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The Impact of Terrorism on FDI inflow in Pakistan

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Abstract

This paper intends to explore the impact of terrorism on FDI in Pakistan. Secondary data with a sample of 13 years from 2001 to 2013 is used. Augmented Dickey-Fuller is used to check the stationary/non stationary of data while ordinary least square method is employed to check the relationship between terrorism and FDI. The results reveals that there is negative and significant relationship exist between terrorism and FDI in Pakistan. The findings also show the behavior of international investors which are not willing to invest in Pakistan due to terrorist activities.

Keywords: terrorism; foreign direct investment; Pakistan.

Introduction

Foreign direct investment is the investment made by multinational corporations in foreign countries to control assets and production. Foreign direct investment plays a vital role in economic growth of any country but there are some factors that attract foreign direct investment like efficiency, resources, market growth and strategic motivators. Efficiency means cost efficiency of production, resources means skilled labor, infrastructure and energy resources, market growth means expected growth in host country and strategic motivators mean long term advantage in host country [1].

Foreign direct investment has two types, one is green field investment and other is brown field investment. Green field investment means starting a new business in foreign country and complete set up of a new business and brown field Investment means acquisition of any current business that is failed due to management or other reasons [2].

According to State bank of Pakistan foreign direct investment increases 17.9 % and it is 724 million US \$ during first eight months of current fiscal year. Pakistan is facing many challenges

like earth quacks, flood, suicide attacks, unemployment, electricity crises and terrorism etc. This study explored the impact of terrorism on foreign direct investment in Pakistan. In Pakistan many businesses and industries suffered loss due to electricity and energy crises and terrorism crises. The green field and private purchases of last 5 years in Pakistan are explained in Table 1 [2].

Table: 1 Foreign Direct Investment in Pakistan (millions doll.)

Years	Green Field Investment	Privatization proceeds	Total FDI
2008-2009	3720	—	3720
2009-2010	2150	—	2150
2010-2011	1635	—	1635
2011-2012	813	—	813
2012-2013	622	—	622
Total	8940		8940

Source: Board of Investment Pakistan

Terrorism means any illegal activity that includes attacks that damage the country, people and industries. Terrorism not only destroys the financial perspective of economy but it also destroys infrastructure and people's confidence in economy. In this age of globalization countries are trying to attract more and more foreign direct investment for economic growth. But it's only possible when foreign investors are willing to invest in particular economy and Investors always invest in those countries where they feel investment is secured and business transactions are safe. So any country like Pakistan faces difficulties to attract foreign investors because Pakistan is in condition of war and terror [3].

Besides Introduction section two of the paper contains literature review, section three includes data collection, research methodology and research model. The most important part result and interpretations are explained in section four and conclusion are explained in section five.

Literature review

Substantial data is available on FDI which aids in examining diverse dimension of FDI as studying in different countries of world. [4] studied the effect of FDI on current account balance excluding current transfers(CABECT), and income outflows (IO) of balance of payments (BOP) of Pakistan by utilizing ADRL approach. The study showed that with an increase in FDI, IO increase while had an adverse effect on CABECT in long run.

However with an increase in the number of terrorist activities in Pakistan, FDI inflows decline in Pakistan as investors are reluctant to invest due to fear of terrorism [5], also proved the negative relation between FDI and terrorism incidents i.e. with an increase in one event other move in opposite direction.

Bandyopadhyay *et al.* [6] added that no doubt all types of terrorism assuaged FDI but aids can reduce the harsh impact of terrorism on FDI. They also contended that aids can only lessen the adverse impact of domestic terrorism but unable to alleviate the impact of transactional terrorism on FDI.

FDI is considered as an important key for the prosperity of any country's economy. Zeb, Qiang, and Rauf [2] examined the relationship between GDP and FDI and they found positive relation between them i.e. FDI is playing significant role in the economic growth of Pakistan. A similar nature study was conducted in Indonesia by [7] keeping poverty reduction as main variable. His study concluded that FDI may positively affect poverty reduction but evidences only supported this scenario for labor intensive with export growth.

Pakistan's present energy and terrorism crisis have a discouraging factor for investor of foreign countries. Because of high demand and less supply of electricity industries in Pakistan have two choices whether to put their productions of goods on hold and wait for electricity or to use different energy resources to continue working and production but not everyone can adapt it.

This shortage of electricity has caused a big problem for working class and results in increasing unemployment. It is a disgusting situation for people who want to make investments in Pakistan. Power area in Pakistan is portrayed as semi-open and semi privatized vertically coordinated area. The northern ranges of Pakistan are thought to be a "place of refuge" for Al-Qaeda terrorists and the ingoing NATO automaton assaults in the tribal regions of Pakistan have further filled the picture of Pakistan as asylum for terrorists. This has terrified remote speculators from infusing capital into the nation [8].

Nonetheless, a nearly related however essentially diverse manifestation of disturbance, terrorism and its effect on monetary development is not as though in monetary writing. Hypothetically a negative relationship ought to exist between occasions of terrorism and monetary development. Terrorism can possibly obstruct monetary action through its multipronged influences including, however not constrained to, redirection of government consumptions from development upgrading financing exercises to less profitable consumptions on safeguard related exercises, diminishment in outside immediate financing (FDI) and venture capital (PI) is because of security issues and political instability of Pakistan and destruction of infrastructure [9].

Data Collection and research methodology

The current study explores the impact of terrorism on inflow foreign direct investment (FDI). FDI is taken as dependent variable which is measured in million US\$ in Pakistan while terrorism is taken as independent variable in this study. There can be different methods for measuring terrorism by taking total number of injured people, total number of attacks but in this study terrorism is measured by taking total number of killed persons yearly in Pakistan. The natural log of FDI and terrorism is taken for removing trend in data and for better results. Secondary data is used for this study, sample of 13 years' time series data from 2001 to 2013 is taken from world development indicator and south Asia terrorist portal. With the help of Eviews 7 unit root test for stationary of data and ordinary least square method is used to check the impact of terrorism on FDI.

On the basis of above literature the following hypothesis is developed.

Ho: There is no relationship between terrorism and foreign direct investment in Pakistan

H1: There is a relationship between terrorism and foreign direct investment in Pakistan

Analysis of data

Table: 2 No. of killed persons and FDI inflow in Pakistan

Years	No. of killed persons	FDI Inflow (million US\$)
2001	12	383
2002	23	823
2003	189	534
2004	863	1118
2005	648	2201
2006	1471	4273
2007	3598	5590
2008	6715	5438
2009	11704	2338
2010	7435	2018
2011	6303	1309
2012	6211	859
2013	5379	1307

Source: World development indicator and South Asia terrorist portal

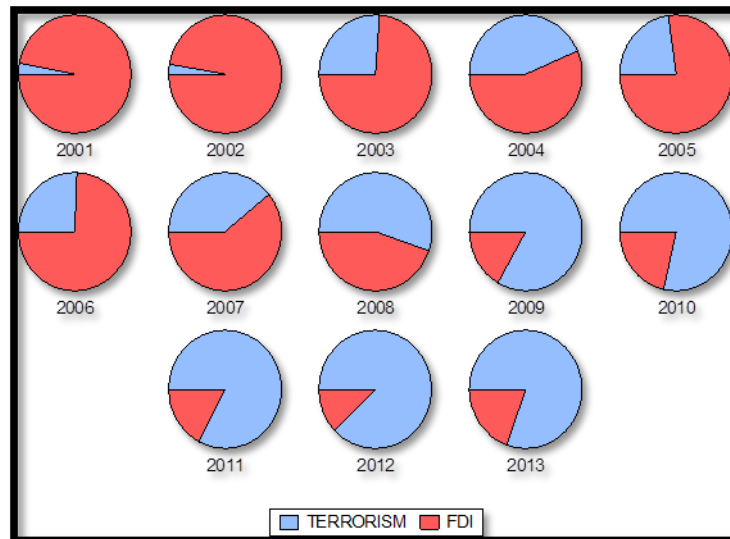


Figure 1. Terrorism and FDI

The above figure shows the separate yearly pie charts between terrorism and FDI from 2001 to 2013. It clearly shows in pie charts that there is maximum terrorism in 2009 and 2010 which results the minimum foreign direct investment in those years. There is maximum FDI in year 2001 due to less terrorist activities in this year. The pie charts are also showing a negative relationship between terrorism and FDI.

Model

$$FDI = \beta_0 + \beta_1 TER + \mu$$

$$LFDI = C + \beta_1 LTER + \mu$$

Where,

LFDI = Log of Foreign direct investment

β_0 = Intercept

β_1 = Effect of independent variable (terrorism)

LTER = Log of terrorism

μ = Error term

Results and Interpretations

Unit root test

Data is time series in nature so it is necessary to check out the stationarity of the data because non-stationary data cause spurious results. In this purpose Augmented dickey fuller unit root test is employed.

Ho: LFDI has a unit root problem

H2: LFDI is stationary

Table: 3 Unit root results of LFDI

LFDI			
Exogenous: Constant			
Lag Length: 2 (Automatic - based on SIC, maxlag=2)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.127102	0.0128
Test critical values:	1% level	-4.297073	
	5% level	-3.212696	
	10% level	-2.747676	
*MacKinnon (1996) one-sided p-values.			

* Indicate significance at the 5 % level

Above table shows the augmented Dickey-Fuller unit root results of natural log of foreign direct investment. NFDI is checked at level and p value is .01 which is significant at .05 level. Hence, Ho is rejected and LFDI is stationary at level.

Ho: LTER has a unit root problem

H3: LTER is stationary

Table: 4 Unit root results of LTER

LTER		
Exogenous: Constant		
Lag Length: 2 (Automatic - based on SIC, maxlag=2)		
	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.136307	0.0507
Test critical values:	1% level	-4.297073
	5% level	-3.212696
	10% level	-2.747676
*MacKinnon (1996) one-sided p-values.		

* Indicate significance at the 1 % level

Above table shows the augmented Dickey-Fuller unit root results of natural log of terrorism. LTER is checked at level and p value is .05 which is significant at .1 level. Hence, Ho is rejected and LFDI is also stationary at level. Both the variables are stationary at level so the further OLS test can be employed.

OLS and testing of hypothesis

Table: 5 OLS Results

Dependent Variable: LFDI				
Method: Least Squares				
Date: 11/09/14 Time: 11:53				
Sample: 2001 2013				
Included observations: 13				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.135557	1.010345	5.082974	0.0004
LTER	-0.394834	0.175421	-2.250786	*0.0458
R-squared	0.315326	Mean dependent var		7.363233
Adjusted R-squared	0.253083	S.D. dependent var		0.847084
S.E. of regression	0.732087	Akaike info criterion		2.354803
Sum squared resid	5.895464	Schwarz criterion		2.441719
Log likelihood	-13.30622	Hannan-Quinn criter.		2.336938
F-statistic	5.066040	Durbin-Watson stat		0.619937
Prob(F-statistic)	0.045827			

* indicate significance at the 5 % level

Above table shows the result of ordinary least square method. P value is $.04 < .05$ which is significant at $.05$ level. So the null hypothesis is rejected and H_1 is accepted which means that there is significant relationship between terrorism and FDI. β_1 is $-.39$ which shows that there is 39 % impact of terrorism on FDI and negative sign shows the inverse relationship between terrorism and FDI which explains that greater the terrorism activity will reduce the FDI in Pakistan.

Adjusted R^2 is $.25$ which means that there is 25 % variation in dependent variable (FDI) due to change in independent variable (terrorism). It also shows the goodness of fit of the model so our model is not good due to less number of observations. Durbin-Watson is $.61$ which means that there is positive autocorrelation exist in model.

Conclusion

This study investigated the impact of terrorism on FDI in Pakistan. OLS method is employed on time series data from 2001 to 2013. The results reveals that there is negative and significant relationship between terrorism and FDI. Foreign direct investment is key player to develop the economy of any country but unfortunately Pakistan is suffering with a huge terrorist activities which results the declining trend in FDI inflow. This study is also showed that terrorist happenings drop the confidence of foreign investors which gradually decline the FDI in Pakistan. Government should make some policies to encourage local investors for making investment in Pakistan ultimately will encourage foreign investors and FDI will increase. The results of this paper is similar with the results of [5] & [10].

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