

## TERRORISM AND FOREIGN DIRECT INVESTMENT: AN EMPIRICAL ANALYSIS OF SAARC COUNTRIES

Mumtaz Hussain Shah and Mehreen Faiz

### 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 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. Utilising 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. Whereas, 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.*

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

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

### INTRODUCTION

#### **An Overview of Foreign Direct Investment:**

One of the economic challenges faced by the developing countries is the gap between savings and investments. Therefore, these countries constantly need foreign capital. Initially the developing nations took loans from international commercial banks. In 1980s the debt crises caused drying-up of commercial bank lending. This situation forced most of the economies to restructure and change their investment policies. They realized that FDI is one of the most stable and easiest ways to acquire foreign capital without undertaking the risks associated with debts. Thus, FDI became an important source of attracting foreign investors (Khachoo & Khan, 2012).

United Nations World Investment Report (UNCTAD, 1999) defines FDI 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 considered as a blessing in developing countries as it results in increased productivity (Shah, 2009; Azam & Ather, 2015) better employment opportunities, increased trade, and exposure to new technology and better foreign exchange

reserves (Mughal & Akram, 2011). The current trends of globalization are encouraging the developing countries to increasingly focus on how to attract more and more FDI to boost up their economies. This is possible only when investors are ready to invest in a particular economy. Foreign investors prefer to invest in countries where they feel their investment is secure and will generate higher returns than home and other possible locations. Consequently, countries facing the problem of terrorism are hardly attractive to overseas investors due to the concomitant insecurity (Rasheed & Tahir, 2012).

#### **An Overview of Terrorism:**

Terrorism is the deliberate use or threat of use 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 losses 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).

#### **SAARC Countries and FDI:**

South Asian Association for Regional Cooperation (SAARC) was established by the heads of seven South Asian countries on December 8, 1985. Afghanistan became eighth member of this association in 2007. FDI can play an important role in the economic development of the region. However, the amount of FDI attracted by SAARC countries remains quite insignificant relative to South East Asia, East Asia and rest of the world over the period under study. In 1998 FDI inflows to this region was only 0.5% of the global flows whereas by 2002 the total FDI flows were less than 1% of the global FDI inflows (Alamand Zubayer, 2010). SAARC countries are confronting major obstructions to attract FDI and one of the main hindrances appears to be ongoing terrorism in the region.

#### **Research Objectives:**

The objectives of the study is to provide exclusive work about the impact that terrorism have on FDI inflows in SAARC nations and to shed light on other potential location pull factors of inward FDI to SAARC countries.

**Scope of the Study:**

The scope of the study is limited to the selected SAARC Countries i.e. Bangladesh, India, Nepal, Pakistan and Sri Lanka.

**Limitations of the Study:**

Due to non-availability of data for SAARC countries like Afghanistan, Bhutan and Maldives, these countries have been excluded from the sample which limits the size of the sample.

**LITERATURE REVIEW**

Some theoretical and empirical work is 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. An overview of some of these studies is given below:

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. 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. 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. 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. Guesmi and Teulon (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.

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. 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. 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. Rasheed and Tahir (2012) in their study concluded that FDI decreases in a country with increase in terrorism and the most obvious reason for this is the lessening of investor's confidence in that particular economy. Shahbaz et al. (2012) analysed the relationship between FDI and terrorism in Pakistan using data from 2000 to 2011. Ordinary Least Square regression model was used to estimate the relationship. The findings of the study showed negative relationship between the two variables. 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.

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 regions like SAARC needs to be done. The present study seeks to fill the gap in literature in this context.

#### **METHODOLOGY**

The study uses annual secondary data which is collected for the period 1980-2012 for the variables of interest. The data used in analysis is obtained from different sources such as World Bank World Development Indicators (WDI), Global Terrorism Database

(GTD) and the Penn World Table Version 7.0 (PWT).

### **Unit of Analysis:**

The study uses panel data analysis incorporating five major countries of SAARC (Bangladesh, India, Nepal, Pakistan and Sri Lanka) over the period 1980-2012.

Development of the Model / Model Specifications:

The model that is to be estimated is formulated as:

$FDI_{jt} = f(\text{Market Size, Economic Growth, Exchange Rate, Infrastructure, Trade Openness and$

$\text{Terrorism})_{jt}$  ..... Equation (I)

The mathematical form of the model is as follows:

$FDI_{jt} = \alpha + \beta_1 (\text{Market Size})_{jt} + \beta_2 (\text{Economic Growth})_{jt} + \beta_3 (\text{Exchange Rate})_{jt} + \beta_4 (\text{Infrastructure})_{jt} +$

$\beta_5 (\text{Trade Openness})_{jt} + \beta_6 (\text{Terrorism})_{jt} + \mu_{jt}$  ..... Equation (II)

Where,  $\alpha$  is the intercept of the model.  $\beta(1, 2 \dots 6)$  are the coefficients of the variables and shows the change in FDI due to unit change in the independent variables.  $\mu$  is the error term of the model. Whereas, the subscript “j” ranging from 1...5 denotes a specific country and the subscript “t” ranging from 1980 to 2012 denotes the year. 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 all the countries included in the sample over the period 1980 to 2012.

### **The Independent Variables**

#### **Market Size:**

Market Size is the first control variable in the model. “Population” is used as proxy for market size and positive impact of market size is expected. The data for this variable is also obtained from WDI database. The hypothesis developed to be tested is:

Hypothesis One: Larger market size of the host country has positive relationship with FDI inflows.

#### **Economic Growth:**

Another important variable of the model is economic growth. The measure used for economic growth is “GDP growth per capita” and the data source for this variable is also WDI. FDI and economic growth are expected to be positively associated. The hypothesis developed for this variable is:

Hypothesis Two: Economic growth of the host country positively influences inward FDI.

**Exchange Rate Volatility:**

The data for this variable of the model is obtained from Penn World Table (PWT) version 7.0. The measure used for this variable is exchange rates in local currency relative to US\$. Exchange rate volatility is then obtained by taking first difference of the exchange rate. The expected relationship between Exchange rate volatility and FDI is negative. The third hypothesis to be tested is:

Hypothesis Three: Exchange rate volatility has significant negative impact on FDI inflows.

**Infrastructure:**

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”. The data is obtained from WDI and the hypothesis developed for this variable is:

Hypothesis Four: Better infrastructure facilities in the host country attract more FDI.

**Trade Openness:**

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”. Positive relationship between the dependent and independent variable is expected. The hypothesis to be tested is:

Hypothesis five: Trade openness in the host country pulls FDI.

**Terrorism:**

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). The expected relationship between terrorism and FDI is negative. The relationship between the two variables is hypothesized as:

Hypothesis six: Terrorism in the host country negatively influences FDI inflows.

**Estimation Issues**

The analysis is carried out through STATA programme version 11. This section of the study elaborates the main estimation issues in the panel 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 hetroskedasticity in the data and provides better estimation results. After converting data into log form the model of the study can be represented as:

$$\text{LnFDI}_{jt} = \alpha + \beta_1(\text{LnMktSz})_{jt} + \beta_2(\text{LnEcoGr})_{jt} + \beta_3(\text{LnExRt})_{jt} + \beta_4(\text{LnInfra})_{jt} + \beta_5(\text{LnTrOpen})_{jt} + \beta_6(\text{LnTerror})_{jt} + \mu_{jt} \dots\dots\dots \text{Equation (III)}$$

Where, LnFDI is the natural log of Net FDI inflows. LnMktSz is the natural log of market size. LnEcoGr is the natural log of economic growth. LnExRt, LnInfra, LnTrOpen and LnTerror are the natural log of exchange rate, infrastructure, trade openness and terrorism respectively.

**ANALYSIS**

**Descriptive Statistics:**

**Table 1:** summarizes the descriptive statistics for all the variables of the study.

Variables	No. of Obs	Mean Value	Standard Deviation	Minimum Value	Maximum Value
FDI	165	18.37	2.83	12.35	24.49
Market Size	165	18.29	1.47	16.48	20.94
Economic Growth	165	1.29	0.69	-2.71	2.33
Exchange Rate	165	3.69	0.63	2.18	4.86
Infrastructure	165	23.53	2.14	19.19	27.72
Trade Openness	165	0.34	0.13	0.11	0.63
Terrorism	165	3.55	1.81	0	7.43

**Hausman Test for Choosing between Fixed and Random Effect Model:**

To choose between fixed effect and random, Hausman (1978) specification test is applied. Hausman specification test compares Fixed and Random effect model and helps to choose one between the two. It tests the null hypothesis that the results provided by the consistent fixed effect model is the same as the ones obtained through random effect. In this study the result for the Hausman test is: Prob>chi2 =0.0004. This clearly shows that p=0.0004<0.05 and rejects the null hypothesis. Therefore, the fixed effect estimation technique is used in this study.

**Testing for Multicollinearity Using Variance Inflation Factor (VIF):**

In the present study Variance Inflation Factor (VIF) is used to detect the extent of multicollinearity between explanatory variables (Shah, 2013b). VIF actually quantifies the widening in standard error due to collinearity. According to Kennedy(1992), Asteriou and Hall (2007) and Hill and Adkins (2007) the rule of thumb is that if VIF>10 then multicollinearity between the independent variables is problematic. VIF of all the

models of the study is less than 10 as evident from table 2.

**Table 2:** Results for Variance Inflation Factor

Serial No	Models	VIF
1	$\text{LnFDI}_{it} = \alpha + \beta_1(\text{LnMktSz})_{it} + \mu_{it}$	1.00
2	$\text{LnFDI}_{it} = \alpha + \beta_1(\text{LnMktSz})_{it} + \beta_2(\text{LnEcoGr})_{it} + \mu_{it}$	1.00
3	$\text{LnFDI}_{it} = \alpha + \beta_1(\text{LnMktSz})_{it} + \beta_2(\text{LnEcoGr})_{it} + \beta_3(\text{LnExRt})_{it} + \mu_{it}$	1.05
4	$\text{LnFDI}_{it} = \alpha + \beta_1(\text{LnMktSz})_{it} + \beta_2(\text{LnEcoGr})_{it} + \beta_3(\text{LnExRt})_{it} + \beta_4(\text{LnInfra})_{it} + \mu_{it}$	5.42
5	$\text{LnFDI}_{it} = \alpha + \beta_1(\text{LnMktSz})_{it} + \beta_2(\text{LnEcoGr})_{it} + \beta_3(\text{LnExRt})_{it} + \beta_4(\text{LnInfra})_{it} + \beta_5(\text{LnTrOpen})_{it} + \mu_{it}$	8.51
6	$\text{LnFDI}_{it} = \alpha + \beta_1(\text{LnMktSz})_{it} + \beta_2(\text{LnEcoGr})_{it} + \beta_3(\text{LnExRt})_{it} + \beta_4(\text{LnInfra})_{it} + \beta_5(\text{LnTrOpen})_{it} + \beta_6(\text{LnTerror})_{it} + \mu_{it}$	7.88

**Testing for Multicollinearity using Correlation:**

Correlation between the dependent and independent variables as well as amongst the explanatory variables of the study is reported in table 3.

**Table 3:** Correlation Matrix

Serial No.	Variables	1	2	3	4	5	6	7
1	FDI	1.00						
2	Market Size	0.58	1.00					
3	Economic Growth	0.23	0.03	1.00				
4	Exchange Rate	0.33	-0.22	0.11	1.00			
5	Infrastructure	0.81	0.92	0.09	-0.01	1.00		
6	Trade Openness	0.14	-0.63	0.23	0.51	-0.36	1.00	
7	Terrorism	-0.59	0.45	-0.02	0.28	0.62	0.03	1.00

**Examining and Correcting for Heteroskedasticity:**

In order to meet the assumption of regression model that the data must be homoskedastic, the panel data is tested for heteroskedasticity using Breusch-Pagan / Cook-Weisberg test for heteroskedasticity. The results obtained are given in the table 4. Both the dependent (L.H.S) and independent variables (R.H.S) are tested for heteroskedasticity. Model1 and model2 are homoskedastic. Whereas, the results for the rest of the models, that is 3, 4, 5 and model 6 shows the presence of heteroskedasticity. To tackle the problem of heteroskedasticity in these regressions, the standard errors robust to heteroskedasticity are reported along the coefficients.



Cook-Weisberg test for heteroskedasticity. The results obtained are given in the table 4. Both the dependent (L.H.S) and independent variables (R.H.S) are tested for heteroskedasticity. Model1 and model2 are homoskedastic. Whereas, the results for the rest of the models, that is 3, 4, 5 and model 6 shows the presence of heteroskedasticity. To tackle the problem of heteroskedasticity in these regressions, the standard errors robust to heteroskedasticity are reported along the coefficients.

**Table 4:** Results for Breusch-Pagan / Cook-Weisberg test for Heteroskedasticity

Model No	Model1	Model2	Model3	Model4	Model5	Model6
L.H.S	P=0.61	P=0.33	P=0.00	P=0.00	P=0.00	P=0.00
R.H.S	P=0.61	P=0.49	P=0.02	P=0.00	P=0.00	P=0.00

### RESULTS AND DISCUSSION

The results are obtained using appropriate estimation techniques i.e. fixed effect panel estimation method for the data set. Model 1 includes only one independent variable market size, other variables are added to the first model one by one. Finally model 6 represents the complete model of the study which incorporates the cardinal variable terrorism, as well as all other control variables of the study. Table 5 presents the estimation result from the fixed effect models robust to heteroskedasticity using STATA programme version 11. The models are discussed below:

**Table 5:** Empirical Results

Estimation Results through Fixed Effect Model								
S.No	Variables	Proxies used	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
1	Market Size	Population	8.33* ** (0.49)	8.06 *** (0.47)	7.41 *** (2.69)	2.62 (1.88)	2.26* (1.17)	4.98* ** (1.72)
2	Economic Growth	GDPPC Gr		0.54 *** (0.13)	0.54 *** (0.15)	0.37* ** (0.12)	0.28 *** (0.07)	0.20* ** (0.07)
3	Exchange Rate Volatility	First Difference Exchange Rate			0.22 (0.65)	-0.49 (0.78)	0.05 (0.51)	-0.18 (0.53)
4	Infrastructure	Electricity Production				1.93 *** (0.53)	1.11 *** (0.39)	0.92 *** (0.37)
5	Trade Openness	Import + export as % of GDP					8.18 *** (2.62)	7.89* ** (2.21)

6	Terrorism	No. of Terrorist Attacks						-0.25* (0.12)
R-Square			33%	34%	34%	48%	62%	45%
No of Observations			165	165	165	165	165	165
Co-efficient for the variables are provided with standard errors in parenthesis that are robust to heteroskedasticity. Superscript *** represents significance at 1%, ** represents significance at 5% and * represents significance at 10%. The values are rounded off to two decimal places.								

**Model 1:  $\text{LnFDI}_{jt} = \alpha + \beta_1(\text{LnMktSz})_{jt} + \mu_{jt}$ :**

The result for the first fixed effect model (Model 1) reported in table 5 shows that the estimated coefficient of market size is statistically significant at 1%. There is a positive relationship between market size and inward FDI in the selected SAARC countries. These results are in line with the expected results and this outcome was also favoured by Chatterjee (2009), Mughal and Akram (2011), Rehman et al. (2011), Anitha (2012), Khachoo and Khan (2012) and Anwar and Afza (2014). Larger markets of SAARC countries help to create demand for goods and services and help to attain the benefit of economies of scale (Shah, 2014a). Larger market size leads to more potential consumption and hence provides greater opportunity for trade and bigger market to penetrate and many other auxiliary advantages.

**Model 2:  $\text{LnFDI}_{jt} = \alpha + \beta_1(\text{LnMktSz})_{jt} + \beta_2(\text{LnEcoGr})_{jt} + \mu_{jt}$ :**

The variable economic growth is introduced in the fixed effect model (model 2). With the inclusion of this variable the R-square value increases to 34%. The coefficient of economic growth is observed to be positive and statistically significant which shows that on the average increase in economic growth has caused FDI inflows to increase during the period of concern. The results support the view that growing economies are preferred by investors as it provides better opportunities for earning greater returns on investment. These results are consistent with the findings of Demirhan and Masca (2008), Ranjan and Agrawal (2011), and Guesmi and Teulon (2013) as already discussed in the literature review.

**Model 3:  $\text{LnFDI}_{jt} = \alpha + \beta_1(\text{LnMktSz})_{jt} + \beta_2(\text{LnEcoGr})_{jt} + \beta_3(\text{LnExRt})_{jt} + \mu_{jt}$ :**

The new variable which is added to the fixed effect model3 is the exchange rate. The results show insignificant relationship between exchange rate volatility and FDI inflows in SAARC countries for the studied period. The result for this variable suggests that foreign investors are not concerned about the fluctuation in exchange rate in this region. The result supports the findings of Anwar and Afza (2014). However, this result is contrary to the findings of Chatterjee (2009), Mughal and Akram (2011), Rehman et al. (2011), Anitha (2012), Khachoo and Khan (2012) and Shah (2013a).

**Model 4:  $\text{LnFDI}_{jt} = \alpha + \beta_1 (\text{LnMktSz})_{jt} + \beta_2 (\text{LnEcoGr})_{jt} + \beta_3 (\text{LnExRt})_{jt} + \beta_4 (\text{LnInfra})_{jt} + \mu_{jt}$ :**

The new variable introduced into this fixed effect model is infrastructure. The addition of this variable in the model increases the explanatory power of the model to 48%. The findings depict that infrastructure has a significant and positive relationship with inward FDI in SAARC region as expected. This corresponds to the findings of Demirhan and Masca (2008) and Shah (2012 and 2014b). The result verifies that infrastructure, which is measured by electricity production is instrumental in attracting foreign investors to SAARC countries. Countries which are incapable of producing enough electricity to cater to the needs of industries seem to be less attractive to overseas investors.

**Model 5:  $\text{LnFDI}_{jt} = \alpha + \beta_1 (\text{LnMktSz})_{jt} + \beta_2 (\text{LnEcoGr})_{jt} + \beta_3 (\text{LnExRt})_{jt} + \beta_4 (\text{LnInfra})_{jt} + \beta_5 (\text{LnTrOpen})_{jt} + \mu_{jt}$ :**

Trade openness is the new variable incorporated in this fixed effect model which increases R square value to 62%. The findings for trade openness are also consistent with the expected results. The estimated coefficient of trade openness depicts that increase in trade openness causes FDI inflows to increase. These results are consistent with the findings of Chatterjee (2009), Ranjan and Agrawal (2011), Shah (2010 and 2011a, b & c), Srinivasan (2012), Anwar and Afza (2014), and Guesmi and Teulon (2013). The results reveal that trade openness is a relevant factor in attracting FDI inflows to SAARC countries. Investors prefer to invest in economies which are more open and are willing to accept foreign investments.

**Model 6:  $\text{LnFDI}_{jt} = \alpha + \beta_1 (\text{LnMktSz})_{jt} + \beta_2 (\text{LnEcoGr})_{jt} + \beta_3 (\text{LnExRt})_{jt} + \beta_4 (\text{LnInfra})_{jt} + \beta_5 (\text{LnTrOpen})_{jt} + \beta_6 (\text{LnTerror})_{jt} + \mu_{jt}$ :**

This is the main model of the study that incorporates all the conventional location FDI control variables as well as the principal variable of the study i.e. Terrorism. The findings depicts that terrorism has statistically significant and negative relationship with FDI inflows in SAARC region. The negative estimated coefficient of terrorism reveal that increase in terrorism has caused FDI inflows to decrease significantly in the selected SAARC countries for the period of concern. These results are consistent with the findings of Enders et al. (2006), Abadie and Gardeazabal (2007), Madonia (2007), Sandler and Enders (2008), Agrawal (2011), Bandyopadhyay et al. (2011), Rashid and Tahir (2012), Anwar and Mughal (2013), Shahbaz et al. (2012) and Anwar and Afza (2014). The fact that terrorism decreases the level of FDI inflows is due to various reasons. Terrorism causes uncertainty and instability in the region and no business or investment can survive in state of unrest, bombings and corruption (Azam and Ahmad, 2013). It not only creates uncertainty in the financial and investment climate but also reduces output and productivity capacity, increases security costs and damages infrastructure and hence causes displacement of FDI from these economies.

The value of R square of the model is 45%. R square shows the explanatory power of the

model i.e. 45% of the variation in FDI is caused by these independent variables. All the control variables in this model are statistically significant except exchange rate. These results are consistent with the expectation of the researchers and support the theoretical predictions of the model.

### CONCLUSION AND RECOMMENDATIONS

SAARC countries are 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 SAARC countries. Panel data fixed effect technique is utilized in the study to analyse the data for the period 1980 to 2012.

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 SAARC region and has significant positive impact on FDI. However, exchange rate volatility has no significant impact on inward FDI. Finally, the empirical results for the variable terrorism verified the fact that terrorism has damaged the financial wellbeing of SAARC countries and has discouraged FDI inflows over the period.

Therefore, SAARC countries are expected to take appropriate measures to improve the investment climate in this region. The government policy makers should give due consideration to the issue of terrorism, insecurity and law and order situation to reduce investors scepticism and truly realise their FDI hosting potential.

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**Dr. Mumtaz Hussain Shah:** Working as assistant professor at Institute of Management Studies, University of Peshawar. His research interests are primarily focused on foreign direct investments (FDI) in developing countries. Prior to IMS he had done his PhD in FDI from University of Leicester, UK and MS in International Financial Analysis from Ecole Supérieure des Affaires Université de Lille II, France.



**Mehreen Faiz:** Post Graduate research scholar at Institute of Management Studies, University of Peshawar. Holds a Masters of Business Administration (MBA 1.5) degree from the same institute in Finance with a 4.0 CGPA. Her research interests are in factors affecting the flow of FDI to developing countries.