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TERRORISM IMPACT ON FOREIGN DIRECT INVESTMENT WITH OTHER TWO ECONOMIC INDICATORS (INFRASTRUCTURE & INFLATION) IN PAKISTAN

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ABSTRACT

This paper examines the impact of terrorism, infrastructure and inflation on Foreign Direct investment in Pakistan. Using time series data from 1990 to 2015 and applying the ordinary least square method to determine the relationship between the variables. The finding indicates that 'terrorism and inflation have negative while infrastructure has a positive effect on FDI. And the results also show that 'terrorism and infrastructure were significant while inflation was insignificant statistically. Stable and sound country situation with a stable hike in the rate of inflation and reliable infrastructure with some other factors in a country helps in attracting more foreign direct investment. But in recent years in Pakistan the level of FDI decreases because terrorist attacks started at large number after 9/11 and Pakistan lost investors confidence.

KEYWORDS: Terroism, FDI, Inflation, Infrastructure

INTRODUCTION

Foreign direct investment (FDI) are the investment invested by the foreign investors in a host country, it plays a vital role in development and escalation of economy of a country. FDI bridges the gap of saving and investment and makes possible the transfer of technology, creates employment, and improve the managerial skill in the host country. It fulfill the demand, helps in production of quality goods and services and also results in specialization of labors and other supplementary advantages.

The progression of globalization causes competition among developing countries to attract more and more FDI inflows so as to increase economic growth, therefore investors will consider those countries where the cost incur is less the profit gained and where their investment are secured. Countries that are facing the problem of terrorism will find difficulty in attracting the foreign investors because of co-occurrence of insecurity (Rasheed & Tahir, 2012).

OVERVIEW OF TERRORISM

Terrorism is the intended use of violence and aggression by a person or group to gain some social or political aims through terrorization of the general populace. It involves exertion of self annihilation, bombing, attacks, hijacking, abduct, assassinations and other disruptive activities (Sandler & Enders, 2008).

There are direct and indirect economic costs associated with terrorism, the outcomes of direct cost can be in the form of loss of life, destruction of infrastructure, damages of goods in business and commerce, etc. While upsurge in unemployment rate, thin out in Gross domestic product (GDP), lost of FDI, surpassing insurance payment and over excepted compensation for the riskier location are the forms of indirect cost. Such activities not only involves damages of the country's infrastructure, harm to a specific region, but also tear away country financial well-being (Rasheed & Tahir, 2012). Without taking consideration of country sources of being developed or developing economy, terrorism does effect

FDI inflows in a particular country. (Anwar & Mughal, 2013).

Terrorism has an effect on the economy and also on the political situation of the country. The war on terror brings miseries to Pakistan. All sectors of an economy like transport, business, agriculture, industry, tourism, manufacturing, fishing, mining etc effected due to war against terror. Terrorism has an adverse impact on the economy of Pakistan. We can see its worst effect in the form of a low level of FDI, BOP disturbance, trade imbalance, destruction of infrastructure, increase cost on security, instability in the value of money, moment of capital from Pakistan to other countries.

War on terror has direct and indirect cost effect. At the beginning the cost of the war was estimated to be $ 2.0669 billions, according to the economic survey of 2001-2002, hoping that this will come to an end by December 2001. But the war does not come to an end, is still going in different parts of Pakistan.

PAKISTAN AND FDI

Developing countries are in need of capital financing and are short of saving and making an investment, in order to fill the gap it is in need to attract these investment to raise their economic growth. Therefore the government should encourage investors by bringing relaxation in policy frame work to increase FDI inflows in a country. (Mallampally and Saurant, 1999).

Pakistan being a developing country, does not have resources for internal and external financing, and to have modern technology, stable industrial sector, more job opportunities, advance communication system, modern information system and to fulfill the saving investment gap, FDI inflows are crucial for Pakistan.

RESEARCH OBJECTIVE

The objective of the study is to examine the impact of terrorism, infrastructure and inflation on net Foreign direct investment inflows in Pakistan.

LITERATURE REVIEW

Both empirical and theoretical research have been made to explain trends in FDI inflows. Various factors have been pointed out by the researchers which affect the inflow of FDI. For instance Abade and Gandeazabal (2008) research found that terrorism risk effect greater movements of capital across the countries. Using cross country regression the study found that terrorism effect the FDI negatively. They studied that risk has greater influence on the decision of the international investors. Alamor and Sakhha (2011) use panel data of 136 less developed countries. They studied the impact of government barriers, terrorism, GDP and population on FDI. The authors found out that government barriers have a negative impact on FDI. Population and GDP of the host country have a positive impact on FDI inflows. Their important finding was that the terrorism has the most significant effect on the FDI in the host country. Shahrudin et al (2011) explained the determinants of FDI in Malaysia by using date from 1970 to 2008, using autoregressive distributable lag, they showed that the money supply and economic growth have a positive effect on FDI. More economic growth means more FDI because a country gets the confidence of the foreign investors. Kinyanjui (2011) explained the negative effect of terrorism on FDI in Kenya. He used a data set of three year from 2010 to 2011 for a number of attacks and FDI and shows through multiple regression model the negative impact of terrorism on FDI. Haidar and Anwar (2014) explained that terrorism creates instability which effect the FDI inflows in Pakistan. The study shows a negative relationship between the two variables by ARMX (auto regression integrated moving average) model using time series data. Rasheed and Tahir

(2012) used data from 2003 to 2011 found a negative relationship between terrorist attacks and FDI inflow to Pakistan. Anwar and Afza (2014) used ARMA and OLS regression model using date from 1980 to 2010.The authors found that gas production has positive impact on the FDI while terrorism has negative impact on FDI in Pakistan. Farooq and Zahoor (2014) studied terrorism and other economic indicators impact on FDI in Pakistan. The authors found that war has higher cost than the benefits of war. Hussain and Faiz (2015) showed the impact of terrorism with other factors on FDI in SAARC countries. The study concluded that terrorism and exchange rate volatility shows negative impact on terrorism, while market size, trade openness, infrastructure and economic growth have positive impact on FDI.

DATA AND METHODOLOGY

For an analysis, secondary source of data for the time period of 1990 to 2015 is used for the variables in the study. It is collected from World Development Indicator (WDI) and Global Terrorism Database (GTD).

UNIT ANALYSIS

The study uses time series data from the period of 1990 to 2015 for the country Pakistan.

MODEL / SPECIFICATION

FDIt =f(Terrorism, Infrastructure and inflation)t Equation (I)

The mathematical form of the model is as follows:

$FDIt = \alpha + \beta 1$ (Terrorism) $+\beta 2$(Infrastructure)$t+\beta 3$(Inflation)$t+\mu t$ Equation (II)

The intercept of a model is denoted by α, where the coefficient is denoted by β (1,2,3) of the variables. μ is the error term of the model, where the subscript "t" shows the time period from 1990 to 2015. The dependent variable is foreign direct investment in the study, where as terrorism inflation and infrastructure taken as independent variables.

FDI = FDI net inflows US $.

TERR= number of attacks by terrorists is used as a proxy for terrorism.

INF = proxy for inflation is taken GDP net deflator.

GFCF= is the proxy used for infrastructure stand for gross fixed capital formation.

THE DEPENDENT VARIABLE

Foreign Direct Investment (FD is the dependent variable of the study, while the proxy for FDI is taken as FDI net inflow in US $ from the World Development Indicator (WDI).

THE INDIPENDENT VARIABLE

Inflation

A country with a stable inflation rate gives confidence to the investors to invest in a host country. Thus a negative relationship is expected between FDI and inflation. The proxy taken for inflation is GDP deflator and the data is collected from WDI.

The hypothesis developed to be tested is:

Hypothesis 1: high rate of inflation causes decreases FDI inflow.

Infrastructure

The study uses GFCF as a proxy for infrastructure and expecting positive relationship between FDI and infrastructure, while the data is collected from WDI.

Hypothesis 2: Reliable infrastructure attracts more FDI inflow.

Terrorism

Is the prime independent variable of the study. The proxy used for terrorism is the number of attacks by terrorists by adding up the data on explosion bombing, armed assaults, hijacking, hostages, assassinations and unarmed assaults. And thus expecting a negative relationship between FDI and terrorism in a host country.

The relationship is hypothesized as:

Hypothesis 3: Terrorism in host country have negative effect on FDI.

ESTIMATION ISSUE

Using Stata Program Version 14 is used as a tool for analysing the data.

Analysis

Descriptive Statistics

Table 1: This Table Shows the Descriptive Statistics of All the Variables Taken In the Study

Variable	Mean	Std. Dev.	Min	Max
FDI	1.150408	1.50e+09	2.45e+08	5.59e+09
Terrorism	512.6293	707.0448	29	2481.222
GFCF	1.76e+10	9.11e+09	6.92e+09	3.28e+10
INFLA	10.39356	5.579541	2.463093	24.89115

Multiple Regression Model (OSL)

In order to find the result Ordinally Least Square Method is applied, in which more then two variables are taken.

Testing for Multiconlinearity

VIF (Variance Inflation Factor) Test

Table 2: Shows the VIF Value of the Variables Taken In the Study

Variable	VIF	1/VIF
Terrorism	2.80	0.357779
GFCF	2.75	0.363133
INFLA	1.10	0.909792
Mean VIF	2.022	

For checking multicollinearity among variables vif command is used. According to the rule of thumb by Kenndy (1992) and Hill and Adkins (2007) if the value of vif is greater then 10 then this shows that the problem of multicollinearity is existed in the variables. But according to the above result of the study the mean value of vif is 2.22 which is less then 10 which means that the presence of multicollinearity is not problematic.

TESTING OF MULTICONLINEARITY USING CORRELATION

Correlation shows the direction of variables in which they are moving. From the table 3 it can be noticed that the relation of FDI with terrorism is negative mean if terrorism decreases FDI inflows will increase in Pakistan.

Table 3: Correlation

	FDI	Terrorism	GFCF	INF
FDI	1.0000			
Terrorism	-0.2212	1.0000		
GFCF	0.3001	0.7799	1.0000	
INF	0.1369	-0.1359	0.0616	1.0000

CHECKING FOR THE PRESENCE OF HETEROSCADASTISITY

Data must be homoskedastic for the regression model. Time series data is tested for hetroskedasticity using the Brench-Paganl Cook Weisberg test. The result given below shows no heteroscadasity in the model means the co variance among variable is constant as the p value is greater than 0.01 mean we accept the null hypothesis which states that there is constant co variance among the variables of interest.

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted value of fdi

Chi2 (3) = 1.94

Prob > chi2 = 0.5857

RESULTS AND DESCUSSION

Below is the result of the study after running the the Stata on data.

Now lets simplify it to the following table.

Table 4: Regression Analysis

Variable	Proxy used for Variable	Beta (Coef.)/ Standard Error	T Value
Terrorism	No of attacks by terrorist	-0.0015233* (0.000273)	- 5.58
Infrastructure	GFCF (Gross fixed capital formation)	1.22e-10* (2.10e-11)	5.81
Inflation	Inflation GDP deflator	-0.0167026 (0.0216942)	-0.77
Value of the adjusted R square		63%	
The value of standard error are introduced in parenthesis under coefficient. Character ***Presents Significance at 1%, **Show Significance at 5% and *Represents Significance at 10%.			

In table4 terrorism shows a negative relationship with FDI, it means that if there is upsurge in rate of terrorism, then level of FDI inflow in Pakistan decreases and when the terrorism decreases the FDI increases. The hypothesis1 is proved true here. These finding is consistent with the findings of Madonia (2007), Abadie and Gardeazabal (2007), Sandles and Enders(2008), Shahrudin et al (2011), Rashed and Tahir (2012), Shabaz et el (2012), Haidar and Anwar (2014), Kinyanjui (2014), Farooq and Khan (2014), Shah and Faiz (2015).Various reasons are attach to the terrorism which causes the FDI to decrease. Due to terrorism political uncertainty increases in a country, destruction of infrastructure occurs, level of productivity decreases, movement of capital from the host country occurs and thus reduction in FDI is the ultimate result of Terrorism.

Another variable that is crucial for the study is inflation shows negative relationship with FDI but does not have significance. If there is no stable inflation rate in Pakistan this will cause hurdle because inflation decreases the purchasing power as well the saving level of the people, as a result will effect economic growth (Bibi, et al 2014) which has negative impact on FDI. The results support the finding of Jason Kiat (2010), but the result is contrary to the findings of Omankhanlen (2011), Saleem et al (2013).

Infrastructure shows positive and significant effect on with FDI inflows. It means that reliable infrastructure will increase in FDI inflows in host country, thus finding support the work of Rehman et al (2011) Bakar and Harun (2012), Shah (2014).

The R square depicts that independent variables predict 63 % variation in FDI. The three variables in the models are significant statistically. The about results shows the consistency with the other researches in the same field and support the theoretical predictions of the model.

CONCLUSIONS AND RECOMMENDATION

The study empirically analyze the impact of Terrorism, inflation and infrastructure on FDI inflow in Pakistan. Using Ordinary Least Square Method, setting time series data from the period of 1990 to 2015.

It is observed that stable inflation rate with availability of reliable infrastructure and free of terror climate augment the FDI inflow in a country. The result of the study shows that there is positive and significant relationship between FDI and infrastructure, inflation has negative but insignificant effect on FDI inflow in case of Pakistan, while the prime variable terrorism has negative and significant effect on FDI inflow as was expected, and thus discouraging FDI inflow in Pakistan.

Capital financing is essential for Pakistan in order to boost its economy. Pakistan is in need of more FDI To have improved skills, equip with modern technology, more job availability, to fulfill country's own demand, competitive goods and specialization in every sector of the economy. Therefore Govt. should take some serious measure to encourage, foreigner investor to invest in Pakistan. Pakistan should providing security to the investors investment, good law and order situation to bring peace and stability to get confidence of foreign investors and flexibility in policy framework to attract more foreign direct investment.

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AUTHORS DETAILS

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(**Short Introduction**: Did MSc Economics and also MA History, currently studying MBA in Department of Management Sciences, National University of Modern Languages, Pakistan and also doing chartered accountancy (CA) from Institute of Chartered Accountants of Pakistan).