

COMPARATIVE ANALYSIS OF THE SOCIO-ECONOMIC DETERMINANTS OF FOREIGN DIRECT INVESTMENT: Evidence from Pakistan

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Abstract. Foreign direct investment has become an important element in current globalized world. It plays an important role in raising the pace of economic development particularly in developing countries by bridging saving-investment gap and bringing the latest technology from developed countries. The basic objective behind this study is to examine both economic and social determinants of foreign direct investment (FDI) in Pakistan for the period 1984–2015. The study uses cointegration and error correction techniques to examine both the long-run and short-run impact of these determinants on the flow of FDI in Pakistan. Results of the study show that both economic as well as social factors have long-run impact on the flow of FDI in Pakistan. Moreover, vector error correction model confirms the existence of short-run relationship. The results point out that social factors are more important than economic factors in attracting FDI in Pakistan.

Keywords: Foreign direct investment, Socio-economic factors, Cointegration

JEL classification: F21, D31, C32

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I. INTRODUCTION

In recent years, the researchers and policy makers have shown huge interest in FDI and consider it indispensable for capital scarce countries like Pakistan for increasing the pace of economic development. Its importance in developing countries stems from the fact that it helps in bringing capital, improved managerial skills, global links and access to advanced technology. Most of the developed and developing countries have provided incentives and inducement to attract FDI through adopting deregulation policies and these countries remained quite successful in achieving their objectives through attracting the attention of foreign investors. On the other hand, in some developing countries macroeconomic instability has appeared to be significant hurdle in the way of FDI inflows for sustained economic growth. As a result, these countries have failed to attract FDI which has exerted bad impact on the development process of these countries.

The distribution of foreign direct investment among countries depends on economic, social and some other factors. A country facing recession or social issues may be less attractive for the foreigners to invest as compare to those countries which have economic and social stability.

Pakistan being a developing country has been facing severe shortage of foreign reserves during the past few decades. Since 1960s' Pakistan has been receiving heavy doses of external debt but due to poor debt management the burden of debt on Pakistan economy has been increasing overtime and it has exerted adverse impact on the development process of the country. Due to unfavourable socio-economic and political factors Pakistan fails to attract the attention of foreign investors and as a result continues decline in foreign direct investment inflows has been recorded during the past 15 years.

Several empirical studies are available in literature which has tried to identify the determinants of foreign direct investment but most of them were unable to reach at any definite conclusion because it is difficult to identify the 'true' explanatory variables that can be treated as accurate determinants of foreign direct investment in developing countries like Pakistan. Furthermore, several studies related to FDI in Pakistan have identified only economic factors and almost ignored the role of social factors. Not many studies are available, which address empirically the socio-economic factors which help in attracting FDI particularly in the context of Pakistan. This study tries to analyze the economic and social determinants of foreign direct investment in Pakistan separately for the period 1973–2014 using recent development in dynamic modeling. The main objective of this study is to

analyze the long run relationship of economic and social factors in attracting flow of foreign direct investment in Pakistan.

Global Trends in the FDI Flows

Table 1 represents the inflow of FDI in East Asia remained volatile for the period 1995–1999 and it declined during the period 2000–2004. In Europe and central Asia there has been a rising trend observed from 1975 to 2009 and afterwards it declined. In Latin America and Caribbean (all countries) FDI inflows had shown volatile trends since 1990. In Middle East and North Africa mixed behaviour had been observed during the period 2005–2009. In Sub-Saharan Africa (all income levels) initially a decreasing trend had been observed from 1989 to 2009. Later on the increasing trend was observed during 2010 to 2014. The similar pattern has been observed in other developing countries of the region. When low income countries around the world are taken in to account, initially a reduction in FDI inflows has been observed then afterward an increase in FDI was recorded over the entire range. However, in Middle income countries FDI inflows remain stagnant during first one and half decade then a slight increase was recorded till 2009 and afterward there appeared a decline in FDI inflows during 2010–2014. In upper middle income countries there was a reduction in FDI inflows observed from 1979–1989, then it had shown rising trend till 2009 and later on a reduction in FDI net inflow was observed from 2010–2014. In case of heavily indebted poor countries (HIPC) there was a reduction in FDI inflows from 1975 to 1989 then afterward a rising trend was observed till 2014.

The stylized facts indicate that there has been increasing trend in net FDI inflows from 1975 to 1999 but the reduction in net inflows has been observed during the period 2000–2004 which may be due to the military coup at the end of 1999 in Pakistan which shattered the confidence of foreign investor regarding local business climate in Pakistan. An increase in net inflow of FDI was observed during 2005–2009. The improvement in Pakistan's macroeconomic performance and an increase in economic credit rating during 2004–2007 helped in attracting large inflow of foreign investment. Furthermore the transition towards democratic process builds the confidence of foreign investors but afterward due to bad governance, rising corruption, poor law and order situation and an increase in terrorists' attacks cause a sharp and persistent decline in FDI.

The studies conducted on Pakistan economy have pointed out various factors which are responsible for decline in the inflows of FDI. Some studies have pointed out that economic factors are responsible for decline in FDI inflows in Pakistan. Other studies have stressed on the unfavourable social

and political conditions prevailing in Pakistan and consider them responsible for decline in FDI. The present study is an attempt to investigate the role of socio-economic factors in attracting FDI in Pakistan using new dataset on socio-economic variables.

TABLE 1

Comparative analysis of foreign direct investment, net inflows (% of GDP)

Country Name	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14
Pakistan	0.172	0.228	0.430	0.672	1.091	0.773	2.676	0.685
East Asia & Pacific (all income levels)	0.156	0.355	0.446	0.704	1.275	1.633	2.655	3.027
East Asia & Pacific (developing only)	0.000	0.376	0.900	2.951	3.812	2.747	4.026	3.799
Europe & Central Asia (all income levels)	0.473	0.445	0.821	0.959	2.167	3.421	5.777	3.291
Europe & Central Asia (developing only)	0.091	0.102	0.062	0.377	1.478	2.583	5.475	2.906
Latin America & Caribbean (all income levels)	0.703	0.836	0.733	1.120	3.010	3.133	2.887	3.155
Latin America & Caribbean (developing only)	0.836	0.949	0.706	0.953	2.610	3.175	2.783	3.093
Middle East & North Africa (all income levels)	0.584	1.104	0.281	0.687	0.787	1.386	4.158	1.965
Middle East & North Africa (developing only)	0.590	0.355	0.370	0.885	0.507	1.565	3.126	1.489
Sub-Saharan Africa (all income levels)	0.647	0.424	0.585	0.773	1.991	2.945	3.150	2.515
Sub-Saharan Africa (developing only)	0.643	0.420	0.577	0.761	1.924	2.828	3.093	2.386
Arab World	0.582	1.482	0.379	0.736	0.677	1.175	4.608	2.116
Low income	1.036	0.316	0.472	0.503	1.904	2.755	3.232	5.355
Middle income	0.578	0.575	0.573	1.353	2.464	2.539	3.509	3.025
Upper middle income	0.660	0.701	0.578	1.542	2.842	3.050	3.700	3.323
Heavily indebted poor countries (HIPC)	0.877	0.596	0.537	0.716	2.454	3.486	4.085	5.453

The remaining part of this study is divided in the following sections. Section II presents the review of literature. Theoretical framework is given in section III. Data sources, model specification and econometric methodology are presented in section IV. Empirical results are presented in section V. The last section concludes.

II. LITERATURE REVIEW

Most of the previous studies on the determinants of foreign direct investment have emphasized that economic conditions of host country play a significant role in attracting foreign direct investment. The increasing literature on FDI has identified numerous determinants of FDI responsible for attracting FDI in developed and developing countries (for example see Nunnenkamp and Spatz, 2002; Bandera and White, 1968; Schmitz and Bieri, 1972; Root and Ahmed, 1979; Torrisi, 1985; Schneider and Frey, 1985; Petrochilas, 1989; Wheeler and Mody, 1992; Jun and Singh, 1996). Dunning (1993) emphasizes that locational advantage of the host country such as market size and income levels, skills, infrastructure, political and macroeconomic stability determine cross-country pattern of FDI. Markusen (2002) identifies two factors, the size of the local market and marginal production cost are considered for making favorable decisions regarding FDI. The literature points out that as long as foreign investors perceive that they may earn appropriate profits and also their investment in foreign country is secure, they prefer to invest in host country.

The studies of Nishat and Anjum (1998), Ghura and Goodwin (2000) emphasize the social determinants of FDI and conclude that investment in human capital and the extent of urbanization have proved to be positive and significant determinants of FDI. Simran and Carroll (2002) use both traditional and non-traditional factors to identify the determinants of FDI. The study uses panel data for the period 1998–2000 for analysis purpose. The results of the study show that flow of FDI is significantly affected by economic freedom, corruption and the level of international trade. ODI (1997) is of opinion that the availability of rich natural resources is the main determinant of FDI.

Bangoa and Sanchez-Robles (2003) use a panel data set of 18 Latin American countries for the period 1970-1999 and find positive correlation between FDI and economic growth. The study points out that economic freedom in host country are the main determinant of FDI inflows. Jordaan (2004) mentions that FDI moves to those countries which have large and expanding markets, higher purchasing power and where firms can potentially receive a higher return on their capital. De Vita and Kyaw (2008) point out that domestic productivity growth is the dominant determinant for attracting foreign direct investment flows to developing countries.

Kok and Ersoy (2009) using both panel and cross-sectional data on 24 developing countries conclude that trade, telephone mainlines, gross capital formation and GDP growth rate per capita have positive impact on FDI while

total debt service as ratio of GDP and inflation have negative impact on the flow of FDI.

Paudel (2016) focuses on analyzing the impact of human development and institutions on foreign direct investment for Tanzania. The study utilizes time series annual data during 1988 to 2013. The long run estimates obtained through ARDL cointegration approach suggest that GDP growth, labor force growth, education and trade reforms are negatively associated with FDI inflows while inflation, GDP per capita growth and governance increases FDI inflows.

Not many studies are available on Pakistan economy regarding FDI. The brief review of literature on Pakistan economy presented below reveals that there appears controversy on the determinants of FDI. The review of literature reveals contradictory results which call for more rigorous research on the determinants of FDI in Pakistan.

Anjum and Nishat (2005) using cointegration and error correction techniques for analysis purpose, the study finds that wage rate and share of price index do not contribute in attracting FDI. Zaman *et al.* (2006) investigate the economic determinants of FDI in case of Pakistan using time series data for the period 1970-2002. Econometric results derived through ECM reveal that labor cost, inflation, market size and trade balance are statistically significant factors while service sector prove to be statistically insignificant in explaining FDI inflow. Shahzad *et al.* (2012) utilize descriptive method to show the impact of political stability on FDI inflows of Pakistan for the period 2001-2010. The study concludes that GDP growth rate, inflation, trade openness, corruption control index and political stability are significant factors of FDI inflows in Pakistan.

Anwar *et al.* (2013) investigate the determinants of FDI in agricultural sector of Pakistan using time series data from 2000 to 2010. The results of the study reveal that gross domestic product, inflation and trade increase FDI inflows while government debt appears to be significant cause of reducing FDI in agricultural sector. The study suggests that government debt should be reduced to improve FDI inflows in the country.

Ali *et al.* (2013) explore the impact of human capital on FDI inflows in Pakistan. The findings of the study reveal that per capita income reduces foreign direct investment while human development index, imports and exports increase foreign direct investment in Pakistan during the period 1975-2007.

Mall (2013) investigates the determinants of foreign direct investment in Pakistan for the period 1977-2010 using ARDL approach. The study finds financial market development, GDP growth rate and infrastructure increase foreign direct investment while inflation decreases FDI inflows in Pakistan in the long run.

Haq (2013) employs Johansen cointegration test for examining the factors influencing foreign direct investment in Pakistan for the period 1990 to 2010. The results of the study indicate that domestic investment has no impact on FDI while output, trade openness, size of government and level of education affect FDI in the long run.

Hunjra *et al.* (2013) empirically investigate the impact of macroeconomic variables on foreign direct investment in Pakistan by utilizing cointegration technique and granger causality test. The study confirms that GDP growth rate and interest rate have significant effect on FDI inflows of Pakistan while inflation and exchange rate have no impact on FDI.

Chaudhry *et al.* (2014) utilize time series data of Pakistan over the period from 1981 to 2012 to establish factors affecting portfolio investment in Pakistan. Using ordinary least square method, the study deduces that market capitalization and foreign direct investment reduce portfolio investment while trade openness, rate of return on deposit and money growth increase net portfolio investment in Pakistan.

Masoof (2015) collects time series data of Pakistan from 1990 to 2014 to investigate the factors responsible for low foreign direct investment. The study utilizes regression analysis and concludes that inflation and taxes appear to be negative while gross capital formation and gross domestic product turn out to be positive with foreign direct investment in Pakistan.

Mehmood and Hassan (2015) try to find factors affecting FDI inflows for Pakistan during 1974 to 2014. Using Autoregressive and Distributed lag (ARDL) model, the study concludes that gross domestic product, consumer price index and labor force participation increase foreign direct investment while interest rate, trade openness, exchange rate, political stability and corruption reduce foreign direct investment in Pakistan in the long run. Nadeem *et al.* (2015) find that criminal activities in Pakistan are responsible for a sharp decline in FDI inflows in Pakistan.

Rauf *et al.* (2016) examine the effectiveness of terrorism and political stability on FDI inflows in Pakistan. The study concludes that gross domestic

product, political stability and trade openness increase foreign direct investment while terrorism has adverse impact on FDI inflows in Pakistan.

The studies conducted on Pakistan economy fail to provide the appropriate factors responsible for FDI. It calls for the need of conducting more empirical work with well-defined variables, new data sets and recent development in dynamic modeling for getting the true picture of determinants which are responsible for attracting the FDI in Pakistan.

III. THE THEORETICAL FRAMEWORK

Starting from Caves (1982), researchers have focused on the factors which led to the start of transnational corporations. If foreign corporations are similar to domestic firms then it may not be profitable for them to enter in host markets due to the possibility of extra transaction costs involved in operating abroad. Such costs may contain communication, training, hurdles regarding language and traditions, less familiarity with local business and way of governance. Dunning (1981) was of opinion that for FDI to be possible and worthwhile three conditions (OLI) must be fulfilled. The corporation must have ownership (O) advantage and an internalization (I) advantage, while the foreign market must offer a locational (L) advantage. By ownership advantage we mean that a company must have better tangible and intangible assets. In this case firm will be in a position to offset the extra cost involved due to international operation. Various studies are available in literature in which new theory of FDI integrates OLI theory in general equilibrium model (See, for example Helpman 1984). The study uses two separate models related to economic and social factors for analyzing their impact on FDI in Pakistan.

IV. DATA SOURCES, MODEL SPECIFICATION AND RESEARCH METHODOLOGY

DATA SOURCES

Data for all the variables except political rights and corruption has been taken from World Development Indicator (WDI) for the period 1984-2015. The data for corruption and political rights are obtained from International Country Risk Guide (ICRG), and Freedom House Index respectively.

MODEL SPECIFICATION

A. Economic Model

$$FDI = \alpha_0 + \alpha_1 MRKTSZ + \alpha_2 OPEN + \alpha_3 INF + \alpha_4 NATR + \mu_t$$

Where FDI represents foreign direct investment net inflow as percentage of GDP, MRKTSZ represents market size and GDP at constant price is used as a proxy for market size which is expected to be positive. OPEN represents openness and is defined by sum of exports and imports as percentage of GDP. The expected sign of openness may be positive or negative. A positive sign suggests that a greater degree of trade openness proved to be helpful in attracting FDI in a country while negative sign points out that flow of FDI is discouraged by trade liberalization. INF represents inflation which is expected to be negative because high inflation dampens the flow of FDI and vice versa. NATR represents availability of natural resources and total natural resources rents (as percentage of GDP) is used as a proxy to measure availability of natural resources. The expected sign of NATR may be positive or negative. A positive sign show that cheaper inputs especially raw material and energy sources can attract foreign investors while negative sign shows that foreign investors fail to exploit natural resources at cheaper rate.

B. Social Model

$$FDI = \beta_0 + \beta_1 HC + \beta_2 CBRT + \beta_3 POLR + \beta_4 QLTLF + V_t$$

In the above model FDI is taken as percentage of GDP. HC represents human capital which is measured by the sum of educational and health expenditures as percentage of GDP. The sign of HC is expected to be positive because an adequate supply of educated labor force can exert favorable impact on FDI inflow. CBRT represents Corruption and Bureaucratic Red tapism. The sign of CBRT is expected to be negative because financial corruption at government level and complex bureaucratic structure can create hurdle to attract FDI inflows in a country. The POLR represents political rights. The expected sign of POLR may be positive which indicates that political rights as well as adequate security for investors can enhance the flow of FDI in a country. QLTLF represents that quality of life which is measured by GDP per capita and it is expected to be positively correlated with FDI.

RESEARCH METHODOLOGY

Unit Root Test

The present study uses Kwiatkowski,Phillips,Schmidt and Shin (KPSS1992) unit root test as it provides better estimates with small sample size and it differs from other unit root tests because it assumes time series to be stationary under the null hypothesis.

Johansen Cointegration Test

After evaluating the stationary properties of each variable and for observing the long run stable relationship among variables Johansen and Juselius (1991) framework has been used. The main reason behind the application of Johansen cointegration technique is that this technique is considered to be better and powerful than other available cointegration techniques.

Estimation of Vector Error Correction Model (VECM)

After establishing the cointegration relationship Vector Error Correction Model (VECM) is estimated for further confirmation of our results. For this purpose, the study chooses to estimate the short-run VAR in VECM which is proposed to describe the short-run dynamics of regression model. Following Vector Error Correction Models (VECM) are estimated to determine the short-run dynamics of two different regression models.

$$\Delta FDI_t = \alpha_0 \sum_{i=1}^n \alpha_1 \Delta FDI_{t-i} + \sum_{i=1}^n \alpha_2 \Delta MARTSZ_{t-i} + \sum_{i=1}^n \alpha_3 \Delta OPEN_{t-i} + \sum_{i=1}^n \alpha_4 \Delta INF_{t-i} + \sum_{i=1}^n \alpha_5 \Delta NATR_{t-i} + \lambda EC_{t-i} + \varepsilon_t \quad (1)$$

$$\Delta FDI_t = \beta_0 \sum_{i=1}^n \beta_1 \Delta FDI_{t-i} + \sum_{i=1}^n \beta_2 \Delta HC_{t-i} + \sum_{i=1}^n \beta_3 \Delta CBRT_{t-i} + \sum_{i=1}^n \beta_4 \Delta POLR_{t-i} + \sum_{i=1}^n \beta_5 \Delta QLTLF_{t-i} + \gamma EC_{t-i} + \mu_t \quad (2)$$

Where

Δ is first difference operator

ε_t and μ_t are random error terms

EC_{t-i} is lagged error correction term

Lastly, two diagnostic tests are used to check whether the residuals of both models are white noise. For this purpose, Breusch and Godfrey Lagrange Multiplier (LM) test for serial correlation Jarque-Bera test for normality and ARCH test for hetroskedasticity are applied. Stability of the models is also checked by applying CUSUM and CUSUMSQ tests.

V. EMPIRICAL RESULTS

Results of Unit Root Test

The results of unit root test are presented in Tables 2 and 3.

TABLE 2

Model A (Economic Model) KPSS Unit Root Test

Series	Level		1 st Difference		
	Intercept	Trend & Intercept	Intercept	Trend & Intercept	Order of Integration
FDI	-1.318671	0.212553	0.184719*	0.061426*	I(1)
MRKTSZ	0.350623	0.143247	0.330196*	0.131574*	I(1)
OPEN	0.429952	0.127408	0.333327*	0.133697*	I(1)
INFL	0.388375	0.300972	0.073945*	0.041726*	I(1)
NATR	0.395932	0.260150	0.351223*	0.183041*	I(1)

TABLE 3

Model B (Social Model) KPSS Unit Root Test

Series	Level		1 st Difference		
	Intercept	Trend & Intercept	Intercept	Trend & Intercept	Order of Integration
FDI	1.318671	0.212553	0.184719*	0.061426*	I(1)
HC	0.359682	0.165351	0.321652*	0.142831*	I(1)
CBRT	0.370208	0.186509	0.218170*	0.115035*	I(1)
POLR	0.509100	0.308761	0.132338*	0.119215*	I(1)
QLTLF	0.141970	0.260150	0.351223*	0.183041*	I(1)

NOTE: 1. Null hypothesis of KPSS is that tests series is stationary
 2. *, ** and *** denote rejection of null hypothesis at 1%, 5% and 10% level of significance respectively.

From the results presented in Tables 2 and 3, it can be concluded that all the variables in both models are I(1). Johansen cointegration technique is appropriate for observing the existence of long run relationship among the variables.

Before undertaking the above mentioned test, the lag length of the selected VAR has to be specified. Schwartz information criterion has been used for selecting the optimal lag length which appears to be 1 in both the models. The results of the Johansen co integration test (both the Trace test and Eigen values) are reported in Table 4.

TABLE 4

Johansen Cointegration Test

Model A: Variables/Series: FDI, MRKTSZ, OPEN, INF, NATR					
Hypothesized No. of CE(s)	Eigen value	Trace Statistic		Max-Eigen Statistic	
		λ_{trace}	P-Value	λ_{max}	P-Value
None *	0.883324	126.3777	0.0000	62.30230*	0.0000
At most 1*	0.665893	64.07545	0.0008	31.79257*	0.0135
At most 2	0.466979	32.28288	0.0253	18.24665	0.1209
At most 3	0.339543	14.03623	0.0819	12.02987	0.1095
At most 4	0.066846	2.006357	0.1566	2.006357	0.1566
Model B: Variables/Series: FDI, HC, CBRT, POLR, QLTLF					
Hypothesized No. of CE(s)	Eigen value	Trace Statistic		Max-Eigen Statistic	
		λ_{trace}	P-Value	λ_{max}	P-Value
None *	0.739790	91.81038	0.0298	0.739790	0.0286
At most 1	0.498589	51.42238	0.3528	0.498589	0.5956
At most 2	0.409245	30.71248	0.4605	0.409245	0.5634
At most 3	0.337161	14.92184	0.5810	0.337161	0.3845
At most 4	0.082563	2.585138	0.9218	0.082563	0.9218

NOTE: * and ** denote rejection of the null hypothesis at the 1% and 5% level of significance.

In both models there appears only one cointegrating vector which indicates the existence of long run relationship among the variables. The normalized co integrating vectors of both models are presented in Table 5. The economic model shows that openness and inflation are highly significant and it can be concluded that greater degree of openness and low inflation

may be highly beneficial for attracting FDI in Pakistan. The coefficient of market size is significant which shows efficient allocation of resources. The coefficient of natural resources is not significant which means the availability of natural resources are not sufficient to attract adequate flow of FDI in a country. A high rate of growth of GDP is an indication of good development potentials in future. The high inflation represents the internal economic tension which indicates central bank’s inability to control money supply and the failure of Government in balancing the budget. It can be concluded that high inflation may become an impediment in the way of decision making by the foreign investors regarding FDI.

TABLE 5
 Estimated Cointegration Coefficients
 Dependent Variable is FDI

Model A (Economic Model)			
Variables	Coefficient	Standard Error	t-Statistics
MARKTSZ	3.100763*	0.18956	16.3577
OPEN	1.933461**	0.79337	2.4370
INFL	-0.678040*	0.17038	-3.9796
NATR	0.186478	0.17214	1.0833
Model B (Social Model)			
Variables	Coefficient	Standard Error	t-Statistics
HC	7.000704	1.11605	6.0325
CBRT	-4.777323**	0.77118	6.1948
QLTLF	16.27569*	3.22176	5.0518
POLR	2.163824**	0.38327	5.6457

NOTE: * and **denotes rejection of the null hypothesis at 1% and 5% level of significance respectively.

In social model of FDI, all four variables, human capital, corruption and bureaucratic red tapism, quality of life and political rights have the expected signs and are significant at 5% level which means educated labor force, stable political environment and better facilities of life may contribute in attracting FDI in Pakistan. In brief on the basis of the significance of social variables, it can be concluded that foreign investors are attracted more in the presence of better social environment as compare to better economic environment.

TABLE 6
Results of Vector Error Correction Model (VECM)
Dependent Variable: Δ FDI

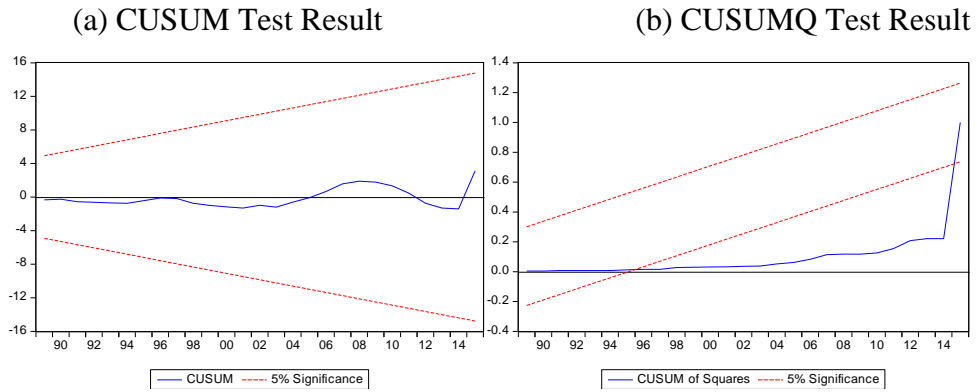
Model A			Model B		
Regressors	Coefficients	t-ratio	Regressors	Coefficients	t-ratio
Constant	0.6484	1.6478	Constant	-0.0648	-0.4477
Δ FDI(-1)	-0.7036**	2.2794	Δ FDI(-1)	-0.1802	-0.7591
Δ MRKTSZ(-1)	-8.2097	-1.1880	Δ HC(-1)	0.6247	0.6065
Δ OPEN(-1)	-2.0742	-1.2113	Δ CBRT(-1)	-1.2941*	-2.2223
Δ INFL(-1)	0.5355	3.0425	Δ QLTLF	9.9788***	1.6447
Δ NATR(-1)	0.0222	0.0248	Δ POLR	1.0271*	-2.0125
EC(-1)	-0.9489**	-3.6804	EC(-1)	-0.1378*	-2.0636
R ²	0.6942	—	R ²	0.4898	—
Diagnostic Test					
Serial Correlation (LM) test	0.3541	(0.7055)	Serial Correlation (LM) test	0.0232	(0.9770)
Heteroskedasticity (F-test)	0.4976	(0.7376)	Heteroskedasticity (F-test)	1.25679	(0.3111)
Normality	1.1972	(0.4595)	Normality	0.4896	(0.7793)

The results of vector error correction model (VECM) are presented in Table 6. The coefficients of error correction term [EC(-1)] exhibit the short-run adjustment to long-run dynamics in both models. Both the error correction terms are statistically significant and carry expected signs. In model B, all the coefficients except FDI and human capital appear to be significant. However, in model A, none of the coefficient is significant except FDI. This shows that during a short period of time economic factors do not play much role in attracting FDI in Pakistan. Furthermore, the higher values of R² in both models confirm the importance of social and economic variables. Finally the diagnostic test confirms the adequacy of both models.

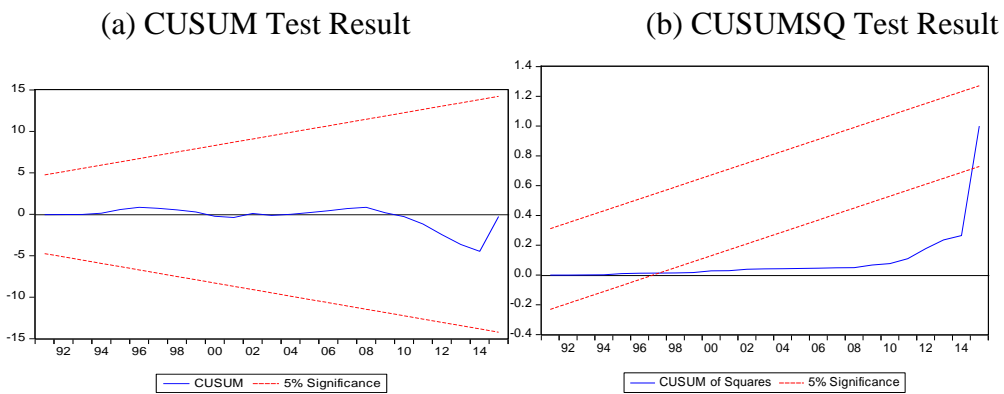
Stability Test

In order to examine the stability of the selected models CUSUM and CUSUMSQ tests have been employed.

MODEL A: Figure 1



MODEL B: Figure 2



Results reported in Figure 1 and Figure 2 reveals that both the models are not stable because the plots of these tests do not lie within the 5% critical boundary. The probable reason for this instability is that in Pakistan there is absence of proper economic policies and also social environments are not conducive to continues flow of FDI in Pakistan.

VI. CONCLUSION

The investigations of both economic and social factors with two separate models make this study more important in observing the impact of socio-economic factors on FDI in Pakistan. In this study, our main interest remains to analyze how economic and social factors affect FDI in Pakistan. The study utilizes cointegration and vector error correction techniques to identify both social and economic variables in explaining FDI in Pakistan. Results of the study show that all of the variables in both models have correct signs and

most of them are statistically significant. Furthermore, it appears that the role of social factors in attracting FDI both in short run and long run is relatively important in Pakistan.

The study suggests that in order to attract FDI, foreign exchange control needs to be relaxed and foreign investors may be allowed to participate in local projects on 100 percent equity basis. The number of industries on which government has put a ban for private sector needs to be reduced. The procedure for getting no objection certificate (NOC) from provincial government for establishing the projects anywhere except in negative areas notified by the government needs to be streamlined. For encouraging FDI, government should provide sufficient incentives to the foreign investors and they should be assured for their safety and security. The foreign investors must be given a signal of the removal of corruption, introduction of effective measures to control terrorism and assurance of continuous supply of energy would be helping in attracting FDI in Pakistan.

The study concludes that social factors may contribute more in attracting FDI in Pakistan as compare to economic factors. The study does not take into consideration the political factors which influence the decisions of foreign investors regarding the investment in developing countries like Pakistan. Keeping in view Pakistan's overall situation it can be concluded safely that political conditions are not favorable for FDI. It is left on the shoulders of future researchers to conduct research including political factors in the model. It will present the more accurate and clear picture regarding the role of determinants of FDI in Pakistan.

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