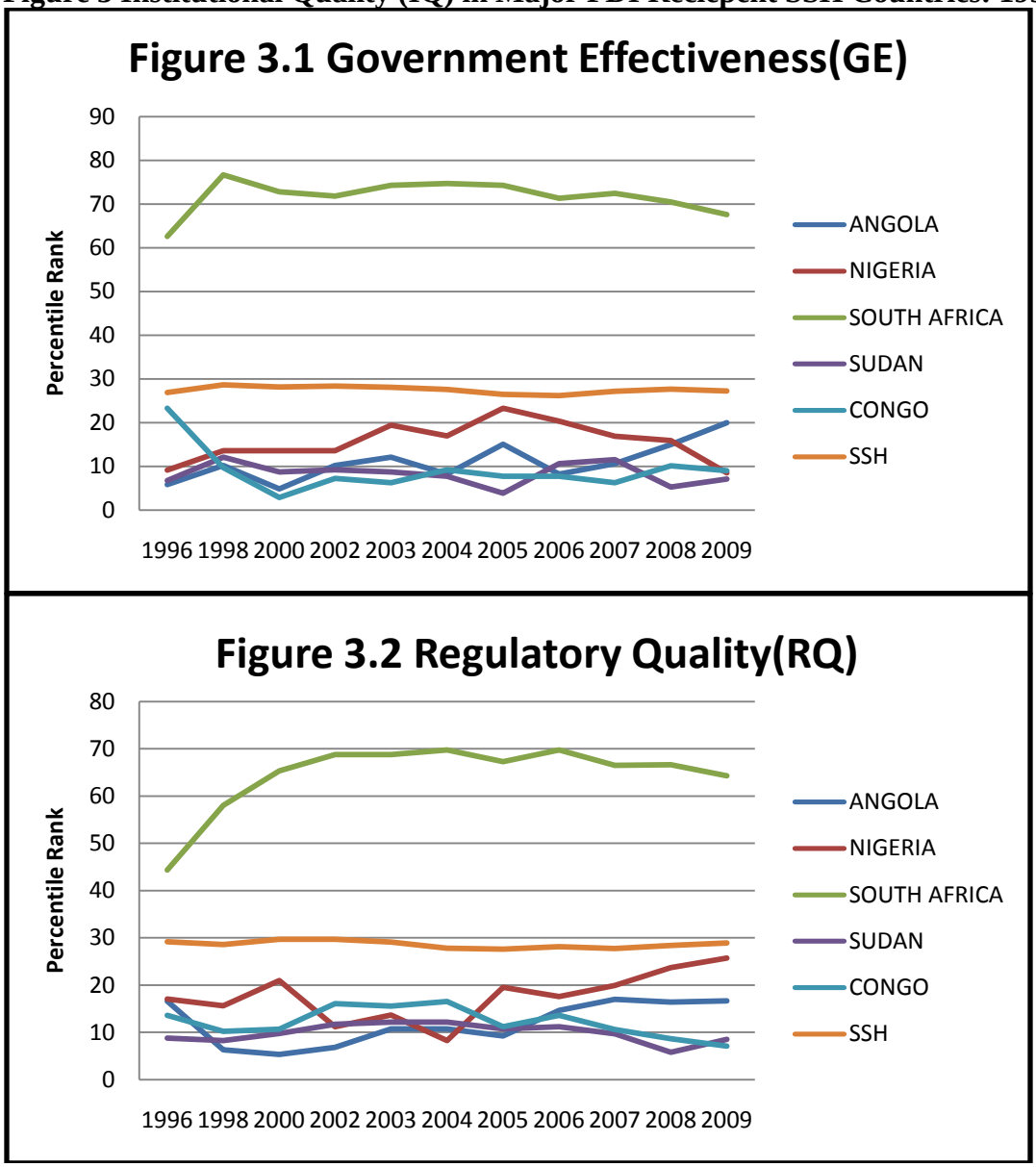
Table A.2 Share of FDI Inflow in SSH African Countries 1996-2009

	Angola	Nigeria	South Africa	Sudan	Congo	Others
1996	4.02	48.80	18.22	0.01	1.62	27.33
1997	4.91	19.60	45.55	1.17	0.94	27.83
1998	15.94	17.31	8.03	5.30	0.47	52.95
1999	27.46	13.08	16.69	4.12	5.78	32.87
2000	12.90	19.22	13.02	5.76	2.38	46.72
2001	14.20	8.46	44.90	3.80	0.47	28.17
2002	24.26	15.80	12.15	5.52	1.01	41.26
2003	34.44	13.16	4.45	8.17	1.95	37.83

2004	33.36	12.66	4.75	8.99	3.05	37.19
2005	24.04	17.61	23.52	8.15	5.22	21.46
2006	25.34	39.01	-1.47	9.90	5.38	21.84
2007	24.04	14.94	13.98	5.98	5.58	35.48
2008	32.72	13.45	17.77	5.13	4.90	26.04
2009	30.25	13.51	13.15	7.01	4.81	31.28

Source: Computed by authors from UNCTAD: UNCTADstat(2010)

Figure 3 Institutional Quality (IQ) in Major FDI Reciepent SSH Countries: 1996-2009



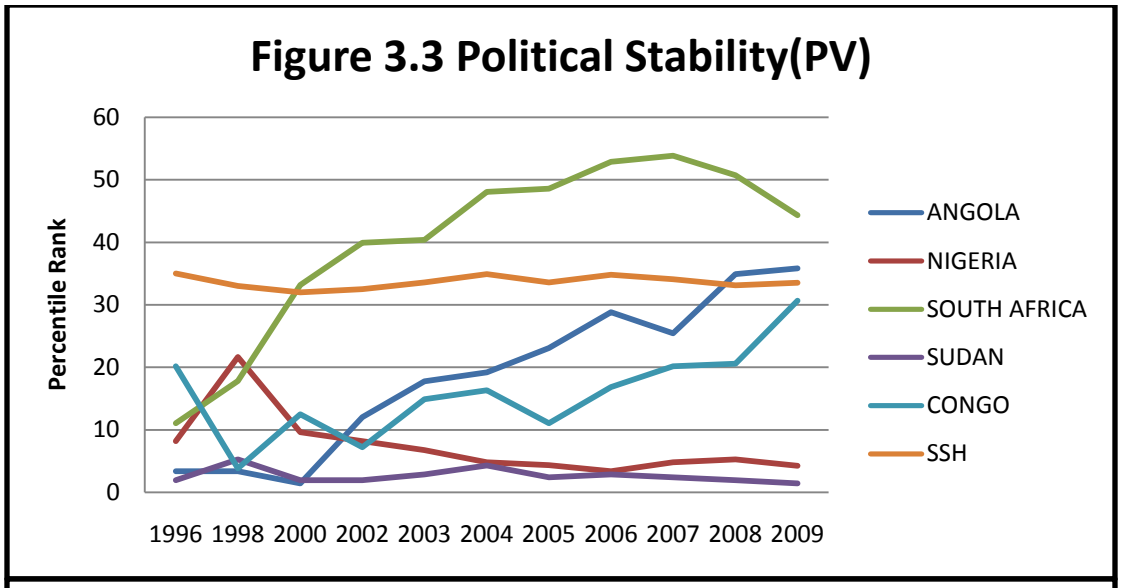


Figure 3.3 Political Stability(PV)
Percentile Rank
60
50
40
30
20
10
0
1996 1998 2000 2002 2003 2004 2005 2006 2007 2008 2009
ANGOLA
NIGERIA
SOUTH AFRICA
SUDAN
CONGO
SSH

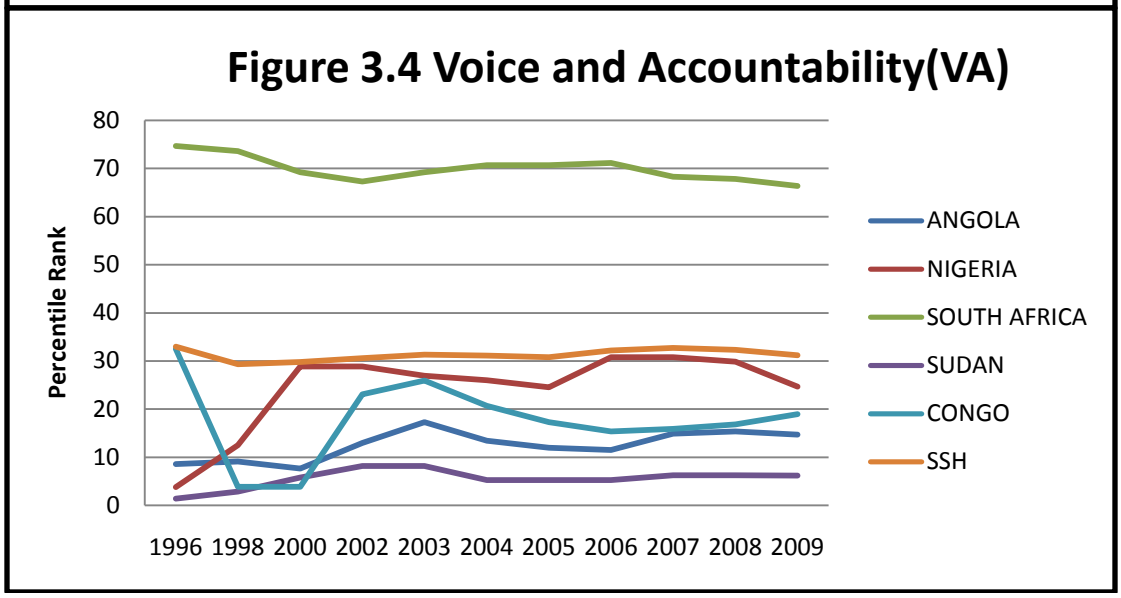


Figure 3.4 Voice and Accountability(VA)
Percentile Rank
80
70
60
50
40
30
20
10
0
1996 1998 2000 2002 2003 2004 2005 2006 2007 2008 2009
ANGOLA
NIGERIA
SOUTH AFRICA
SUDAN
CONGO
SSH

Figure 3.5 Rule of Law (RL)

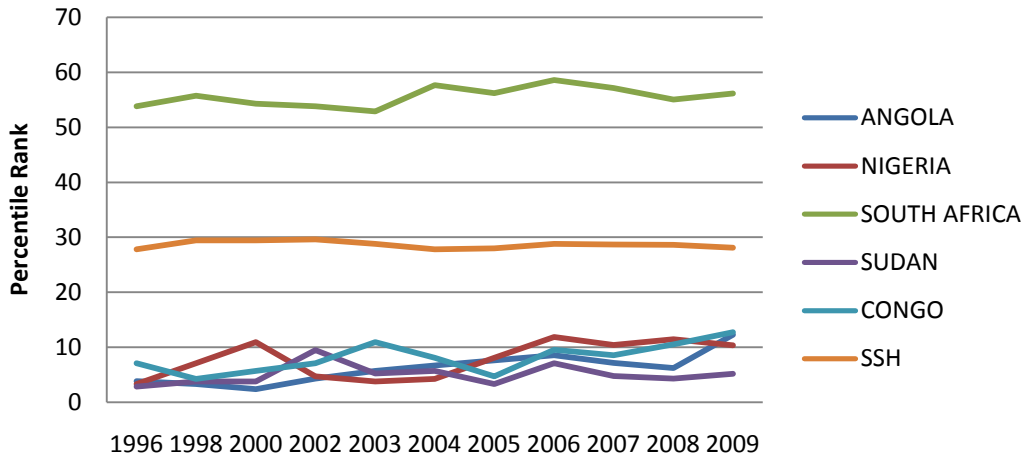


Figure 3.6 Control of Corruption (CC)

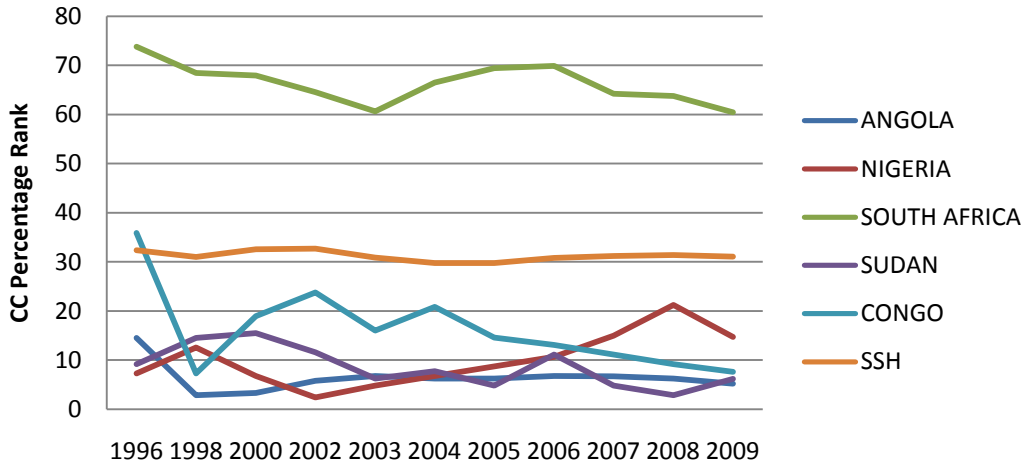


Table A.3 Descriptive Statistics

Variable	Mean	Median	Maximum	Minimum	Std. Dev.
FDI	47.48	8.18	1935.09	-64.35	163.47
IQ	4.92	4.58	10.30	1.66	2.12
CC	2.36	2.25	4.09	0.51	0.61
RL	2.25	2.23	4.05	0.69	0.67
RQ	2.32	2.40	3.86	0.42	0.66
GE	2.23	2.14	3.81	1.15	0.61
VA	2.36	2.29	4.05	0.90	0.73
PV	2.37	2.56	4.11	0.06	0.93
GDP	779.81	443.58	5885.34	74.36	973.69
GFCF	19.75	17.57	107.85	3.16	11.86
LF	6560.51	3866.28	47330.40	136.69	8402.15
CPI	69751.81	105.7	33686022	1.013	1523364
TRADE	71.98	62.13	187.58	14.78	35.35

Source: Authors calculation

Table A.4 Correlation among Institutional Quality Indicators

	IQ	CC	RL	GE	RQ	PS	VA
IQ	1						
CC	0.854	1					
RL	0.938	0.837	1				
GE	0.893	0.776	0.855	1			
RQ	0.803	0.662	0.758	0.734	1		
PV	0.838	0.673	0.811	0.673	0.634	1	
VA	0.865	0.623	0.770	0.704	0.699	0.735	1

Source: Authors calculation