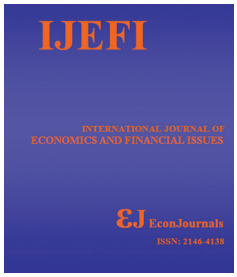

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Does Governance Facilitate Foreign Direct Investment in Developing Countries?

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ABSTRACT

Using panel data analysis, it is an attempt to estimates the significance of governance on foreign direct investment (FDI) for a sample of 80 developing countries from 1998 to 2014. For exploring the relationship, the paper has used the Kaufman et al. (2003) interpretation concerning the governance. Generalized least square (GLS), feasible GLS (FGLS), pooled ordinary least squares (OLS), random effect, fixed effect, poisson regression, prais-winsten, generalized method of movement and generalized estimating equation method are utilizing for estimates the importance of governance for facilitating FDI. According to the OLS method, for the governance variables the coefficient implies that a one standard deviation improvement in voice and accountability, political stability and absence of violence, government effectiveness, regulatory qualities, rules of law and control of corruption increases FDI by 29.4%, 29.2%, 28.6%, 20.5%, 23.1% and 23.6% respectively.

Keywords: Governance, Foreign Direct Investment, Generalized Least Square, Generalized Estimating Equation
JEL Classifications: G 34, E22, C55

1. INTRODUCTION

Beginning of the 1990s, world market integration approach and transition of the economic phenomenon focusing on the market facilitation and trade liberalization agendum assists uninterrupted flow of foreign direct investment (FDI) that helps radical transformation of business and its environment. FDI promotes the continuous economic and social development by transferring technology, skill development, innovation and management efficiency both developed and developing country. Various literature strongly agreed that multinational corporations (MNCs) invest in specific locations mainly because of the host countries' strong economic fundamentals, such as a large market size, stable macroeconomic environment, availability of skilled labor and infrastructure, that influence the attractiveness of the country to FDI inflows (Dunning, 1993; Globerman and Shapiro, 1999; Shapiro and Globerman, 2003).

Different conclusive evidence illustrates that in recent past manifold uproarious and promiscuous condition embedded the business and its function and incessantly formulates untold precarious situation. That is why the concept of good governance is lucrative factors for the well functioning countries market and for facilitating uninterrupted flow of investment from the different countries. Most of the studies have focused on FDI and macro-economic factors and some studies have examined the relationship between FDI and governance. Common macro-economic factors like market size Bander and White (1968), Schmitz and Bier (1972), Wheeler and Mody (1992), Pistoresi (2000), Asiedu (2006), Mlambo (2006) and Zhang (2008), human capital Noorbaskhsh et al. (2001), Dutta and Osei-Yeboah (2010), infrastructure Kok and Ersoy (2009), Sekkat and Veganzones-Varoudakis (2007), Asiedu (2002), Morrisset (2000) and Wheeler and Mody (1992), macroeconomic stability (Chakrabarti 2001; Onyeiwu and Shrestha 2004), financial development Alfaro et al. (2004) and Durham (2004), institutional factors (such as political stability, adequate infrastructure, and effective legal backing) Schneider and Frey (1985) and Baniak et al. (2002) facilitated FDI.

Now because of the transition of the business outlook and intense competition, MNC consider the governance is an inevitable fact for proliferation and acceleration of business function. In recent

past lots of study is being accomplished of different factors of governance, voice and accountability, political stability, government effectiveness, regulation, law, corruption and aggregate governance by Ali et al. (2010), Muhammad et al. (2011), Jadhav (2012), Luca and Spatafora (2012), Straub (2005), Dahlstrom and Johnson (2007), Khamfula (2007), Brouthers et al. (2008), Cole et al. (2009), Sadik (2009), Qian et al. (2012), Azemar and Desbordes (2010), Binici et al. (2010), Goodspeed et al. (2010), Arbatli (2011), Davis (2011), Gordon et al. (2012), Cyrus et al. (2006), Fan et al. (2009), Busse et al. (2011), and Wang et al. (2011).

There are some empirical papers which show that governance and FDI are positively correlated (Sin and Leung, 2001; Globerman and Shapiro, 2002; Gani, 2007; Fan et al., 2007). Weak and inadvertent governance always discourages FDI because of political instability, weak rules of law, inactive mechanism for reduction of corruption, lack of accountability and transparence. For many years, North American and Western European countries have received a large share of FDI inflow. Nonetheless, there has been a significant shift of FDI inflows into developing countries since the 1990s. Economic reform, trade policy transformation and good governance assist to accelerate the FDI inflow in many developing countries. In 2010, for the first time developing and transition economies account for more than a half of global FDI inflows. Developing and transition economic countries needs to accomplishing manifold tasks especially need to strengthening internal laws and legislation and enhance the quality of government institution that proliferate FDI especially from the different developed and industrial country. This research work mainly concentrates on identifying the relationship between governance and FDI in 80 different developing countries. For indentifying the constructive and apropos relationship there are different section, section 2 incorporated with the relevant literature review, in section 3 belongs with the model specification, section 4 is incorporated with the result and analysis and section 5 is illustrates with the conclusion.

2. LITERATURE REVIEW

2.1. Back Ground

Good governance would include an effective, impartial and transparent legal system that protects property and individual rights; public institutions that are stable, credible and honest; and government policies that favor free and open markets.

The dominant view is that countries with good governance tend to receive more FDI (World Bank, 2002; Globerman and Shapiro, 2002; Globerman et al., 2004; La Porta et al., 1998; Gani, 2007) because investments cannot be protected in an environment of poor governance (Globerman and Shapiro, 2003) and poor governance increases costs and uncertainty (Cuervo-Cazurra, 2008). Globerman et al. (2006) conducted research among 138 countries from 1995-2001 by using generalized least squares (GLS) and Random Effects Estimation. On the bases of their work they find out good governance increases FDI inflows.

According to the Morrisset (2000) in his study showed that corruption and bad governance increase administrative costs and therefore reduce FDI inflows. And other works argue that political and institutional factors are necessary determinants of FDI movements to developing countries (Stein and Daude, 2001). According to Asiedu, in his article in 2006, data from several surveys of investors suggest that the investment restrictions, macroeconomic instability, corruption and political instability have a negative impact on FDI in Africa. He uses panel data for 22 countries during the period 1984-2000 to analyze the influence of market, resources of nature, government policies, political instability and the quality of the institution in the host countries of FDI. Their fundamental result is that the major markets, natural resources, an educated population, good infrastructure, less corruption, a political stability and a reliable legal system have a positive impact on FDI flows.

Mengistu and Adhikary (2011), analyze the impact of six indicators of good governance on FDI inflows in 15 Asian countries for the period 1996-2007. They use a panel data model with fixed effects (FE). They found that the six governance indicators namely, government effectiveness, political stability and absence of violence, the rule of law and control of corruption are the main factors of FDI location. Generally, they conclude that improving the governance environment is able to attract more FDI.

Samami and Ariani (2010) studied the impact of a better quality of governance on FDI. They used aggregate annual data for 16 countries in the Middle East and North Africa (MENA) for the period 2002-2007. They used three governance indicators namely, political stability, control of corruption and rule of law published by the World resources institute. The result interprets that the improvement of governance has a positive impact on FDI inflows in MENA countries.

Governance may also have an indirect effect on FDI flows through its impact on other variables. It has thus been found that FDI flows are sensitive to human capital, health of the workforce, and the quality of public infrastructure (Mody and Srinivasan, 1998, and Globerman and Shapiro, 2002). If governance affects those variables, it will doubtless also affect FDI.

An OECD (2002) report suggests that as long as good governance conditions prevail, no special incentives are needed to attract FDI. This view, however, is disputed by Wheeler and Mody (1992), Hines (1995), Habib and Zurawicky (2002), Li and Filer (2004), Li (2005), Henisz (2000), Moskalev (2007) and Zhu (2007). Li (2005), for example, argued that poor governance does not necessarily mean the lack of protection. In an environment of poor governance, MNCs strategically adjust to the local business climate and pay bribes in order to obtain business contracts (Zhu, 2007). Poor governance may also offer enhanced investment opportunities for MNCs. In an environment of poor governance rent-seeking activities are pursued not only by politicians and policy makers but also by large MNCs. Relation-based systems are often controlled by powerful rulers who tend to favor big business (Li, 2005).

2.2. Kaufman et al. and Governance

According to the Kaufman et al. (2003) has identified the following six elements bases on the empirical research work.

Globerman and Shapiro (2002) found that, controlling for some other factors (gross domestic product [GDP] and some human development and environment quality indices), better governance leads to significantly more FDI inflows; the effect is especially strong for LDCs. Better governance in a country also increases its outflows of FDI, especially for large countries. Better governance in the home country allows stronger and larger firms to emerge there, and then they invest abroad.

Reverse opinion made by the different authors, like Wheeler and Mody (1992) and Bevan and Estrin (2004) find no significant relationship between governance and FDI.

Chang (2007) points out that the performances of some countries with weak governance are better than their counterparts with strong governance. Weller and Ulmer (2008) mention that "…China has attracted significant foreign investment despite notoriously persistent corruption." Hence, the effects of economic governance on international trade, investment and welfare may not be trivial, and it is due to the fact that real-world economies operate in a second-best environment because of multiple distortions of reform policies (Rodrik, 2008).

Li and Resnick (2003) furthermore suggest three reasons why democratic constraints may result in policies that do not serve the interests of foreign investors. They first claim that democratic regimes are more inimical to the monopolistic and oligopolistic positions of foreign firms. Second, they argue that democratic regimes may prevent the governments of host countries from offering financial and fiscal incentives to foreign investors. Third, they argue that democratic governments pay more attention to the interests of their local investors. They are therefore more likely to grant them protection against foreign investment.

3. MODEL SPECIFICATION

FDI are very heterogeneous, changing from country to country. Based on this concentration, this article has employed panel data for 80 different countries (Table 1) over the period from 1998 to 2014. To estimates the relationship between governance and FDI the paper has employed panel data. Panel data studies are crucial to estimation of inter temporal relations, life-cycle and intergenerational models.

To determine the relationship between the governance and FDI the following equation is constitute to understand unambiguous comprehension about the distinctive elements like governance that is an ineluctable ingredient for facilitating FDI in today's competitive business world.

$$\text{Log}(FDI/POP)_{it}=\beta_0+\beta_1 VA_{i,t-1}+\beta_2 PSAV_{i,t-1}+\beta_3 GE_{i,t-1}+\beta_4 RQUA_{i,t-1}+\beta_5 ROL_{i,t-1}+\beta_6 COC_{i,t-1}+\beta_7 GDP_{i,t-1}+\beta_8 OPEN_{i,t-1}+\beta_9 INF_{i,t-1}+\beta_{10} TELEDENSITY_{i,t-1}+\beta_{11} AGGLO_{i,t-1}+\beta_{12} DEMO_{i,t-1}+\ldots+\eta_i+\epsilon_{I,t} \quad (1)$$

Where i is the country subscript, t is the time subscript, βs are unknown parameters to be estimated, € is the usual random disturbance term, and η is the unobserved country-specific effects. Here FDI refers total FDI inflows a host country receives at time t divided by the host country's total population. VA illustrates that voice and accountability, PSAV means political stability and absence of violence, GE interprets that government effectiveness, RQUA means that regulation quality, ROL means that rules of law, COC means that control of corruption. Here the paper has used GDP as a proxy of the host country's market size. Trade openness (OPEN) is the sum of exports and imports of goods and services measured as a share of GDP. INF (inflation rate) used as a proxy of macroeconomic stability. Tele-density that measure the number of mobile and fixed line subscribers as a proxy for infrastructure availability. AGGLO which refers assesses the prevalence of foreign firms in the country that refers the index range from 1(1 = rare and limited) to 7 (7 = prevalent and encouraged).

Panel unit root test is being accomplished for indentifying whether data are stationary or not for measuring it.

3.1. Panel Unit Root Test: Levin, Lin and Chu

Levin, Lin and Chu start panel unit root test by consider the following basic Augmented Dickey-Fuller (ADF) specification.

$$DY_{it}=\alpha Y_{i\,t-1}+\sum_{j=1}^{Pi}\beta_{i\,t-j}+X_{it}^{*}\delta+\varepsilon_{it} \quad (2)$$

Where, DY_{it} = Difference term of Y_{it}
$Y_{i\,t-1}$ = Panel data
$\alpha = \rho-1$
p_i = The number of lag order for difference terms
X_{it}^{*} = Exogenous variable in model such as country FE and individual time trend
ε_{it} = The error term of equation 2

LLC panel unit root test has null hypothesis as panel data has unit root as well as can present below that:
H_0: Null hypothesis as panel data has unit root (assumes common unit root process)
H_1: Panel data has not unit root

3.2. Im, Pesaran and Shin

The properly standardized t^*_{NT} has an asymptotic standard normal distribution and also it was rewritten to be new t-statistics as well as can show below that: (Equation 3).

$$W_{t^*NT}=\sqrt{n[(t_{NT}-N^{-1}\sum_{t=1}^{n}E(t_{iT}(p_i)))]}/\sqrt{(N^{-1}\sum_{i=1}^{n}\text{var}(p_i))} \quad (3)$$

Where, W_{t^*NT} is W-statistics has been used to test panel data based on Im, Pesaran and Shin techniques. Also this technique has non-stationary as null hypothesis as well as to show below that:
H_0: Null hypothesis as panel data has unit root (assumes individual unit root process)
H_1: Panel data has not unit root.

3.3. Fisher-Type Test using ADF and PP-Test (Maddala and Wu and Choi)

Madala and Wu proposed the use of the Fisher (Pλ) test which is based on combining the P-values of the test-statistics for unit root in each cross-sectional unit. Let p_i are U [0,1] and independent,

Table 1: Elements of governance determinants by Kaufmann

Definition	Elements	Explanation
The process by which government are selected, monitored, and replaced	VA	The extent to which citizens of a country are able to participate in the selection of governments The freedom of expression, association, and media
	PS	Perception of likelihood that the government in power will be destabilized or overthrown by possibly unconstitutional and/or violent means, including domestic violence and terrorism
The capacity of the government to effectively formulate and implement sound policies	GE	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
	RQ	The ability of the government to formulate and implement sound policies and regulations that permits and promotes private sector development
The respect of citizens and the state for the institutions that govern economic and social interactions among them	RL	The extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, the police, and the courts, as well as the likelihood of crime and violence
	COC	The extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests

VA: Voice and accountability, PS: Political stability, GE: Government effectiveness, RQ: Regulatory quality, RL: Rule of law, COC: Control of corruption

and $-2\log_e p_i$ has a χ^2 distribution with 2N degree of freedom and can be written in equation 4.

$$P\lambda = -2\sum_{i=1}^{N} \log_e p_i \quad (4)$$

Where, P_λ = Fisher (P_λ) panel unit root test
N = all N cross-section

$-2\sum_{i=1}^{N} \log_e p_i$ = it has a χ^2 distribution with 2N degree of freedom

In addition, Choi demonstrates that: (More detail of Choi demonstrates that in equation 5).

$$Z=(1/\sqrt{N_{i=1}})[\sum_{i=1}^{N} \theta_i^{-1}(p_i) \rightarrow N(0,1) \quad (5)$$

Where, Z = Z-statistic panel data unit root test
N = All N cross-section in panel data
θ_i^{-1} = The inverse of the standard normal cumulative distribution function
p_i = It is the P-value from the i^{th} test

Both Fisher (P) χ^2 panel unit root test and Choi Z-statistics panel data unit root test have non-stationary as null hypothesis as well as to show below that:
H_0: Null hypothesis as panel data has unit root (assumes individual unit root process)
H_1: Panel data has not unit root.

3.4. Hadri

The Hadri test for panel data has the hypothesis to be tested is H_0 is null hypothesis and H_1 is against null hypothesis and can show below that:
H_0: Null hypothesis as panel data has not unit root (assumes common unit root process)
H_1: Panel data has unit root.

3.5. Panel Cointegration Test

In order to solve the spurious regression problem and violation of the assumptions of the classical regression model, cointegration analysis is used to examine the long run relationship between the variables. This test is mainly accomplished for identifying the long run relationship among institutional quality, economic freedom and FDI.

$$Y_{i,t}=\alpha_1+\beta_{1i}x_{1\,i,t}+\beta_{2i}x_{2\,i,t}+\ldots+\beta_{Mi}x_{M\,i,t}+e_{i,t,}\ t=1,\ldots.T;\ i=1,\ldots.N \quad (6)$$

Here, Y indicates the dependent variable like FDI and X_1 to X_m indicates the different independent variables (Table 2).

Another method have used that is known as a Kao for estimating the long run relationship between the variables. Kao have used both DF and ADF to test for co-integration in panel as well as this test similar to the standard approach adopted in the EG-step procedures. Also this test start with the panel regression model as set out in equation 7.

$$Y_{i\,t}=X_{i\,t}\beta_{i\,t}+Z_{i\,t}\gamma_0+\varepsilon_{i\,t} \quad (7)$$

Where Y and X are presumed to be non-stationary and: (Equation 8)

$$\hat{e}_{i\,t}=\rho\hat{e}_{i\,t}+V_{i\,t} \quad (8)$$

Where $\hat{e}_{i\,t} = (Y_{i\,t}-X_{i\,t}\hat{\beta}_{i\,t}-Z_{i\,t}\hat{\gamma})$ are the residuals from estimating equation 8. To test the null hypothesis of no co-integration amounts to test H_0: $\rho = 1$ in equation 8 against the alternative that Y and X are co-integrated (i.e., H_1: $\rho < 1$).

3.6. Vector Error Correction Model

The purpose of VECM model is to indicate the speed of adjustment from the short run equilibrium to the long run equilibrium state between the variables from welfare to country risk. The greater the coefficient of the parameter the higher the speed of adjustment

Table 2: List of the countries

Afghanistan, Albania, Algeria, Angola, Argentina, Armenia, Azerbaijan, Bangladesh, Belarus, Benin, Bhutan, Bolivia, Botswana, Bulgaria, Burundi, Cambodia, Chad, Colombia, Comoros, Cuba, Dominica, Ecuador, El Salvador, Ethiopia, Figgie, Gambia, Georgia, Ghana, Grenada, Guatemala, Guinea, Guyana, Haiti, Honduras, Iran, Iraq, Jamaica, Jordan, Kazakhstan, Kenya, Kosovo, Lebanon, Liberia, Libya, Madagascar, Maldives, Mali, Moldova, Mongolia, Morocco, Mozambique, Myanmar, Namibia, Nepal, Nicaragua, Nigeria, Pakistan, Papua New Guinea, Peru, Senegal, Serbia, Sierra Leone, Somalia, South Sudan, Sri Lanka, Sudan, Suriname, Tajikistan, Timor-Leste, Togo, Tonga, Tunisia, Uganda, Ukraine, Venezuela, Vietnam, Yemen, Zambia and Zimbabwe

of the model from short runs to long run. Considering the basic equation (1), the VECM model is specified as follows:

$$\begin{aligned}\Delta DFDI = {} & \alpha_0 + \alpha_1 \sum_{t=1}^{K} \Delta \text{ Voice and Accountability}_{t-1} \\ & + \alpha_2 \sum_{t=1}^{K} \Delta \text{ Political stability}_{t-1} \\ & + \alpha_3 \sum_{t=1}^{K} \Delta \text{ Gov effective}_{t-1} + \\ & + \alpha_4 \sum_{t=1}^{K} \Delta \text{Regulatory qualitiest}_{t-1} \\ & + \alpha_5 \sum_{t=1}^{K} \Delta \text{Rules of law}_{t-1} \\ & + \alpha_6 \sum_{t=1}^{K} \Delta \text{Control of corruption}_{t-1} \\ & + \alpha_7 \sum_{t=1}^{K} \Delta GDP_{t-1} + \alpha_7 \sum_{t=1}^{K} \Delta \text{Trade Openness}_{t-1} \\ & + \alpha_8 \sum_{t=1}^{K} \Delta \text{Inflation}_{t-1} + \alpha_9 \sum_{t=1}^{K} \Delta \text{Tele} - \text{density}_{t-1} \\ & + \alpha_{10} \sum_{t=1}^{K} \Delta \text{Agglomeration}_{t-1} \\ & + \alpha_{11} \sum_{t=1}^{K} \Delta \text{Democracy}_{-1} + \ldots + \varepsilon_I \end{aligned} \quad (9)$$

Where the €$_I$ is the error term, ECM (−1) is the error correction term, βi captures the long run impact. The short run effects are captured through the individual coefficients of the differenced terms (α) while the coefficient of the ECM variable contains information about whether the past values of variables affect the current values. The size and statistical significance of the coefficient of the ECM measures the tendency of each variable to return to the equilibrium. A significant coefficient implies that past equilibrium errors play a role in determining the current outcomes.

Considering the demand of the paper when Ω is known, β is efficiently estimated with GLS.

$$\hat{\beta}_{GLS} = (X\hat{\Omega}^{-1}X)^{-1} X \Omega^{-1} y \quad (10)$$

Instead of assuming the structure of heteroskedasticity, the work may estimate the structure of heteroskedasticity from ordinary least squares (OLS). First, estimate Ω̂ from OLS and, second, use Ω̂ instead of Ω.

$$\hat{\beta}_{FGLS} = (X\hat{\Omega}^{-1}X)^{-1} X \Omega^{-1} y \quad (11)$$

After GLS and FGLS the paper has also tested OLS. A standard panel OLS estimator for the coefficient ß$_i$ given by:

$$\beta^{i},OLS = [\sum_{i=1}^{N} \sum_{t=1}^{T} (X_{it} - X_i^*)^2]^{-1} \sum_{i=1}^{N} \sum_{t=1}^{T} (X_{it} - X_i^*)(Y_{it} - Y_i^*) \quad (12)$$

Where
i = cross-section data and N is the number of cross-section
t = time series data and T is the number of time series data
$\hat{ß}_{i\,OLS}$ = a standard panel OLS estimator
$X_{i\,t}$ = exogenous variable in model
X_i^* = average of X_i^*
$Y_{i\,t}$ = endogenous variable in model
Y_i^* = average of Y_i^*

The most commonly used models in panel data analysis are FE and random effects (RE) regressors in linear regression using OLS.

Here in this paper the FE model is used binary variables. So the equation for the FE model becomes:

$$Y_{it} = \beta_0 + \beta_1 X_{1,it} + \ldots + \beta_k X_{k,it} + \gamma_2 E_2 + \ldots + \gamma_n E_n + u_{it} \quad (13)$$

Where, Y_{it} = is the dependent variable (DV) is FDI where i = entity and t = time.
$X_{k,it}$ = represents independent variables (Table 2),
β_k = is the coefficient for the IVs,
u_{it} = is the error term
E_n = is the entity n.
γ_2 = is the coefficient for the binary repressors (entities)

The RE model is:

$$Y_{it} = \beta X_{it} + \alpha + u_{it} + \varepsilon_{it} \quad (14)$$

In poisson regression, the paper supposes that the Poisson incidence rate μ is determined by a set of k regressor variables (the X's). The expression relating these quantities is μ.

$$\mu = t \exp(\beta_1 X_1 + \beta_2 X_2 + \ldots\ldots + \beta_K X_K) \quad (15)$$

X_1 = 1 and β_1 is called the intercept. The regression coefficients $\beta_1, \beta_2, \ldots \beta_k$ are unknown parameters that are estimated from a set of data. Their estimates are labeled $b_1, b_2 \ldots b_k$.

Using this notation, the fundamental Poisson regression model for an observation i is written as

$$P_r(Y_i=y_i|\mu_I,t_i)=\frac{e^{-\mu_i t_i(\mu_i t_i)y_I}}{Y_{i!}} \quad (16)$$

Where, $\mu_i = t_i\mu\ (\dot{X}_i\beta)$

$=t_i exp\ (\beta_1 X_{1i}+\beta_2 X_{2i}+\ldots\ldots+\beta_K X_{Ki})$

That is, for a given set of values of the regressor variables, the outcome follows the Poisson distribution.

In the Prais-Winsten the equation is

$$Y_t=\alpha+X_t\beta+\varepsilon_t \quad (17)$$

Where Y_t is the time series of interest at time, β is a vector of coefficients, X_t is a matrix of explanatory variables and ε_t error terms. The error terms can be serially correlated over time $\varepsilon_t=p\varepsilon_{t-1}+e_t, |p|<1$ and e_t is a white noise.

In the generalized method of moments estimator based on these population moments conditions is the value of θ that minimizes.

$$Q_n(\theta)=\{n^{-1}\sum_{t=1}^{n} f(v_t,)\theta'\}W_n\{n^{-1}\sum_{t=1}^{n} f(v_t,\theta)\} \quad (18)$$

Where W_n is a non-negative definite matrix that usually depends on the data but converges to a constant positive definite matrix as $n \to \infty$

The generalized estimating equation (GEE) approach estimates β by solving the estimating equations (Liang and Zeger), and (Prentice):

$$\sum_{i=1}^{N} D_i' V_i^{-1}(Y_i-\mu_i)=0 \quad (19)$$

Where $D_i=D_i(\beta)=\partial\mu_i(\beta)/\partial\beta'$, and V_i is the working covariance matrix of Y_i. V_i can be expressed in terms of a correlation matrix $R(\alpha)$: $V_i= A_i^{½} R(\alpha) A_i^{½}$ where A_i is a diagonal matrix with elements var $(Y_{it}) = V(\mu_{it})$, specified as functions of the means $\mu_{it,}$ α is some unknown parameter.

3.7. Data Sources

This article has employs panel data for 80 different countries over the period from 1998 to 2014. The paper has used FDI inflows that measured in current U.S. dollars divided by the host country's total population as the dependent variable, and data come from United Nations of conference on trade and development (UNCTAD). Data on FDI are provided by several sources, such as Balance of Payments Statistics Yearbook and International Finance Statistics by the International Monetary Fund, European Union Direct Investment Yearbook by EUROSTAT, World Investment Report by UNCTAD, World Development Indicators by the World Bank, and International Direct Investment Statistics Yearbook by OECD. Only the UNCTAD, OECD, and EUROSTAT offer a sectoral breakdown of FDI flows and stocks. The drawback is that OECD and EUROSTAT only cover a very limited number of world countries and thus the total direct investment received by any given country cannot be completely assessed. Moreover, the paper has very much interested in FDI inflows than FDI stocks because policy recommendations are usually formulated to boost FDI inflows rather than to accumulate FDI stocks for a given period. However, only UNCTAD provides a break down into two different categories: FDI figures for developed and for developing countries that really serve our purpose. Thus, the paper has used FDI inflows data from UNCTAD.

Governance including the six different factors, voice and accountability, political stability and violence, government effectiveness, regulation quality, rules of law and control of corruption. Data are aggregating from the worldwide governance indicators. Data collection method and research methodology all the things can be access in that particular website: www.govindicators.org. For accomplishing the research purpose for the different control variables like, the GDP, the degree of openness and the inflation rate, and the data are come from the World Bank's World Development Indicators. For agglomeration related variable the data that have used from the global competitiveness report, the index value from 1 to 7, 1 represent rare and 7 represent prevalent and encouraged. The paper has accumulated the data from the Global Competitive Index report for the variable like telephone mainlines (per 1000 people).

4. EMPIRICAL EVIDENCE

The following Table 3 interprets whether the panel data are stationary or not. For identifying this, five different panel unit test is being accomplished (Levin, Lin and Chu, Breitung, Im, Pesaran and Shin, Fisher-Type test using ADF and PP-test (Maddala and Wu and Choi) and Hadri. Base on the five different type of panel unit root test such as Levin, Lin and Chu, Im, Pesaran and Shin, Fisher-Type test using ADF and PP-test (Maddala and Wu and Choi) and Hadri method the variables are not stationary at a level.

From the Table 4 concentrate on the five different type of panel unit root test such as Levin, Lin and Chu, Im, Pesaran and Shin, Fisher-Type test using ADF and PP-test (Maddala and Wu and Choi) and Hadri methods the variables are stationary at a first differences.

The Table 5 highlights the pedroni cointegration test. From the no deterministic trends there are 7 different and separate outcomes. Out of 7 outcomes, 3 outcomes interpret that the paper has accepted the null hypothesis (H_0 = No co-integration), because the P > 5. On the other hand 4 outcomes illustrates that reject the null hypothesis and accept the alternative hypothesis. Therefore it is to be noted that base on the no deterministic trend elucidates that the variables are cointegrate. On the other hand from the deterministic intercept and trends way out of 7 outcomes 5 outcomes interpret that accept the null hypothesis (H_0 = No Co-integration), because the P > 5. On the other hand 2 outcomes illustrates that reject the null hypothesis, it means that accept the alternative hypothesis. Therefore it is to be noted that base on the deterministic intercept and trend elucidate that the variables are not cointegrate. From the no deterministic intercept and trends out of 7 outcomes, 4 outcomes interpret

Table 3: Panel unit root test

Variables	Levin Lin and Chu-t test values** and Prob	Im, Pesaran and Shin W-stat test values** and Prob	ADF-Fisher χ^2 test values** and Prob	PP-Fisher χ^2 test values**and Prob	Hadri
Foreign direct ınvestment	−2.94310	−5.68401	15.29884	26.32540	2.38723
	P=0.2905	P=0.1726	P=0.0894	P=0.1421	P=0.0000
Voice and accountability	−1.26612	1.82103	7.92012	13.03225	11.17332
	P=0.0421	P=0.0571	P=0.0628	P=0.1029	P=0.0000
Political stability	−6.22498	−16.85721	26.93173	41.47842	3.48325
	P=0.0386	P=0.0389	P=0.2519	P=0.3146	P=0.0000
Government effectiveness	−3.28891	−8.95172	15.05144	28.92014	2.86913
	P=0.0256	P=0.0178	P=0.0234	P=0.0331	P=0.0000
Regulatory qualities	−4.92176	6.99341	17.09531	28.09974	3.09984
	P=0.1529	P=0.2461	P=0.1129	P=0.2582	P=0.0000
Rules of laws	−6.97182	7.25114	19.26703	27.18513	3.09144
	P=0.1027	P=0.2654	P=0.1908	P=0.2163	P=0.0000
Control of corruption	−5.46562	8.19039	24.17721	29.16371	3.54109
	P=0.1127	P=0.2540	P=0.1892	P=0.2263	P=0.0000
GDP	−2.54197	−3.09664	13.99021	17.17294	2.56221
	P=0.0672	P=0.2124	P=14.0188	P=0.2900	P=0.0000
Trade openness	−2.67731	−4.10654	22.45762	12.68903	2.04531
	P=0.0302	P=0.2194	P=0.0341	P=0.1506	P=0.0000
Inflation	−3.84105	−4.22205	18.10672	23.10908	2.13054
	P=0.0549	P=0.2860	P=0.0693	P=0.1404	P=0.0000
Teledensity	2.96102	−7.60942	13.28094	11.20992	2.09002
	P=0.0549	P=0.1529	P=0.0674	P=0.1403	P=0.0000
Agglomeration	−3.18496	−5.84033	21.45105	14.20942	3.34221
	P=0.0548	P=0.0708	P=0.1128	P=0.2136	P=0.0000
Democracy	−4.86110	−10.40912	24.40542	31.66703	3.21503
	P=0.0692	P=0.0849	P=0.1650	P=0.2104	P=0.0000

Source: Own calculation, GDP: Gross domestic product. *, **, and *** indicate that coefficients are significant at the 10%, 5%, and 1% levels, respectively.

Table 4: Panel unit root test

Variables	Levin Lin and Chu-t-test values** and Prob	Im, Pesaran and Shin W-stat test values** and Prob	ADF-Fisher χ^2 test values** and Prob	PP-Fisher χ^2 test values** and Prob	Hadri
Foreign direct ınvestment	−8.32117	−4.27992	21.45184	31.68214	0.73119
	P=0.0000	P=0.0001	P=0.0000	P=0.0007	P=0.2984
Voice and accountability	−2.11109	−5.14331	23.29411	31.12154	0.73129
	P=0.0002	P=0.0003	P=0.0011	P=0.0018	P=0.1893
Political stability	−3.65182	−6.75672	27.29841	32.15909	0.72194
	P=0.0005	P=0.0008	P=0.0035	P=0.0068	P=0.2908
Government effectiveness	−4.92472	−8.92167	16.92413	23.09883	0.87122
	P=0.0004	P=0.0002	P=0.0026	P=0.0031	P=0.1590
Regulatory qualities	−5.52103	−6.84398	32.16755	37.09092	0.71453
	P=0.0003	P=0.0005	P=0.0019	P=0.0043	P=0.2319
Rules of laws	−6.75113	−7.01322	30.10912	35.18721	0.85882
	P=0.0004	P=0.0006	P=0.0025	P=0.0051	P=0.2466
Control of corruption	−8.54109	−6.24772	31.46172	41.58781	0.89711
	P=0.0007	P=0.0003	P=0.0028	P=0.0043	P=0.2608
GDP	−5.46109	−6.75941	34.18094	37.65902	0.82532
	P=0.0003	P=0.0005	P=0.0019	P=0.0054	P=0.2137
Trade Openness	−4.10990	−5.16193	32.29031	41.11294	0.79091
	P=0.0003	P=0.0003	P=0.0011	P=0.0018	P=0.1984
Inflation	−3.14926	−7.65531	19.83315	21.36929	0.54221
	P=0.0002	P=0.0005	P=0.0024	P=0.0031	P=0.3106
Tele-density	−3.77213	−8.96103	24.18672	33.42945	0.66521
	P=0.0003	P=0.0009	P=0.0037	P=0.0045	P=0.2190
Agglomeration	−5.86883	−10.19044	22.26994	37.50964	0.72196
	P=0.0004	P=0.0009	P=0.0019	P=0.0017	P=0.2218
Democracy	−6.44198	−9.67109	19.91092	29.46419	0.52941
	P=0.0003	P=0.0005	P=0.0025	P=0.0034	P=0.1908

Source: Own calculation, ADF: Augmented Dickey-Fuller. *, **, and *** indicate that coefficients are significant at the 10 percent, 5 percent, and 1 percent levels, respectively.

that reject the null hypothesis (H_0 = No integration), because the P < 5. On the other hand 3 outcomes illustrates that accept the null hypothesis, it means that reject the alternative hypothesis Therefore it is to be noted that base on the no deterministic intercept and trend method elucidates that the variables are cointegrated. It means that two different methods out of three of the Pedroni Residual Cointegration Test the variables are cointegrate. Another lucid method (Kao Residual Cointegration) is used to estimates whether the variables are cointegrate. From the Table 6 it exhibits that the P < 5%, means it reject the null hypothesis (H_0 = No co-integration).

From the Tables 7 and 8 illustrates that C (1) means speed of adjustment towards long run equilibrium but it must me significant and the sign must be negative. There is a long run causality from the variables such as FDI, voice and accountability, political stability, government effectiveness, regulatory qualities, rules of law, control of corruption, GDP, trade openness, inflation, tele-density, agglomeration and democracy.

It interprets that the independent variables such as voice and accountability, political stability, government effectiveness, regulatory qualities, rules of law, control of corruption, GDP, trade openness, inflation, tele-density, agglomeration and democracy have an influence on the dependent variable such as FDI.

The different variables like voice and accountability, political stability, government effectiveness, regulatory qualities, rules of law, control of corruption, GDP, trade openness, inflation, tele-density, agglomeration and democracy have an influence on the dependent variable such as FDI in the short run. The Table 9 is usd for measuring this Wald Statistics has used. Here, C(4) = C(5)=0 meaning that there is no short run causality running from voice and accountability to FDI, C(6) = C(7)=0 meaning that there is no short run causality running from political stability to FDI. C(8) = C(9)=0 meaning that there is no short run causality running from government effectiveness to FDI. C(10) = C(11)=0 meaning that there is no short run causality running from regulatory qualities to FDI. C(12) = C(13)=0 meaning that there is no short run causality running from rules of law to FDI. C(14) = C(15)=0 meaning that there is no short run causality running from control of corruption to FDI. C(16) = C(17)=0 meaning that there is no short run causality running from GDP to FDI. C(18) = C(19)=0 meaning that there is no short run causality running from trade openness to FDI. C(20) = C(21)=0 meaning that there is no short run causality running from inflation to FDI. C(22) = C(23)=0 meaning that there is no short run causality running from tele-density to FDI. C(24) = C(25)=0 meaning that there is no short run causality running from agglomeration to FDI. C(26) = C(27)=0 meaning that there is no short run causality running from democracy to FDI.

From the table it is explore that the P values of each of the independent variables are <5%. It means that there is a short run causality running from the variables like political stability, government effectiveness, regulatory qualities, rules of law, control of corruption, GDP, trade openness, inflation, tele-density, agglomeration and democracy to FDI.

From the Table 10 (Pooled OLS method) the impacts of all the variables under the institutional quality are explored to be positive and significant. In the case of voice and accountability the coefficient implies that a one standard deviation improvement in political stability increases FDI by 29.4%. In the case of political stability and absence of violence the coefficient implies that a one standard deviation improvement in political stability increases FDI by 29.2%. The coefficient of government effectiveness implies that a one standard deviation improvement in government effectiveness increases FDI by 28.6%. Another variable under the institutional quality, of course the regulatory quality, the coefficient of implies that a one standard deviation improvement in regulatory quality increases FDI by 20.5%. In the case of rules of law the coefficient implies that a one standard deviation improvement in rules of law increases FDI by 23.1%. The coefficient of control of corruption implies that a one standard deviation improvement in control of corruption increases FDI by 26.3%.

The impact of all the variables is also explored to be positive and significant. In the case of GDP the coefficient implies that a one standard deviation improvement in GDP increases FDI by 28.3%. The coefficient of trade openness implies that a one standard

Table 5: Pedroni residual cointegration test

Test method	Pedroni residual cointegration test		
	No deterministic trend	Deterministic intercept and trend	No deterministic intercept or trend
Panel v-statistic	−0.047820	−3.741992	−0.219427
	P=0.5290	P=0.2316	P=0.1344
Panel rho-statistic	−3.218843	6.541821	−0.280043
	P=0.3214	P=0.2391	P=0.1704
Panel PP-statistic	−5.683211	−5.848321	−5.279953
	P=0.0021	P=0.1266	P=0.0034
Panel ADF-statistic	−5.941871	−5.841662	6.854421
	P=0.0028	P=0.2903	P=0.0034
Group rho-statistic	3.213142	3.789932	4.89553
	P=0.2316	P=0.3194	P=0.2709
Group PP-statistic	−6.921881	−6.871192	−4.867931
	P=0.0009	P=0.0004	P=0.0015
Group ADF-statistic	−5.661921	−3.189251	−3.09165
	P=0.0008	P=0.0023	P=0.0018

Source: Own calculation, ADF: Augmented Dickey-Fuller

deviation improvement in trade openness increases FDI by 27.3%. Another variable is inflation the coefficient of inflation implies that a one standard deviation improvement in inflation increases FDI by 29.5%. In the case of tele-density the coefficient implies that a one standard deviation improvement in tele-density increases FDI by 24.1%. On the concentration of the agglomeration the coefficient implies that a one standard deviation improvement in agglomeration increases FDI by 28.2%.

In the first column of the Table 11 here presented the GLS estimates. The impacts of all the variables under the institutional qualities are positive and significant. In the case of voice and accountability, political stability, government effectiveness, regulatory qualities, rules of law and control of corruption the coefficient implies that a one standard deviation improvement in the voice and accountability, political stability, government effectiveness, regulatory qualities, rules of law and control of corruption increases FDI by 18.92%, 24.19%, 15.92%, 12.86%, 19.25% and 21.73% respectively. Other different variables like GDP, trade openness, inflation, tele-density, agglomeration and democracy the coefficient implies that a one standard deviation improvement in GDP, trade openness, inflation, tele-density, agglomeration and democracy increases FDI by 6.54%, 5.28%, 6.49%, 6.94%, 6.92%and 1.90% respectively.

In the Second column of the Table 11 presented the FGLS estimates. The impacts of all the variables under the institutional qualities are positive and significant. The coefficient of the political stability implies that a one standard deviation improvement in the political stability increases FDI by 19.52% and the value is slightly lower

Table 6: Kao residual cointegration test

ADF	t-statistic	P
Residual variance	−5.466821	0.0011
HAC variance	5492.721	
	341.4694	

ADF: Augmented Dickey-Fuller

Table 7: Vector error cointegration model

Co-integrating equation	Coint equation 1
FDI (−1)	1.000000
Voice and accountability (−1)	0.015894
	(0.00326)
	[4.875460]
Political stability (−1)	0.016924
	(0.00467)
	[3.623982]
Government effectiveness (−1)	0.049377
	(0.00984)
	[5.017987]
Regulatory qualities (−1)	0.039418
	(0.00793)
	[4.970744]
Rules of laws (−1)	0.075539
	(0.00863)
	[8.753070]
Control of corruption (−1)	0.063118
	(0.00629)
	[10.034658]
GDP (−1)	0.063190
	(0.00708)
	[8.925141]
Trade openness (−1)	0.035665
	(0.00682)
	[5.229472]
Inflation (−1)	0.028941
	(0.00627)
	[4.615789]
Tele-density (−1)	0.025826
	(0.00594)
	[4.347811]
Agglomeration (−1)	0.031109
	(0.00729)
	[4.267352]
Democracy (−1)	0.020887
	(0.00829)
	[2.519541]
C	296.28931

Source: Own calculation, GDP: Gross domestic product, FDI: Foreign direct investment

Table 8: Vector error correction model

Variable	Coefficient	Standard error	t-statistics	P
C(1)	−21.921822	4.103572	2.976324	0.0072
C(2)	51.941092	34.296092	2.434621	0.0095
C(3)	69.45514	24.321098	3.834392	0.0043
C(4)	75.830917	37.192983	1.515258	0.0061
C(5)	61.908813	41.013346	1.509479	0.0049
C(6)	72.153328	45.298416	1.592844	0.0217
C(7)	87.162652	53.154672	2.501315	0.0326
C(8)	55.602284	19.113441	2.909067	0.0562
C(9)	124.431962	42.496539	3.179654	0.0865
C(10)	112.726615	54.392092	3.380103	0.0946
C(11)	153.618214	39.311549	5.358305	0.0328
C(12)	142.869213	78.396613	1.874214	0.0463
C(13)	120.357146	95.236394	1.360480	0.0288
C(14)	52.736803	49.210993	1.164349	0.0050
C(15)	113.514662	126.254902	1.752132	0.0088
C(16)	81.730152	138.132547	1.485212	0.0031
C(17)	127.117894	134.119832	1.038022	0.0232
C(18)	145.673702	101.138546	1.010440	0.0167
C(19)	131.581337	126.102392	1.063884	0.0328
C(20)	66.289148	72.143109	1.055356	0.0263
C(21)	81.441729	34.347341	2.461939	0.0434
C(22)	108.805522	66.223091	1.711207	0.0245
C(23)	80.215801	42.198057	2.234197	0.0382
C(24)	79.254517	61.298513	1.187794	0.0015
C(25)	35.108214	29.843619	1.047421	0.0196
C(26)	31.091606	22.935147	1.360872	0.0143
C(27)	45.620987	31.255671	1.567731	0.0129

Source: Own calculation

Table 9: Wald statistics

Independent variable	Hypothesis	P
Voice and accountability	C(4) = C(5)=0	0.0003
Political stability	C(6) = C(7)=0	0.0004
Government effectiveness	C(8) = C(9)=0	0.0002
Regulatory qualities	C(10) = C(11)=0	0.0003
Rules of laws	C(12) = C(13)=0	0.0004
Control of corruption	C(14) = C(15)=0	0.0004
GDP	C(16) = C(17)=0	0.0003
Trade openness	C(18) = C(19)=0	0.0003
Inflation	C(20) = C(21)=0	0.0004
Tele-density	C(22) = C(23)=0	0.0002
Agglomeration	C(24) = C(25)=0	0.0003
Democracy	C(26) = C(27)=0	0.0004

Source: Own calculation, GDP: Gross domestic product

Table 10: Pooled OLS

Estimation method Pooled OLS																
Independent variable	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	
Voice and accountability	0.294 (2.156)**															
Political Stability		0.292 (2.542)**														
Government effective			0.286 (2.316)**													
Regulatory quality				0.205 (2.102)**												
Rules of law					0.231 (2.271)**											
Control of corruption						0.263 (2.561)**										
GDP							0.283 (2.174)*									
Trade openness								0.273 (2.521)**								
Inflation									0.267 (2.317)**							
Tele-density										0.241 (2.106)**						
Agglomeration											0.282 (2.363)**					
DEMOC	0.633 (1.269)**	0.581 (1.542)**	0.477 (1.529)**	0.325 (1.650)**	0.441 (1.638)**	0.528 (1.725)**	0.639 (1.604)**	0.593 (1.663)**	0.527 (1.526)**	0.613 (1.829)**	0.662 (1.559)**	0.549 (1.628)**	0.549 (1.714)**	0.416 (1.558)**	0.447 (1.673)**	0.541 (1.075)**

OLS: Ordinary least squares, GDP: Gross domestic product. *, **, and *** indicate that coefficients are significant at the 10%, 5%, and 1% levels, respectively

from the GLS and the rest of the variables are higher from the GLS. In the case of voice and accountability, government effectiveness, regulatory qualities, rules of law and control of corruption the coefficient implies that a one standard deviation improvement in the voice and accountability, government effectiveness, regulatory qualities, rules of law and control of corruption increases FDI by 21.55%, 17.82%, 15.28%, 23.61% and 24.89% respectively, it means that the value is higher from the GLS.

According to the OLS estimates from the Table 12, the impact of all the variables under the institutional quality is positive and significant. In the case of political stability the coefficient implies that a one standard deviation improvement in political stability increases FDI by 18.7%. On the concentration of the government effectiveness, the coefficient implies that a one standard deviation improvement in government effectiveness increases FDI by 22.1%. Other different variables like voice and accountability, regulatory quality, rules of law and control of corruption the coefficient implies that a one standard deviation improvement in voice and accountability, regulatory quality, rules of law and control of corruption increases FDI by 15.8%, 14.3%, 14.8% and 21.6% respectively.

From the second column of the Table 12 the paper present the RE estimates. In the case of institutional quality all the variables are positive and significant impact on FDI. In the case of the voice and accountability, political stability, regulatory quality, rules of law and control of corruption the coefficient implies that a one standard deviation improvement in voice and accountability, political stability, regulatory quality, rules of law and control of corruption increases FDI by 19.4%, 24.7 %, 19.3%, 17.4% and 35.3% which is slightly higher from than in the case of OLS and the other variable noted as government effectiveness the coefficient value is slightly lower from the OLS.

Table 11: GLS and FGLS method

Independent variables	GLS	FGLS
Voice and accountability	0.1892**	0.2155**
	(0.128)	(0.172)
Political stability	0.2419**	0.1952**
	(0.137)	(0.182)
Government effective	0.1592**	0.1784**
	(0.184)	(0.217)
Regulatory quality	0.1286**	0.1528**
	(0.160)	(0.174)
Rules of law	0.1925**	0.2361**
	(0.207)	(0.256)
Control of corruption	0.2173**	0.2489**
	(0.194)	(0.248)
GDP	0.0654*	0.0846*
	(0.132)	(0.165)
Trade openness	0.0528*	0.0729*
	(0.164)	(0.219)
Inflation	0.0649*	0.0927*
	(0.182)	(0.221)
Tele-density	0.0694**	0.0927**
	(0.159)	(0.221)
Agglomeration	0.0692**	0.0928**
	(0.148)	(0.262)
DEMOC	0.0190**	0.0247**
	(0.148)	(0.205)
Constant	0.2146	0.3782
	(0.256)	(0.386)
Number of observation	768	768
Wald χ^2 (8)	107.69	217.34
$P > \chi^2$	0.0000	0.0000

Source: Own calculation, FGLS: Feasible generalized least square, GLS: Generalized least square, GDP: Gross domestic product, *, **, and *** indicate that coefficients are significant at the 10%, 5%, and 1% levels, respectively

The third column which represents FE model. Under the FE model in the case of voice and accountability, political stability, regulatory quality, rules of law and control of corruption the coefficient implies that a one standard deviation improvement in voice and accountability, political stability, government effectiveness, regulatory quality, rules of law and control of corruption increases FDI by 21.8%, 19.2 %, 29.3%, 23.6%, 21.5% and 45.2% which is slightly higher from than in the case of OLS.

The fourth column presented the Poisson Regression estimates. Under the institutional quality all the variables are positive and significant influence on FDI. The coefficient implies that a one standard deviation improvement in voice and accountability, political stability, government effectiveness, regulatory quality, rules of law and control of corruption increased FDI by 25.4%, 15.9%, 34.8%, 29.5%, 20.8% and 42.4% respectively.

From the fifth column according to the Prais-Winsten estimates, here all the variables under the institutional qualities are positive and significant. Here the coefficient of the voice and accountability, political stability and rules of law are slightly higher from the poisson regression estimates. On the other hand the coefficient of government effectiveness, regulatory qualities and control of corruption implies that a one standard deviation improvement in government effectiveness, regulatory qualities and control of corruption increases FDI by 21.9%, 24.4% and 36.6% respectively which is slightly lower from the poisson regression estimates.

From the sixth column of the table concentrates on the generalized method of movement estimates, here noted that all the variables under the institutional qualities are positive and significant. The coefficient values of the voice and accountability, political stability, government effectiveness, regulatory qualities, rules of law and control of corruption implies that a one standard deviation improvement in voice and accountability, political stability, government effectiveness, regulatory qualities, rules of law and control of corruption increases FDI by 27.8%, 24.2%, 36.2%, 28.5%, 26.3% and 57.6% respectively.

From the seven column of the table according to the GEE estimates, all the variables under the institutional quality and economic freedom are also explored to be positive and significant. The coefficient values of the voice and accountability, political stability, government effectiveness, regulatory qualities, rules of law and control of corruption implies that a one standard deviation improvement in voice and accountability, political stability, government effectiveness, regulatory qualities, rules of law and control of corruption increases FDI by 28.4%, 31.7%, 31.6%, 32.4%, 28.5% and 58.4 % respectively.

Table 12: Panel regression

Estimation	1	2	3	4	5	6	7
Method	OLS	Random effect	Fixed effect	Poisson regression	Prais-Winsten	GMM	GEE
Log dependent variables							
Voice and accountability	0.158 (2.105)**	0.194 (2.561)**	0.218 (2.941)**	0.254 (2.805)**	0.272 (2.842)**	0.278 (2.894)**	0.284 (2.946)**
Political stability and absence of violence	0.187 (2.129)***	0.247 (1.241)***	0.192 (2.684)***	0.159 (2.431)***	0.229 (1.195)***	0.242 (2.362)***	0.317 (2.144)***
Government effectiveness	0.221 (1.292)**	0.203 (1.484)**	0.293 (2.355)***	0.348 (1.926)***	0.219 (1.229)***	0.362 (2.625)***	0.316 (3.418)***
Regulatory quality	0.143 (1.652)**	0.193 (2.428)**	0.236 (1.903)**	0.295 (2.844)**	0.244 (2.916)**	0.285 (2.726)**	0.324 (3.832)**
Rules of law	0.148 (1.437)**	0.174 (2.518)**	0.215 (1.258)**	0.208 (2.705)**	0.226 (2.065)**	0.263 (2.843)**	0.285 (4.647)**
Control of corruption	0.214 (1.563)**	0.353 (1.763)**	0.452 (2.326)**	0.424 (2.572)**	0.366 (2.853)**	0.576 (2.965)**	0.584 (3.225)**
GDP	0.147 (1.195)**	0.168 (1.375)**	0.182 (1.153)**	0.196 (1.270)**	0.218 (1.317)**	0.258 (1.374)**	0.271 (1.529)**
Trade openness	0.173 (1.411)**	0.148 (1.153)**	0.144 (1.194)**	0.218 (1.203)**	0.228 (1.218)**	0.247 (1.416)**	0.274 (1.383)**
Inflation	0.166 (1.216)**	0.174 (1.255)**	0.189 (1.284)**	0.211 (1.382)**	0.238 (1.418)**	0.210 (1.546)**	0.260 (1.471)**
Tele-density	0.181 (1.119)**	0.172 (1.218)**	0.193 (1.284)**	0.184 (1.126)**	0.205 (1.163)**	0.215 (1.725)**	0.236 (1.813)**
Agglomeration	0.177 (1.126)**	0.169 (1.117)	0.183 (1.328)**	0.189 (1.374)**	0.215 (1.515)**	0.264 (1.482)**	0.307 (1.476)**
DEMOC	0.054 (0.416)**	0.067 (0.529)**	0.127 (0.618)**	0.134 (0.718)**	0.382 (0.836)**	0.541 (1.051)**	0.655 (1.182)**

Source: Own calculation. OLS: Ordinary least squares, GDP: Gross domestic product. *, **, and *** indicate that coefficients are significant at the 10%, 5%, and 1% levels, respectively

5. CONCLUSION

FDI can proliferates and accelerates the economic advancement by raising the productivity of the labor forces through the inception of modern and sophisticated technology especially for the developing country. For ensuring the uninterrupted inflow of FDI the developing country needs to concentrates on substantial practice of governance that reduces corruption, ensures transparence and accountability, enhancing government effectiveness and alleviate tumultuous and promiscuous condition. Effective governance also has certain indirect effects like enhancing human capacity, health efficiency and obviously enhances the adept of institutional quality. Governance also helps to amplifying the economic competitiveness and arranging commensurate business atmosphere for the entrepreneur where they accomplishing their business function in a pacifying way.

The basic purpose of the work is to determine the relationship between governance and FDI among the different developing countries. In my work the paper has explore that there is a substantial relationship between the governance and FDI. Each of the elements of governance (voice and accountability, political stability and reduce of violence, government effectiveness, regulatory quality, rules of law and control of corruption) are positively integrated and interrelated for inflowing of FDI. The other control variables like GDP, trade openness, inflation rate, telephone mainlines, literacy rate and agglomeration are also make a positive and significant impact on flowing of FDI in developing countries.

Based on the findings of this study, it is an inevitable fact that the policy makers and regulatory authorities should constitute some affirmative and proactive action to profuse the governance indicators in order to toughen the assurance of domestic and foreign investors and to increase inflows of FDI in different developing countries.

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