GOVERNANCE, HUMAN CAPITAL, TRADE OPENNESS EFFECT ON FOREIGN DIRECT INVESTMENT: AN EMPIRICAL STUDY IN CASE OF PAKISTAN

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ABSTRACT

The purpose of this paper is to investigate empirically macroeconomic factors which are causing low level of FD inflow to Pakistan. This study aims at to analyze and to test how the most effective role of governance and human capital along with other factors in inflow of FDI in case of Pakistan. Auto Regressive Distributive lag (ARDL) econometric technique to co integration has been used for time series data from the period of 1984 to 2012. The study showed statistical significant and positive effect of governance and human capital on FDI in case of Pakistan in short run and long run. The research findings can be used by government, countries, different agencies that are facing governance problems in the form of terrorism, crimes, Corruption, political instability and worst law and order conditions or those that are engaged in rehabilitation after terrorism. It is first study in which governance effect on FDI was estimated through governance composite index introduced by ICRG while all the literature we examined none of study used such composite in Pakistan. It will contribute a lot in economic literature and will support to govt. in making policies which could raise the level of FDI.

Keywords: *Governance; Foreign Direct Investment, Human Capital, Trade Openness, (Pakistan).*

INTRODUTION

The word investment is used for processing of some type capital formation of productive asset from which they can earn high return in future. In broad sense it is such mechanism which initiates the business process and productivity of the domestic country by supplying economies in the form of capital investment, business transaction, foreign exchange, technological & managerial skills, employment opportunities, expand the size of exports & imports and innovation to the domestic market. It participates in the process of economic growth and improves the quality of stock of capital. So FDI encourages economic development Jones (1998), Javed et. al

(2012), Salman and Feng (2010).Many studies have examined empirical relationship between FDI and macro-economic factors like Kaufmann and Karray (2002), Dixit (2007), Rodrick (2008), Aseidu (2005), Lederman and Xu (2010), Wash and Yu (2010), Fan et. al (2006), Nasir and Hassan (2011) and Lious (2011), Asisdo (2005).Afzal et.al (2008).

Economic literature recommended three types of determinants of FDI. They are as

1. Cost factors include human capital and labor wage cost
2. Market comprises of GDP growth rate and market size of economy of domestic country (Dunning 1973).
3. Governance factors such as terrorism, violent crime, corruption, debt servicing, worst law and order condition, political instability, in consistence policies, high inflation and exchange rate and lack of accountability.

In this study human capital, market size, infrastructure, governance factors and trade openness are debated and found governance is the most important determinant of FDI along with market factors in case of Pakistan. The domestic country cannot attract better amount of FDI if the performance of governance indictors like internal and external terrorism, violent crime, law and order condition, corruption, religious conflict, ethnic conflict quality of bureaucracy are not better. All these social, economic, political and macroeconomic factors raise credibility, reliability and confidence of foreign investors to the host country. Further production cost of foreign investors diminishes and returns increases Sin and Leung (2001), Gani (2007) and Fan et al (2007).

After 9/11 attacks on America, USA initiated global war on terror and asked Pakistan to provide Air Space and Logistic support. Pakistan was the single county in the World which has the direct approach to land locked county. All attacks on Afghanistan, Drones in Jonobi Waziristan areas and food supply through NATO were made possible with the help of Pakistan. Against this response TTP and Al Qaeda organized themselves and started attacks on civilian, military forces and deteriorated good governance of Pakistan. Before 9/11, FDI was 5.4 billion $ in 2007-2008 and came down to just 741 million in 2011-12 Mahmood and Ehsanullah (2012). The indicators for Economics and Peace have made three governance indicators. Terrorist Activity Index is at 4.5, Violent Crime index at 4.0 and Political Instability Index at 3.25 reflects less peaceful position of Pakistan in ranking economy in 2013. Furthermore the GPI is also high at 3.16 and global Ranking score

is 157th out of 162 countries response highest risk in peace among the world ranking.

The main objectives of this study are as:

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

LITERATURE REVIEW

Teskos (2004) explained corruption, rule of law, Governance and economic freedom raises the confidence of investors and caused more inflow of FDI to the 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 and geographic difference and their impact on FDI by taking data from 1995 to 2000. 2SLS econometric technique was used and concluded that governance has positive effect on FDI but corruption affect negatively on FDI.

Eizabeth (2005) research was based on three independent variables Market Size, Government policy, political stability and their impact on FDI were shown in two ways i.e., Survey Based Research and Empirical Research Based. Fixed Effect econometric technique was employed and proved that large market size, fair legal system, low inflation, good infrastructure, and Natural resources showed positive effect on FDI While, corruption and political uncertainty have negative effect on FDI to Sub Sahara African Countries.

Zhang, et.al (2006) showed Governance and private infrastructure and showed their impact on FDI. Governance, measured by 6 indicators introduced by Kaufman and private infrastructure includes gas, telecommunication, electricity, water, sewerage projects of foreign investment and transport. They took the data from 1990 to 2002 of 67 developed and developing countries. Random effect econometric technique showed that Governance has positive effect on FDI.

Abdul and Mijiyawa (2010) examined trade openness, macroeconomic stability, and quality of infrastructure by taking data from 1970 to 2009 of 53 countries of Africa. GMM econometric technique shows the results that trade openness, macroeconomic

stability, political certainty, and market size, return to investment and lagged investment has positive effect on FDI. The research also reveals that bad governance has negative effect on FDI. Raheem (2010) examined trade openness, stock of human capital, GDP growth rate, Governance, inflation, government expenditure, and showed their impact on FDI by taking data for the period from 1996 to 2010 of seven member countries of Economic Community of West African States (ECOWAS).Linear and Non-linear OLS econometric techniques was employed and revealed that Governance matter a lot in attract FDI but also improve the economic growth.

Anyanwu (2012) took control of corruption, rule of law, government effectiveness, GDP growth rate, annual inflation, and human capital, mobile user as 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 and concluded that governance infrastructure represented by enforcement of rule of law, institutional quality and legal system not only attract FDI inflow to American Region and also caused investment in foreign countries.

Malik and Ali (2013) examined the rule of law, energy supply, and safe security system, and law and order situation, communication infrastructure and show their effect on FDI. They used the time series data range from 1971 to 2009. They applied tests Johnson Co-integration Test and OLS econometric technique was employed on data. The results have showed positive impact of governance on FDI except Inflation and Foreign Exchange Rate. Finding of this study also revealed that high inflation and exchange rate is the sign of bad governance.

MODEL SPECIFICATION AND DATA SOURCE

FDI = f (GOV, HDI, TOP, RGGR, GRPI)

FDI $=\beta 0 + \beta 1GOV + \beta 2HDI + \beta 3\ TOP + \beta 3\ RGGR + \beta 5GRPI + ui$

FDI =Foreign Direct Investment.GOV =Governance Index. HDI = Human Development Index. TOP = Trade Openness.RGGR = Real Gross Domestic Production Growth Rate=Growth Rate of Public Investment.

Empirically five variables used in the study FDI, Governance, human development index, degree of Openness, real GDP growth rate, growth rate of public investment and explained their impact on FDI. Data have been taken from International Country Risk Guide ICRG, UNCAD and WDIfor the period from 1984 to 2012.

4.1 TABLE UNIT ROOT RESULTS

Unit Root test is applied only for checking the stationary of the variables that none of variables should be at second difference I (2). 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.

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)
RGDPGR	-3.113173**	-7.04	I(0)

Source: Author's own calculations

Note: * and ** represent significance level at 1% and 5% respectively.

4.2 STEPS OF COINTEGRATION TEST

To examine the short-run and long-run relationship among foreign direct investment, governance, human capital, trade openness, real GDP growth rate and infrastructure the present research uses the error-correction version of ARDL model of equation (A) by following Pesaran and Psaran (1997) and Pesaran and Shin (1999), as

$$\begin{aligned}\Delta logFDI_t = {} & \propto_0 + \sum_{i=1}^{N} \propto_1 \Delta logFDI_{t-i} \\ & + \sum_{i=0}^{N} \propto_2 \Delta GOV_{t-i} + \sum_{i=0}^{N} \propto_3 \Delta HDI_{t-i} \\ & + \sum_{i=0}^{N} \propto_4 \Delta TOP_{t-i} \sum_{i=0}^{N} \propto_5 \Delta RGGR_{t-i} + \\ & + \sum_{i=0}^{N} \propto_6 \Delta GRPI_{t-i} + \beta_1 logFDI_{t-1} + \beta_2 GOV_{t-1} + \beta_3 HDI_{t-1} \\ & + \beta_4 TOP_{t-1} + \beta_5 RGGR_{t-1} + \beta_6 GRPI_{t-1} + \gamma ECT_{t-1} + \mu_t \end{aligned}$$

…… (A)

The first step in ARDL approach to co-integration is to examine long-run relationship among the variables by carrying out familiar F-statistic on the differenced variables components of Unrestricted Error Correction Mechanism (UECM) model for the joint significance of the coefficients of lagged level of the

variables. In this first step, the regression equation estimated for the dependent variable foreign direct investment is defined as

$$\Delta logFDI_t = \propto_0 + \sum_{i=1}^{N} \propto_1 \Delta logFDI_{t-i} + \sum_{i=0}^{N} \propto_2 \Delta GOV_{t-i} + \sum_{i=0}^{N} \propto_3 \Delta HDI_{t-i} + \sum_{i=0}^{N} \propto_4 \Delta TOP_{t-i} + \sum_{i=0}^{N} \propto_5 \Delta RGGR_{t-i} + \sum_{i=0}^{N} \propto_6 \Delta GRPI_{t-i} + \gamma ECT_{t-1} + \mu_t$$

……(B)

To create error correction mechanism in this equation, first lag of the level of each variable is added to the equation (B) and a variable Addition Test is conducted by F-test on the joint significance of all the added lagged level variables.

4.3BOUND TEST EXPLANATION

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

Source: Author's own calculations

In the above table No. 4.3 calculated value of F-Statistics is 5.402 exceeds from lower and upper bound values at 95% and 90 %confidence interval confirm long run relationship among variables.

4.4 TABLE SHORT RESULTS OF THE MODEL AND INTERPRETATION

Variables	**Coefficients**	**S.E**	**T-Ratios**	**P-Values**
LOGFDI (-1)	.3488	.15695	2.22	.039
GOV	3.1536	1.0285	3.06	.006
HDI	3.4491	1.2759	2.70	.014
TOP	3.2579	1.6615	1.96	.06
RGGR	0.7070	.02111	3.35	.003
RGGR-1	.0443	.0202	2.19	.041
GRPI	.6628E-6	.5931E-5	.912	.912

Source: Author's own calculations

In above table no.3.4 variables governance, human capital development index, trade openness, real gross domestic production growth rate, lag variable of FDI and lag variable of real gross domestic production growth rate are statistically significant at 1 %, 5% and 10%.

4.5 GOODFIT MODEL EXPLATION

R^2	.918
Adjusted R^2	.887
D.W-Statistics	2.2
F(7,19)	32.68

Source: Author's own calculations

In above table No. 3.5 the value of R^2 is 0.91 reflects that 91% variation in FDI is the result of explanatory variables while the other 9% variations is due to error term. The high value of R^2 represents overall good fit of the model while adjusted R^2 shows good fit of the model adjusted with degree of freedom and Durban Watson value 2.2 shows no autocorrelation.

4.6 DIAGNOSTIC TEST

PROBLEM	LM-VERSION (P.V)	F-VERSION (P.V)
Serial Correlation	(.306)	(.405)
Functional Form	(.104)	(.179)
Normality	(.700)	Not applicable
Hetroscedasticity	(.287)	(.305)

Source: Author's own calculations

ARDL technique satisfied all the assumptions of OLS. In the table Lagrange Multiplier test confirms the absence of Serial Correlation and Ramsey Reset Test also confirm the correct functional form as the P-value of LM-version and F-version is higher than 0.1 or 10% and data is normally distributed without hetroscedacity.

4.7 DIAGRAMS ANDSTABILITY TEST

Brown, Durbin and Evan (1975) developed a Stability Test for confirmation the stability of the model in short run variables as well as long run coefficients. Pesaran and Pesran (1977) applied this test practically, if the graph of Cumulative Sum of Recursive Residuals lies in between 5% critical bound limits and the graph of CUSUM sum of square also lies in between 5% critical bound limits which confirm structural stability of the model in short run and long run.

4.8 TABLELONG RUN ESTIMATION OF THE MODEL

Variables	Coefficients	S.E	T-Ratios	P-Values
GOV	4.843	1.320	3.668	(.002)
HDI	5.297	1.002	5.285	(.000)
TOP	5.003	1.717	1.841	(.08)
RGGR	.176	.049	3.557	(.002)
GRPI	.1018E-5	.815	.110	(.913)

Source: Author's own calculations

In above table no4.8 GOV, HDI, TOP and RGGR are significant at 1%, 5%d 10% in long run relationship.

4.9 TABLEERROR CORRECTION MODEL EXPLANATION:

Variables	Coefficients	S.E	T-Ratios	P-Values
dGOV	3.153	1.082	3.066	(.006)
dHDI	3.449	1.275	2.703	(.041)
dTOP	3.257	1.661	1.960	(064)
dRGGR	.070	.021	3.352	(.003)
dGRPI	.6628E-6	.5931E-5	.111	(.912)
ecm-1	-.651	.156	4.148	(000)

Source: Author's own calculations

The tableno.4.9 shows that error correction model reflects the picture of short run results. Here about all coefficients statistically significant 1%, 5% and 10% in short run shown by T-ratio higher than 2 and probability value is less than .05. The value of adjustment coefficient is 65 represents the adjustment per year proved long run relationship among variables. The ecm(-1) term illustrate 65% disequilibrium in previous year will converge to equilibrium in current year.

CONCLUSION

The most important results that governance and human capital attract more amount of FDI in case of Pakistan even other factors. In empirically study time series data was used from the period 1984 to 2012. In short run 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 absolute one unit

change in governance brings about relatively change in FDI by4.84 and absolute one unit change in human capital leads to increase in FDI by 5.29 While other important variables like Trade Openness, Market Size and have also significant positive effect on FDI inflows.

The same results are also found by, Sezgin, Yildirim (2002), and Quattara (2004), Kobeissi (2005), Sadig (2008), Afzalet. al (2010),Nasir and Hassan (2011), Agravwal (2011), Dixit (2012), Malik and Ali (2013). The study is limited to the variables mentioned above in the modeland the research recommends four policy measures and implications.

* First the empirical research suggests to enhance more FDI Pakistan should pay more attention to improve indicators of governance.
* Second to attract more amount of FDI, human capital be improved to the domestic country.
* Third, to encourage Foreign Direct Investment, Pakistan needs to liberalize their trade links with foreign countries and raises credibility before world.
* Fourth, Infrastructure network of roads, electricity, gas, sewerage, communication be improved to attract more level of FDI to Pakistan.

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