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21 August 2014

Online at <https://mpra.ub.uni-muenchen.de/58177/>
MPRA Paper No. 58177, posted 03 Sep 2014 07:08 UTC

Exchange Rate, Market Size and Human Capital Nexus Foreign Direct Investment – A Bound Testing Approach for Pakistan

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Abstract

This study investigates the role of exchange rate, market size and human capital for attracting foreign direct investment (FDI). In this regard, time series data on annual basis has been collected for the period 1985–2010 and an Augmented Dickey–Fuller (ADF) and Phillips–Perron (PP) unit root tests are utilized to determine the stationarity of the variables. An autoregressive distributed lag (ARDL) bounds testing approach to co-integration was applied as all the variables in the model are first level stationary, e.g. I(1). The empirical findings of this study confirm the long run relationship among the variables. However, market size and human capital have strong positive and significant impact – in short- and long-run – for attracting FDI but exchange rate shows negative impact in this regard. The coefficient ECM is negative and significant, which means that it converges towards equilibrium. CUSUM and CUSUMSQ tests were utilized to test the model's stability and the plots of each test did not cross the lines of critical value, which indicates the stability of the estimated parameters and this model can be used by Pakistan in policy and decision making. For achieving higher economic growth and economies of scale, the

country should concentrate on the ingredients of this study so that it could attract more FDI as compared to the other countries.

Keywords: *Exchange Rate, Market Size, Human Capital, FDI, ARDL, ECM, CUSUM and CUSUMSQ Tests, Pakistan*

JEL Classification: *F 31, C 01, J 24*

1. Introduction

The world has now become a global village due to the induction of new and advanced modern technologies. The innovative features in modern technology make possible for countries to get economic exposure as well as the economies of scale. However, in the increasingly globalized and interdependent economy of the world, knowledge and human capital are the key competitive weapons of the nations (Thurow, 1994). FDI is not only the source of employment and financial benefits but it also acts as a medium for acquiring the human capital, technology, infrastructure, managerial and organizational practices and easy access to markets (Noorbakash and Alberto, 2001). Developing countries are also in a race of developing their technology up to a considerable extent, so that they can also become a part of this global village and recent developments in information technology have been an important step to set up a global market in this regard (Chakrabarti, 2001; Noorbakhsh and Alberto, 2001). The outcomes of FDI are very important for the developing countries as most of the time they are in capital shortage, lack of modern technology and in getting less competitive edge. FDI can overcome these issues by providing benefits to the foreign investor (Chaudhry *et al.*, 2013; Rehman *et al.*, 2010).

In the present era of global competition every country wants to compete internationally. Most of the developing countries now show a welcoming attitude to FDI (Noorbakhsh and Alberto, 2001; Khan and Nawaz, 2010). In this regard different policies are implemented to encourage investors to invest, which ultimately results in the economic prosperity and financial competitiveness of that particular country. These implications in case of Pakistan are loosening the restrictions on trade barriers and cash flows, encourage the role of advance technology and granting most favorite nation status (MFN)¹ to the countries which encourage investors to invest in Pakistan.

After following a somewhat restrictive policy towards FDI, Pakistan has liberalized its policy regime considerably since 1990. The increasing recognition of Pakistan's locational advantages in perspective of human capital, exchange rate and market size has led to increasing investments by MNE's in different areas of business and enable Pakistan to exploit these advantages (Rehman *et al.*, 2010; Khan and Nawaz, 2010; Asghar *et al.*, 2012).

¹“Most Favourt Nation Status is one of the cornerstones of World Trade Organization's trade law and the members of the WTO agree to accord MFN status to each other. Exceptions allow for preferential treatment of developing countries, regional free trade areas and customs union”.

However, different studies express different views related to FDI but some of these consider the significant role of infrastructure, human capital and exchange rate along with other determinants for attracting the FDI inflows (Chaudhry *et al.*, 2013; Asghar *et al.*, 2012; Rehman *et al.*, 2010; Asiedu, 2006; Xing and Zhao, 2003; Noorbakhsh and Alberto, 2001; Moore, 1993; Wheeler and Mody 1992). The bottom line of these studies highlights that Multinational Corporations (MNCs) are in search of such markets where they can get the advantage of low cost, high profits and economies of scale. As inflow of foreign capital and resource creates backward and forward linkages, MNC's contribute technical help to promote the domestic firms. The level of technology and productivity through both labor and capital of domestic producers will increase (Asiedu, 2004; Shahbaz and Rehman, 2010). A number of factors gave foundation to the increased efforts by developing countries to attract FDI inflows. A firm invests across the border either to exploit a foreign market or to get better access to the certain inputs most likely the better infrastructure and skilled and cheap human capital.

According to UNCTAD ² (1994), the capacity building and recognition by policy makers in terms of capabilities encompassed in FDI has the ability to contribute directly towards the growth and development of the national economy. Secondly the other rescue packages for the corporations are declined in such a way that they increase the level of reliance on FDI. However, the government of these developing countries has gained momentum in maximizing the benefits and controlling the liabilities of investment by transitional corporations (Asiedu, 2006; Kok and Ersoy, 2009). Hence, FDI can bring vital and potential benefits through the spillovers of management, technical skills, information technology and through better utilization of infrastructure.

A number of studies' bottom line has revealed that the propensity of spillovers which takes its place is a function of absorptive capacity of the host country, which, in turn, is a function of the development level of an economy, the education level of the human capital and the competition level of the host economy (Blomstrom and Kokko, 1997; Resmini, 2000; UNCTAD, 1994). Classical theory related to the international capital flow states that FDI is a function of differences in the international rates of return on capital (Khan and Nawaz, 2010).

Overall, exchange rate, market size and human capital have considerable importance in accordance to FDI inflows. As for as Pakistan is concerned the above mentioned variables have

² “The United Nations Conference on Trade and Development (UNCTAD) was permanent intergovernmental body which was established in 1964. It deals with trade, investment, and development issues and is a principal organ of the General Assembly of United Nations. The motive of these organizations is to maximize the trade, investment and development opportunities of developing countries and provide them assistance to integrate into the world economy on an equitable basis”.

greater importance and emergence to point out. In this regard this study attempts to highlight the role of exchange rate, market size and human capital for attracting FDI in Pakistan.

2. Review of related studies

2.1. Exchange Rate and FDI

Exchange rate of a country has remained a debatable and controversial topic for researchers and policy makers. Different researches show different opinions in this regard as Kohlhagen (1977) conducted a study which reveals that MNEs converge toward increasing their production capacity in foreign countries, and the motive behind this is to serve their domestic market in case the foreign currencies depreciate. Blomstrom and Kokko (1997) conclude that the host country market size, local regulations, infrastructure and technological capacity of local firms influence the extent of linkages are. This study argues that over time the connection between these ingredients will enhance as the level of skills of the local investors grows economies of scale increases.

Benassy *et al.*, (2001) examine the trade-off between depreciation in exchange rate and its volatility in terms of their effects on FDI. However, the fluctuations in exchange rate have much concern in decision making related to FDI. Currencies with higher depreciation trend are considered more alarming to foreign investor as their investment declines over periods. Zhang (2008) and Blonigen (1997) also declare negative impact of exchange rate on FDI inflows. Xing and Zhao (2003) conducted a study to analyze the linkage among imports, FDI, and exchange rates in the situation of imperfect competition. The findings of this study conclude product differentiation is the major reason that MNEs indulge in imports. However they got extra benefits from the devaluation in the currency of host country than local firms.

The phenomena that the exchange rates affect FDI flows shows its influence in a few theoretical studies, e.g., Froot and Stein (1991), Kohlhagen (1977), and Benassy *et al.*, (2001). Most of these studies conclude that due to the devaluation in hosting country's currency host country's FDI inflows become boost up, however, an appreciation in turns leads towards the reduction in FDI inflows. Basically, there are two major channels through which exchange rates reflect its impact on FDI: the first one is channel of wealth effect and the second one is channel of relative production cost (Froot and Stein, 1991; Xing and Zhao, 2003). Reduction in the value of the currency of FDI's host countries includes a reduction in cost of production in terms of foreign currency which in turn boosting up the profit of export oriented foreign investors. However, the higher return attracts more inflows of FDI. Empirical investigation in perspective of exchange rate and FDI nexus is an important icon for the making of both FDI and exchange rate policies. However, Pakistan is also playing its role in this regard.

2.2. Market Size and FDI

The market size and FDI's relationship is elaborated by Resmini (2000), that market size³ is positively associated with FDI. By applying gravity models on bilateral FDI flow from G5⁴ countries to 22 emerging markets over the period 1992–2000, Frenkel *et al.*, (2004) finds that host country GDP matters while considering all home and host countries. However, when regionally separating the emerging markets into Asia, Central Europe and Latin America, this study finds that GDP matters only in Central Europe and Latin America. Hence, the most widely used measures of market size are GDP, GDP per capita and growth in GDP. Moosa and Cardak (2006) conducted a study on how the domestic market size and differences in factor costs can relate to the location of FDI. However, this study states that foreign investors who operate in industries characterized by relatively large economies of scale, the market size and its growth have considerable impact in this regard as they can exploit scales economies only after the market attains a certain threshold size.

The impudence of market size on the inflows of FDI in the empirical literature depicts its positive image. The spillovers of FDI are attracted to those markets where the MNC's can achieve reduction in the costs of production and get economies of scale. Blonigen (1997), Chakrabarti (2001), and Moosa and Cardak (2006) found positive influence of market size in the game of attracting FDI. By using cross-section data of 135 countries, Chakrabarti (2001) conducts an extreme bound analysis and finds that market size attracts FDI. Moosa and Cardak (2006) uses cross-section data of 138 countries for the period 1998–2000 and do extreme bound analysis. The findings of this study provide evidence in support of the study of Chakrabarti (2001) which depicts the positive influence of market size on FDI.

Mina (2007) determines the location advantages in GCC countries. This study concludes that the location advantages gain their emergence from the assets that foreign markets supply and these assets include abundant natural resources, cheap factors of production, large market size, and appropriate business environment. However, these factors attract the firms to produce and trade across the border. Khan and Nawaz (2010) conclude that foreign investors invest in those countries where they got new opportunities. However, the foreign investors tap the domestic market and thus the market size has considerable importance in this regard. The larger the market size, the higher will be the opportunities and economies of scale.

2.3. Human Capital and FDI

Borensztein *et al.*, (1998) concludes that the countries having less human capital have negative influence on the growth of FDI. However, once the human capital passes through a threshold, these countries realize larger FDI inflows and positive growth-effect. The rationale behind this

³ "It is usually measured by GDP per capita and population size to capture actual market demand and absolute market size, respectively".

⁴ "The G-5 countries are the combination of Germany, France, Japan, the United Kingdom, and the United States".

is that the countries with sufficiently high levels of human capital can exploit the more technological spillovers associated with FDI. UNCTAD (2000) states that Ireland's success in attracting FDI in the electronics industry has been due to its educated skilled human resources which allow TNCs to set up and arrange an efficient outclass plants and equipments and get the benefits through targeting the world's leading electronics firms in that country.

Multinational firms usually have higher labor productivity and capacity than the domestic firms; however, the increase in the share of FDI depicts its positive correlation with plant productivity in host countries (Aitken and Harrison, 1994). There is a lack of consensus among the researchers related to the success of many developing countries in attracting FDI due to their human capital (Hausmann, 2000). Noorbakhsh and Alberto (2001) argue that developing countries must pay attention to enhance their attractiveness as a location for FDI by dominating policies that raise the level of local skills and enhance the human resource capabilities. The finding of this study concludes that the human capital is a statistically significant determinant of FDI inflows. Moreover this study also argues that the importance of FDI has increased significantly through time. Blomstrom and Kokko (2003) discusses the relationship between FDI and human capital and state that FDI inflows cause a potential for spillovers of knowledge to the local human capital. Moreover, the level of human capital in host country determines how much FDI it can attract and absorb which ultimately provides potential spillover benefits. Hence, it is possible that host economies with relatively high levels of human capital may be able to attract large amounts of technology-oriented foreign MNC's, which contribute significantly to the development of local labor force skills.

Khan (2007) concludes that human capital is a major icon and a competitive edge in uplifting the economy through increases in productivity and through the value added services. Shahbaz and Rehman (2010) conclude that the human capital stock enhance economic growth. Asgher *et al.*, (2012) state that there is a positive relationship between human capital and economic growth. However, there is a need to design and apply effective economic policies in order to reap maximum benefits from human capital.

After reviewing the existing literature related to the role of exchange rate market size and human capital for attracting the FDI spillovers, it is concluded that there is a lack of consensus about the role of various variables discussed in attracting FDI. At bottom line, this study will highlight the role of ingredients included in this model and also fill the gap in case of Pakistan.

3. Data description and methodology

3.1. Data Description

The data has been collected from World Development Indicators (WDI) with annual frequency over the period of 1985-2010. The variables included in the model are: foreign direct investment (FDI), exchange rate (EXGR), market size (MAS), and human capital (HUC). The purpose of this

study is to determine the motivators for attracting FDI in Pakistan. All the variables included in this study are in log form and exchange rate of local currency – units per US\$ – (EXGR) has been used as exchange rate in the model, GDP current US\$ is used as a proxy for market size and total labor force in Pakistan is a proxy for human capital (HUC).

3.2. Econometric Model Specification

The aim of this study is to investigate the motivators of FDI inflows in case of Pakistan. There is an application of Log-linear model in this study – as Layson (1983) concludes that the log-linear form provides more reliable and comprehensive results than linear form. However, Shahbaz and Rahman (2010) also conclude that the findings with a log-linear specification are more authenticated than linear specification. Hence, functional form of log-linear is quoted below:

$$\ln(\text{FDI}_t) = \beta_0 + \beta_1 \ln(\text{EXGR}_{1,t}) + \beta_2 \ln(\text{MAS}_{2,t}) + \beta_3 \ln(\text{HUC}_{3,t}) + \varepsilon_t \quad (3.1)$$

(-) (+) (+)

Whereas,

FDI_t=Foreign Direct Investment

EXGR_t=Exchange Rate

MAS_t=Market Size

HUC_t= Human Capital

ε_t= Error Term

“ln” represents natural logarithmic form of series. Whereas, β₁, β₂ and β₃ are the long run elasticity's of FDI net inflows with respect to EXGR, MAS and HUC.

3.3. Econometric methodology

3.3.1. Unit Root Tests

Stationarity checking is a preemptory measure before the application of any econometric work. Spurious results⁵ may achieve if the data of the variables is non-stationary (Granger and Newbold, 1974). However, non-stationary data leads to incorrect inferences. It is therefore very important that series should be stationary. For this, we use the Augmented Dickey–Fuller (ADF) and Phillips-Perron (PP) unit root tests to check the order of integration of the variables.

3.3.2. ARDL Bounds Testing Approach to Co-integration

This study applies an autoregressive distributed lag (ARDL) co-integration approach projected by Pesaran *et al.*, (2001). This procedure is also known as bounds testing approach and has many

⁵“Spurious results mean the high value of R-square, a highly significant t-ratio and the variables of the proposed model have no interrelationships. If the value of R-square is greater than Durbin-Watson Statistics (DWS), then it represents spurious regression”.

econometric advantages over other co-integration procedures. Mostly the Engle and Granger (1987) and Johansen–Juselius (1990) tests were utilized to determine the cointegration among the attributes indulged in the model but the preemptory measure for these tests is that all ingredients should be on I(1) – stationary at first difference. However, ARDL bounds testing approach didn't have such kind of limitation and provides accurate results as either variable are stationary at I(0) – at level – or even fractionally co-integrated (Pesaran and Pesaran, 1997). Endogeneity problems in Engle Granger method is also handled by ARDL cointegration approach and now the long- and short-run parameters of the model can be estimated simultaneously, hence all the variables are assumed as endogenous. ARDL is more dynamic technique and provides better results for small sample sizes than rest of the co-integration techniques but ARDL bound testing approach is not applicable if any of the variable is integrated at I(2) or above. On the basis of above scenario, the following model is specified for the application of ARDL bounds testing approach to co integration.

$$\Delta \ln(FDI_t) = \beta_0 + \sum_{t=1}^p \beta_{1t} \Delta \ln(FDI_{t-1}) + \sum_{t=0}^p \beta_{2t} \Delta \ln(EXGR_{t-1}) + \sum_{t=0}^p \beta_{3t} \Delta \ln(MAS_{t-1}) + \sum_{t=0}^p \beta_{4t} \Delta \ln(HUC_{t-1}) + \beta_5 \ln(FDI_{t-1}) + \beta_6 \ln(EXGR_{t-1}) + \beta_7 \ln(MAS_{t-1}) + \beta_8 \ln(HUC_{t-1}) + \varepsilon_t \quad (3.2)$$

In eq. 3.2, the sign Δ depicts the first difference operator, $\beta_1, \beta_2, \beta_3$ and β_4 are the short run dynamics and $\beta_5, \beta_6, \beta_7$ and β_8 depicts long run elasticity's. However, optimal lag length is represented by p.

3.3.3. Error Correction Model

Engle and Granger (1987) visualize the relationship between co integration, error correction (EC) and error correction model (ECM). The functionality of ECM is to provide clue about the factors – casual – that in turns affect the variables. The negative sign with ECM depicts its significance which also authorizes the long run relationship among the variables included in the model.

$$\Delta \ln(FDI_t) = \beta_0 + \sum_{t=1}^{p1} \beta_{1t} \Delta \ln(FDI_{t-1}) + \sum_{t=0}^{p2} \beta_{2t} \Delta \ln(EXGR_{t-1}) + \sum_{t=0}^{p3} \beta_{3t} \Delta \ln(MAS_{t-1}) + \sum_{t=0}^{p4} \beta_{4t} \Delta \ln(HUC_{t-1}) + \lambda EC_{t-1} + \varepsilon_t \quad (3.3)$$

Whereas, p1, p2, p3 and p4 depict optimal lag length, λ represents the speed of adjustment parameters and EC depicts error correction term.

3.3.4. Wald Test Coefficient Restriction

Wald test will provide the value of F-statistics which in turns tells us the long- or short- run relationship of the variables included in the model. Pesaran *et al.*, (2001) described the critical values which were utilized to get comparison with respect to the value of the F-statistics. If the value of F-statistics shows greater figure than the upper boundary value, then it will depict the rejection of null hypothesis and if it is less than lower bound then the null hypothesis will be

accepted. If the value of F-statistic falls between lower and upper bound the test will be considered as inconclusive.

3.3.5. Stability Test

Cumulative sum of recursive residuals (CUSUM) and cumulative sum of squares residuals (CUSUMSQ) are two tests for parameter constancy which were recommended by Brown *et al.*, (1975). The CUSUM and CUSUMSQ tests are also utilized to test a null hypothesis of constancy for parameter over the sample and these figure plots were used in decision making.

4. Empirical results and discussion

Before applying econometric techniques, stationarity of variables are tested. In this regard the results of ADF and PP unit root tests are summarized in table 1. However, ln(FDI) and ln(HUC) are stationary at first difference at 1% significance level, whereas, ln(EXGR) and ln(MAS) are stationary on first difference at 5% level of significance. In this scenario ARDL approach to co integration can be applied.

Table 1. Unit Root Test

Variables	ADF Test Statistics (At Level)	ADF Test Statistics (At First Difference)	Phillip-Perron Test (At Level)	Phillip-Perron Test (At First Difference)
lnFDI	-0.56	-5.14*	-0.54	-5.12*
lnEXGR	-0.29	-3.23**	-0.28	-3.22**
lnMAS	-1.14	-2.89**	-1.11	-2.87**
lnHUC	0.17	-2.96*	0.15	-2.94*

*Shows Significance at 1% and ** Shows Significance at 5%

Long run relationship among variables is depicted by the optimal lag-length. However, at 1% level of significance, the values of upper and lower bounds are 4.29 and 5.61 respectively which were given by Pesaran *et al.*, (2001) at lag equal to three. The calculated value of F-statistics is 5.97 is greater than the upper bond value which reveals the results that are in the favor of alternate hypothesis. However, this scenario shows the long run relationship among the ingredients of this study.

Table 2. F-Statistics – Checking of Long Run Relationship Existence

Order of Lag	F-Statistics	Lower Bound	Upper Bound
3	5.97	4.29	5.61

The results of ARDL model (2,0,0,0) by using Akaike and Schwarz Bayesian Criterion is obtained which depicts the same results in selecting the optimal length. The MAS and HUC are significant at 5% and their coefficients depict positive value in response to FDI and EXGR is significant at 1% and its coefficient reflects the inverse relationship with FDI.

Table 3. Auto Regressive Distributive Lag Estimates⁶

Regressor	Coefficient	Standard Error	T-Ratio
Constant	-38.68	9.98	-4.22*
ln(EXGR)	-2.97	0.74	-4.10*
ln(MAS)	5.44	1.84	3.89**
ln(HUC)	1.45	0.77	2.04**

Note: *Shows Significance at 1% and ** Shows Significance at 5%

The results of error correction (EC) of the selected ARDL model are shown in table 4. The sign Δ with the coefficients of the variables shows short run elasticity. The empirical results show that MAS and HUC are significant at 5% significance level and their coefficients are 0.88 and 2.31 respectively. The coefficient of ECM (-1) is negative and significant at 1%. The significance and negativity of error correction term depicts a relationship – long run – among the variables. However, the speed of adjustment from previous to current period’s equilibrium is 67%. Hence, MAS and HUC have significant positive impact on FDI inflows in short as well as in long run. The Schwarz Bayesian Criterion (SBC) is used to choose lag length of the short run model. The value of R^2 is 0.71 which depicts that 71% change in dependent variable are due to independent variables. The value of F-statistics is 4.24(0.003) and significant at 1% level of significance which depicts that the model is good fit. Moreover, the Durbin-Watson Statistic (DWS) is 2.12 which depicts that the model is free from the problem of auto correlation.

⁶ “ARDL (2,0,0,0) Selected Based on Schwarz Bayesian Criterion”

Table 4. Error Correction Representation⁷

Regressor	Coefficient	Standard Error	T-Ratio
$\Delta \ln(\text{FDI})$	0.92	0.45	2.01
$\Delta \ln(\text{EXGR})$	-2.87	0.69	-4.22*
$\Delta \ln(\text{MAS})$	0.88	0.29	1.58**
$\Delta \ln(\text{HUC})$	2.31	0.77	2.61**
ECM(-1)	-0.67	0.21	-3.58*

$R^2 = 0.71$

Adjusted $R^2 = 0.65$

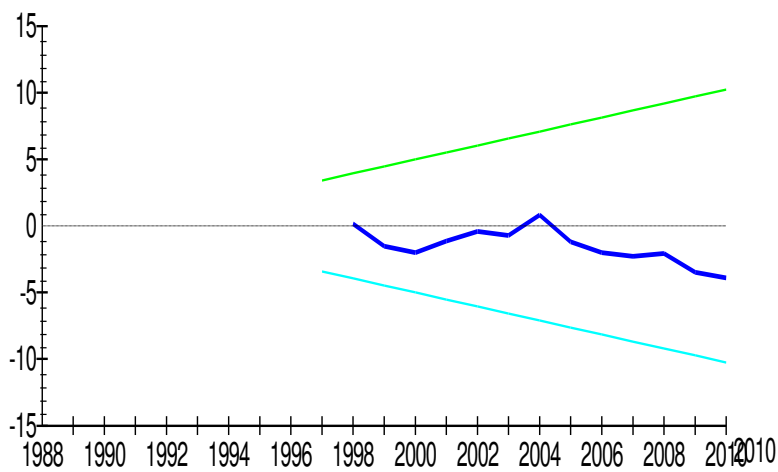
Durbin-Watson Statistics = 2.12

F-Statistics = 4.24 (0.003)*

Note: *Shows Significance at 1% and ** Shows Significance at 5%

The stability of the selected model is checked through CUSUM and CUSUMSQ tests. Figure 1 and 2 depicts the their plots respectively and both these plots clearly depicts the stability of the model as both these plots remain within the critical value lines and hence can be used for policy making. As the outer lines – Green and Sky Blue – are considered as the critical line whereas the middle line – blue – is the plot of the data which is within the critical line and that is the beauty of model’s stability.

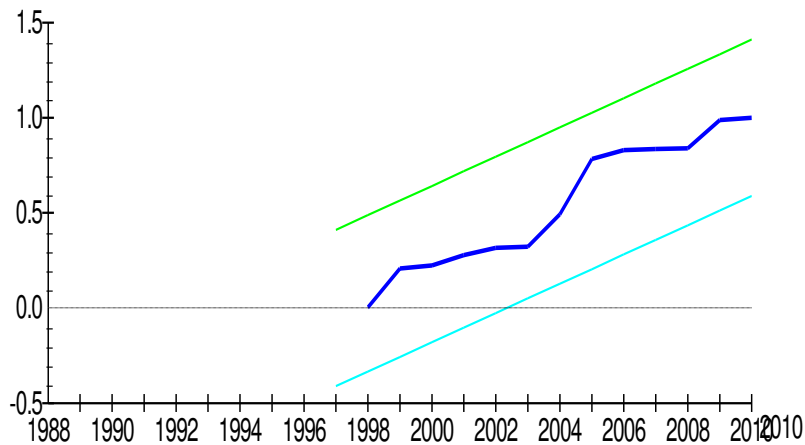
Figure – 1



The straight lines represent critical bounds at 5% significance level

⁷ “ARDL (2,0,0,0) Model, Dependent Variable – FDI”

Figure – 2



The straight lines represent critical bounds at 5% significance level

5. Concluding remarks and policy prescription

This study aimed to determine the role of exchange rate, market size and human capital for attracting FDI in Pakistan. The motive behind this study was to give a bottom line related to the ingredients included in this study, that either they contribute towards getting more share of FDI or not. However, this work will provide some guidelines for the policy makers in Pakistan for getting more market share of FDI as compared to the other countries that have less capacity and resources but have more share of FDI as compared to Pakistan. ADF and PP unit root tests are utilized to check the stationarity of the variables which ultimately become decision criteria for implementing bound testing approach to co integration for checking short- and long- run relationship among the variables.

A bound testing approach was applied by using time series data from 1985 to 2010, this study found a significant positive impact of market size and human capital – in short- and long-run – on FDI inflows in Pakistan while exchange rate depicts negative and significant influence in this regards and the results of this study also authenticate the expected signs of the study. However, prevailing economic environment really matters in relation to net FDI. The value of F-statistics also authenticates the long run relationship among the variables. The value of ECM is less than 1 which also shows significant results. Moreover, CUSUM and CUSUMSQ reveal the stability of the regression parameters as their lots are within critical lines which ultimately depict the stability of model. The results show the long run relationship among the variables that are considered in the model and Pakistan should consider the parameters of this study for attracting more FDI which will results in its economic growth and stability.

By keeping in view the above scenarios, the following prescriptions will be helpful for the policy makers for getting more inflows of FDI in Pakistan. Government of Pakistan should strictly

follow the policy of trade and not aid and the step of granting most favorite nation status to the fellow countries will be fruitful in this regard as Pakistan increase its trade and create friendly relations with the other countries which will become the cause of its economic prosperity and success. Excessive borrowing and depreciation of exchange rate are most distressing and deplorable economic problems which need urgent solution. State Bank of Pakistan and other responsible institutions must make sure the stability of exchange rate and government should pay attention in providing a peaceful economic environment to the investors that will encourage private investment and FDI. Human capital is a major icon in uplifting the economy of a country. Educational and training institutions with the collaboration of government of Pakistan and other NGO's like United Nations Organizations (UNO), International Labor Union (ILO) and all other institutions which claim themselves as stakeholders in the wellbeing of the people and human rights, to provide skilled, technical and information technology literate persons, so that Pakistan can compete in the entire world which will result in its economic solidarity, independence in decision making and economic growth. Among these, the most important issues which need attention are that the Ministry of Commerce and Trade with the collaboration of the Ministry of Finance and Investment in Pakistan must grant tax exemptions to the firms satisfying certain conditions under the tax free zone scheme, provide skilled labor force, a stable political scenario and a relatively corruption free environment to the investors who want to invest in Pakistan. The limitations of this study are that the choice of proxies for this study is according to the circumstances of Pakistan so that's why it may lack the generalizability element for other countries in case of proxies used in this study to prove the problem statement. For further recommendations of research, this model can be manipulated as per current requirements.

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