

## RAMIFICATIONS OF GOVERNANCE INFRASTRUCTURE AND FDI FLUX IN PAKISTAN

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ARTICLE INFO	ABSTRACT
<p><i>Article History:</i> Received: July Revised: December Accepted: March Available Online: March</p> <hr/> <p><i>Keywords:</i> Foreign Direct Investment, Political stability, Corruption, Governance</p> <hr/> <p><i>JEL Classification:</i> E2; E22; F2; F21; K2</p>	<p><i>The prominence of Foreign Direct Investment (FDI) to Pakistan is due to its positive macroeconomic fallouts. The factors that maneuver as impediment towards FDI are socioeconomic in nature. To deliberate such factors, this study is distinctive in context of incorporating governance infrastructure such as; political stability, quality of governance, and control of corruption for the period of 1980-2018. Autoregressive Distributed Lag was used to estimate the coefficient in varied time horizon. Findings concluded governance infrastructure to be significantly and positively affecting the flow of FDI. Thus, better handling of the same is essential so that the macroeconomic goals that are hindered due to lack of capital be fulfilled in ready course of time.</i></p>

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### 1. INTRODUCTION

FDI is an investment into the production or business in a country by an individual or company of another country, either by buying a company in the target country or by expanding operations of an existing business in that country. To Organization for Economic Cooperation and Development (OECD), FDI possesses about 10 percent of the business in the recipient country. Complementarity, the firms which are incorporated in a specific country and retain/control the allocation, administration, and business are referred as Multinational Corporations (MNCS) or Enterprises (MNES). The investment carried out to generate new business venture is named Greenfield Investment (Segal, 2019). On the other side, if foreign firms possess the business, it is titled Brownfield Investment. The policies followed by developing countries to entertain foreign investment are therefore imperative to be evaluated whether foreign investments be pledged or not. FDI services the recipient country to advance growth since such investments fosters economic incentives, upsurges the aptitudes of labor, amplifies employment opportunities, and initializes new technology and expertise (Segal, 2019).

FDI is classified into horizontal, vertical, and platform FDI. At the time when ground work operation of foreign firm is of similar strategy of business to that of home country, it is horizontal FDI. However, if FDI is purposed to increase or decrease scale of operations, services, and production, it is vertical FDI. And, it is platform FDI if aim to invest is to manufacture exportable. Foreign investors reinvest profit in host country that help to diversify business and thus enable to meet the needs of addressing macroeconomic targets such as eradication of poverty, and to foster economic growth and create employment opportunities. However, the crucial factors that affect towards attracting FDI are resource efficiency, economic performance, and importantly the governance infrastructure such as; political stability, quality of governance, and control of corruption.

In South Asia, countries keep their doors opened to attract FDI. During last two decades, comparing however with Latin and Central America and East Asia, performance indicators of FDI flows to South Asia are not substantial. Features such as; geographical state, size of market, and availability of natural resources also sway FDI. The South Asian countries have no such empathy that can impinge FDI inflows. Within South Asian region, country like Pakistan realizes no development if FDI flows are vague. At present, the inflows of FDI to Pakistan are not enough and are thus upsetting to the stakeholders. The key functionaries of government regularly express need to trigger

FDI however, lack of concrete actions for sustainable growth in FDI inflows are still lacking. FDI in Pakistan is less than one percent of GDP whilst other South Asian countries vary within 2 to 6 percent of their GDP, in this regard. According to Economic Survey of fiscal year 2019, Pakistan has jumped to 136th position as compared to 147th position amongst 190 economies on index of Ease of Doing Business. However, other South Asian countries i.e. Afghanistan is at 167th position, Bangladesh is scoring 176th position. Maldives, Nepal, and Bhutan are at 139th, 110th, and 89th, respectively. Looking towards India, out of world 190 recognized economies, exhibits 77th position in the row (Economic Survey, 2019).

FDI remained truncated during first ten months of fiscal year 2019 and fell by 51.7 percent to \$1.378 billion compared to \$2.85 billion during fiscal year 2018. Among the dominating countries that pledge FDI are China, Hong Kong, and United Kingdom. During the same era, substantial fall in FDI is recorded from the side of Malaysia. At present, FDI to Pakistan is jumped by 65.7 percent i.e. to \$1.56 billion during December to June of fiscal year (2019-2020), compared to \$943.6 million during the corresponding period of last fiscal year. According to World Bank (2019) report on “Ease of Doing Business 2019”, FDI to Pakistan is looked forward at the back of reforms during past years in the area of business start-up, resolving of insolvency, and property registration.

Trend of flow of FDI to Pakistan has been volatile. It is also because of internal policies of the government along with that of the pitch of governance issues. Despite of this, it is nature of FDI that the flows are always trendy in nature because they are functioned by the world economics/business situation. Table 1 clarifies that the trend of FDI flows jumped to about 77 percent from (2011-2012) to (2012-2013) which is from \$821million to \$1456 million. Whereby, slow down to \$988 million from the highest range of \$1700 million within (2013-2014) to (2014-2015). Moreover, from (2015-2016) onwards to (2017-2018), FDI in Pakistan ranged from \$2305million to \$3471million which is about 51 percent of the growth in total. Whilst during fiscal year (2018-2019), FDI dropped down by \$2199 million (Economic Survey, 2019).

Table 1: Foreign Direct Investment to Pakistan (2011-12 To 2018-2019)

Fiscal Year	Foreign Direct Investment (Million US\$)
2011-2012	821
2012-2013	1456
2013-2014	1700
2014-2015	988
2015-2016	2305
2016-2017	2749
2017-2018	3471
2018-2019	1272

Source: Ministry of Finance, Economic Survey, 2019

Looking into nature of FDI, state of governance infrastructure has noticeable impact over inflow of FDI. Therefore, it can be said that economy of state is reliant upon the nature of governance. An extent to which FDI is to inflow towards respective country, is dependent upon the state of nature of ongoing business, foreign policy, political stability, corruption, and nonetheless quality of governance. South Asian nations fiercely suffer from concerns of bad governance at the back of political instability, large population, ethnic and religious groups, and socio-economic unrest. Such states of being are related to effect the flow of FDI and thus become cause of its volatility. In this regard, role of governance is required to be detailed in respect of FDI flows. It is because strange governance matters are harmful to economy.

This study reaches a conclusion to analyze governance infrastructure and its impacts on FDI in Pakistan. Besides general objective, some of the specific objectives are given as;

1. To form the implication of foremost macroeconomic variables on FDI.
2. To explore long run relation of FDI and political stability, quality of governance, and control of corruption.
3. To examine whether components of governance infrastructure are found to exhibit similar directional impacts on FDI in both time horizons.

The Sections of this study are organized in 5 sub-sections. The Introduction is given in Section 1, whereas, Section 2 is devoted for Literature Review. Section 3 and Section 4 cover Methodology and Discussion of Results. The Conclusion and Policy Implications are preamble in Section 5.

## **2. REVIEW OF LITERATURE AND HYPOTHESES DEVELOPMENT**

This section describes the imperative of empirical literature to improvise the understanding of the whereabouts of FDI and to critically analyze the former research in this specific area of study.

### **2.1 Theoretical Insight**

The dose of theoretical insight explicates the importance of factors those influence FDI inflows. To Dunning (2008), country-specific variables which are of socio-economic nature sway the base of FDI inflows. The Eclectic Theory of Dunning (2008) revolves around ownership specific (O), the internalization (I), and location specific (L). Within the framework of three components, location specific aspect varies FDI in terms of policies as well as the legislative measure of the government. Furthermore, to Mehmood and Hassan (2015), political state, legal norms, and cultural environment inspire foreign investors as long as political parties keep on their inaugurals towards enhancing foreign inflows. To Feenstra and Hanson (2004), political stability and unsound macroeconomic base and lengthwise bad governance upset the future projected profit of firms.

Economic growth, being primary objective of every country, is traced through FDI (Zhang, 2001, Campos & Kinoshita, 2002). However, the results of FDI on economic growth are varied in nature (Akinolo, 2004, Hermes & Lensink, 2003, Sylwester, 2005, Agosin & Mayer, 2000). In this regard, to Pack (1994), growth theories emphasis role of factors in novel fashion. The variant of role of investment — saving was posted by Harrod-Domar, in Balasubramanyam, Salisu, and Sapsford (1996). The importance of technological progress was illuminated by Solow. Whereas, to Balasubramanyam et al. (1996), Romer-Lucas highlighted research and development with accumulation of human capital to foster economic growth.

### **2.2 Empirical Insight**

FDI is creditworthy and therefore, it is essential to look into factors that impact the demand and supply side of the FDI inflows to specific country.

FDI and its determinants are viewed from foremost Caves (1971), Goldberg (1972), Panpanek (1973), Lim (1983), Li and Guisinger (1992), Pugel (1981), Tsai (1994) to latest Mehmood and Faridi (2013), Mehmood and Hassan (2015), Jones and Temouri (2016), Kadi (2017), Uddin, Chowdhury, Zafar, Shafique, and Liu (2019), and Tsitouras, Mitrakos, Tsimpida, Vlachos, and Bitzenis (2020). Researchers mostly went with trade openness, labor force participation, product diversification, GDP, interest rate, and inflation.

Amongst internal determinants that affect the demand side of FDI, governance is still felt short in diverged base of findings. In this context, Mehmood and Faridi (2013) and Mehmood and Hassan (2015) explored impact of political stability on FDI. To Brada, Kutan, and Yigit (2005), foreign investors decline to initialize investment activity in existence of political unrest. Therefore, Mehmood and Faridi (2013) acclaimed governance infrastructure (political stability) as preferred element of FDI inflows to recipient nation. Moreover, earlier findings of Kobrin (2005) and Scheider and Frey (1985) also proved political stability to be not always false in damaging FDI inflows, thus opposing Fry, Clasessens, and Burridge (1995).

Corruption, on the other side, is another component of governance and is found to contain negative association with FDI (Akçay, 2001; Habib & Zurawicki, 2002). To Zhou (2007), state corruption and FDI bear negative state of being. Meanwhile, Al-Sadig (2009) in his cross section based study on 117 nations also acclaimed FDI to be posted negative in its slippage towards utter state of corruption. State corruption with massive traces within public sector affect economic growth and FDI in differing nature (Aburine, 2010).

To Shahbaz and Rahman (2010), corruption seems to become notion of foremost distress of developing world. Exploring nature of FDI move overs next to corruption, factuality of no direct relationship was found by Mehmood and Hassan (2015). Somewhat often corruption can exhibit positive relation to FDI, particularly in 3rd world (Ohlsson, 2007). To Ohlsson (2007), FDI lessens spell for official paper work, for instance, in countries like; Uruguay, Dominican Republic, Chile, and Argentina.

Government receives payoff from foreign firms and thus license them to raise prices towards public service requisitions \_\_ ultimately enable return on FDI to swell. On the opposite note, corruption hampers economic growth and nevertheless, investment related activities. Within this context, Helmi and Hakimi (2019) investigated relationship of economics growth, corruption, and investment. Study found corruption to dampen economic growth and hamper inflow of foreign capital in Tunisia. Similarly Brada, Drabek, Mendez, and Perez (2019) constructed model of bilateral FDI among countries to testify traces of corruption onto FDI. Study identified that corruption significantly choke downs FDI, if persists in either host or in recipient country.

Ross (2019) traced affectation of governance infrastructure on FDI inflows to developing countries. Study catered over the period of 2002 to 2017 on 122 countries. Findings suggested that governance infrastructure is a significant predictor of host country FDI. To Ross (2019), due struggle towards attracting FDI is to be necessarily accompanied with positive externalities such as governance infrastructure. Khan, Khan, Jan, Jandan, and Khan (2019), similar to Baek, Maskara, and Miller (2019) evinced that improved governance helps attract FDI. Poorly governed nations need to always improvise their structure of governance to attract FDI. Looking towards FDI and foreign portfolio investment, however, Baek et al. (2019) found that as improvement is traced in governance quality, FDI flows depress at the back of suppression in case of foreign portfolio investment.

FDI is found to be indispensable while is viewed its broad channel of sequels onto entrepreneurial activities of the host country (Markusen & Venables, 1999; Gorg and Strobl, 2002; Ayyagari & Kosova, 2010; Anwar & Sun, 2012; Apostolov, 2017) However, the motivations towards spread out of FDI inflows depend on relative factors of governance and how local firms connect channels to work with foreign firms. In this case, Tran and Le (2019) proceeded with GEM data within 2004 to 2015 on 39 emerging markets. Similar to Mehmood and Hassan (2015) and Ross (2019), Tran and Le (2019) evidenced that governance infrastructure exhibit positive stature with FDI as well as entrepreneurship. If governance infrastructure is low, entrepreneurship is to have up thrust by inward FDI not by outward FDI. On the contrary outward FDI becomes stimulator of entrepreneurial activities at the back of appropriate governance infrastructure, opposite to inward FDI.

### **3. DATA AND METHODOLOGY**

This section attributes data sources, specification of the models, and methodology.

#### **3.1 Source of Data**

The study incorporates with time series data. For accuracy concern, secondary data from 1980 to 2018 is considered. Data is collected from multiple sources. The detailed information on data source and measurements on each variable are listed in Table 2.

Table 2: Variables, data sources, &amp; measurement

Variables	Data Source and Measurement
<b>Foreign Direct Investment</b>	The World Bank Development Indicators; (Net Inflows, Current US\$ Million)
<b>Gross Domestic Product</b>	The State Bank of Pakistan; (Current US\$ Million)
<b>Trade Openness</b>	Economic Survey of Pakistan; ((Exports + Imports / GDP) × 100)
<b>Exchange Rate</b>	The State Bank of Pakistan; (Officially announced against US\$)
<b>Tax on Producers</b>	Board of Investment of Pakistan; (Average value of corporate tax rate)
<b>Political Stability</b>	The World Bank Governance Indicators; (Estimates range from weak to strong political stability -2.5 to 2.5)
<b>Governance</b>	The World Bank Governance Indicators; (Estimates range from weak to strong quality of governance -2.5 to 2.5)
<b>Control of Corruption</b>	The World Bank Governance Indicators; (Estimates range from weak to strong control of corruption -2.5 to 2.5)

### 3.2 Specification of Models

The primary objective of the study rests at exploring impact of governance infrastructure such as political stability, governance, and control of corruption on FDI inflows to Pakistan. Therefore, the simple multiple regression version of the models of the study are given as follows:

$$FDI_t = \beta_0 + \beta_1 GDP + \beta_2 TO + \beta_3 ER + \beta_4 LF + \beta_5 IN + \beta_6 TP + \beta_7 PS + \mu_t \quad [1]$$

$$FDI_t = \beta_0 + \beta_1 GDP + \beta_2 TO + \beta_3 ER + \beta_4 LF + \beta_5 IN + \beta_6 TP + \beta_7 GV + \mu_t \quad [2]$$

$$FDI_t = \beta_0 + \beta_1 GDP + \beta_2 TO + \beta_3 ER + \beta_4 LF + \beta_5 IN + \beta_6 TP + \beta_7 CP + \mu_t \quad [3]$$

The  $\beta_i$ , where  $i = 1$  to  $7$ , are the parameters coefficients with  $\beta_0$ , the intercept of each model. Error term is specified with  $\mu_t$ . GDP is an expression for Gross Domestic Product; TO is Trade Openness; ER is Exchange Rate; LF stands for Labor Force; Inflation is abbreviated as IN; TP represents Tax on Producers; PS is the Political Stability; GV is the quality of governance; CP highlights Control of Corruption, respectively.

### 3.2 Methodology

This subsection is devoted for methodological issues such as of unit root test, bound test, ARDL specification of regression estimates in varied time horizons.

#### 3.2.1 Unit Root Test

Assumption of ordinary least square is interrupted, given the time series data confronts to the problem of non stationarity. Catering this issue, the data is checked for the unit root.

In this regards, Augmented Dicky-Fuller ((ADF) 1979) test is practiced by following equations:

$$\Delta y_t = \beta_0 t + \beta_1 t + \delta y_{t-1} + \eta \sum \Delta y_{t-1} + \mu_t \quad [4]$$

Whereas,  $\mu_t$  is the error term and time trend is specified by  $t$ .  $\delta$  shows state of stationarity. ADF test is worked with following basic model specification:

$$ADF = \frac{\delta}{SE(\delta)} \quad [5]$$

If calculated  $F$  statistic is lower than the critical value, null hypothesis of non-stationary is held rejected and otherwise.

### 3.2.2 Bound Test

Prior to long run parameters' estimation, it is useful to incorporate bound test to specify long run relationship of the variables. Ordinary least square method is used to find  $F$  statistic of Wald Test to explore the joint integration of the parameters. The functional forms are:

$$H_0 = \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = \beta_7$$

$$H_1 \neq \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq \beta_6 \neq \beta_7$$

In order to conclude the results, following options are to be decided from;

1. If  $F$  statistic is greater than upper bound critical value,  $H_0$  is rejected
2. If  $F$  statistic is lower than upper bound critical value,  $H_0$  is not rejected
3. If  $F$  statistic is between upper and lower bound critical value, the cointegration result is held inconclusive.

### 3.2.3 Model Specification

To detect governance infrastructures' impact on FDI inflows, unrestricted error correction models are given as:

$$\begin{aligned} \Delta FDI_t = & \beta_0 + \beta_1 GDP_{t-1} + \beta_2 TO_{t-1} + \beta_3 ER_{t-1} + \beta_4 LF_{t-1} + \beta_5 IN_{t-1} + \beta_6 TP_{t-1} + \beta_7 PS_{t-1} + \\ & \sum_{i=1}^{p_1} \lambda_1 \Delta FDI_{t-i} + \sum_{i=0}^{p_2} \lambda_2 \Delta GDP_{t-i} + \sum_{i=0}^{p_3} \lambda_3 \Delta TO_{t-i} + \sum_{i=0}^{p_4} \lambda_4 \Delta ER_{t-i} + \sum_{i=0}^{p_5} \lambda_5 \Delta LF_{t-i} + \\ & \sum_{i=0}^{p_6} \lambda_6 \Delta IN_{t-i} + \sum_{i=0}^{p_7} \lambda_7 \Delta TP_{t-i} + \sum_{i=0}^{p_8} \lambda_8 \Delta PS_{t-i} + \mu_t \end{aligned} \quad [6]$$

$$\begin{aligned} \Delta FDI_t = & \beta_0 + \beta_1 GDP_{t-1} + \beta_2 TO_{t-1} + \beta_3 ER_{t-1} + \beta_4 LF_{t-1} + \beta_5 IN_{t-1} + \beta_6 TP_{t-1} + \beta_7 GV_{t-1} + \\ & \sum_{i=1}^{p_1} \lambda_1 \Delta FDI_{t-i} + \sum_{i=0}^{p_2} \lambda_2 \Delta GDP_{t-i} + \sum_{i=0}^{p_3} \lambda_3 \Delta TO_{t-i} + \sum_{i=0}^{p_4} \lambda_4 \Delta ER_{t-i} + \sum_{i=0}^{p_5} \lambda_5 \Delta LF_{t-i} + \\ & \sum_{i=0}^{p_6} \lambda_6 \Delta IN_{t-i} + \sum_{i=0}^{p_7} \lambda_7 \Delta TP_{t-i} + \sum_{i=0}^{p_8} \lambda_8 \Delta GV_{t-i} + \mu_t \end{aligned} \quad [7]$$

$$\begin{aligned} \Delta FDI_t = & \beta_0 + \beta_1 GDP_{t-1} + \beta_2 TO_{t-1} + \beta_3 ER_{t-1} + \beta_4 LF_{t-1} + \beta_5 IN_{t-1} + \beta_6 TP_{t-1} + \beta_7 CP_{t-1} + \\ & \sum_{i=1}^{p_1} \lambda_1 \Delta FDI_{t-i} + \sum_{i=0}^{p_2} \lambda_2 \Delta GDP_{t-i} + \sum_{i=0}^{p_3} \lambda_3 \Delta TO_{t-i} + \sum_{i=0}^{p_4} \lambda_4 \Delta ER_{t-i} + \sum_{i=0}^{p_5} \lambda_5 \Delta LF_{t-i} + \\ & \sum_{i=0}^{p_6} \lambda_6 \Delta IN_{t-i} + \sum_{i=0}^{p_7} \lambda_7 \Delta TP_{t-i} + \sum_{i=0}^{p_8} \lambda_8 \Delta CP_{t-i} + \mu_t \end{aligned} \quad [8]$$

In Equation [6] to [8],  $\lambda_i$ ,  $\Delta$ , &  $\beta_i$  are short run parameters, sign of first different, and long run multipliers, respectively. The  $\mu_t$  indicates an error term in each model.

After long run relationship is confirmed, long run coefficients are estimated through following equations:

$$FDI_t = \beta_0 + \sum_{i=1}^{r_1} \eta_1 FDI_{t-i} + \sum_{i=0}^{r_2} \eta_2 GDP_{t-i} + \sum_{i=0}^{r_3} \eta_3 TO_{t-i} + \sum_{i=0}^{r_4} \eta_4 ER_{t-i} + \sum_{i=0}^{r_5} \eta_5 LF_{t-i} + \sum_{i=0}^{r_6} \eta_6 IN_{t-i} + \sum_{i=0}^{r_7} \eta_7 TP_{t-i} + \sum_{i=0}^{r_8} \eta_8 PS_{t-i} + \mu_t \quad [9]$$

$$FDI_t = \beta_0 + \sum_{i=1}^{r_1} \eta_1 FDI_{t-i} + \sum_{i=0}^{r_2} \eta_2 GDP_{t-i} + \sum_{i=0}^{r_3} \eta_3 TO_{t-i} + \sum_{i=0}^{r_4} \eta_4 ER_{t-i} + \sum_{i=0}^{r_5} \eta_5 LF_{t-i} + \sum_{i=0}^{r_6} \eta_6 IN_{t-i} + \sum_{i=0}^{r_7} \eta_7 TP_{t-i} + \sum_{i=0}^{r_8} \eta_8 GV_{t-i} + \mu_t \quad [10]$$

$$FDI_t = \beta_0 + \sum_{i=1}^{r_1} \eta_1 FDI_{t-i} + \sum_{i=0}^{r_2} \eta_2 GDP_{t-i} + \sum_{i=0}^{r_3} \eta_3 TO_{t-i} + \sum_{i=0}^{r_4} \eta_4 ER_{t-i} + \sum_{i=0}^{r_5} \eta_5 LF_{t-i} + \sum_{i=0}^{r_6} \eta_6 IN_{t-i} + \sum_{i=0}^{r_7} \eta_7 TP_{t-i} + \sum_{i=0}^{r_8} \eta_8 CP_{t-i} + \mu_t \quad [11]$$

Whereas,  $\beta_0$  is the intercept of each model.  $\eta_i$  are long run coefficients and  $r_i$  are the orders of ARDL with an error term  $\mu_t$ .

Afterwards, short run coefficient estimations are represented as:

$$\Delta FDI_t = \beta_0 + \sum_{i=1}^{s_1} \eta_1 \Delta FDI_{t-i} + \sum_{i=0}^{s_2} \eta_2 \Delta GDP_{t-i} + \sum_{i=0}^{s_3} \eta_3 \Delta TO_{t-i} + \sum_{i=0}^{s_4} \eta_4 \Delta ER_{t-i} + \sum_{i=0}^{s_5} \eta_5 \Delta LF_{t-i} + \sum_{i=0}^{s_6} \eta_6 \Delta IN_{t-i} + \sum_{i=0}^{s_7} \eta_7 \Delta TP_{t-i} + \sum_{i=0}^{s_8} \eta_8 \Delta PS_{t-i} + \lambda ECT_{t-1} + \mu_t \quad [12]$$

$$\Delta FDI_t = \beta_0 + \sum_{i=1}^{s_1} \eta_1 \Delta FDI_{t-i} + \sum_{i=0}^{s_2} \eta_2 \Delta GDP_{t-i} + \sum_{i=0}^{s_3} \eta_3 \Delta TO_{t-i} + \sum_{i=0}^{s_4} \eta_4 \Delta ER_{t-i} + \sum_{i=0}^{s_5} \eta_5 \Delta LF_{t-i} + \sum_{i=0}^{s_6} \eta_6 \Delta IN_{t-i} + \sum_{i=0}^{s_7} \eta_7 \Delta TP_{t-i} + \sum_{i=0}^{s_8} \eta_8 \Delta GV_{t-i} + \lambda ECT_{t-1} + \mu_t \quad [13]$$

$$\Delta FDI_t = \beta_0 + \sum_{i=1}^{s_1} \eta_1 \Delta FDI_{t-i} + \sum_{i=0}^{s_2} \eta_2 \Delta GDP_{t-i} + \sum_{i=0}^{s_3} \eta_3 \Delta TO_{t-i} + \sum_{i=0}^{s_4} \eta_4 \Delta ER_{t-i} + \sum_{i=0}^{s_5} \eta_5 \Delta LF_{t-i} + \sum_{i=0}^{s_6} \eta_6 \Delta IN_{t-i} + \sum_{i=0}^{s_7} \eta_7 \Delta TP_{t-i} + \sum_{i=0}^{s_8} \eta_8 \Delta CP_{t-i} + \lambda ECT_{t-1} + \mu_t \quad [14]$$

The  $s_i$  are orders of ARDL.  $\eta_i$  refer short run coefficients.  $\lambda$  is the coefficient of error term in respective model.

After that, diagnosis of stability of each model is distinguished by CUSUM and CUSUMSQ.

#### 4. RESULTS AND DISCUSSIONS

The detailed results are given in the following sub-sections:

##### 4.1 Descriptive Statistics

Central objective is to analyze the association of FDI inflows and governance infrastructure. So far the descriptive statistics reported in Table 3 exacerbates 1.18 as the mean of FDI. The standard deviation is 1.42. In the case of GDP, mean and standard deviation are showing significant breach so do with TO, ER, LF, IN, respectively. It is noteworthy that TP is of least dispersion while analyzed for mean and standard deviation i.e. 3.93 and 4.60, respectively. This clarifies that within the specific time period, TR is remained to vary in minute.

The analyses of Skewness clarifies all variables to be positively skewed exclusive of GDP, TO, PS, and GV. The analytics of Kurtosis explicate FDI, ER, IN, and TP as with thicker tale and wide peak i.e. leptokurtic. However, GDP, TO, LF, GV, CR, and PS are platykurtic i.e. short tailed and wider peak. Jarque-Bera probabilities highlight that residuals are normally distributed in case of GDP, TO, LF, IN along with PS, GV, and CR.

Table 3: Descriptive Statistics

	FDI	GDP	TO	ER	LF	IN	TP	PS	GV	CR
<b>Mean</b>	1.18	4.98	33.39	1607.29	43.99	8.08	3.93	-1.30	-0.49	-1.01
<b>Std. Dev</b>	1.42	1.92	3.34	971788	10.41	3.86	4.60	0.99	0.16	0.12
<b>Kurtosis</b>	5.48	2.81	2.98	37.02	1.72	3.69	6.11	1.68	2.11	2.08
<b>Skewness</b>	1.73	-0.05	-0.61	6.00	0.17	0.74	1.90	-0.008	-0.58	0.63
<b>Jarque-Bera</b>	29.67*	0.07	2.49	2115.4*	2.83	4.38	38.23*	2.82	3.40	3.87

Note: \* is significant at 5 percent.

#### 4.2 Analyses of Correlation

Analyses of correlation illuminates strength of affiliation among the variables. As exposed in Table 4, FDI is held negative in correlation with GDP, TO, GV, and PS. Moderate correlation is found at FDI with LF and PS. Moreover, high leveled correlation is exhibited by LF with TP, GV, and PS. In case of PS and GV, highest degree of association is also confirmed. It is worth mentioning that FDI and CR are negative in correlation with PS and GV.

Table 4: Analyses of correlation

	FDI	GDP	ER	TO	IN	LF	TP	GV	PS	CR
<b>FDI</b>	1.00									
<b>GDP</b>	-0.05	1.00								
<b>ER</b>	0.52	0.04	1.00							
<b>TO</b>	-0.21	0.11	-0.03	1.00						
<b>IN</b>	0.27	-0.11	-0.02	0.54	1.00					
<b>LF</b>	0.68	-0.35	0.14	-0.53	0.03	1.00				
<b>TP</b>	0.48	-0.17	0.04	-0.72	0.22	0.83	1.00			
<b>GV</b>	-0.44	0.52	0.01	0.35	-0.25	-0.84	-0.62	1.00		
<b>PS</b>	-0.70	0.42	-0.19	0.46	-0.12	-0.97	-0.12	0.87	1.00	
<b>CR</b>	0.55	-0.21	0.26	-0.60	-0.38	0.62	0.61	-0.30	-0.58	1.00

#### 4.3 Test of Unit Root

Ramification of the governance infrastructure and FDI influx is done through time series data. In this respect, unit root test is run to check the stationarity of variables and order of integration. It is essential before incorporating estimation technique of ARDL. It is because if any variable is non stationary, the results of ARDL become spurious. The results are given in Table 5. The conclusion is the mixed (I(0) and I(1)) order of integration on the variables.

Table 5: Unit root test results



Variables	ADF At I(0)		ADF At I(1)		Conclusion
	Intercept	Intercept & Trend	Intercept	Intercept & Trend	
FDI	-2.94	-3.53**	-	-	I(0)
GDP	-2.94*	-3.53*	-	-	I(0)
TO	-2.94	-3.53	-2.94*	-3.53*	I(1)
ER	-2.94*	-3.53*	-	-	I(0)
LF	-2.94	-3.53	-2.94*	-3.53*	I(1)
IN	-2.94	-3.53	-2.94*	-3.53*	I(1)
TP	-2.94	-3.54	-2.96	-3.54*	I(1)
PS	-2.94	-3.53	-2.94	-3.53**	I(1)
GV	-2.94	-0.35*	-	-	I(0)
CR	-2.94	-3.53	-2.94*	-3.53*	I(1)

Note: \* & \*\* show significant at 5 and 10 percent, respectively

#### 4.4 Optimal Lag Range

Test of cointegration is sensitive towards selection of optimal lag length. In this regards, optimal lag lengths are selected by AIC and SC criterion. Outcomes of optimal lag selection given in Table 6 show the selection of optimal lag length is 3 for entire models.

**Table 6: Optimal lag ranges**

Model(s)	Order(s) of Lags	1	2	3
Model A	<b>AIC &amp; SC</b>	87.83 & 91.03	84.92 & 90.97	78.01* & 86.90*
Model B	<b>AIC &amp; SC</b>	86.71 & 89.91	83.43 & 89.48	74.72* & 83.61*
Model C	<b>AIC &amp; SC</b>	88.27 & 91.47	84.12 & 90.16	73.76* & 82.65*

AIC: Akaike Information Criterion & SC: Schwarz Information Criterion

#### 4.5 Bound Test

Bound test is imply to conclude long run cointegration. Table 7 is reported for cointegration results. The computed *F*-statistics at entire models are higher than upper bound critical value. Therefore, the conclusion is that; there is long run relationship among political stability, quality of governance, and control of corruption with that of FDI.

**Table 7: Bound test**

Computed <i>F</i> -Statistics		I(0)	I(1)
<b>Model A</b>	17	2.59	3.90
<b>Model B</b>	56		
<b>Model C</b>	22		

Note: Critical values are extracted from Narayan (2005)

#### 4.6 Long run Coefficients

The cointegration is established on either of the models. Afterwards, the impacts are to be estimated of regressors on regressand and especially of the governance infrastructure on FDI inflows in different time horizon.

##### 4.6.1 Political Stability and FDI Inflows (Model-I)

The results reported in Table 8 acclaim that FDI inflows concede their position in development process of the beneficiary. Most importantly, the political stability endorses political assurance of the democratic stature in-line

with the country residents. The results confirm that politically stabled state affects FDI in positive. The outcomes are akin to Mehmood and Faridi (2013; 2015), Brada et al. (2005), and at foremost Kobrin (1984). The Political instability fails to perpetrate enormous investment inflows. Therefore, the way towards economic prosperity gets awkward.

**Table 8: Long run coefficients (Model-I)**

Variables	Coefficient	t-Statistics
<b>GDP</b>	0.20	2.75**
<b>TO</b>	0.12	1.14
<b>ER</b>	5.90	2.93**
<b>LF</b>	0.67	2.95**
<b>IN</b>	-0.02	-0.34
<b>TP</b>	-1.24	-2.89
<b>PS</b>	4.72	2.50**

Note: \*\* represent significant at 5 percent.

Consistent GDP means economic growth is unaltered. This status given an indication of opulence which attracts massive investment within the economy, either from domestic or from external source and thereby in conclusion lead towards more of the inflows of FDI. The results are similar to Shah and Ahmad (2003), Mehmood and Faridi (2013; 2015). Furthermore, the ER is found to positively influence inflows of FDI. It can be viewed in the sense that, as in accordance with Tokunbo and Lioyd (2009), depreciation in currency escorts to increase FDI because foreign investors could buy more of the currency of the host country and feel comfortable in meeting the current expenses of business run ups at the back of depreciated local currency.

Moreover, if the products are export oriented, depreciated currency can make importer to easily buy more of the goods, as a consequence of low valued currency. The availability of cheap labor also attracts FDI the results indicate that one unit increase in labor force participation triggers FDI by 0.67 units. Unwarranted taxes on production class increase the cost of production. Extra burden of tax reduces the inward stream of foreign investment. The results show 1.24 unit fall in FDI inflows at the back of one unit increase in TP.

4.6.2 Governance and FDI Inflows (Model II)

Table 9 reports the response of FDI inflows at the back of governance. The results pronounce the positive relationship between GV and FDI and significant. At precise, one unit increase in quality of governance control improvises FDI inflows by 9.48 units. Finding gain support from Globerman and Shapiro (2002), Ross (2019), Khan et al. (2019), and Brek, Maskara, and Miller (2019). Rest of the variables are also mostly significant. Moreover, direction of impact of either of regressors on FDI inflows is also similar to as in Model-I.

**Table 9: Long run coefficients (Model-II)**

Variables	Coefficient	t-Statistics
<b>GDP</b>	0.24	8.31**
<b>TO</b>	0.26	8.02**
<b>ER</b>	0.00	6.84**
<b>LF</b>	0.29	16.09**
<b>IN</b>	-0.12	-5.69**
<b>TP</b>	-4.00	-1.19
<b>GV</b>	9.48	14.27**

Note: \*\* represent significant at 5 percent.

4.6.3 Control of Corruption and FDI Inflows (Model III)

Subsequently, Model-III is devoted for measuring impact of control of corruption on FDI inflows. In this respect, results are enunciated in Table 10. Every society embeds ethical values such as; judicial system and rule of law. For instance, these values are collectively gained by the society with consistent efforts. However, corruption is a menace that infringes all such ethical norms and thereby makes the overall society backward in the race of governance infrastructure.

Thus, control of corruption and extreme transparency improvise the credibility of overall administrative structure of particular society. This fashion considerably affects FDI inflows. It is so because foreign investors take an impression of security while to invest in such a corruption free society. The results are statistically significant and in accord of previous findings. At precise, results indicate 5.02 unit increase in FDI inflows due to one unit increase in control of corruption. Other regressors are same as in previous models. Similarly bear along akin directional affect.

Table 10: Long run coefficients (Model-III)

Variables	Coefficient	t-Statistics
<b>GDP</b>	0.48	3.53**
<b>TO</b>	0.06	0.66
<b>ER</b>	6.07	3.53**
<b>LF</b>	0.11	2.83*
<b>IN</b>	-0.04	-0.54
<b>TP</b>	-3.11	-0.37
<b>CR</b>	5.02	2.38*

Note:\*\* represent level of significance at 5 percent, respectively.

#### 4.7 Error Correction Model

The short run relationships of governance infrastructure (political stability) and FDI inflows are studied in respective error correction model. Table 11 is given to locate the results of PS on FDI inflows. The coefficient on each variable is positive except TO. Interestingly, all the short run variables are significant. PS is also significant in favoring FDI inflows. Findings thus move in-line with Clasesens and Burrige (1995) and Brada et al. (2005). On the opposite note, Mehmood and Faridi (2013) came out with negative and insignificant short run effects of political stability on FDI. Whereas, this study confirms that foreign investors initialize investment activity in presence of political stability in either of the time horizon. Furthermore, the coefficient of Error Correction Term (ECT) is significant, correctively signed, and shows absolute reversal of disequilibrium.

Table 11: Short run Coefficients (Model I)

Variables	Coefficient	t-Statistics	Prob.
<b>D(GDP)</b>	0.05	6.53	0.00
<b>D(TO)</b>	-0.05	-5.39	0.00
<b>D(ER)</b>	5.96	18.33	0.00
<b>D(LF)</b>	0.12	6.81	0.00
<b>D(IN)</b>	0.06	9.15	0.00
<b>D(TP)</b>	3.36	8.48	0.00
<b>D(PS)</b>	0.56	2.51	0.03
<b>ECT</b>	-1.00	-17.87	0.00

The short run relationships of governance infrastructure (quality of governance) and FDI inflows are studied in respective error correction model. Table 12 is given to locate the results of GV on FDI inflows. Similar to PS, FDI is also found significant and positive in way back to GV. Quality of governance is essential for FDI not in long run rather prompt transpiration of governance in short run also matter to exhibit furtherance in FDI inflows to the specific country. Finding are akin to Ross (2019), Khan et al. (2019), and Brek et al. (2019). The results are spotted

out to be positive in case of GDP, TO, ER, LF opposite to IN. Moreover, coefficient of ECT is also found correctly signed and significant. The coefficient value of 0.79 confirms 79 percent of adjustment of disequilibrium to be reversed in long run.

Table 12: Short run Coefficients (Model II)

Variables	Coefficient	t-Statistics	Prob.
<b>D(GDP)</b>	0.13	29.54	0.00
<b>D(TO)</b>	0.06	12.72	0.00
<b>D(ER)</b>	6.09	44.76	0.00
<b>D(LF)</b>	0.13	18.60	0.00
<b>D(IN)</b>	-0.07	-12.38	0.00
<b>D(TP)</b>	5.23	42.80	0.00
<b>D(GV)</b>	4.13	37.19	0.00
<b>ECT</b>	-0.79	36.41	0.00

Furthermore, Table 13 is to publish the outcome of control of corruption on FDI inflows. CR is one of the vital governance infrastructure that nurtures the confidence of foreign investors (Mehmood & Hassan, 2015). All the regressors along with CR are found significant, except LF. Corruption shatters FDI inflows and thus negative in its affectation to foreign investment (Akçay, 2001; Habib & Zurawicki, 2002). To Zhou (2007) and Al-Sadig (2009), state corruption and FDI bear negative state of being. Results of this study also acknowledge previous researches and thus from another dimension of control of corruption clarifies that further is the control of corruption, greater is the flow of FDI. Additionally, coefficient of ECT shows about 30 percent of adjustment of disequilibrium in long run.

Table 13: Short run coefficients (Model III)

Variables	Coefficient	t-Statistics	Prob.
<b>D(GDP)</b>	0.10	8.90	0.00
<b>D(TO)</b>	-0.07	-5.12	0.00
<b>D(ER)</b>	4.51	21.15	0.00
<b>D(LF)</b>	0.03	1.56	0.14
<b>D(IN)</b>	0.06	5.62	0.00
<b>D(TP)</b>	4.53	13.27	0.00
<b>D(CR)</b>	1.21	4.04	0.00
<b>ECT</b>	-0.30	19.01	0.00

#### 4.8 Diagnostics of Stability

The CUSUM and CUSUM Squared tests are enforced to indicate the existence of structural break. Moreover the null hypothesis indicates the structural stability of the coefficients. The Figure 1 highlights no traces of such structural instability at each model. The null hypothesis is rejected because the sequences of CUSUM and CUSUM squared exist within the critical range. Therefore, the coefficients, at each model, are stable and have constancy.

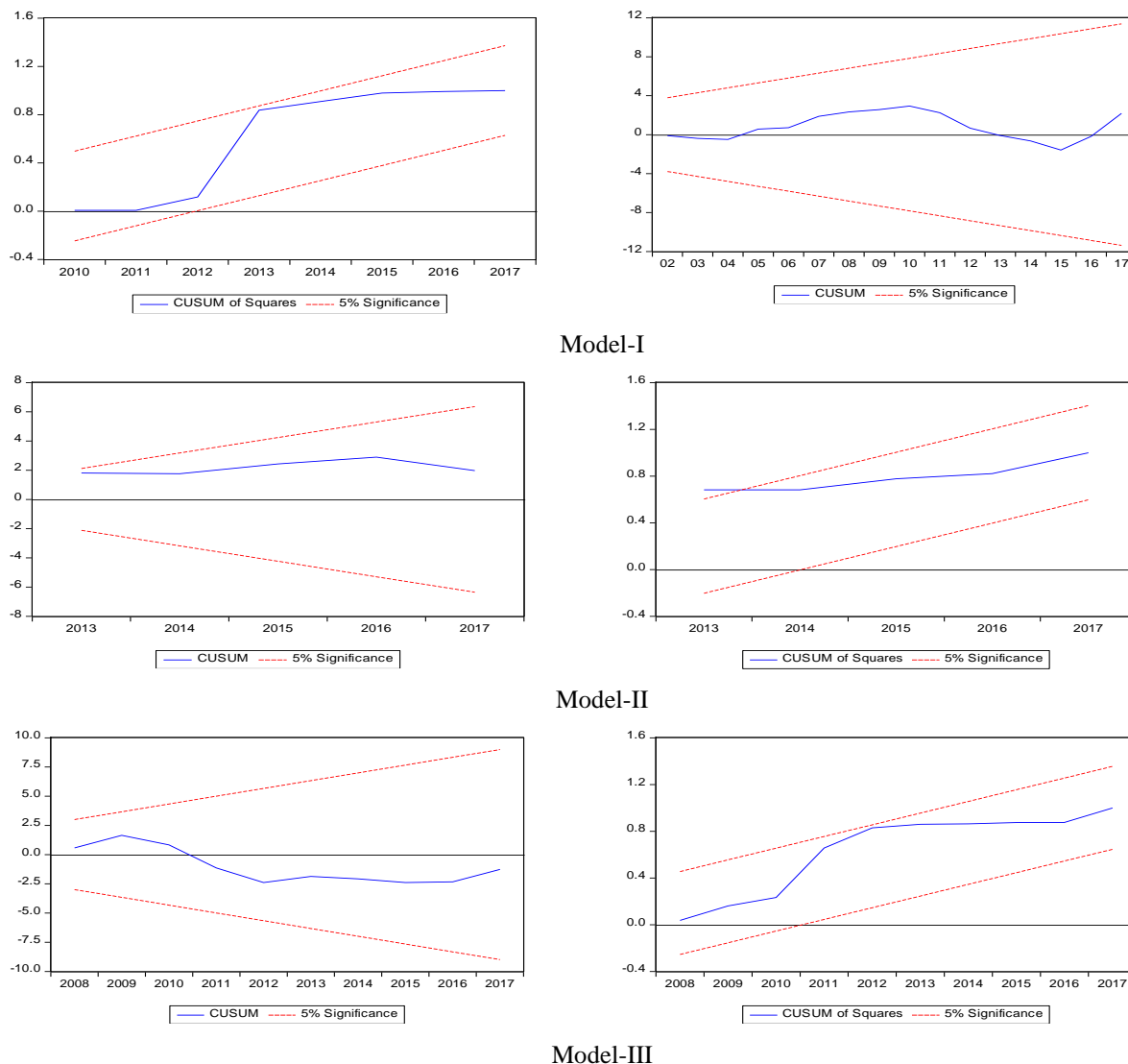


Figure 1: Diagnostics of Stability under CUSUM & CUSUM Squared

### 5. CONCLUSION AND POLICY SUGGESTION

This study was an effort to support that FDI is a consistent need of every economy. The determinants that attract such inflows are thus to be carefully viewed to cater the ebb and flow in FDI. Most of the focus rested on governance infrastructure such as; political stability, quality of governance, and control of corruption. Results confirmed the importance of all such governance infrastructure. The effects of political stability were found significant and positive on FDI. Similarly, quality of governance was also highlighted to be essential ingredient in order to facilitate immense inflows of FDI, in either of the time horizon. Moreover, control of corruption also affirmed positive results towards that of FDI inflows. It was to establish that better address of corruption is the way forward to attract foreign investment.

Besides these worthy components, other socio-economic determinants were also considered. Importantly, taxes on producer were also incorporated in each model to test the degree of impact on FDI inflows. The results, where significant, confirmed that more taxes hinder FDI inflows, as is usually thought about by investor class. However, results pointed toward inflation were negatively to FDI. Policy is suggested for the concerned authorities to further improvise the state of governance infrastructure for solidifying the mindset of the foreign investors towards consistent and unbreakable flow of enormous foreign capital in the shape of foreign investment so that the need of capital to meet the national target be met in a ready course of time and similarly to build stronger economy on the map of the world and have decorum amongst the developing world.

As far as the scope of study is concerned, limited data range tended to limit the wider scope of study. However, incorporation of components of governance infrastructure enlarged the understanding of impacts of the same on FDI and the purview of future research.

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