

The Impact of Governing Institutions on Foreign Direct Investment Flows: Evidence from African Nations

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Received: January 11, 2014

Accepted: February 23, 2014

Online Published: March 1, 2014

doi:10.5430/ijba.v5n2p1

URL: <http://dx.doi.org/10.5430/ijba.v5n2p1>

Abstract

Over the last two decades, industrialized nations and multilateral financial institutions have encouraged less developed countries to undertake institutional reforms to hasten socioeconomic development. Implicit in this advice is the idea that reform-minded countries will receive a foreign direct investment (FDI) dividend. But do nations with strong institutions attract proportionally greater levels of foreign direct investment (FDI) than those with weaker institutions? This study addresses that question by evaluating data on FDI inflows for a sample of African nations. We begin with a review of the literature on the determinants of FDI and the link between institutions and FDI flows to emerging economies. Next, we offer hypotheses about the nature of these flows and test them using statistical analysis. The paper concludes by interpreting the results, considering their policy implications, and offering directions for future research.

Keywords: governing institutions, Africa, Foreign Direct Investment (FDI)

1. Introduction

Researchers in academe, government, and multilateral organizations have expressed a growing interest in the relationship between institutions and national economic performance. Douglass North (1981; 1990), among others, have argued convincingly that the quality of governing institutions such as regulatory frameworks, administrative bodies, and judicial systems are prime determinants of long term economic prosperity. While North and other economists and industrial sociologists have focused on the macro dimension of the nexus between institutions and economic growth and development, other scholars and analysts have examined the micro dimensions of this phenomenon. For example, de Soto (1989; 2000) contends that complex and cumbersome legal and regulatory hurdles to property ownership impede entrepreneurship, retard economic growth, and fuel a cycle of poverty in the developing world.

Based on a long-standing research program inspired by the work of North, de Soto, and others, the World Bank launched its World Governance Indicators (WGI) project in 1996. The project aggregates and reports governance indicators for 215 economies, based on six core dimensions of governance: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law and control of corruption. The data captures the views of think-tanks, NGOs, international organizations and a large number of enterprise, citizen and expert survey respondents. The WGI project has driven extensive research into the relationship between the level of institutional development and economic performance.

While the impact of governance on overall economic development has been studied by academicians and policymakers, recent empirical work has focused rather narrowly on how institutions affect GDP growth rates and per capita income (e.g., Acemoglu and Johnson, 2005; Rodrik, Subramanian, and Trebbi, 2002). Relatively less has been written about the relationship between governing institutions and foreign direct investment (FDI) flows. FDI is widely regarded as a key source of foreign capital for developing countries, bringing with it jobs, access to technology, managerial know-how, new export markets, and other valuable assets (Wernick, Haar, and Singh, 2009).

This paper seeks to determine the relationship between governance scores of a sample of 53 African nations and FDI inflows over a recent 11-year period (1996-2006). Rather than examining a single or several of the WGI governance variables, a composite scale has been developed to provide a snapshot of a country's overall institutional capacity using information captured by all six variables. Multiple regression models are used to test hypotheses about the relationship between the new scale and FDI performance.

This paper is organized as follows: The next section reviews the literature on the determinants of FDI and recent cross-disciplinary studies probing the connection between governing institutions and FDI flows to developing countries and offers hypotheses based on this literature. Section 3 provides an overview of FDI in Africa. Section 4 describes the data, variables, and methodology used in this study. Section 5 reports the results. Section 6 considers their policy implications and offers directions for future research.

2. Literature Review and Expectations

Extensive research has been carried out on the determinants of FDI flows to developing countries. The variables typically considered as vital for FDI include the size of the domestic market, natural resource endowments, physical infrastructure (e.g., roads, airports, seaports, the power grid), the degree of protection of the domestic market, geographical location of the host country, the degree of an economy's openness and the provision of fiscal incentives by the recipient country (Al-Sadig, 2013; De Vita and Kyaw, 2008; Grubaugh, 2013; Hussain and Kimuli, 2012; Sichei and Kinyondo, 2012; Soumia and Abderrezzak, 2013).

Macroeconomic factors including the growth rate of GDP, inflation, interest rates, international reserves, and external debt have also been identified as essential for FDI flows (Abbott, Cushman, and De Vita, 2012; Blonigen and Piger, 2011; Eicher, Helfman, and Lenkoski, 2012; Kirfa-Schneider and Matei, 2010; Mathur and Kartikeya, 2013; Mohamed and Sidiropoulos, 2010; Onyeiwu and Shrestha, 2004).

Until recently, however, the role of host country institutions in attracting FDI received limited attention. That began to change in the 1990s, as researchers began gathering cross-national data on governance and formulating a methodology for ranking countries on the basis of expert perceptions of the quality of their governing institutions. Empirical evidence that factors such as levels of corruption, the transparency of justice systems, and the extent to which property rights are protected and contracts enforced were closely linked to FDI flows to developing countries led to a change in scholarly perceptions on the relationship between FDI and formal institutions (UNCTAD, 2003).

Brunetti and Weder (1999) found that weak respect for the rule of law and high levels of corruption negatively affected private investment in the 60 countries they studied and had the highest statistical significance of all of the 24 economic and political uncertainty variables.

Globerman and Shapiro (2003) found that countries with more impartial and transparent legal systems and better protection of property rights tend to attract more US FDI. An appropriate institutional infrastructure helps foreign investors to engage in value-adding activities that advance the dynamic comparative advantage of host countries (Dunning, 1996, 1998; Porter, 1994, 1996, 1998). A study of a sample of 125 countries from different geographical areas shows that the quality of formal institutions is as strong a determinant of FDI as other variables such as market size, trade orientation, or economic growth. Also, differences in the quality of formal institutions between home and host countries (institutional distance) have a negative effect on FDI (Belay Seyoum, 2009).

Recent studies have examined the impact of a single governance variable (rather than multiple variables or a composite) on FDI flows, for instance, corruption and its effect on FDI (Habib & Zurawicki, 2002; Park, 2003; Zhao, Kim & Du, 2003). Some literature supports the claim that the degree of country risk faced by multinational corporations is correlated with international variation in private investment (Barro, 1996; Sala-i-Martin, 1997).

Evidence also suggests that political instability can lead firms to avoid (Delios and Henisz, 2003), minimize (Delios and Henisz, 2000; Uhlenbruck et al., 2006) their investment levels, investments in a country's infrastructures (Bergara et al., 1998; Levy & Spiller, 1994) or to increase the mortality rates of companies (Carroll and Delacroix, 1982).

In conclusion, findings of recent studies show that the quality of the host country's governing institutions is a major determinant of FDI flows to developing nations. Countries with strong formal institutions (i.e., independent judiciary, effective legal systems, secure property rights etc.), tend to receive more FDI than others, *ceteris paribus*.

Thus, research suggests the existence of a positive correlation between the quality of governing institutions within nations and their attractiveness to outside investors. The next step is to empirically test this expectation in the African context, where abundant natural resources may trump the demand for transparent governing institutions.

3. FDI in Africa

Africa has been attracting an increasing amount of inward FDI over the past two decades, with inflows rising from \$2.4 billion in 1985 to \$88 billion in 2008 (UNCTAD, 2008). This increase has been due to the twin forces of increased commodity prices and a more positive environment for investment. Though less restrictive compliance criteria and less cumbersome approval procedures have contributed to shoring up the level of FDI, political instability still poses a major problem.

The region's largest natural resource producers – such as Angola, Algeria, Nigeria and South Africa -- account for more than three quarters of the FDI inflows to the continent. With countries like the United States reducing their dependence on Middle East, the demand is particularly high for oil (UNCTAD, 2008). For the year 2009, the ranking of the top 5 countries in the order of FDI was South Africa, Egypt, Morocco, Mauritius and Nigeria (Hegarty, 2009). The regional distribution of the total FDI inflows in 2009 was: North Africa (27.6 percent), West Africa (29.9 percent), Central Africa (4.6 percent), East Africa (6.9 percent) and Southern Africa (31.0 percent) (UNCTAD, 2010).

At the end of 2006, Africa was host to about 6400 foreign affiliates of transnational corporations (TNCs). Most of the FDI stock in Africa originates in a few European Union countries – namely the UK, France, Portugal and Italy – and North America, mainly the United States. Leading developed country sources of FDI in some top host countries include: (a) UK in South Africa, Madagascar and Mauritius (b) France in Morocco (c) United States in Egypt and (d) Italy in Tunisia. The favored industries for investment include tourism, food and beverages, brewing, textiles and leather, telecommunications, agriculture, mining and quarrying (UNCTAD, 2008).

In order to maximize FDI flows, African countries have implemented changes to their national laws governing FDI. These include reduction in the limitations on foreign ownership of companies and investment incentives. They have also signed several Bilateral Investment Treaties (BITs) to protect investors against political risks in the host country. Besides BITs, countries have signed DTTs (Double Tax Treaties), though the concentration of those is lower. African countries are members in multilateral instruments and related organizations like the Investment Center for Settlement of Investment Disputes (ICSID), Multilateral Investment Guarantee Agency (MIGA) and World Trade Organization (WTO) (UNCTAD, 2008).

African countries are becoming increasingly dependent on FDI as a source of development finance. Due to herd mentality among decision-makers of multinational corporations, there is a self-reinforcing effect of FDI, i.e., knowledge about investment opportunities in host countries plays an important role in increasing its inflow. If we take into account the combined forces of all the countries in the continent, Africa would be the 10th largest economy in the world. However, the market is not monolithic and can broadly be classified into 3 categories, on the basis of income. To tap into the market, companies need to understand the market more closely and get involved with local institutions. Despite the slowdown of the global economy in 2008, TNCs interest in Africa has remained high, particularly in primary sectors. However, a comparison of UNCTAD's index of inward FDI performance to that of inward FDI potential shows that the inflows are still far below potential. Majority of the investing companies have increased investment in the region from 2007 to 2009 and the expected investment remains strong (UNCTAD, 2008).

4. Data, Variables, and Methodology

To test our expectations, we gathered yearly data on 53 African nations over a recent 11-year period (1996-2006) from the World Bank's Database of Political Institutions. Our dependent variable is FDI net inflows, measured as a percentage of GDP in millions of current U.S. dollars. To examine the dependency of FDI performance on a nation's political climate, we rely on six variables obtained from the World Bank's Worldwide Governance Indicators project. The variables, which are listed below, were constructed with reference to several surveys of both experts and regular citizens within each nation:

- *Voice and Accountability*: gauges the extent to which citizens have a say in government, freedom of expression, freedom of association, and freedom of the media.
- *Political Stability*: measures perceptions that the government will be overthrown by violent means.
- *Government Effectiveness*: measures the quality of public services and the insulation of the civil service from political pressures.
- *Regulatory Quality*: captures the government's ability to generate policies and regulations that promote development in the private sector.
- *Rule of Law*: measures how well actors in a nation abide by the code of the law. This includes the quality of contract enforcement, the police, the courts, and the likelihood of crime and violence.

- *Control of Corruption*: measures the extent to which public goods are exploited by private individuals.

The bivariate correlations among these variables are high, ranging from .635 to .895. These high correlations may be due to true, empirical relationships among the variables, but may also arise from their shared dependence on a common underlying dimension. To test whether each of these variables are actually manifestations of their dependence on a shared latent variable, we conduct a principal components analysis. The analysis reveals that a single component accounts for 79% of the total variance in these variables, evidence for this assertion. As such, we create a new variable, named *institutional quality*, which is simply the score of each nation, in any given year, on this underlying component. The variable has a mean of 0, a standard deviation of 2.18, and covers 463 country-year dyads for which information on each of the six constituent variables was available.

To display the distribution of nations on this new variable, we first take the mean of each nation’s value on the index over the years for which we have data (generally 1996-2006, though there is missing data for some nations). Figure 1 displays this *institutional quality* score with a dot plot. Mauritius and Botswana have the highest scores on this index, while Somalia and the Democratic Republic of the Congo score lowest.

In Figure 2 we display the mean value of FDI, as a percentage of GDP, across each year that data was available. Four countries, Libya, Namibia, Somalia, and Zimbabwe, are excluded from the chart as there is no data on FDI for these nations. The chart shows that Liberia and Equatorial Guinea have the highest net FDI inflows (as a percentage of GDP), while Gabon and Burundi have the lowest.

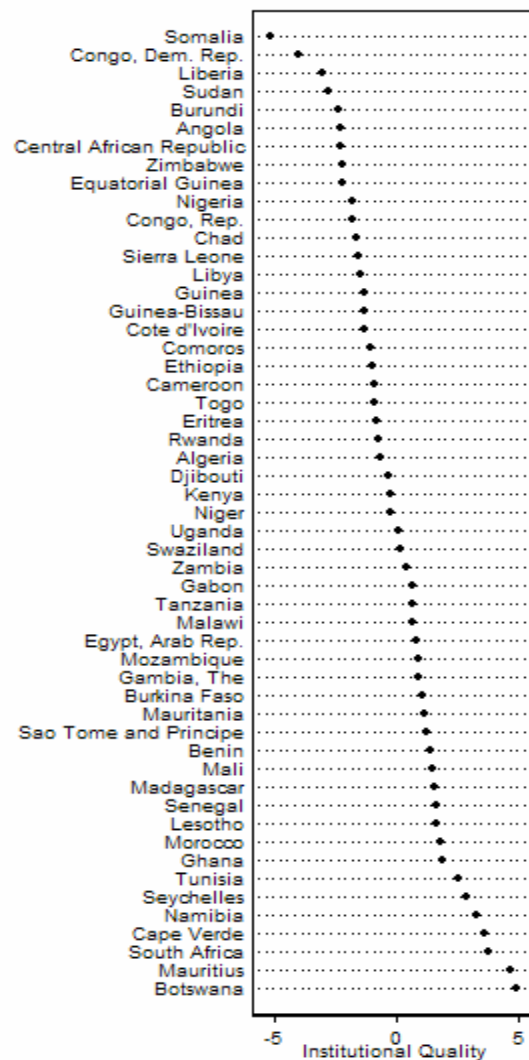


Figure 1. Institutional quality across African nations

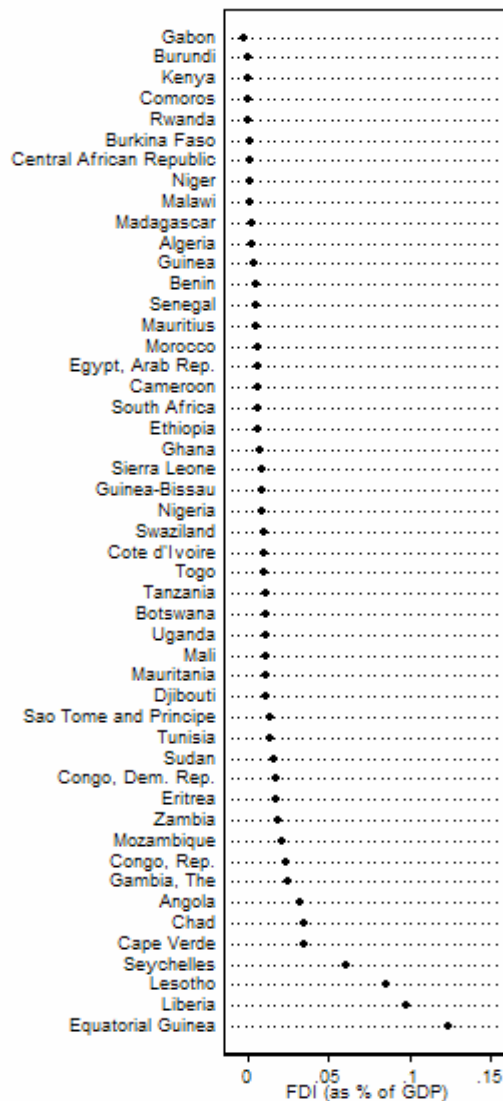


Figure 2. Foreign Direct Investment across African nations

As noted above, previous theory indicates that as the political institutions of a nation strengthen, they become more attractive to outside investment. However, when a nation is rich in natural resources, the importance of institutional quality should decline. To test this theory, we gathered data on the natural resource climate in each African nation. More specifically, we create two dummy variables, *oil* and *natural gas*. The *oil* variable equals one for nations with oil reserves, and zero otherwise. Similarly, the *natural gas* variable equals one for nations with natural gas reserves, and zero otherwise.

We employ dummy variables because the use of true time series data on natural resource reserves poses a serious endogeneity problem; a country's reserves may be depleted due to active foreign business involvement (hence, high FDI), which introduces endogeneity into the equation. That is, an increase in FDI, our dependent variable, will lead to a decrease in natural resource reserves, our independent variable. In the case of endogeneity, single-equation regression techniques will return biased and inconsistent parameter estimates. Thus, we opt to use dummy variables to capture the presence of natural resources. Though such an approach means we miss some of the variation in natural resource reserves within and across countries, it lessens the likelihood that our econometric tests will be plagued with endogeneity problems.

We also control for GDP growth in the previous year, under the assumption that investors are more likely to enter a flourishing economic climate. We obtain information on this variable from the World Bank's World Development

Indicators data set. Our dependent variable in this analysis is again FDI in millions of current US dollars as a percentage of GDP, and our key independent variable is the composite *institutional quality* measure. Each variable is summarized in Table 1.

Table 1. Summary statistics

	<i>n</i>	mean	standard deviation
FDI (as % of GDP)	581	0.017	0.045
Institutional Quality	463	0.000	2.183
Oil	689	0.283	0.451
Natural Gas	689	0.434	0.496
Lagged GDP Growth	606	4.739	7.946

The nature of our hypothesis is conditional. That is, we expect institutional quality to positively affect FDI only when natural resources are not present. To test this expectation, we create an interactive model, depicted formally in Equation 1:

$$FDI_{i,t} = \beta_0 + \beta_1 \text{institutional quality}_{i,t} + \beta_2 \text{natural resources}_{i,t} + \beta_3 (\text{natural resources}_{i,t} \times \text{institutional quality}) + \beta_4 \text{lagged GDP growth}_{i,t} + \varepsilon_{i,t} \quad (1)$$

where *i* indexes countries, *t* indexes time periods, β_0 is a constant term and ε captures random error. The *natural resources* variable in the equation is either the *oil* dummy or the *natural gas* dummy, meaning we will actually estimate two equations. We expect that β_1 will be positive, indicating a positive relationship between institutional quality and FDI, and β_3 will be negative, meaning that this relationship will be attenuated in the presence of natural resources.

Though this is a linear model, because of the time-series cross-sectional nature of our data, ordinary least squares (OLS) regression is inefficient in that its associated standard errors will be incorrect. This is because each country in our model may have unique error variance (panel heteroscedasticity) and the error in one country may be correlated with the error in another during the same year (contemporaneous error correlation), violating the Gauss-Markov assumptions used to justify OLS (Beck 2001). The standard approach to overcome these problems is to use OLS with panel corrected standard errors (PCSEs) (Beck and Katz, 1995), which correctly measure the sampling variance of the OLS estimates of the β_k 's in Equation 1.

In addition, the errors in one nation may also be correlated with previous errors in that same nation (serial error correlation). Standard practice now models dynamics with a lagged dependent variable (LDV) (Beck, 2001). To test for the presence of serial correlation in our model, we use a Wooldridge (2002) test for serial correlation in panel data. The *p*-value for the null hypothesis of no serial correlation is 0.00 in both the equation with the *oil* dummy and the equation with the *natural gas* dummy, indicating that the errors in our model are likely temporally interdependent. Thus, we opt to use both PCSEs and LDVs to capture serial correlation.

5. Results

Due to missing data, we are left with 371 observations on 48 countries. (Note 1) There is an average of 7.73 observations per country, a minimum of 7, and a maximum of 8. Table 2 summarizes the results of each estimation.

The results corroborate our theoretical expectations. The coefficient on *institutional quality* in each model captures the effect of the variable when natural resources are not present. In both models the coefficient is positive and significant, meaning that positive changes in the quality of political institutions are associated with increased FDI in nations without oil or natural gas. Conversely, in nations that are rich in these resources, the positive effect of institutional quality on FDI is not present. In fact, there is a weakly *negative* association between institutional quality and FDI in such countries. This can be seen by adding the coefficient on the interaction term to the coefficient on *institutional quality* in each equation. (Note that the one-sided *p*-value on the conditional slope of *institutional quality* is .109 in countries without oil and .028 in countries without natural gas.)

To better display the conditional effect of institutional quality, we plot its conditional slopes in Figures 3 and 4. Again, the slope of *institutional quality* is positive when natural resources are not present. Alternatively, when oil or

natural gas is present, this slope attenuates and becomes slightly negative. Clearly, the quality of political institutions only boosts investment from multinational firms when countries lack oil and natural gas. Alternatively, when countries are rich in one of these resources, the quality of political institutions plays less of a role in the investment decisions of such firms.

Table 2. The conditional effect of institutional quality on FDI

	Model 1		Model 2	
	Coef.	<i>p</i> -value	Coef.	<i>p</i> -value
Lagged FDI (as % of GDP)	0.538	.004	0.541	.004
Institutional Quality	0.003	.048	0.003	.044
Oil	0.005	.011		
Institutional Quality × Oil	-0.004	.018		
Natural Gas			0.003	.147
Institutional Quality × Nat. Gas			-0.005	.013
Lagged GDP Growth	0.001	.210	0.001	.215
constant	0.001	.345	0.002	.274
Number of Countries	48		48	
Number of Time Periods	371		371	
R ²	0.274		0.273	
Prob > chi ²	0.000		0.000	

Note: One-sided *p*-values based on panel-corrected standard errors.

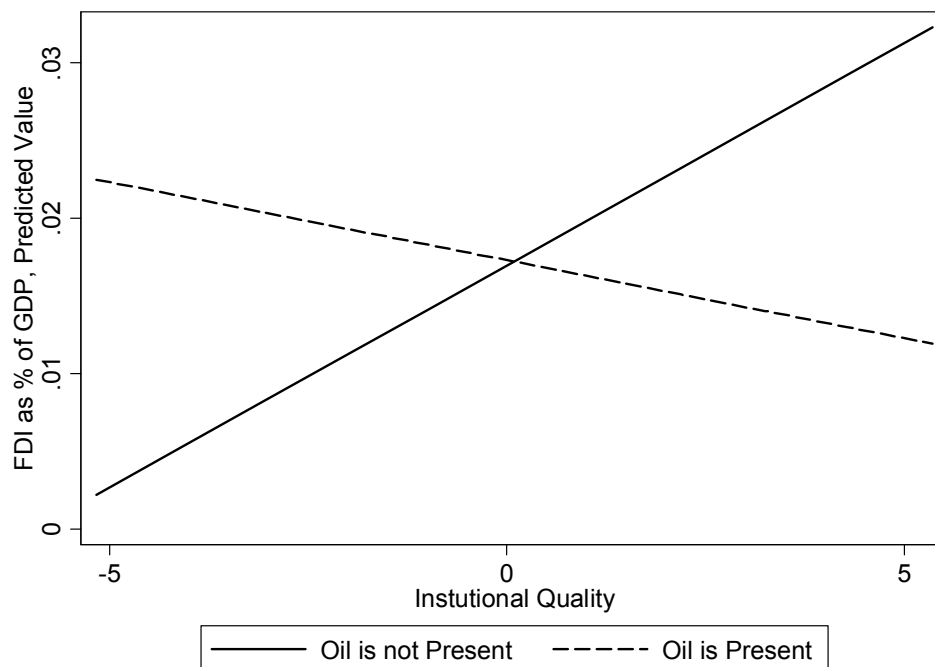


Figure 3. The conditional effect of institutional quality - oil

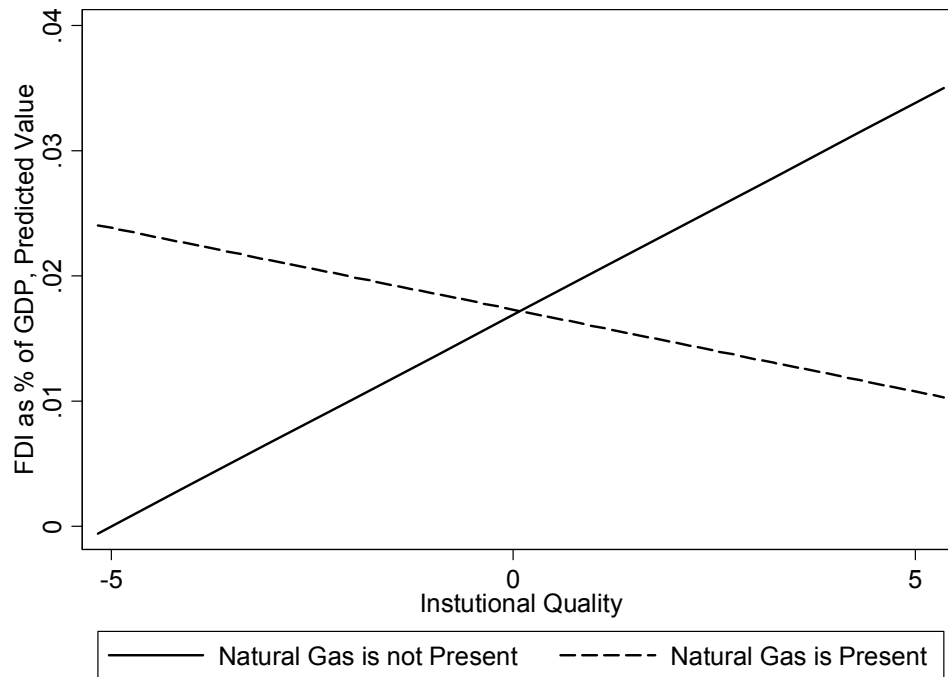


Figure 4. The conditional effect of institutional quality – natural gas

6. Implications and Future Research

It is clear from the research findings that the quality of political institutions has a direct impact on foreign direct investment flows in nations without oil or gas. The implications are twofold. First, countries that lack (or do not possess in abundance) natural resources will be pressed to ensure that their formal institutions are strong and competitive. This includes administrative and legal structures, property rights regimens and tax systems. A welcoming, transparent, and pro-market business environment will be a necessity rather than a choice, since these natural resource-poor countries will be competing not only with oil and gas producing nations but with economically similar countries like themselves. Gambia, Zambia, and Sierra Leone are examples.

Second, the study results imply that oil and gas producing African countries such as Nigeria, Angola, and Algeria need not undertake measures to improve the quality of their institutions, since the continuous demand in global markets for their natural resources will attract multinational firms regardless of the governance conditions in their nations. However, complacency could prove short-sighted and an unwise state of being for oil and gas-producing nations. First, wide fluctuations in demand and production (especially by non-OPEC nations) as well as alternative energy development not to mention advanced technologies in the production of fossil fuels imply falling prices (and low-price stabilization) in the future. Second, oil producing nations that proactively improve their institutions (and in the case of South Africa possess a large internal market) will enjoy the best of both worlds—attracting substantial foreign investment in both the natural resource and non-resource sectors.

Future research may wish to: (1) compare Africa to other emerging markets to discern similarities and differences in the amount, nature and sequencing of FDI flows; (2) discern governing institution impact on various sectors such as software, consumer products, agriculture, and financial services; and investigate if, how, and to what extent human capital and workforce factors and their corresponding institutions (schools, unions) impact FDI behavior.

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Note

Note 1. Missing data prevents the inclusion of Libya, Namibia, São Tomé and Príncipe, Somalia, and Zimbabwe in the equations.