Terrorism and Foreign Direct Investment: An empirical analysis of Afghanistan

Nassir Ul Haq Wani[1]

1. Head, Department of Research and Development, Kardan University

Abstract

The current state of terrorism has posed serious challenges to stability of macroeconomic environment causing the displacement of Foreign Direct Investment (FDI). This study aims to find the impact of terrorism along with other important independent variables such as market size, economic growth, infrastructure, exchange rate and trade openness on FDI inflows in Afghanistan. By employing a time series econometric estimation model on annual data from 2008-2017 the results of the study showed a significant positive impact of market size, trade openness, infrastructure availability, exchange rate and economic growth on inward FDI in Afghanistan. The results revealed that terrorism has statistically significant and negative relationship with FDI inflows. This empirically establishes the fact that terrorism is a serious threat to FDI and economic growth for Afghan economy.

Key Words: *FDI, Terrorism, Infrastructure, Market Size, Macroeconomic Stability, Economic Development.*

JEL Classifications: *C230, F130, F140, F210, F230*

1. Introduction

The maintenance of gap between savings and investments is one of the serious issues faced by the developing economies. Therefore, foreign capital is a constant need and arsenal to cope with the rest globe. Initially the scenario was that the developing economies took loans from international commercial banks to build their economies but the debt crises in 1980's caused drying-up of commercial bank lending which forced most of the economies to restructure and change their investment policies. Against this backdrop, one of the most stable and easiest ways to acquire foreign capital without undertaking the risks associated with debts was Foreign Di-

rect Investment (FDI). Thus, FDI became an important source of attracting foreign investors (Khachoo & Khan, 2012). According to (UNCTAD, 1999) FDI is defined as, "an investment involving a long-term relationship and reflecting a lasting interest and control of a resident entity in one economy (foreign direct investor or parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor (FDI enterprise, affiliate enterprise or foreign affiliate)". FDI is very crucial for the economic growth of Afghanistan as the economy faces the dilemma of saving-investment gap. Afghanistan does not have sufficient internally generated sources to maintain the tempo of economic activities; therefore, FDI is very important to complement the domestic investment in order to achieve economic objectives. FDI is crucial for Afghanistan in order to finance development projects, strengthening industrial sectors, increasing employment opportunities, attaining improved technology, enhancing domestic managerial skills, augmenting productivity and output, improving balance of payments, foreign exchange reserves, physical infrastructure and human resources and ultimately achieving higher rate of economic growth. The economy of Afghanistan has been under severe economic pressure because of war against terrorism.

Terrorist activities not only affect that particular region or country's infrastructure, but it also affects the financial wellbeing of that country, because terror creates instability and uncertainty in the country. This results in loss of foreign investors' confidence in that economy, thus decreasing the level of foreign investments. Small wonder, Afghanistan is also facing this bitter reality of decreased foreign direct investment because of the rising tide of terrorism. Due to the uncertainty and instability in the economy investors feel insecure about their investment and their returns. So, investors do critical analysis of all these situations before pouring their money in international markets. Consequently, countries facing the problem of terrorism are hardly attractive to overseas investors due to the associated insecurity (Rasheed & Tahir, 2012).

1.1: Overview of Terrorism

It has been argued that terrorism should not have a large effect on economic activity, because terrorist attacks destroy only a small fraction of the stock of capital of a country (Becker, G., Murphy, K., 2001). In contrast, empirical estimates of the consequences of terrorism typically suggest large effects on economic outcomes (Abadie and Gardeazabal, 2003). Terrorism is defined as the deliberate use or threat of violence and aggression by individuals or groups to gain some social or political objectives through terrorization of general public including the direct victims. Terrorist activities include bombings, suicide attacks, kidnapping, hijacking, threats, assassinations and other aggressive activities (Sandler & Enders, 2008). The economic costs related to terrorism are both direct and indirect. Direct costs resulting from terrorism include precious lives lost, cost linked with injuries, damaged goods and infrastructure and other short term loses in business and commerce etc. Indirect costs resulting from terrorist activities include greater security costs, reduced growth of Gross Domestic Product (GDP), increased unemployment, lost FDI, higher insurance payments and greater expected compensations for the riskier locations. Terrorist activities not only cause damage to particular region and country's infrastructure but also destroy the financial wellbeing of the country (Rasheed & Tahir, 2012). It exerts negative impact on FDI regardless of the fact whether the source country is developed or a developing economy (Anwar & Mughal, 2013).

From an economic standpoint, terrorism has four main effects according to US Congress, Joint Economic Committee, 2002. First, the capital stock (human and physical) of a country is reduced as a result of terrorist attacks. Second, the terrorist threat induces higher levels of uncertainty. Third, terrorism promotes increases in counter-terrorism expenditures, drawing resources from productive sectors for use in security. Fourth, terrorism is known to affect negatively specific industries such as tourism (Enders et al. 1992). However, this classification does not include the potential effects of increased terrorist threats in an open economy. As Sandler

and Enders, (2005) define terrorism as the "the premeditated use or threat of use of violence by individuals or sub-national groups to obtain a political or social objective through the intimidation of a large audience, beyond that of the immediate victim". After 9/11 attacks, terrorism became a global issue; this put adverse effects on all over the world economy especially in Middle-East and South Asia. The economy which was worst affected after 9/11 was Afghanistan. Intensity of terrorism and its adverse effects on developing countries like Afghanistan are much more serious as compared to developed countries. Afghanistan is paying a great price for involvement in war against terrorism in term of economic, human, social losses and lost the confidence of foreign investors.

1.2: FDI in Afghanistan

FDI plays an important role in the economic growth and development of any economy. However, the amount of FDI attracted by Afghanistan is quite insignificant relative to other neighboring economies of Afghanistan like other members of SAARC and rest of the world over the period under study. In 2008 the world economy was shaken because of financial crises. Amid a sharpening financial and economic crisis, global FDI inflows fell from a historic high of $1,979 billion in 2007 to $1,697 billion in 2008, a decline of 14%. FDI inflows to Afghanistan were only 0.2% of the global flows in 2008 whereas by 2016 the total FDI flows dropped to 0.005% of the global FDI inflows as in 2016 the global FDI inflow was $1.75 trillion (World Investment Reports, 2008 and 2016). Afghanistan is confronting major obstructions to attract FDI and one of the main hindrances appears to be ongoing terrorism in the region as during the passage of time the number of terrorist activities increased at an alarming pace. Therefore this study is an endeavor to work in the same direction to see the impact of terrorism on FDI along with other independent variables like (market size, economic growth, infrastructure, exchange rate and trade openness).

1.3: Research Objectives

The objectives of the study is to provide exclusive work about the im-

pact that terrorism has on FDI inflows in Afghanistan and to shed light on other potential location pull factors of inward FDI to Afghanistan.

2. Literature Review

Some theoretical and empirical work has already been done to explore the FDI terrorism association along with the conventional location control variables such as market size, exchange rate, trade openness, inflation, infrastructure and economic growth in different contexts and regions but in case of Afghanistan, there is not a single study available which has shed light on this issue.

Alam *et al* (2017) investigated the effects of terrorism on foreign direct investment (FDI) inflows in Pakistan. Time-Series data from 2000 to 2015 has been taken for the variables. This study considered log value of FDI and terrorism data for analysis. Correlation analysis and Ordinary Least Square (OLS) techniques were used to examine the relationship and its intensity between the FDI inflows and Terrorism. The tests determined negative association between the dependent variable FDI inflows and independent variable Terrorism. It means terrorism put adverse effect and become a cause of variation in foreign direct investment in Pakistan. Bezic (2016) empirically determine the effects of terrorism on FDI of the selected EU and EEA member countries. The methodology is based on a system-GMM estimator for dynamic panel data models on a sample covering up to 29 countries, and 13-year periods from 2000 to 2013. The main results confirmed that terrorism incidents, economic and institutional variables are found to depress FDI of analysed EU and EEA countries. It can be concluded that terrorism and institutional stability are most influential on FDI inflows of the observed EU and EEA countries. The results indicate that terrorist activities reduce security and confidence of investors in countries exposed to terrorist activities, reducing the inflow of foreign direct investment. Morrison *et al* (2016) examined the effect of terrorist's activities on foreign direct investment in five selected countries in Africa. The major thrust of the study was to find out whether terrorism in its diverse dimensions had impacted positive-

ly or otherwise on FDI in the participating economies. Secondary data design was adopted to collect data and the period of coverage was 40 years spanning 1970- 2010. Regression analysis through the Ordinary Least Square (OLS) method was used to analyze data. Findings revealed that terrorism has significant effect on FDI. Thus, increase in terrorist activities has devastatingly negative effect on inflow of foreign investment.

Shah and Faiz (2015) in their study depicted the impact of terrorism along with other important location variables such as market size, economic growth, exchange rate, infrastructure and trade openness on FDI inflows in five SAARC member nations, namely, Bangladesh, India, Nepal, Pakistan and Sri Lanka. Utilizing a panel econometric estimation model on annual data from 1980-2012 the results of the study showed a significant positive impact of market size, trade openness, infrastructure availability and economic growth on inward FDI in these SAARC countries but, exchange rate volatility exhibited a negative relationship with FDI inflows. The results revealed that terrorism has statistically significant and negative rapport with FDI inflows. This empirically establishes the fact that terrorism is a serious threat to FDI and economic growth for the economies in this region. Shakeel and Shah (2015) in their study analyzed the impact of drone attacks and suicide attacks on the economy of Pakistan specifically by focusing on variables such as Gross Domestic Product (GDP), Foreign Direct Investment (FDI) and value of Rupee covering period from 2005-2014. A descriptive statistical technique was used to examine the data. The hypothesis was assessed by using various techniques including Pearson correlation technique and linear regression model. The data has been gathered by using various sources including South Asia Terrorism Portal (SATP), World Bank Development Indicators etc. The findings indicated that GDP growth has very strong negative relationship with suicide attacks and drone attacks whereas suicide attacks and drone attacks have no impact on FDI net inflows and Value of Pak Rupee. Anwar and Afza (2014) in their study focused to find the impact of terrorism and political instability on inward FDI along with location control variables such as market size, trade openness, infrastructure,

investor's incentives, exchange rate and inflation. The results confirmed that there are negative implications of terrorism and political instability on FDI. Whereas, other control variables like market size measured by GDP, infrastructure measured by gas generation, investor incentives and trade openness encourages FDI inflows. Exchange rate and inflation were found to have negative influence on FDI. Kinyanjui (2014) assessed the relationship between terrorism and foreign direct investment in Kenya. Secondary data on the Terrorism attacks and FDI from 2010 to 2012 was used for the study. Multiple regression model was used to test of the relationship between the study variables. The study found that terrorism negatively affects FDI in Kenya. It was concluded that Terrorism activities negatively affect the FDI in Kenya. Zulfiqar (2014) explored the impact of terrorism on FDI in Pakistan. Secondary data with a sample of 13 years from 2001 to 2013 was used. Augmented Dickey-Fuller was used to check the stationary/non stationary of data while ordinary least square method was employed to check the relationship between terrorism and FDI. The results revealed that there is negative relationship between terrorism and FDI in Pakistan. Anwar and Mughal (2013) examined the differential response of various international financial flows to post 9/11 episode of terrorism in developing countries. Using monthly data for the period from January 2003 to June 2013, ARMAX technique was employed to analyze the impact of terrorism in Pakistan on the inflows of foreign direct investments (FDI), portfolio investments, migrant remittances and exports receipts. The results revealed that FDI falls substantially as a result of terrorist activity, whereas portfolio investments and exports show little change. In contrast, migrant remittances show a significant increase. These differences are also visible among financial flows coming from major source regions and countries. The results are robust to use of alternative definitions and indicators of terrorism as well as the inclusion of various macroeconomic variables. The findings indicate that foreign private capital flees an economy suffering from terrorism whereas domestic producers stay put. Migrant remittances, however, are the only financial flows that rise in the time of difficulty. Guesmi and Teu-

lon (2013) in their study aimed to investigate the major drivers of FDI in six selected SAARC countries. The study covered the period 1988-2010 using panel data estimation technique. Macroeconomic variables such as growth rate, exchange rate, trade openness and economic instability were found to have significant impact on FDI. There is mixed evidence regarding the impact of terrorism on FDI in different regions.

Rasheed and Tahir (2012) in their study explored the terrorist situations prevailing in Pakistan and justified that terrorist activities not only affects that particular region or country's infrastructure, but it also affects the financial well-being of that country. Terrorist activities create instability and uncertainty in the country and thus results in loss of foreign investors' confidence in that economy, hereby decreasing the level of foreign investments. Shahbaz et al (2012) examined the relationship between terrorism and foreign direct investment by using data from 2000 to 2011.Ordinary least square testing approach was used to examine the relationship between two variables. By applying the model, the results revealed that terrorism was having significant negative effect on foreign direct investment of Pakistan. Anitha (2012) in her study employed multiple regression models to analyse the determinants of FDI in India. The results showed that market size and trade openness are among the most influential factors for FDI inflows in India. For infrastructure, the proxy used is electricity generated and the results showed negative relationship between infrastructure and FDI. Srinivasan (2012) in his study claimed that market size, trade openness, developed infrastructure and GDP per Capita are the key drivers in attracting FDI to SAARC countries. Agrawal (2011) in his study explained that investors in different sectors do not respond to terrorism in the same way and their ability to respond to risk is affected by other factors as well, like, economic and political factors. Bandyopadhyay *et al* (2011) mainly focused on the two major forms of terrorism i.e. transnational and domestic terrorism. Their findings revealed that all types of terrorism depress FDI. Transnational terrorist acts have more harmful impacts on FDI as compared to domestic terrorism. Mughal and Akram (2011) in their study indicated market size

as the most influential and dominating factor attracting FDI to developing countries like Pakistan. The study also revealed that both corporate tax and exchange rate have negative association with FDI in long run as well as in short run. Rehman et al. (2011) in their study revealed that infrastructure raises FDI inflows. Market size has favourable impact on FDI whereas exchange rate has negative relationship with FDI. Countries with depreciating currencies are preferred by investors because their investment enjoys better purchasing power and lesser initial costs. Chatterjee (2009) stated that market size, inflation, trade openness and economic stability are statistically significant and most dominating in determining FDI flows to India whereas infrastructure availability has no significant impact on FDI in case of India.

According to Sandler and Enders (2008) terrorist campaigns have significant macroeconomic impacts on developing and small countries. Whereas, in more developed and diversified countries terrorism have temporary influence because resources are transferred to other sectors that are less influenced by terrorism or they deploy enhanced security measures. Demirhan and Masca (2008) employed cross sectional econometric model to determine the factors attracting FDI to developing countries for the period 2000-2004.According to their results market size, trade openness and infrastructure availability have positive relationship with FDI. It means that investors prefer countries that are economically growing and have better infrastructure facilities as well as are willing to accept FDI.

Abadie and Gardeazabal (2007) argued that terrorism has a greater impact on the allocation of capital across countries. Due to increased uncertainty caused by terrorism, the expected return on investment is also reduced by terror activities. The authors argued in their study that higher the terrorism risk, lower the level of net FDI inflows. Madonia (2007) attempted to find the effect of terrorism on FDI and categorized terrorism as total, domestic and international terrorist incidents. These variables were found to have negative relationship with inward FDI.

The review of literature clearly suggests the negative impact that

terrorism has on FDI inflows. The other important location determinants of FDI are also discussed in different context. However, these factors and their influence vary from region to region. More exclusive work on terrorism along with the key factors effecting FDI flows to an economy like Afghanistan needs to be done. The present study seeks to fill the empirical gap in literature in this context.

3. Methodology

The study uses annual secondary data which is collected for the period 2008-2017 for the variables of interest. The data used in analysis is obtained from different sources such as World Bank World Development Indicators (WDI) and Global Terrorism Database (GTD).

3.1: Unit of Analysis:

The study uses time series data analysis of Afghanistan over the period 2008-2017.

3.2: Development of the Model / Model Specifications:

The model that is to be estimated is formulated as:

$$FDI_t = f(MS, EG, ER, I, TO \text{ and } T)_t \qquad (I)$$

Where MS implies 'Market Size', EG represents 'Economic Growth', ER refers to 'Exchange Rate', I denotes 'Infrastructure', TO and T depicts Trade Openness and Terrorism.

The mathematical form of the model is as follows:

$$FDI_t = \alpha + \beta_1(MS)_t + \beta_2(EG)_t + \beta_3(ER)_t + \beta_4(I)_t + \beta_5(TO)_t + \beta 6(T)_t + \mu_t \qquad (II)$$

Where, α is the intercept of the model. β (1,2… 6) are the coefficients of the variables and shows the change in FDI due to unit change in the independent variables and μ is the error term of the model. FDI is the dependent variable of the model whereas market size, economic growth, exchange rate, infrastructure, trade openness and terrorism are the independent variables.

The Dependent Variable

Foreign Direct Investment (FDI):

FDI is the dependent variable of the study. The measure used for FDI is "FDI net inflows in US$". The data is obtained from World Bank World Development Indicators (WDI) for Afghanistan included in the sample over the period 2008 to 2017.

The Independent Variables

Market Size (Pop):

Market Size is the first independent variable in the model. "Population of the country" is used as proxy for market size and positive impact of market size is expected.

Economic Growth (PCI):

Another important variable of the model is economic growth. The measure used for economic growth is "Per capita income" and the data source for this variable is also WDI.

Exchange Rate (ER):

The data for this variable of the model is obtained from World Bank and the operationalization for this variable is exchange rates in local currency relative to US$.

Infrastructure (EP):

Infrastructure is another independent variable of the model. Positive relationship is expected between FDI and Infrastructure in the present study. Similar to the other studies by Ranjan and Agrawal (2011), Anitha (2012) and Khachoo and Khan (2012) the proxy used for this variable is "Electricity Production".

Trade Openness (TO):

Trade openness is another independent variable of the model which is seen as an important determinant of FDI. The proxy used for trade openness is

"Import plus export as percentage of GDP".

Terrorism (TR):

Terrorism is the cardinal independent variable of the study. The proxy "No of terrorist attacks" is used in the study. The proxy is formulated by adding up the data on explosion/bombing, armed assault, hijacking, hostages, assassinations and unarmed assaults. The data is obtained from Global Terrorism Database (GTD).

Estimation Issues

The analysis is carried out through SPSS version 24. 8. This section of the study elaborates the main estimation issues in the time series data analysis.

Log Transformation:

The data is log transformed by taking natural log of all the variables in the data in order to meet the assumption of linear regression according to which the variables must be normally distributed. Log linearization of the data also helps to decrease the chances of expected heteroscadasticity in the data and provides better estimation results. After converting data into log form the model of the study can be represented as:

$$LnFDI_{jt}=\alpha+\beta_1(LnMS)_{jt}+\beta_2(LnEG)_{jt}+\beta3(LnER)_{jt}+\beta4(LnI)_{jt}+\beta5(LnTO)_{jt}+\beta6(LnT)_{jt}+\mu_{jt}\ldots..(III)$$

Where, LnFDI is the natural log of Net FDI inflows, LnMS is the natural log of market size, LnEG is the natural log of economic growth, LnER, LnI, LnTO and LnT are the natural log of exchange rate, infrastructure, trade openness and terrorism respectively.

4. Data analysis and Discussion

In order to analyse the data by using multiple linear regression through OLS, it is pre-requisite to make sure that the data is worth to be subjected to assumptions of OLS model. It is only appropriate to use linear regression if the data "passes" five assumptions that are required for linear regression to give a valid result like the variables should be measured at

the continuous level (i.e., they are either interval or ratio variables), there needs to be a linear relationship between the variables, there should be no significant outliers, there should have independence of observations, which can be checked by using the Durbin-Watson statistic and finally data needs to show homoscedasticity, which is where the variances along the line of best fit remain similar. The following table 1 summarizes the descriptive statistics for all the variables of the study.

Table 1: Descriptive Statistics

Variables	Mean	Std. Deviation	N
FDI in $	84929923.20	55681190.870	10
Pop (total)	31291940.10	2856652.662	10
ER	56.6840	8.93339	10
EP (bn kwh)	.7480	.32276	10
GNI in $	1771.00	255.884	10
TO	55.67964736	7.20493794	10
TR	1158.00	614.001	10

Source: *Output generated from SPSS V 24.0*

In order to check that there is no multicollinearity in the data, predictors (or IVs) need not to be highly correlated. From table 2 by looking at the Correlations table if the value of correlations of more than 0.8 exists, then it is problematic. In this case, this is not an issue, as the highest correlation is r =.698.

Table 2: Correlations

		FDI	POP	ER	EP	GNI	TO	TR
Pearson Correlation	FDI	1.000	.114	.306	.380	-.026	.055	.042
	POP	.114	1.000	.619	.549	.699	-.301	.539
	ER	.306	.619	1.000	.498	.518	.011	.522
	EP	.380	.549	.698	1.000	.296	.440	.525
	GNI	-.026	.699	.518	.296	1.000	-.628	.475
	TO	.055	-.301	.011	.440	-.628	1.000	-.361
	TR	.042	.539	.522	.525	.475	-.361	1.000

Sig. (1-tailed)	FDI	.	.377	.195	.140	.472	.440	.455
	POP	.377	.	.000	.050	.000	.199	.001
	ER	.195	.000	.	.003	.010	.488	.002
	EP	.140	.050	.003	.	.203	.102	.059
	GNI	.472	.000	.010	.203	.	.026	.000
	TO	.440	.199	.488	.102	.026	.	.152
	TR	.455	.001	.002	.059	.000	.152	.
N	FDI	10	10	10	10	10	10	10
	POP	10	10	10	10	10	10	10
	ER	10	10	10	10	10	10	10
	EP	10	10	10	10	10	10	10
	GNI	10	10	10	10	10	10	10
	TO	10	10	10	10	10	10	10
	TR	10	10	10	10	10	10	10

Source: *Output generated from SPSS V 24.0*

This assumption can also be tested by looking at the Coefficients table 3 which allows to more formally checking that the predictors (or IVs) are not too highly correlated. For this purpose, VIF and Tolerance statistics can be very well used to assess this assumption. For the assumption to be met VIF scores need to be well below 10, and tolerance scores to be above 0.2 (Field. A, 2008); and hence looking at the Collinearity Statistics, the value of VIF and Tolerance statistics are up to the mark.

Table 3: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	138.00	198.900		5.374	.013		
	Pop	.867	.283	5.072	-3.265	.047	.07	6.982
	ER	.700	.909	6.188	4.409	.022	.09	1.807
	EP	.160	.950	6.460	-.969	.041	.08	2.794
	GNI	.588	.558	1.273	1.054	.036	.012	8.850
	TO	.720	.505	1.304	-3.311	.005	.14	8.803
	TR	-.221	.612	2.131	-3.542	.008	.09	9.545
a. Dependent Variable: FDI Inflow in Afg ($)								

Source: *Output generated from SPSS V 24.0*

To check the next assumption table 4 presents the Model Summary box. In order to use the Durbin-Watson statistic to test the assumption that

the residuals are independent (or uncorrelated). For this, the value of DW Statistic can vary from 0 to 4 but for the assumption to be met out; this value should be close to 2. Values below 1 and above 3 are cause for concern and may render the analysis invalid (Field. A, 2008), but from Durbin-Watson column, the value is 1.085 confirming the independency of residuals.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.973[a]	.947	.841	22173995.620	1.085
a. Predictors: (Constant), Terrorism (No. of terrorist attacks), Trade Openness, Population (total), Electricity Production(bn kwh), GNI per capita, PPP (current international $), Exchange rate					
b. Dependent Variable: FDI Inflow in Afg ($)					

Source: *Output generated from SPSS V 24.0*

This table 4 furthermore provides the information about the *R* and R^2 values. The *R* value represents the simple correlation and is 0.973 (the **"**R**"** Column), which indicates a high degree of correlation. The R^2 value (the «R Square**"** column) indicates how much of the total variation in the dependent variable FDI, can be explained by the independent variables namely Terrorism (No. of terrorist attacks), Trade Openness, Population (total), Electricity Production (bn kwh), GNI per capita, PPP (current international $), Exchange rate. In this case, 94.7% can be explained, which is very large. Because regression maximizes R square for the sample, it will be somewhat lower for the entire data, a phenomenon known as shrinkage. The adjusted R square estimates the population R square for our model and thus gives a more realistic indication of its predictive power.

The next table is the ANOVA, which reports how well the regression equation fits the data (i.e., predicts the dependent variable) and is shown below:

Table 5: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	264284960000.000	6	4404749484000.00	8.958	.00050[b]
	Residual	1475058245000.000	3	491686081600.000		
	Total	2790355515000.000	9			

a. Dependent Variable: FDI Inflow in Afg ($)
b. Predictors: (Constant), Terrorism (No. of terrorist attacks), Trade Openness, Population (total), Electricity Production(bn kwh), GNI per capita, PPP (current international $), Exchange rate

Source: *Output generated from SPSS V 24.0*

This table indicates that the regression model predicts the dependent variable significantly well by looking at the **"**Regression**"** row and "**Sig.**" column. This indicates the statistical significance of the regression model that was run. As, $p < 0.0005$, which is less than 0.05, and indicates that, overall, the regression model statistically significantly predicts the outcome variable (i.e., it is a good fit for the data).

Table 6: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	138.000	198.900		5.374	.013
	Population (total)	.867	.283	5.072	-3.265	.047
	Exchange rate	.700	.909	6.188	4.409	.022
	Electricity Prod	.160	.950	6.460	-.969	.041
	GNI per capita, PPP $	.588	.558	1.273	1.054	.036
	Trade Openness	.720	.505	1.304	-3.311	.005
	Terrorism	-.221	.612	2.131	-3.542	.008
a. Dependent Variable: FDI Inflow in Afg ($)						

Source: *Output generated from SPSS V 24.0*

The Coefficients table provides us with the necessary information to predict FDI from Population, Exchange rate, Electricity production, GNI per capita, Trade openness and Terrorism, as well as determine whether the Independent Variables contributes statistically significantly to the model. Furthermore, we can use the values in the **"**B**"** column under the **"**Unstandardized Coefficients**"** column, as shown below to present the regression equation as:

$$FDI = 138.0 + 0.867\,(Pop) + 0.700\,(ER) + 0.160\,(EP) + 0.588\,(GNI) + 0.720\,(TO) - 0.221\,(TR)$$

The b coefficients portray that how many units of FDI increases for a single unit increase in each predictor. Like so, 1 point increase on the FDI corresponds to 0.86 points increase in the population. Given only the scores of the predictors, it is possible to predict FDI by computing **FDI =** 138.0 + 0.867(Population) + 0.700 (Exchange rate) + 0.160 (Electricity production) +0.588 (GNI per capita) + 0.720 (Trade openness) + 0.221 (Terrorism). Importantly, all b coefficients are positive numbers. The column "Sig." holds the significance levels for the predictors. As a rule of thumb, a b coefficient is statistically significant if its p-value is *smaller than 0.05.* All of our b coefficients are statistically significant. The beta coefficients allow us to compare the relative strengths of the predictors.

5. Conclusion and Recommendations

Afghanistan is confronting some major obstructions to attract FDI and the main hindrance appears to be terrorism in this region. The present study made an attempt to empirically investigate the impact of terrorism on inward FDI in Afghanistan. Time series data estimation is utilized in the study to analyse the data for the period 2008 to 2017. The results for the variables market size, economic growth, infrastructure and trade openness verified the fact that these are the key determinants of FDI inflows in Afghanistan region and has significant positive impact on FDI.. Finally, the empirical results for the variable terrorism verified the fact that terrorism has damaged the financial wellbeing of Afghanistan and has discouraged FDI inflows over the period. Therefore, Afghanistan is expected to take appropriate measures to improve the investment climate in the economy. The government policy makers should give due consideration to the issue of terrorism, insecurity and law and order situation to reduce investors skepticism and truly realize their FDI hosting potential.

References

Abadiea, A., & Gardeazabalb, J. (2008). Terrorism and the world

economy. *European Economic Review*, 1-27.

Alam, H. M., Akram, M., & Iqbal, Z. (2017). The terrorism and Foreign Direct Investement: The case of Pakistan. *Journal of Research Society of Pakistan*, 1-7.

Anwar, A. I., & Mughal, M. Y. (2013). *Foreign financial flows and terrorism in Developing Countries.* Avenue du Doyen Poplawski - BP 1633: CATT-UPPA, UFR Droit, Economie et Gestion, Centre d'Analyse Théorique et de Traitement des données économiques.

Anwar, Z., & Afza, T. (2014). *Impact of Terrorism, Gas Shortage and Political Instability on FDI Inflows in Pakistan*. Sci.Int.(Lahore),26(1),507-511.

Asteriou, D., & Hall, S.G., (2007). *Multicollinearity: Applied Econometrics*. (Revised edn.,pp. 85-99).Hampshire, UK: Palgrave Macmillan.

Bandyopadhyay, S., & Younas, J. (2012, May Monday). Terrorism: A threat to Foreign Direct Investment. *Doing business abroad, The Regional Economist*, pp. 1-2.

Bezić, H., Galović, T., & Mišević, P. (2016). The impact of terrorism on the FDI of the EU and EEA Countries. *Zb. rad. Ekon. fak. Rij*, 333-362.

Field, A. (2009). *Discovering Statistics Using SPSS.* New Delhi: Sage Publications Ltd.

Hausman, J.A. (1978). Specification test in Econometrics, *Econometrica Journal of Econometric Society,* 46(6), pp. 1251-1271.

Hill R. C. & Adkins L. C. (2007). *Collinearity. In a Companion to Theoretical Econometrics* (ed. Baltagi B. H., editor. pp. 256–278).Oxford, UK: Blackwell Publishing.

Khachoo, A., & Khan, M.I. (2012). Determinants of FDI inflows to Developing Countries: A Panel Data Analysis. *Munich Personal RePEc Archive.*

Kinyanjui, S. (20014). The impact of terrorism on Foreign Direct Investment in Kenya. *International Journal of Business Administration*, 1-10.

Morrison, T., Ajoku, O. C., & Lekue, N. (2016). Terrorist activities and Foreign Direct Investment in selected African States. *Equatorial Journal of Finance and Management Sciences*, 1-14.

Mottaleb, K. A., & Kalirajan, K. (2010). Determinants of Foreign Direct Investment in Developing Countries: A comparative analysis. *ASARC Working Paper*, 1-27.

Rasheed, H., & Tahir, M. (2012). FDI and Terrorism: Co-integration & granger causality. *International Affairs and Global Strategy*, 1-6.

Sandler, T., & Enders, W.(2008). *Economic Consequences of Terrorism in Developed and Developing Countries: An Overview*. Cambridge University Press. The Edinburgh Building, Cambridge CB2 8RU, UK. Pp. 1-13.

Serfraz, A. (2017). *What is the effect of Foreign Direct Investment inflows on economic growth in Pakistan? An empirical analysis in the light of religious sectarianism as catalyst for terrorism.* Hamburg: Zentrum für Ökonomische und Soziologische Studien, No. 59, Zentrum für Ökonomische und Soziologische Studien (ZÖSS).

Shah, M. H., & Faiz, M. (2015). Terrorism and Foreign Direct Investment: An empirical analysis of SAARC countries. *City University Research Journal*, 1-15.

Shahbaz, M. A., Javed , A., Dar , A., & Sattar, T. (2012). Impact of terrorism on Foreign Direct Investment in Pakistan. *Archieves of Business Research*, 1-7.

UNCTAD (1999). *Foreign Direct Investment and the Challenge of Development. World Investment Report*, Geneva: United Nation Con-

ference on Trade and Development.

Zulfiqar, B., Fareed , Z., Shehzad , U., Shahzad , F., & Nabi, S. (2014). The Impact of Terrorism on FDI inflow in Pakistan. *European Journal of Economic Studies*, 279-284.

(2008). *World Investment Report: Transnational corporations and the infrastructure challenge.* New York and Geneva: United Nations.

(2017). *World Investment Report.* Geneva: United Nations.