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The Effect of Infrastructure Availability on FDI Inflow in D8 Countries

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ABSTRACT

This paper analyzes the effect of infrastructure availability on FDI inflow in D8 countries (Bangladesh, Indonesia, Iran, Egypt, Nigeria, Malaysia, Pakistan and Turkey). Panel data for the period 1997-2012 has been used and the analysis has been done using the fix and random effect model suggested by Hausman specification test. The study find out positive and significant effect between infrastructure along with other variables like market size, trade openness on FDI inflows, while in case of macroeconomic variable that is exchange rate it has negative but significant effect on FDI inflows.

Keywords: Inward FDI, Hausman effect, Panel data, D8 Countries, Infrastructure.

JEL Classification Code: F21, H54

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1. Introduction

In the literature the importance of FDI and its effect on economic growth is well recognized. Basically FDI is generally an investment made by foreign investor outside the home country in order to avail the opportunities existing in host country. FDI is one of the key factor, in boosting the economic growth and up surging the rate of employment, productivity, enhancing and transferring of soft skills, and technology capacity for innovation and entree to market networks internationally with many other supplementary benefits.

FDI not only works as a catalyst in boosting the economy and supplying of other auxiliary benefits, but it also act as a source of external capital financing. Because of this, there exists a high competition in world market in order to attract these investments, it is important for developing countries to seek such investment as to speed up their development efforts.

FDI and Infrastructure: Infrastructure is defined as any fundamental facility whether, physical or in form of institution that is financed by the state which facilitates the intersection between production and consumption.

There are different forms of infrastructures, like communication infrastructure which include telecommunication networks, mobile subscribers, and internet users. Another form is information infrastructure like newspaper, television, while the other type is transport infrastructure which include road, sea ports, air ports, railway, vehicles etc.(for different aspect of indicator see World Bank).

Foreign investors will mostly prefer that country that offer less cost over high returns, and with other incentives like low labor cost, flexible policies and regulations, vast market size, macroeconomic stability like, exchange rate, interest rate, inflation etc. availability and reliability of good infrastructure.

Beside capital, labor and resources, infrastructure is also considered as an input to these factors of production. Many researchers carried empirical studies to find out the effect of different determinant have on FDI inflows, the results identify the significance of infrastructure with other determinants like market size, trade liberalization, exchange rate, growth rate, have in attracting the FDI inflows.

Infrastructure is given much consideration when it comes to investors decision making, they will not prefer a country with higher labor cost, increase transport cost, communication gap, and non-availability of natural resources, rigid policies, deficiency in energy resource and non-availability of infrastructure. If investor are efficiency seeking or export orientated, they will give consideration to infrastructure, as the objective of foreign investors is the maximization and minimization of profit and cost, these objectives

can be well and easily achieved if they were provided with good public infrastructure and also supportive to investors. It also helps in improving the environment for FDI inflows by reducing the cost and increasing returns.

2. PURPOSE OF THE STUDY

The study aims to provide an answer to the questions,

What effect does infrastructure availability have on FDI inflows in D8 countries?

Whether the contribution is positive, significant or not?

HYPOTHESIS DEVELOPMENT: The study generates the following hypothesis that is intended to verify.

H₀: Infrastructure availability has no effect on FDI inflows in D8 countries.

H₁: Infrastructure availability has an effect on FDI inflows in D8 countries.

3. RESEARCH LIMITATION

One of the basic limitations of the study is that the result cannot be generalized to any other country except D8 countries that are Bangladesh, Egypt, Indonesia, Iran, Malaysia, Nigeria, Pakistan and Turkey.

As there are different forms of infrastructure like communication infrastructure, hard infrastructure in form of roads, railway lines, bridge, ports etc., soft infrastructure like institutions etc., some of the proxies have been selected because of non-availability of data. While for other controlling variables like market size, trade openness, inflation etc. few variables are selected that were discussed in literature being more important compared to others, while other variables are dropped out because of time limitation.

4. LITERATURE REVIEW

According to most of the researchers there is a positive relationship between FDI and economy. Host country economy will grow if it has a strong financial system, stable political, social and economic system and other factors as well.

Mallampally and Saurant (1999) found that for developing countries FDI is not only the vital source of external finance, but is a means of production of technology, skill improvement, capacity for innovation and entry to market networks internationally. Since FDI has an impact on economic growth, so developing countries are in need to attract such investments to enhance the economic development and because of this reason governments are trying to create flexibility in policy framework that expedites FDI. The investors are now becoming attractive towards these developing countries, as these countries provide investors with a variety of created assets, so they become an investment destination. As there is high competition in the world market to attract these investments, it is important for developing countries to seek such investment as to speed up their development efforts.

Khadroo and Seetah (1999) suggested that transportation is one of the important factors besides other infrastructure to attract FDI particularly in SSA countries. According to them government should take the help of World Bank, and other international institutions to take loan for infrastructure

development rather than capital expenditure taken from the budget. Government should create a conducive environment and institutional framework, by improving legislative and regulatory environment and removing unnecessary bureaucratic procedure and practices.

Likewise Cheng and Kwan (2000) find similar result for foreign investor in china, by taking 29 Chinese regions from the period of 1985-1995, it was concluded that market, with better availability and reliability of infrastructure with preferential policy has a positive effect on FDI inflows. While the effect of education and wage cost have no significance influence on FDI.

According to Kumar (2001) to attract FDI inflows, development of infrastructure should become integral part of strategies. Government should invest in providing good infrastructure facilities to improve environment for FDI, holding other factors constant. When locating their investment MNEs do show sensitivity to availability of infrastructure while there are other several factors that investor could depend upon. Government of different countries, developed and developing are given into policy competition to attract MNEs.

Through investment incentives, it will be better for Developing countries to focus on infrastructure development rather than offering investment incentives and stuck in competition with developed countries, as these countries have capacity to provide fiscal incentives.

Fung et al (2005) employed a comparative analysis to find out the effect of soft and hard infrastructure has on FDI. The study finds that soft infrastructure produce divided economic reform as twice and thus causing growth without inducing FDI. Conducting a panel regression it was concluded that soft infrastructure has more significant effect on FDI compare to hard one, especially for the country like US and Japanese. While the study suggest country like China and other developing countries to focus on market reform as being important element compare to infrastructure.

According to Asiedu (2006) determinants like natural resources, large market size, low inflation, good infrastructure, efficient legal system, are important factor that upsurge FDI into Africa countries. If country has instability in political system and facing corruption will have negative effect on FDI inflows. The result also shows similarity with the reports of multinational companies operating over there. The paper suggest that FDI is not only depended upon these factor, but organization like World Bank and IMF can help these countries in attracting FDI in promoting good institutions, it also recommend that small countries that lack natural resources can increase FDI inflow by giving importance to their policies and important in institutional environment.

Castro et al. (2007) suggested that foreign firm cost and revenue should be significantly influenced by infrastructure which will in turn influence their location decision. A good and reliable infrastructure along with other factors, positively influence the location decision for FDI.

Some researcher focus, on the important determinants of FDI inflow in developing countries, researcher like Cevis and Camurdan (2007) conducted an empirical study on 17 developing countries with some other transition economies by setting a panel data from the period 1989 to 2006. The conclusion from the result shows that FDI inflows have the power to boost the economies. According to them for FDI inflow the main important determinants are interest rate, trade rate; growth rate and FDI of previous period that have a positive relationship with FDI while an inverse relationship with inflation rate. Among the determinant FDI of the previous period is a vital determinant having a direct relationship with the economic resources of the host countries.

According to Demirhan and Masca (2008) variables like trade openness, market size, economic stability, and better infrastructure have positive influence on FDI. They investigated to find whether investor who are profit oriented go for large economies or growing economies, for this they used different proxies for market size to know whether it has an effect on FDI or not. It was found that the growth of per capita real GDP has an effect on FDI but in case of per capita real GDP it does not have effect on FDI, this means that the investor will prefer developing economies compared to developed economies. While investors are also attracted to a country with better infrastructure as it has a positive and significant effect on FDI inflows. Thus FDI is negatively influenced by high tax rate and inflation.

Kok and Ersoy (2009) focused on 24 countries to find what determinant is best for attracting FDI in developing countries in consideration with globalization , beside this the study also aim to use the determinant to allocate countries convergence. The result found that FDI and its determinants have positive and strong influence on the economic development, while the total debt service/inflation and GDP have significant but negative effect on FDI. Other determinants like telephone, gross capital formation, trade, GDP per capita growth have positive influence on FDI. Among these determinants, telephone main link have strong and positive impact on FDI. According to them FDI is the key element that causes the globalization of the economy as well economic development, because of adopting the best practices across different developing countries.

Mottaleb and Kalirajan (2010) the paper aim to find the factors that will help the developing countries in determining the FDI inflows, by using panel data for 68 low-income and lower middle income developing countries. From the result it was concluded that country will attract more FDI if it provide business friendly environment and with the high GDP growth rate, larger GDP, better infrastructure facilities and openness to international trade.

Abdul et al. (2011) found that FDI is more important for developing countries compared to developed, due to lack of capital and modern technology. According to them there is positive and significant impact of infrastructure on FDI inflows in Pakistan, both in the short and long run. In short run

1% increase in infrastructure will increase FDI by 1.03% while in long run 1% increase in infrastructure will cause 1.31% increase in FDI.

Mughal and Akram (2011) using the ARDL (Auto regression distribution lag) technique in case of Pakistan to find whether market size affect FDI or not. The result concluded that market size is important determinant for FDI inflow and also giving rise to regionalization and it also emphasize on how regionalization intend to upsurge the market size in order to gain FDI inflows with auxiliary benefits. They further mentioned how market size and other determinants assistance in long and short run benefits. In case long run of market size do influence and plays a dominating role to increase FDI inflow, while in case of short run there seems to have no significance. In case of other determinants like exchange rate have a negative influence in both long and short run; where as in long run corporate tax seems to have no impact on FDI.

Bakar et al (2012) empirically determined that impact of infrastructure have on FDI in case of Malaysia. The finding concludes that a positive and significance effect has been found between infrastructure and FDI. The study also suggest that for Malaysia it is important to make policies that focus on improving local infrastructure as the reliability of it ensure more FDI inflows in a country.

Srinivasan (2012) conducted an empirical study on SAARC countries to find out the determinant on FDI in these countries from the period of 1970 to 2007, using random effect model, suggested by Hausman specification test. The result ensure, factors that are important in determining FDI inflows in these countries are trade openness, market size, infrastructure, GDP per capita and inflation. The result also certifies that factors like real exchange rate, domestic investments, and human capital have no significant effect on FDI. The finding also suggest that in order to augment economic growth, government should provide better infrastructure with flexible policy frame work and macroeconomic stability, in order to escalate FDI in SAARC countries.

Zafra (2013) conducted an empirical study on SAARC countries from the period of 1999 to 2010 in order to examine the effect of social and political factors on FDI. The results obtain from the study show some similarities and difference for the countries like Pakistan, Bangladesh and India. For Pakistan and Bangladesh, infrastructure has insignificant effect on FDI inflow, whereas in case of India, infrastructure has strongly positive and significant effect on FDI. Whereas variable such as, trade openness have a positive and significant effect on FDI inflow in case of Pakistan and Bangladesh. For the measurement of macroeconomic stability, inflation was taken and the effect found to be insignificant in case of Pakistan and Bangladesh. Similarly the effect of political instability in case of India and Bangladesh was insignificant. For the exchange rate in case of Pakistan found to have significant effect. From the overall study it was construed, that factors like political, economic and social betterment are important for the

investors regarding the investment decision, so it's important for the countries like Pakistan, India and Bangladesh to make policy and regulation that certify stability in these factors.

Availability of good infrastructure, like water supply, transport facilities, roads, ports, airports, energy, power etc. do effect economic development of the country.

5. THEROTICAL FRAMEWORK

5.1 DEPENDENT VARIABLE:

In the study foreign direct investment is taken as depended variable while other variable is taken as independent or explanatory variable.

FOREGIN DIRECT INVESTMENT (FDI): FDI is generally an investment made by foreign investor in real assets outside the home country in order to avail the opportunities that exist in the host country. FDI in one of the key factor, in boosting the economic growth and up surging the rate of employment, productivity, enhancing and transferring of soft skills, and technology with many other supplementary benefits. In the study FDI is taken as dependent variable and the proxy used is net FDI inflow in current US \$ from the data base of WDI.

5.2 EXPALNATORY VARIABLES:

MARKET SIZE: The importance of market size is well recognized in the literature. Market size of the host country represents the potential demand and economic condition and thus it is considered as an important element for the foreign investors for decision making. Following the literature the proxy used for market size is population (total) from the data base of WDI (World Development Indicator).

Country tries to expand market size in order to gain benefits of regionalization. Asiedu (2006), Kok and Eroy (2009) found positive and significant impact on FDI inflows. Thus it is also expected to have positive and significant relationship between FDI and market.

MACROECONOMIC STABILITY: Macroeconomic stability plays a vital role in decision making on FDI by the investors. To measure the macroeconomic stability of host country Inflation, exchange rate, and interest rate are used. In the study exchange rate is used as a proxies to measure the effect of macroeconomic stability have on FDI inflow.

EXCHAGE RATE: A host country with weak currency will accept more FDI inflows from home country with strong currency because it will increase the profitability and a decrease in cost of production. Thus investors will enjoy higher purchasing power within host country. Real exchange rate is used proxy and data is collected from Penn World table 7. The study accepts exchange rate to have negative effect on FDI inflow.

TRADE OPENNESS: Liargovas and Skandalis (2012) signifies that trade openness is one of the most significant determinants of FDI; therefore it is important for the host country to create flexibility in trade policy as to attract these investments by providing foreign investors with trade incentives like reduction in

tariff, tax concessions. To encourage investments and to overcome the trade deficit, therefore country open to trade has an important influence on the decision making of foreign investments. Trade percentage of GDP is used as a proxy and data is collected from the data base of WDI.

INFRASTRUCTURE: Infrastructure is a significant element when it comes to foreign investors decision making ,they will not prefer a country with higher labor cost, increase transport cost, communication gap, non-availability of natural resources, rigid policies, deficiency in energy resource and non-availability of infrastructure. If investors are efficiency seeking or export orientated, they will give much consideration to infrastructure, as the objective of foreign investors is the maximization of profit and minimization of cost, these objectives can be easily achieved if they are provided with good infrastructure. A good and reliable infrastructure along with other factors, positively influence the location decision for FDI (Castro et al. 2007). For business environment one of the key ingredients is availability and reliability of good infrastructure (Khan and Kim, 1997), infrastructure is one of the key factor in attracting FDI in a country (Shah, 2014). Being the main variable of interest, three proxies are used that are mobile cellular subscriptions (per 100 people), internet user per 100, and GFCF stands for gross fix capital formation.

Table 5.1: Variables, Definitions, Expected Effect, Source

VARIABLE	PROXY USED	DEFINATION	EXPECTED EFFECT	SOURCE OF DATA COLLECTION
MARKET SIZE	POP	TOTAL POPULATION	POSTIVE	WDI(WORLD DEVELOPMENT INDICATOR)
TRADE OPENNESS	TRD OPN	PERCENTAGE OF GDP	POSITIVE	WDI
MACRO ECONOMIC STABILITY	EXC RATE	REAL EXCHANGE RATE	NEGATIVE	PENN WORLD
INFRASTRUCTURE	MOB USER PER 100	MOBILE USER PER 100 PERSON	POSTIVE	WDI
	INTERNETUSER PER 100	INTERNET USER PER 100 PERSON	POSITIVE	WDI
	GFCF	GROSS FIX CAPITAL FORMATION	POSTIVE	WB (WORLD BANK)
FOREIGN DIRECT INVESTMENT	FDI	NET FDI INFLOWS	POSTIVE	WDI

6. METHODOLOGY

SAMPLE: For data collection various secondary data sources are used like World Bank (WB), World Development Indicator (WDI), and Penn World. D8 countries is used a sample, setting a panel data from year 1997 to 2012 Where data for FDI, market size, trade openness, mobile user and internet

user per 100 is taken from WDI and for exchange rate Penn World data source is used, while for gross fix capital formation the data is collected from World Bank.

MODEL DESCRIPTION: The following model is selected by the guidance of literature, where as in the model the selection of independent variables and the availability of data is confined to the D8 countries from the period of 1997 to 2012.

EQUATION 1:

$$FDI_{jt}=f(\text{Market Size, Trade Openness, Exchange rate, Infrastructure})_{jt}$$

Where the subscript “j” indicate listed countries that are D8 varying from 1 to 8 and “t” indicate the time period that is from 1997 to 2012, thus having 128 as total number of observations (17*8=128) in the selected sample. $\beta_{(1...4)}$ are the coefficients of the variables and show change in the dependent variable due to unit change in independent variables.

Replacing the variables with the appropriate proxies given and log linearized as taking log of the variables helps in removing the expected heteroscedasticity (Resmini, 2000), hence equation 1 gives the equation2

$$Lnfdijt= \alpha_0 + \beta_1 LnPopjt + \beta_2 LnTradejt + \beta_3 LnXratejt + \beta_4 Ln(GFCFjt, Mobile\ user\ per\ 100\ peoplejt, Internet\ user\ per\ 100\ peoplejt) + \zeta_{jt} \dots (II)$$

Where InFDI = log of FDI net inflows US \$ and is taken as proxy and also as a dependent variable. α_0 = constant. β_1 β_2 β_3 and β_4 = parameters used for linking the the dependent variable with independent variables. InPOP = represent market size and showing the total population of a country. InTRAOPN= Trade as a percentage of GDP. InEXR = is the real exchange rate in US \$. InMOBUSER/100 = Mobile cellular subscriptions (per 100 people). InINTERNETUSER/100 = Internet user (per 100 person). InGFCF = is gross fix capital formation and as a proxy to infrastructure. It is the error term

ESTIMATION PROCEDURES

STATA 11 software is used for analyzing and estimating the results. Data is taken for all the eight D-8 member countries for 1997-2012 time periods.

HAUSMAN SPECIFICATION TEST

Following the work of Khadroo and Seetnah (1999) and Shah (2014), The Hausman test for the introduction of each proxy used for infrastructure is applied to analyze the data, the result that is chi2 (5) =20.31, Prob>chi2 (0.0011), the value obtain from the test suggests the fixed effect regression for the proxy mobile user per 100 person and internet user per 100 person, while for a proxy gross fixed capital formation, the result shows the value as Prob>chi2 = 0.0530, suggest to use random effect regression .

DESCRIPTIVE STATISTICS:

Table 5.2: Descriptive Statistics

Summary Statistics

Variable Name	Number of Observations	Mean Value	Standard Deviation	Minimum Value	Maximum Value
FDI	128	19.11	6.30	1.26	23.81
POP	128	18.35	0.64	16.89	19.32
TRAOPN	128	4.05	0.51	3.37	5.40
EXR	128	4.38	2.99	0.14	9.30
MOBUSER/100	128	2.69	1.61	0.01	4.95
INTERNETUSER/100	128	1.86	1.30	0.001	4.20
GFCF	128	24.10	0.97	21.64	26.41

Values are rounded off to two decimal places.

CORRELATION:

Table 5.3: Correlation

VARIABLES	PROXY	OBS	FDI	EXRATE	POP	TRADE OPENESS	INTER NET /100	MOB USER /100	GFCF
FDI	FDI	128	1.000						
Exchange Rate	ExRate	128	-0.562	1.000					
Market Size	POP	128	0.138	0.545	1.000				
Trade Openness	TRAOPN	128	0.163	-0.210	-0.669	1.000			
Internet user per 100 people	INTER NET/100	128	0.143	-0.258	-0.439	0.504	1.000		
Mobile User per 100 person	MOB USER/100	128	0.173	-0.152	-0.223	0.347	0.899	1.000	
GrossFixCapital Formation	GFCF	128	-0.093	0.168	-0.092	0.109	0.606	0.699	1.000

Values are rounded off to two decimal places.

MULTICOLLINEARITY: In order to check the existence of multicollinearity among the variables, VIF (Variance Inflation Factor) is used as indicative statistic, showing the effect of linear association between explanatory variables upon the variance of estimator as measured by the efficient of determination of R². The result of VIF which is 4.37 are not to be concerned about as the multicollinearity issues as being not highly based value as according to Hill and Adkins (2007 pages 264) rules that the value of VIF >10 is the level of multicollinearity which is not problematic. The most recommended maximum value of VIF is 5 (e.g. Rogerson, 2001). The maximum value 10 of the VIF is also recommended by some authors who is also acceptable (e.g. Kennedy, 1992).

Table 5.3: Multicollinearity

No	Equation	MEAN V.I.F Value
1	$FDI = a_0 + a_1 EXR + a_2 POP + a_3 TRAOPN$	2.02
2	$FDI = a_0 + a_1 EXR + a_2 POP + a_3 TRAOPN + a_4 MOBUSER/100$	1.86
3	$FDI = a_0 + a_1 EXR + a_2 POP + a_3 TRAOPN + a_4 MOBUSER/100 + a_5 INTERNT/100$	4.20
4	$FDI = a_0 + a_1 EXR + a_2 POP + a_3 TRAOPN + a_4 MOBUSER/100 + a_5 INTERNT/100 + a_6 GFCF$	4.37

HETEROSCADASTICITY: In order to check for the possible heteroscedasticity Breush-Pagan/CookWeisberg test is carried out, the test reject the null hypothesis of constant variance with result showing the value of $\chi^2 = 18.38, Prob > \chi^2 = 0.0000$, thus it shows the three exist heteroscedasticity. The problem of heteroscedasticity is resolved by using the robust option. While in case of gross fixed capital formation, it accepts the null hypothesis of constant variance.

RESULT AND DISCUSSION: The table 6 shows the regression analysis, three models are introduced. The first model (column 3) shows the estimation result for fixed effect regression for the model 1-2, followed by random effect regression for model 3. In each model variable like market size, trade openness, exchange rate are introduced, while for the infrastructure different aspect or alternative are introduced in each model.

By looking at the models, variable market size have positive endowment across all the estimation method but significant only for model 1 and 3 at a percentage of 5 and 1. Market size is one of the important variable, increases in the size of the market size associated in attracting more FDI inflows in a country.

Similarly Trade openness has positive and significant effect on FDI inflow, it means that country with flexible trade policy will help in attracting FDI, if foreign investors are provided with trade incentives like, reduced trade tariff, reduction in tax concession etc. The level of significance for trade openness in model 1 and 2 is at 10 %, while for model 3 its significance level is at 1 %.

For variable exchange rate, model 1, 2 and 3 found to have negative and significant effect at the level of 5 % on the FDI inflow. A country with instability in inflation cause a problem to that country as increase in inflation decrease the purchasing power and saving level thus decrease the flow of these investments. .

In the model 1, 2, and 3 different aspects of infrastructure have been used. Looking in the model 1 mobile user per 100 populations is used as a proxy for infrastructure, looking at the sign of positive coefficient of and having 10% significant effect on FDI thus proving that communication channel is one of the important factors for foreign investors in choosing the FDI locations. A good communication

channel is important in order to ensure easy communication way between host and home country. The overall fit of the model 1 is 61%.

In the model 2 internet user per 100 person, used as an alternative proxy for infrastructure, it can be seen that the value of coefficient is positive means that increases FDI inflows also increases but the level of significance is found to be insignificant it does not mean that the effect of infrastructure is not that much effective in attracting FDI it is possible that the proxy used in the model may not be suitable for 17 years in these country. The overall fit of the model is 67%.

For the model 3 GFCF is introduced as a proxy for infrastructure thus found to have a positive and significant effect on FDI inflows. GFCF is significant at 1 percent, thus gross fix capital formation is one of the important determinant of FDI inflows ,from the model 3 it can be seen that the coefficient of GFCF is positive thus 1 percent increase in GFCF causing 0.0717 increase in FDI inflows. Fit for the model 3 is 78%.

TABLE 6: Regression Analysis

Variables	Proxy Used	FIX EFFECT (robust)		
		1	2	RANDOM EFFECT 3
Market Size	Total population	4.129** (3.832)	5.521 (2.834)	7.573* (2.336)
Trade Openness	Trade Rate(% of GDP)	1.371*** (0.762)	1.471*** (0.840)	2.901* (0.622)
Exchange rate	Real effective exchange rate	-1.860* (0.596)	-1.900* (0.514)	-2.031* (0.522)
Infrastructure	Mobile User/100	0.417*** (0.235)		
	Internet User/100		0.480*** (0.268)	
	GFCF			0.654* (0.282)
R- Squared Value		0.61	0.67	0.78
No of Observations		128	128	128
The value of standard error is in parenthesis under coefficient while * show significance at 1%, **show significance at 5% and *** at 10%. Values are rounded off to three decimal places.				

7. CONCLUSION

It has been found that with escalation in rate of return and by subsidizing the cost of total investment to the foreign investors, Availability and reliability of good infrastructure such as good

channel of communication, availability of good physical infrastructure inform of roads, highways, port, electricity and gross fix capital formation, improves the climate for attracting these foreign investment and thus increase the productivity level and attract FDI inflows in these country, thus study found that infrastructure have positive and significant effect on FDI inflows. Variables that were often known for their ostentation in the literature like market size, economic growth, inflation, exchange rate trade openness are pervade throughout the study and thus found to positive and significant effect on FDI inflows.

It's important to know that the finding is only confined to D8 countries, thus it not can be generalized to other developing countries, and however the result can be used as guidance for improving the FDI inflows in one's country.

References

- Agiomirgianakis, G. M., Asteriou, D. & Papathoma, K. (2003). *The Determinants of Foreign Direct Investment: A Panel Data Study for the OECD Countries*. UK: Department of Economics, City University London.
- Asiedu, E. (2002): 'On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different?' *World Development*, 30(1), 107–18.
- Asiedu, E. (2006). Foreign direct investment in Africa: The Role of Government Policy, Institutions and Political Instability. *World Economy*, 29(1), 63-77.
- Asteriou, D., & Hall, S.G., (2007). *Multicollinearity: Applied Econometrics*. (Revised edn., pp. 85-99). Hampshire, UK: Palgrave Macmillan.
- Baltagi, B.H. (2008). *Econometric Analysis of Panel Data* (3rd ed.). West Sussex: John Wiley & Sons.
- Chakrabarti, A. (2001): 'The Determinants of Foreign Direct Investment: Sensitivity Analyses of Cross-Country Regressions', *KYKLOS*, 54, 89–114.
- Cheng, L. and Y. Kwan (2000): 'What are the Determinants of the Location of Foreign Direct Investment? The Chinese Experience', *Journal of International Economics*, 51, 379–400.
- Chatterjee, S. (2009). *Economic Analysis of FDI in India*. Gujrat: The Maharaja Sayajirao University of Baroda Vadodara.
- Demirhan, E., & Masca, M. (2008). Determinants of Foreign Direct Investment Flows to Developing Countries: A Cross-Sectional Analysis. *Prague Economic Papers*, 4, 356-369.
- Hill R. C. & Adkins L. C. (2007). *Colinearity. In a Companion to Theoretical Econometrics* (ed. Baltagi B. H., editor. pp. 256–278). Oxford, UK: Blackwell Publishing.
- Hausman, J. A. (1978). Specification Test in Econometrics. *ECONOMETRICA, Journal of Econometric Society*, 46(6), pp. 1251-1271.
- Kennedy, P. (1992). *A Guide to Econometrics*. Oxford: Blackwell.
- Iqbal, A., Azim, P., Akram, W., & Farooq, M.U. (2013). Impact of Foreign Direct Investment and Exports on the Economic Growth: A Case Study of Pakistan. *J. Asian Dev. Stud.*, 2(3), 89-97.
- Kok, R., & Ersoy, A. B. (2009). Analyses of FDI determinants in developing countries: *International Journal of Social Economics*, 36(1/2), 105 – 123.
- Kumar, N. (2001): 'Infrastructure Availability, Foreign Direct Investment Inflows and Their Export-orientation: A Cross-Country Exploration', *Research and Information System for Developing Countries*, New Delhi.
- Liargovas, P. G., & Skandalis, K. S. (2012). Foreign Direct Investment and Trade Openness: The Case of Developing Economies. *Social Indicators Research*, 106(2), pp. 323-331.
- M. Azam, I. I. (n.d.). Determinants of foreign Direct investment in India, Indonesia and Pakistan: A Quantitative approach. *Journal of Managerial Sciences*, VOL IV, Number 1.
- Mughal, M.M., & Akram, M. (2011). Does Market Size Affect FDI? The Case of Pakistan. *Interdisciplinary Journal of Contemporary Research in Business*, 2(9), 237-247.
- Pradhan, R. P., & Saha, D. (2011). Determinants of Foreign Direct Investment in SAARC Countries: An Investigation Using Panel VAR Model. *Information Management and Business Review*, 3(2), 117-126.
- Rehman, C.A., & Ilyas, M., Alam, H.M., Akram, M. (2011). The Impact of Infrastructure on Foreign Direct Investment: The Case of Pakistan. *International Journal of Business and Management*, 6(5), 268-276.
- Shah, M. H. (2010). *Essays on Foreign Direct Investment in Developing Countries*. UK: Department of Economics, University of Leicester.

- Shah, M.H., (2014). The Significance of Infrastructure for FDI Inflow in Developing Countries. *Journal of Life Economics*, 1(2), pp. 1-16.
- Srinivasan, P. (2012). Determinants of Foreign Direct Investment in SAARC Nations: An Econometric Investigation. *The IUP Journal of Managerial Economics*, 9(3), 26-42.
- UNCTAD (1999). World Investment Report 1999: Foreign direct investment and the challenge of development New York: United Nations.
- WDI (2002): World Development Indicators, World Bank, Washington DC.
- World Bank (2005): World Development Indicators on CD-ROM.
- Wheeler, D., & Mody A. (1992). International investment location decisions: The Case of U.S. firms. *Journal of International Economics* 33, 57-76.
- Zafar, M. (2013). The Determinants of Inward FDI in SAARC Countries: Evidence from a Time Series Data Analysis. *Journal of Economics and Sustainable Development*, 4(5), 105-114.