

ROLE OF GOVERNANCE AND FOREIGN DIRECT INVESTMENT: An Empirical Study of Pakistan

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Abstract

The purpose of this paper is to investigate the macroeconomic factors empirically, which cause low level of foreign direct investment (FDI) inflows to Pakistan. This study aims to analyze the most effective role of governance and human capital along with other factors of FDI inflow. The Auto Regressive Distributive lag (ARDL) econometric technique to co-integration has been applied on time series data for the period of 1984 to 2012. The study shows the statistical significant and positive effect of governance and human-capital on FDI in short-run as well as in the long-run. It is the first study in research which has used 12 indicators of governance on FDI through composite index introduced by the International Country Risk Guide (ICRG), while none of the earlier studies have found such composite for Pakistan. This study would contribute a lot to economic literature, support planners, and the government to make policies which would raise the level of FDI inflow to Pakistan.

Key words: Governance, Foreign Direct Investment, Human Capital, Trade Openness, Pakistan.

JEL Classification: S0404.

I. Introduction

The word investment is used for processing some type of capital formation for productive assets from which returns can be earned in future. In broader sense, it is such a mechanism which initiates the business process and productivity of a host country by supplying economies in the form of capital investment, business transaction, foreign exchange, technological and managerial skills, employment opportunities, expansion in volume of export and import and innovate the domestic market. It participates in the process of economic growth and improve the quality of stock capital. Therefore, FDI encourage economic development [Jones (1998)], [Salman and Feng (2010)]. Many studies have investigated the empirical relationship between FDI and macro-economic factors [Kaufmann and Karray (2002), Dixit (2007), Rodrick (2008), Aseidu (2005), Lederman and Xu (2010).

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FDI is linked to social, economic and political factors of the domestic country which make the determinants significant [Hanif (2001)]. It is also a fact that determinants of FDI change over-time and transition occurrence in economic, social and political indicators. The empirical literature recommends three types of determinants of FDI. They are as follows:

1. Cost factors include human capital and labor wage cost.
2. Market comprises of GDP growth rate and market size of economy of the domestic country [Dunning (1973)].
3. Governance factors, such as terrorism, violence crime, corruption, debt servicing, worst law and order situation, political instability, inconsistency policies, high inflation and exchange rate, and lack of accountability (World Bank (2005)).

The FDI provides financial support to developing countries which face savings and foreign exchange gaps to overcome such gaps. Hence, the IMF and World Bank prefer FDI for developing countries, rather than the foreign aid [World Bank (2005)].

In the present study human capital, market size, infrastructure, governance indicators and trade openness have been debated and it was found that governance indicators are the most important determinant of FDI. A host country is unable to attract better amount of FDI in the case of poor performance of governance indicators like internal and external terrorism, violent crimes, law and order, corruption, religious conflicts, ethnic conflicts and quality of bureaucracy. These socio-economic, political and macro-economic factors raise credibility, reliability and confidence of foreign investors to inflow the FDI into the host country. Production cost of foreign investors also decreases and thus, the return increases on the investment made [Sin and Leung (2001), Gani (2007) and Fan, et. al. (2007)].

After 9/11 attacks on USA, the global war was declared against terrorism and Pakistan was asked to provide air space and the logistics to foreign forces. Pakistan was the single country in the world which had direct land route to the land-locked country (Afghanistan). Without any hesitation Pakistan agreed to the US conditions and NATO started drones attacks on Afghanistan and Jonobi Waziristan. In response to this the Tehrik-e-Talban, Al-Qaeda and other militant groups organized together and started attacks on military forces, law enforcing agencies, infrastructure and even the civilians. This deteriorated the governance of Pakistan. Moreover, the earth quake of 2005 and flood of 2010 also destroyed infrastructure of the country and private property of civilians. Before the flood, the earthquake and the war on terror, the growth rate of Pakistan was 4 per cent but later it turned down to 2 per cent. Agriculture production reduced to more than 15 per cent, because two million bales of cotton were destroyed completely. Before 9/11, FDI in 2007-2008 was at US\$ 5.4 billion but in 2011-12 it came down to just US\$ 741 million. The assessment Report of Doing Business (2013)] showed that amongst 185 countries, Pakistan lost 3 point in doing business and gave

up 2 points in protecting foreign investors. Poor indicators of governance like terrorist activity, violent crime and political stability are analysed to depict the real picture of Pakistan's economy. The governance indicators raised by the Institute of Economics and Peace are: (1) Terrorist Activity Index at 4.5, (2) Violent Crime index at 4.0, and (3) Political Instability Index at 3.25; which reflect less peaceful position of Pakistan in the world ranking of 2013. Further, the GPI is alarmingly high at 3.16 among global ranking score at 157th out of 162 countries which has exposed Pakistan as the most risky country in peace among the world ranking.

The main objectives of this study are:

- To measure the effect of governance on FDI in short-run and long-run.
- To analyze the impact of human development on FDI in short-run and long-run.
- To recommend the policy measures that are useful to enhance the level of FDI.

After the introduction in Section I, Section II presents the literature reviews. Section III provides the model specification and the data analysis, while Section IV conclude the study providing recommendations.

II. Literature Review

Shazad, et al. (2012) examined the macro-economic factors impact like inflation rate, control of corruption, political stability, degree of openness, GDP, and showed their effect on FDI by taking the panel data for the period of 2001 to 2011, in case of India, Malaysia, Pakistan, Thailand, Indonesia and Sri Lanka. Using Random Effect econometric technique, it was concluded that governance indicators and market factors, political stability, control of corruption, degree of openness and GDP, affect FDI positively while inflation and exchange rate are correlated to FDI, negatively. Anyanwu (2012) emphasized on control of corruption, rule of law, government effectiveness, GDP growth rate, annual inflation, capital, mobile users per thousands, fixed infrastructure, exchange rate, openness level, and their impact on FDI. Three econometric techniques: OLS, GLS and GMM were employed on lagged data which concluded that governance infrastructure represented by enforcing the rule of law, institutional quality and legal system, not only attracted the FDI inflow to American Region but also caused investment in foreign countries.

Nasir and Hassan (2011) focused on determinants of FDI such as economic freedom, economic stability and exchange rate stability by taking data for the period of 1995 to 2006 and showed their impact on FDI. Economic Freedom include macroeconomic factors, like governance, economic climate, rule of law, law and order conditions, monetary and fiscal measures, safe property ownership system, market size, physical infrastructure, and the exchange rate. Random Effect econometric technique resulted that economic freedom variables were key factor to attract FDI inflow to South Asian Countries. Effective

regulated government, transparent machinery of officials and macroeconomic stability variables also play an important role in attracting FDI to South Asian Region. Abdul and Mijiyawa (2010) examined trade openness, macroeconomic stability, and quality of infrastructure by taking data (1970 to 2009) of 53 countries of Africa. GMM econometric technique showed the results that trade openness, macroeconomic stability, political certainty, and market size, return to investment and lagged investment have positive effect on FDI. The research also revealed that bad governance has negative effect on FDI.

Wash, et al. (2010) examined the inflow of FDI using only 10 years' available data for 27 different (developed and developing) countries, from 1985 to 2008 of macroeconomic factors like degree of openness secondary and territory. Effect of all macroeconomic factors and qualitative factors like independent judiciary, standard of infrastructure, effective legal system were shown on FDI. The results of econometric technique shows that indicators of macroeconomic and ordinal measures have encouraging impact on FDI. Raheem (2010) examined the trade openness, stock of human capital, GDP growth rate, governance, inflation, government expenditure, and showed their impact on FDI by taking data (1996 to 2010) of seven member countries of the Economic Community of West African States (ECOWAS). Linear and non-linear OLS econometric techniques were employed which discovered that governance matters a lot to attract the FDI and improve the economic growth. Azam and Khatakk (2009) examined the relationship between FDI, human capital and the political factors, by taking data for the period of 1971 to 2005. The human capital was measured by enrolment at primary and secondary education while political stability was measured by democracy and vice versa. Simple OLS econometric technique was used to show the correlation between FDI and human capital, and the political stability. The empirical research found positive significant effect on FDI. Sadig (2009) explained corruption, government institutions, democratic institutions, human capital and inflation, degree of openness, growth rate of population, GDP per capita, growth rate of GDP and their impact on FDI by using data (1984 to 2004) of 117 countries. Fixed Effect econometric technique concluded that governance variables like corruption, institutional quality, stable inflation and degree of openness; have positive effect on FDI. The countries which have high quality of such variables attract more FDI.

Zhang, et al. (2009) showed the impact of governance and private infrastructure on FDI. Governance was measured by 6 indicators introduced by Kaufman (2006) The private infrastructure included gas, telecommunication, electricity, water, sewerage, projects of foreign investment and transport; using data of 67 (developed and developing) countries during 1990 to 2002. Random effect econometric technique showed that governance has positive effect on FDI. Kobeissi (2005) explained governance, legal system, infrastructure and inflation, and their impact on FDI by taking data (1990 to 2001) of MENA region. The OLS econometric technique was employed which concluded that lack of governance, legislative system, economic freedom and instable exchange rate; caused not only the less inflow of FDI to MENA region but also the outflow of FDI from the region.

Elizabeth (2005) research was based on three independent variables market size, Government policy, Political stability and their impact on FDI in two ways, i.e., Survey Based Research and Empirical Research Based. Data was taken for the period of 1984 to 2000. Fixed Effect econometric technique employed the results that large market size, fair legal system, low inflation, good infrastructure and natural resources, showed positive effect while corruption and political uncertainty had negative effect on FDI. Biglaiser and DeRouen (2005) focused on good governance and macro-economic variables and their impact on FDI by taking data of 17 countries for 1980 to 1996. Governance indicators (corruption, expropriation of property rights and societal conflicts) and their effect on FDI were shown on different scales. The panel data corrected standard econometric technique gives the result that governance raised the confidence of investors and caused more inflow of foreign direct investment to Latin American Countries.

Taskos (2004) explained corruption, the rule of law, governance and the economic freedom, which raised the confidence of investors and caused more inflow of FDI to Latin American countries. Rule of law, political uncertainty, law and order, and other control variables like institutions, consumer price index at inter-market price level, geographic difference and their impact on FDI were discussed by taking data for 1995 to 2000. 2SLS econometric technique was used which concluded that governance have positive effect on FDI but corruption affects the negatively on FDI.

III. Model Specification and Data Analysis

$$FDI = \beta_0 + \beta_1 GOV + \beta_2 HDI + \beta_3 RGG + \beta_4 TOP + \beta_5 GPI + u_1$$

FDI = f(GOV, HDI, TOP, RGG, GPI)

FDI = Foreign Direct Investment.

GOV = Governance Index.

HDI = Human Development Index.

TOP = Trade Openness.

RGG = Real Gross Domestic Production Growth Rate.

GPI = Growth Rate of Public Investment.

Empirically, five variables are used in the study, governance, human development index, degree of openness, real GDP growth rate and growth rate of public investment; and their impact on FDI is explained. Data (1984 to 2012) was taken from the International Country Risk Guide (ICRG), UNCAD. The net inflow of FDI in US\$ was used as proxy to measure FDI and the governance composite was made and measured by ICRG. The real GDP growth rates in the current \$US was proxy to measure the market size, whereas the sum of export and import as percentage of GDP was used as proxy to measure the degree of openness. The growth rate of public investment was used as proxy to measure the infrastructure.

1. Unit Root Results

Unit Root test is applied to check the stationary of variables that none of the variables should be at second difference I(2) and that all variables should be at level I(0) or at first difference I(1); or mixture of I(0) and I(1) for ARDL technique. In Table 2, the calculated value of F-Statistics is 5.402 which exceeds from lower and upper bounds values at 95 per cent and 90 per cent, respectively. The confidence interval confirms the long-run relationship among the variables.

TABLE 1

Stationary Test

Variables	ADF Test-Statistics (at level)	ADF Test-Statistics (at 1st Difference)	Stationary Status
LOGFDI	-2.039892	-5.216564*	I(1)
GOV	-3.219525**	-5.502294	I(0)
HDI	-0.233**	5.888	I(1)
TOP	-3.113173	-4.8604*	I(0)
GRPI	-5.216252*	-9.1304	I(0)
GRRGDP	-3.113173**	-7.04	I(0)

Source: Authors' calculation.

Note: *and **represent significance level at 1 per cent and 5 per cent, respectively.

TABLE 2

Bound Test Explanation

F-Calculated	95% confidence interval		90% confidence interval	
	Lower Limit	Upper Limit	Lower Limit	Upper Limit
5.402	3.2314	4.7208	2.6348	3.9367

Source: Authors' calculation.

In Table 3, the variables are governance, human capital development index, trade openness, real gross domestic production growth rate, lag variable of FDI; which are statistically significant. Absolute one unit increase in governance brings relative expansion in FDI by 3.15 which increase by 3.44. Absolute one unit rise in trade openness leads to relative change in FDI by 3.25, and absolute one unit change in real GDP growth rate bring relative rise in FDI by 0.70. Lag variable of FDI and lag variable real GDP growth rate are also significant.

In Table 4, the value of R² is 0.91 which reflects that 91 per cent variation in FDI is the result of explanatory variables while the other 9 per cent of variation is due to error term. The high value of R² represents an overall good fit of the model while the adjusted R² shows good fit of the model adjusted with degree of freedom. The Durban Watson value 2.2 shows no autocorrelation.

The ARDL technique satisfies all assumptions of the OLS. In Table 5 the Lagrange Multiplier test confirms the absence of Serial Correlation but Ramsey Reset Test confirms the correct functional form as P-value of LM-version where F-version is higher than 0.1 or 10 per cent. The data is normally distributed without heteroscedasticity.

TABLE 3

Short Result of the Model and Interpretation

Variables	Coefficients	S.E	T-Ratios	P-Values
LOGFDI (-1)	0.3488	0.15695	2.22	0.039
GOV	3.1536	1.0285	3.06	0.006
HDI	3.4491	1.2759	2.70	0.014
TOP	3.2579	1.6615	1.96	0.06
RGGR	0.7070	0.02111	3.35	0.003
RGGR-1	0.0443	0.0202	2.19	0.041
GRPI	0.6628E-6	0.5931E-5	0.912	0.912

Source: Authors' calculation.

TABLE 4

Good Fit Model Explanation

R ²	0.918
Adjusted R ²	0.887
D.W-Statistics	2.2
F (7,19)	32.68

Source: Authors' calculation.

TABLE 5

Diagnostic Test

PROBLEM	LM-VERSION (P.V)	F-VERSION (P.V)
Serial Correlation	(0.306)	(0.405)
Functional Form	(0.104)	(0.179)
Normality	(0.700)	N/A
Heteroscedasticity	(0.287)	(0.305)

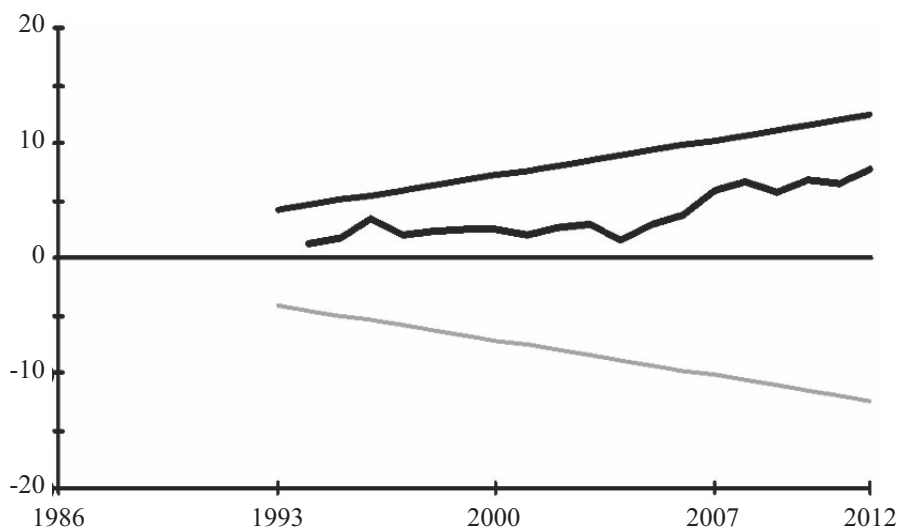
Source: Authors' calculation.

2. Stability Test

Brown, et al. (1975) developed a Stability Test to confirm stability of the model in short-run variables, as well as in the long-run coefficients. Pesaran and Pesran (1977) applied this test; if the graph of Cumulative Sum of Recursive Residuals lies practically between 5 per cent critical bound limits and the graph of CUSUM sum of square also lie between 5 per cent critical bound limits. It confirms structural stability of the model in short-run and long-run.

In Table 6, GOV, HDI, TOP and RGGR are significant at 1 per cent, 5 per cent 10 per cent in long-run relationship. Absolute one unit change in GOV leads to relative increase in FDI by 4.84; and absolute one unit change in HDI brings relative change in FDI by 5.29. Absolute one unit change in RGGR and GRPI leads to relative increase in FDI by 0.17 and 0.101E-5, respectively.

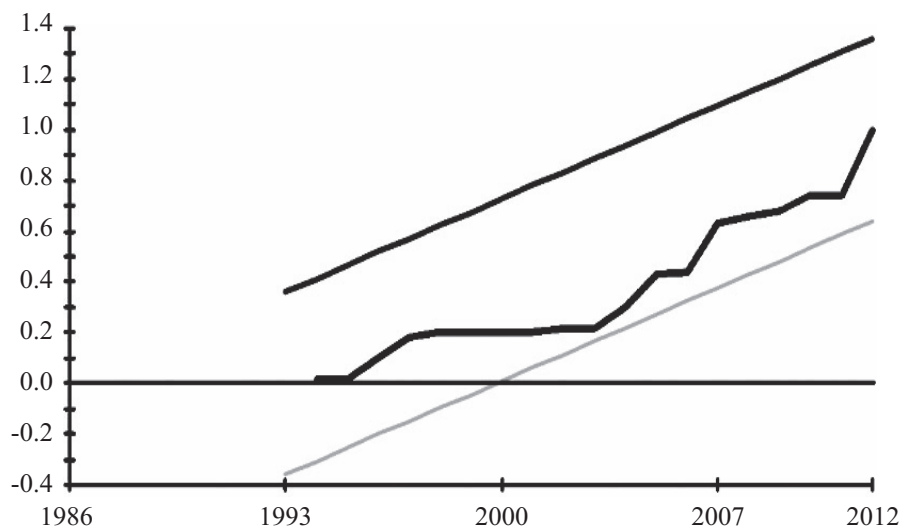
Table 7 shows that error correction model reflects the picture of short-run results. About all coefficients are statistically significant as shown by T-ratio (higher than 2) and probability value is less than 0.05. An absolute one unit increase in governance brings relative change in FDI by 3.15 and FDI leads to rise relatively by 3.44 as absolute one unit change in HDI. An absolute one unit change in TOP brings change in FDI by 3.25 and absolute one unit change in real GDP growth rate raises FDI relatively by 0.07; and absolute one unit change in growth rate of public in-



Note: The straight lines represent critical bounds at 5% significance level.

FIGURE 1

Plot of Cumulative Sum of Recursive Residuals



Note: The straight lines represent critical bounds at 5% significance level.

FIGURE 2

Plot of Cumulative Sum of Squares of Recursive Residuals

vestment brings relative change in FDI by $0.6628E-6$. Therefore, nearly all coefficients are statistically significant at 1 per cent, 5 per cent, and 10 per cent in short-run. The adjustment coefficient with negative sign reflects that the model is highly significant at 1 per cent level and confirms long-run relationship among variables. The value of adjustment coefficient is 65 and represents per year adjustment which proves the long-run relationship among variables. The $ecm(-1)$ term illustrate 65 per cent disequilibrium in the previous year and will convert the equilibrium in the current year.

TABLE 6

Long Run Estimation of the Model

Variables	Coefficients	S.E	T-Ratios	P-Values
GOV	4.843	1.32	3.668	(0.002)
HDI	5.297	1.002	5.285	(0.0)
TOP	5.003	1.717	1.841	(0.08)
RGGR	0.176	0.049	3.557	(0.002)
GRPI	0.1018E-5	0.815	0.11	(0.913)

Source: Authors' calculation.

TABLE 7

Error Correction Model Explanation

Variables	Coefficients	S.E	T-Ratios	P-Values
dGOV	3.153	1.082	3.066	(0.006)
dHDI	3.449	1.275	2.703	(0.041)
DTOP	3.257	1.661	1.960	(0.064)
dRGGR	0.07	0.021	3.352	(0.003)
DGRPI	0.6628E-6	0.5931E-5	0.111	(0.912)
ecm-1	-0.651	0.156	4.148	(0.0)

Source: Authors' calculation.

IV. Conclusion

The paper investigate the indicators of governance and human capital as most prominent factors to attract more amount of FDI inflow. If performance of governance is poor, the confidence and credibility of Pakistan will not be built in the foreign world. The ARDL-SIC econometric technique was employed on time series data for the period of 1984 to 2012, which concluded the statistical significant and positive effect of governance and human capital on FDI in short-run as well as in the long-run. In short-run the FDI leads to increase relatively by 3.15 as absolute one unit change in governance and absolute one unit change in human capital brings relative change in FDI by 3.44. In long-run the absolute one unit changes in governance brings relative change in FDI by 4.84 and absolute one unit change in human capital leads to an increase in FDI by 5.29, while the other important variables like Trade Openness, Market Size have also significant positive effect on FDI inflows. The study is limited to variables mentioned in the model. This research recommends four policy measures and implications. The empirical research suggests to raise more FDI inflows. Policy makers and the government officials should pay more attention to improve the performance of governance indicators. Following suggestions are proposed by the present study.

- * The empirical research suggests to enhance more FDI; and the policy makers and government officials should pay more attention to improve the indicators of governance.
- * To attract more amount of FDI inflows, human capital should be improved in Pakistan.
- * To encourage Foreign Direct Investment, Pakistan needs to liberalize its trade links with other countries and raise the nation's credibility with its trading partners and rest of the world.
- * Infrastructure network of roads, electricity, gas, sewerage, communication should be improved, to attract more FDI inflows to the economy of Pakistan.

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