EMPIRICAL ANALYSIS OF FOREIGN DIRECT INVESTMENT AND ITS IMPACT ON THE ECONOMY OF PAKISTAN FROM 1993 TO 2012

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ABSTRACT

The object of this study is to examine the determinants of Foreign Direct Investment (FDI) and its impact on the economy of Pakistan over the period from 1993 to 2012. Two Regression Models have been developed, one; to verify the impact of various variables on the inflow of FDI and the other; to check of effect of FDI on economic growth in Pakistan. The Annual Data of various variables have been collected through various sources like Economic Survey of Pakistan, Economic and Business Review, State Bank of Pakistan and World Bank Indicator. In the 1st Model, the Trade Openness (TO) Gross Domestic Product (GDP), Current Account Balance (CAB), and Foreign Remittances (FREM) shows the insignificant impact on FDI inflow in Pakistan. The 2^{nd} Model comprises, the GDP was dependent variable and the independent variables were Foreign Direct Investment (FDI) Trade Openness (TO)), Labour Force (L. Force) and Domestic Investment (DI). All the independent variables show the insignificant impact on GDP with positive and negative sign of correlation. It has been suggested that Government of Pakistan should take serious measure to improve the economy of Pakistan and improve the policies for foreign investors. The E-views and SPSS software have been used to analyse the data.

Keywords FDI, GDP, TO, L. Force, DI, Unit Root Test, Multiple Regression Analysis, Anova

INTRODUCTION

After the Second World War, economy of almost every country was depressed due to heavy loss of infrastructure and human lives, to fill this gap the United Nations Organization came into existence and finance to developing and under developing countries through IMF and World Bank for development purpose, and this process is continue. The literature of FDI indicates that the FDI has given considerable importance by developing countries during the last few decades. Aurangzeb *et.al.*, (2012) The Foreign Direct Investment FDI is the flow of foreign capital to host countries can be divided in to two sections. The first is inflow of funds for private investment and the second inflow of investment for public development, the former investment is further divided in to two sections, the first is Portfolio

Investment and the second is Direct Investment. FDI is the net flow of foreign direct investment to obtain a long term management share not less than ten percent in the organization operating in an economy of host country. The capital does not include in the FDI, which received locally. It becomes an important source for investment projects in host countries. In addition, FDI can only capture from across borders, the investment flows that involve equity participation (UNCTAD May, 2007).

Foreign Direct Investment (FDI) reduced the shortage of domestic saving for investment and improved the knowledge in the field science and technology. FDI can play important role for industrial development and enhance the economy of developing countries (K.A. Muttalab, 2004).

Pakistan has an attractive environment for foreign investment as compared to other countries in south Asian, especially in Agricultural, Oil Exploring, Mining, IT and Telecommunication, Power and service sector, in some cases the industrial sector acquire more importance for foreign investors due to maximum equity investment. United Kingdom, United States of America, Middle East and European Countries are the major investors in Pakistan (Kumar, 2003). China has huge investment in Pakistan through infrastructure and power sector.

Pakistan is developing country and has liberal policies for foreign investors in almost all sectors of economy. The Government of Pakistan offering tax exemptions and many other incentives in new investment policy to attract more and more foreign investment in various fields. The Government provided equal chances to foreign and local investors in new investment policy. Government of Pakistan signed an agreement with 39 countries, particularly developing countries to avoid Double Taxation problem for foreign investors.

REVIEW OF LITERATURE

Khan *et.al.*, (2011) they described that "The growth of FDI in Pakistan was not significant until 1990 due to regulatory policy framework. However under the more liberal policy regime, it was played a significant role in the development of Pakistan's economy."

Sadia *et.al.*, (2010) conduct the work of research on "impact of FDI, Capital Formation and International Trade on Economic Growth of Pakistan: An Empirical Analysis" and described that "The FDI concentrated in the field of power sector of Pakistan where wealth of nation are exploited due to low rate of capital stock which create negative impact on GDP. However the open trade policy has declared as a significant rise in the economic growth"

Falki (2001) conduct the research work on the topic "Effect of FDI on economic growth in Pakistan" and said that: "During the study period, it has been observed that the Foreign Direct Investment has negative and

insignificant effect on the economic growth. The GDP remain thin during the study period in spite growth in FDI, whereas the other factors show positive impact on the growth of economy of Pakistan during the study period."

Ling Lukman, *et.al.*, (2010) conduct the research on: "Determinant of Foreign Direct Investment in India Indonesia and Pakistan: A Quantitative Approach" described that: "the policy making to improve the inflow of FDI and to enhance the growth of economy of the host country, it has been confirmed that FDI participate in economic development process in host countries through inflow of Foreign Capital, latest technology and skilled labour, and in this way reduced the gap between saving and investment.

Carkovic, *et.al.*, (2000) conduct the study on "Does Foreign Direct Investment Accelerate Economic Growth" Conclude the study and argued that: "The FDI does not create an independent pressure to speedup economic development process of host country, while the economic policies may exert their influence to enhance economic development and enhance inflow of FDI.

Knondoker (2004) conduct the research work on "Determinants of Foreign Direct Investment and its impact on Economic Growth in Developing Countries" Argued that. The modern infrastructure facilities, Liberal business policies, peace and good business environment can attract more FDI and due to the peace and good business environment, the FDI on the other hand significantly effect on economic growth of host country.

Zeshan Atique, *et.al.*, (2004) conduct the work on: "The Impact of FDI on Economic Growth under Foreign Trade Regimes: A case Study of Pakistan" Argued, that the FDI shows considerable effect on the economy of Export Oriented Countries other than Import Oriented Countries. The development of Pakistan economy generally depends on the policies towards maximum export and inflow of foreign capital. Further argued that the more progress in Pakistan depend on foreign trade and foreign investment policies.

RESEARCH METHODOLOGY

Time series data have been used for, Empirical Analysis of the Foreign Direct Investment FDI and its Impact on the Economy of Pakistan from the period from 1993 to 2012. The data have been collected from State Bank of Pakistan. For analysis the data two Multiple Regression Models have been developed.

REGRESSION MODELS

Model No: 1 for Empirical Analysis of FDI. **FDI** = $\beta_0 + \beta_1$ **GDP** + β_2 **TO** + β_3 **CAB** + β_4 **FREM** + ε **Model No: 2** for verification of impact of FDI on the economy of Pakistan. **GDP** = $\beta_0 + \beta_1$ **FDI** + β_2 **L.FORCE** + β_3 **DI** + ε

In the Model number one the FDI Foreign Direct Investment taken as Endogenous variable and GDP Gross Domestic Production, TO Trade Openness Proxy of foreign trade (Export and Import) CAB Current Account Balance and FREM Foreign Remittances taken as exogenous variables to check the impact of various exogenous variables on the inflow of FDI.

In the Model number two, the GDP Gross Domestic Production taken as Endogenous variable and FDI Foreign Direct Investment, L Labor Force Working in Pakistan and DI Gross Capital Formation (Domestic Investment) have been taken has Exogenous variables to check the impact of FDI on the economy of Pakistan.

This research work is developed on the given below Hypotheses that defines the research criterion clearly:

- 1. H_0 GDP has significant impact on the inflow of FDI in Pakistan.
 - H_1 GDP has insignificant impact on the inflow of FDI in Pakistan.
- H₀ FDI has significant impact on GDP in Pakistan
 H₁ FDI has insignificant impact on GDP in Pakistan.

Empirical Analysis of Model No.1

	IADLL-	L
STATIO	NERY TEST/UNIT ROOT A	DF TEST OF MODEL NO: 1
Variables	Level	1 st Difference

TADIE 1

Variables	L	evel	1 st Difference		
	Intercept Trend an		Intercept	Trend and	
		Intercept		Intercept	
FDI	-1.441964	-1.327353	-2.757033*	-2.709856	
GDP	1.98310	-0.928224	-3.485738	-4.727803***	
ТО	-2.421660	-2.694151	-6.205590***	-5.951658	
CAB	-1.964786	-1.63387	-3.375570**	-3.366209	
F.REM	3.915094	0.660787	-1.792940	-3.462404*	

Note *, ** and *** indicate the significance level at 1 percent, 5 percent and 10 percent respectively.

Table-1 highlighted the findings of Augmented Dickey Fuller (ADF) test, the result shows that all variables were found non stationery at level. First the data checked on Level Intercept and, Trend and Intercept, after that the data were tested at 1st Difference on Intercept and Trend and Intercept. All the variables were found Stationery and significant at 1st difference i.e. 1(1).

	Coefficients ^a											
Model		Un-standardized Coefficients		Standardized Coefficients	t	Sig.						
		В	Std. Error	Beta								
	(Constant)	367.426	339.702		1.082	.298						
	GDP	019	.034	181	557	.586						
1	T.O	10728.565	6747.784	.447	1.590	.134						
	CAB	331	.302	282	-1.097	.291						
	F.REM	227	.325	187	699	.496						

TABLE-2

a. Dependent Variable: FDI

TABLE-3 Model Summary^b

Model	R	R	Adjusted	Std. Error	(Change S	tatis	stics		Durbin-
		Square	R Square	of the	R	F	df1	df2	Sig. F	Watson
				Estimate	Square	Change			Change	
					Change					
1	.574ª	.329	.138	955.29455	.329	1.719	4	14	.202	1.930

a. Predictors: (Constant), F.REM, T.O, CAB, GDP

b. Dependent Variable: FDI

TABLE-4 ANOVA^a

Mode	el	Sum of Squares	Df	Mean Square	F	Sig.
	Regression	6275953.208	4	1568988.302	1.719	.202 ^b
1	Residual	12776227.423	14	912587.673		
	Total	19052180.632	18			

a. Dependent Variable: FDI

b. Predictors: (Constant), F.REM, T.O, CAB, GDP

Residuals Statistics ^a	TABLE-5
	Residuals Statistics ^a

	Minimum	Maximum	Mean	Std. Deviation	Ν
Predicted Value	-1571.5182	972.6379	57.4211	590.47783	19
Residual	-1293.35583	2695.22290	.00000	842.49060	19
Std. Predicted Value	-2.759	1.550	.000	1.000	19
Std. Residual	-1.354	2.821	.000	.882	19

a. Dependent Variable: FDI

Table-2 indicates that FDI is a dependent variable and GDP, CAB, T.O. and F.REM is independent variables, the Coefficient Beta value, that shows the relationship in between independent variables with dependent variable. The Beta value of GDP, CAB and F.REM are -0.181, -0.282 and -0.187 respectively that means there is negative correlation and insignificant impact on the inflow of FDI in Pakistan. The Beta value of T.O is 0.447 it means that T.O having positive correlation and having insignificant impact on the inflow of FDI in Pakistan.

Table-3 indicates the value of R that is 0.574. That means there is 0.574 percent correlation between observed value and calculated values of the dependent variables. R Squire means co-efficient of determinants and it gives the adequacy of the model. Here the value of R-Squire is 0.329 that means the model is 33 reliable. The value of Durbin-Watson statistics is 1.930 that means it is very close to 2, this shows that there is no Autocorrelation problem appear, on the basis of above the regression model assumes that the error deviation are uncorrelated.

Empirical Analysis of Model No.2

STATIC	STATIONERY TEST/UNIT ROOT ADF TEST OF MODEL NO: 1								
Variables	Le	evel	1 st Difference						
	Intercept Trend and		Intercept	Trend and					
	_	Intercept	_	Intercept					
GDP	1.98310	-0.928224	-3.485738	-4.727803***					
FDI	-1.441964	-1.327353	-2.757033*	-2.709856					
L.FORCE	0.299161	-1.428470	-3.778199	-3.825041**					
DI	-0.575805	-1.569930	-2.829300*	-2.731032					
ТО	-2.421660	-2.694151	-6.205590***	-5.951658					

TABLE-6

Note: *, ** and *** indicate significance level at 1 percent 5 percent and 10 percent level respectively.

Table-6 highlighted the results of Augmented Dickey Fuller test. The result shows that all the data were non stationery in all variables on level, the data first check in level intercept and that level trend and intercept after that the variables were checked on 1st Difference Intercept and, Trend and Intercept. The results indicate all variable converted into Stationery. The GDP, FDI, L. FORCE, DI and TO are significant on the level of 10 percent, 1 percent, 5 percent, 1 percent and 10 percent respectively.

			Countrie	1115		
Model		Un-stand Coeffi	dardized cients	Standardized Coefficients	Т	Sig.
		В	Std. Error	Beta		
	(Constant)	5654.850	2497.210		2.264	.040
	FDI	-5.013	2.594	527	-1.932	.074
1	L.FORCE	1548.479	1367.018	.237	1.133	.276
	D.I	1.618	.946	.505	1.710	.109
	T.O	117073.660	56150.209	.513	2.085	.056

TABLE-7 Coefficients^a

a. Dependent Variable: GDP

TABLE-8 Model Summary^b

Model	R	R	Adjusted	Std. Error	(Change 3	Statis	stics		Durbin-
		Square	R Square	of the	R Square	F	df1	df2	Sig. F	Watson
				Estimate	Change	Change			Change	
1	.722ª	.521	.385	7669.78318	.521	3.813	4	14	.027	1.585

a. Predictors: (Constant), T.O, L.FORCE, FDI, D.I

b. Dependent Variable: GDP

TABLE-9 ANOVA^a

Model		Sum of Squares Df Mean Square		F	Sig.	
	Regression	897134217.125	4	224283554.281	3.813	.027 ^b
1	Residual	823558035.506	14	58825573.965		
	Total	1720692252.632	18			

a. Dependent Variable: GDP

b. Predictors: (Constant), T.O, L.FORCE, FDI, D.I

TABLE-10 Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	Ν
Predicted Value	-4822.8340	25578.2695	8571.5789	7059.80098	19
Residual	-6984.62451	20521.38672	.00000	6764.11296	19
Std. Predicted Value	-1.897	2.409	.000	1.000	19
Std. Residual	911	2.676	.000	.882	19

a. Dependent Variable: GDP

Table-7 Indicates that GDP as a dependent variable and FDI, L. Force, D.I, and T.O are independent variables. The coefficient Beta Value shows the relationship in between independent variables and dependent variable. All the independent variables show insignificant impact on the growth of GDP in Pakistan. The Beta value of FDI shows -0.527 that means the FDI has negative correlation with GDP in Pakistan. The Beta value of T.O, L.FORCE and D.I indicate the results. These are 0.513, 0.237 and 0.505 respectively that show positive correlation along with insignificant impact on the growth of GDP.

Table-8 indicates the value of R that is 0.722. The R is the mark of correlations it shows the correlation between observed value and calculated value of dependent variable. R Squire is the Coefficient of Determination it shows the accuracy of Model. The value of R Squire is 0.521 that indicates the Model number 2 is 52 percent reliable. The Durbin Watson Statistics is 1.59 it is very close to two that means there is no Autocorrelation problem and the regression model assumes that the error deviation is uncorrelated.

CONCLUSION

The object of this research work is to statistically analyse the determinants of FDI and investigate its impact on the economy of Pakistan; by using annual data for the period from 1993 to 2012. Two Models of Multiple Regression have been used. The First Model to analyse the inflow of FDI in Pakistan, the dependent variable was FDI whereas the independent variables were (GDP, TO, CAB, and F.REM). The other Model has been developed to check the impact of FDI on the Economy of Pakistan, in this model the GDP has been taken as dependent variable where- as the independent variables were (FDI, L. Force, DI and TO). All the independent variables of the 1st Model show insignificant impact and negative correlation with the inflow of FDI in Pakistan only T.O (Trade Openness) shows positive correlation with FDI. The GDP of Pakistan is very poor, even in various years of the study period, it shows declined trend, whereas the other variables like CAB remain in negative position and the inflow of F.Rem was not very good position. In the case of 2nd Model, the empirical results indicate the insignificant impact of L.Force, DI, FDI and TO on economic growth in Pakistan. During the study period it has been observed, that the inflow of FDI was very thin, inefficient L.Forc, and meagre investment for infrastructure and slow development process by the Government of Pakistan. This study have rejected both Null Hypotheses, so that it is concluded that alternative Hypotheses be considered for further study and policy issues regarding FDI in Pakistan.

SUGGESTIONS

To increase the inflow of FDI in Pakistan, the Government of Pakistan should take positive and solid steps, and offer attractive benefits to Foreign Investors, reduce heavy taxes and create favourable atmosphere for local and foreign investors, the Current Account Balance shows the negative position, to improve balance of payment, the new export policies should be introduced. Improve economic relations with developed countries so that they can prefer to invest in Pakistan and in this way enhance the inflow of FDI in Pakistan.

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