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THE IMPACT OF TERRORISM ON INVESTMENT AND INDUSTRY IN PAKISTAN.

Zaheer Hussain[1], Prof. Dr. Abdul Ghafoor Awan[2]

ABSTRACT- *The objective of this research paper it to analyze the impact of terrorism on investment and industry in Pakistan. We used secondary data for the period 2002-2017. The variable of the study includes: CPI, FDI, exchange rate, employment, human capital, economic growth and tourism industry. ARDL and Error Correction Models were used to determine short run and long run relationship between variables. Our results show that that CPI has negative significant effect on FDI while exchange rate has positive and significant impact on FDI. We conclude that terrorism has significant impact on FDI, tourism, industrial growth and overall Pakistan's economy and it must be eradicated to generate conducive environment for economic activities and development of tourism and FDI.*

Key words: Terrorism, Human capital, FDI, Employment, Tourism industry.

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1. M.Phil scholar, Department of Economics, Institute of Southern Punjab. zaheerhussain78677@gmail.com.
2. Dean, Faculty of Management and Social Sciences, Institute of Southern Punjab, Multan. ghafoor70@ yahoo.com. Cell # +923136015051.

1. INTRODUCTION

1.1. Background of study:

On September 11, 2001, the terrorist attack on World Trade Centre New York and Pentagon, U.S.A change the world strategic, economic and political scenario as it affected mostly all countries. The United States along with its NATO allies attacked Afghanistan and occupied it to eliminate terror groups from there. The initial operation against Taliban Government in Afghanistan was started in collaboration with Pakistan. But the war between the US led forces and Talibans directed effected Pakistan's economy and society because a series of suicidal attacks were carried out in different parts of Pakistan by pro-Taliban different militant groups. Pakistan's tourism industry, infrastructure was damaged on large scale and hundreds of thousands of people were died and injured during suicidal bombing. All industries located near the border of Afghanistan were closed and millions of Afghan people migrated to Pakistan. It brought great burden on Pakistan's economy. Moreover, Pakistan has to bear heavy expenditures due to its participation in war against terrorism, its external debt was increased and its thousands of Army officers and personnel were martyred. A complete sense of insecurity was prevailed in the country resulting in the halt of inflow of foreign direct investment, tourists, industrial and business activity.

1.2 Main Research Problem:

Main research problem of this study is to measure "The impact of terrorism on investment and industry in Pakistan".

1.3 Objectives of study:

The objectives of the study are given below:

- To study the causes of terrorism in Pakistan.

- ► To study the impact of terrorist activities on FDI and Tourism industry.
- ► To study the cost of war against terrorism paid by Pakistan.
- ► To study the impact of war against terrorism on the society and people of Pakistan.

1.4 Research Questions:

We have divided our research problem into the following questions in order to get their answers.

- What were the causes of terrorism?
- What was the effect of terrorism on foreign direct investment and tourism industry in Pakistan?
- What was the cost of war paid by Pakistan?
- What was the impact of war against terrorism on society and economy of Pakistan?

1.5. Scope of study:

The scope of this study is very large because in war against terrorism affected almost all countries and its effect was felt all over the world. The results of this study are very useful for strategists, economists and policy makers to frame the policies in future in such a way that no such incidence may be occurred again to create insecurity globally and involve the whole world in it.

2. TYPE OF TERRORISM

The terrorism has different dimensions and it has been carried out in different forms in different countries in different period. Some common types of terrorism are briefly stated here.

2.1. Civil disorder:

This kind of terrorist activity is that which disturbed the whole society and people feel insecurity. It is mostly launched against dictatorial regimes to get rid of it by depressed social class.

2.2 Political terrorism:

In this sort of terrorism. criminal activities particularly intended to produce fear among general public for obtaining political objectives.

2.3 Quasi-terrorism:

It is a savage demonstration that uses methods of terrorism. However, doesn't have similar inspiring components. Cases like this normally include an armed criminal attempt to escape from law enforcing agencies or prisons. In this way, he breaks law.

2.4 Limited political terrorism:

In this sort of psychological oppression, the fear monger exercises make dread in the countries and people. It is additionally called auxiliary psychological warfare and it is characterized as the administration of the state offered for political reason.

2.5 State terrorism:

It is a real political psychological warfare waged disgruntled group to create terrorism. It may by state terrorism, aiming generate terror among general masses. This sort of terrorism is sought to obtained political or ideological objectives. Indian atrocities in occupied Kashmir are an example of state terrorism.

2.6. Terrorism and Pakistan's Economy

Pakistan faced severe terrorism all over the country and suicidal bombing were almost happened daily in different parts of country and due to

this tragic state of affairs economic activities were standstill. The whole government machinery and armed forces were deployed to control terrorism. Terrorist attacks were made on mosque, schools, churches and other public places and hundreds of thousands of innocent people lost their lives or became disable. Traveling of local people particularly women was very difficult and female children schools were hit, causing huge causalities of innocent small children. Similarly, industries operating in Pakhtoonkhah province was stand stilled and tourists' arrival from domestic and foreign countries was almost became zero, causing huge financial and economic loss to the country. The infrastructure more than $30 billion dollars was destroyed. Pakistan is the country which was most effected country by war against terrorism because it land, people, resources and assets were not safe and were not being utilized properly. In other words, this war crippled Pakistan's economy during 2001-2017 period. In order to crush and eliminate terrorism "Zarb-e-Fasad" operation was launched by Pakistan Army throughout country and hundreds of terrorists were either arrested or killed during encounter. Moreover, Pakistan take security measures through erection of barricades at Pak-Afghan long borders to stop infiltration of terrorists from both sides. It reduced number of terrorist activities in Pakistan substantially and its major credit is gone to Pakistan Army, which all possible measures to prevent attacks on US and its allied forces stationed in Afghanistan.

3. RESEARCH METHODLOGY

Here we discussed the descriptive analysis economic impact against terrorism on the economy of Pakistan

3.1 Research Design:

This study provides guidance the researcher that how data will be collected and in which way the data should be analyzed. This study is quantitative in nature. The primary objective of this research is to measure the impact of terrorism on the economy of Pakistan. Because Pakistan's economy directly affected with terrorism. For this purpose, we used secondary data collected from Pakistan Economic Survey of Pakistan, World Development Indicators, State Bank of Pakistan and relevant research papers published in different journals. The sampling period of the study is 2001-2017. Two models were developed in one model the dependent variable is foreign direct investment (FDI), and independent variables include: exchange rate, number of terrorist attacks, human capital and consumer price index. In second model, independent variable is tourism industry and employment level, number of terrorism attacks, foreign direct investment and consumer price index used as independent variables. Number of terrorist attacks used as proxy variable of terrorism in both of the models. Both of the models used log of the variables for estimating results. Time series and secondary data is used for 16 years. We used ADF's Unit Root test to check stationary in the variables and also applied ARDL, Bound Test and Error Correction model to determine long run and short-run relationship between variables.

4. DATA ANALYSIS

4.1 Development of Hypothesis:

On the basis of above discussion following hypothesis are developed for this study.

4.1.1. Hypothesis of first model:

H_0: There is no relation between Terrorism, Exchange rate, Human capital and Consumer price index and foreign direct investment.

H_1: There is a relationship between Terrorism, Exchange rate, Human capital and Consumer price index and foreign direct investment.

4.1.2 Hypothesis of second model:

H_0: There is no relation between Foreign direct investment, Tourism, Consumer price index and Employment and tourism industry.

H_1: There is relationship between Terrorism, Foreign Direct Investment, Consumer price index and Employment and tourism industry.

4.2 Econometric Models:

$$FDI = \beta_0 + \beta_1 T + \beta_2 \mathrm{ER} + \beta_3 HU + \beta_4 \mathrm{CPI} + \varepsilon$$

Where:

FDI is a dependent variable while Tourism, Exchange Rate, Human Capital and Consumer Price Index (CPI) are independent variables.

$$LTI = \beta_0 + \beta_1 LT + \beta_2 \mathrm{LEMP} + \beta_3 \mathrm{LFDI} + \beta_4 \mathrm{LCPI} + \beta_5 \mathrm{LAGTI} + \varepsilon$$

Where:

Tourism is dependent variable, while terrorism, employment, FDI, CPI, and Tourism industry are independent variables.

€ is stochastic variable (Error Term). β_0 is constant while β_1, β_2, β_3, β_4 and β_5 are all parameters.

4.3 Results and Interpretation:

4.3.1 Descriptive statistics of Model 1:

The mean, median and mode are used as measures of central tendency of data while range, variance and standard deviation are used as measures of

dispersion or variation in the data. In the table 1 and table 2 we have given descriptive statistics of first model of our study.

Table .1: Descriptive statistics of variables of First Model

	FDI	**CPI**	**HU**	**NTA**	**ER**
Mean	934.5467	43.23446	47530815	53.50000	106.9220
Median	391.1511	27.00008	45791967	18.00000	105.8458
Maximum	5590.000	150.7535	68052003	666.0000	128.1969
Minimum	4.000000	3.185327	31031072	0.000000	96.64796
Std. Dev.	1353.233	42.94749	12005317	105.9727	9.061049
Skewness	2.112556	1.263158	0.211510	4.445120	0.990782
Kurtosis	7.071208	3.436693	1.670944	25.56476	3.165172
Jarque-Bera	65.98375	12.32432	2.188504	1127.392	3.130153
Probability	0.000000	0.002108	0.334790	0.000000	0.209072

The data shows that the mean of foreign direct investment is 934.5467 with standard deviation of 1353.233. The mean of CPI is 43.23446 with standard deviation of 42.94750. The mean of Human capital is 47530815 with standard deviation of 12005317 and the mean value f of terrorist attacks (NTA) is 53.50000 with standard deviation of 105.9727. The mean value of ER is 106.9220 with standard deviation of 9.061049.

All the variables are right skewed and Kurtosis statistic of the variables shows that only Foreign direct investment, Consumer price index, Exchange rate and Number of terrorist attacks are leptokurtic (long-tailed or higher peak) and the rest of other variables are platykurtic (short tailed or lower peak) A

Jarque–Bera test shows that the residuals of Human capital and Exchange rate are normally distributed while all other variables are not normally distributed.

4.3.2 Descriptive statistics of model 2:

Table 2: Descriptive Statistics of Variables of Model 2

	LTI	LNTA	LFDI	LEMP	LCPI	LAGTI
Mean	13.2596	2.9799	5.7015	3.6525	3.2575	632346
Median	13.2360	3.0910	5,9897	3.6983	3.2958	560200
Maximum	13.9699	6.5012	8.6287	3.7649	5.0156	1167000
Minimum	12.0725	0.0000	1.3862	3.3745	1.1585	312000
Std. Dev.	0.4504	1.5441	1.8209	0.1238	1.0704	238502
Skewness	-0.5662	0.0327	-0.4062	-1.5016	-0.344	0.5425
Kurtosis	3.1117	2.2399	2.3581	3.6375	1.9871	2.1999
Jarque-Bera	1.2951	1.0428	2.0102	13.7461	1.9324	1.6659
Probability	0.5233	0.5936	0.3660	0.0010	0.3805	0.4347

The descriptive statistics are shown in table 2 exhibits that the mean value of foreign direct investment is 5.70 with standard deviation of 1.820. The mean value of CPI is 3.257 with standard deviation of 1.070 while mean value of tourism industry is 13.25 with the standard deviation of 0.450 and mean value NTA is 2.97 with standard deviation of 1.544. The mean value of EMP is 3.652 with standard deviation of 0.123 and the mean value of LAGTI is 632646 and its standard deviation 238502.

4.3.3 Unit Root Test Results:

When the data is time series then data must be stationary if the data is not stationary then the results will not be correct. To check the stationary of the data we used augmented dickey fuller ADF) test.

According to results of 3 table variable, FDI is stationary at level at 5% level of significance and it also significant after taking 1st difference of variable FDI it become stationary at 5% level of significance. The variable Consumer price index (CPI) has a unit root but after taking first difference CPI is significance at 5% level of significance. In the same way, Number of terrorist attacks (NTA) are stationary at level and as well as at first difference at 5% level of significance. Human capital has unit root at level but after getting first difference it becomes at 5% level of significance. Exchange rate (ER) has a unit root at level but when we get first difference of this variables then this variable is significant at level of 5%. Now we can apply ARDL because some of the variables are significant at level while other variables are significant at first difference. The results are shown in Table 3.

Table 3: Unit Root Test Results of Model 1

Variables	Augmented Dickey Fuller Probability (at level)	Augmented Dickey Fuller Probability (at 1st difference)
FDI	0.03	0.00
CPI	1.00	0.00
ER	0.96	0.00
HU	0.22	0.04
NTA	0.01	0.00

Table 4: Unit Root Test Results of Model 2

Variables	Augmented Dickey Fuller Probability (at level)	Augmented Dickey Fuller Probability (at 1st difference)
LTI	1.00	0.00
LCPI	0.02	0.03
LEMP	0.18	0.00
LFDI	0.06	0.00
LNTA	0.06	0.00
LAGTI	0.59	0.00

In the table 4 variables LTI is stationary with first difference at 5% level of significance. The variable Consumer price index (LCPI) is 0.02 at 5% level of significance. In the same way, Employment level is significant at first difference with 5% level of significance; foreign direct investment (LFDI) is also stationary at level as well as at first difference at 5% level of significant. Number of terrorist attacks (LNTA) is stationary at level and as well as at first difference at 5% level of significance. After taking two lags of tourism industry to finish the serial auto correlation problem become stationary at first difference at 5% level of significance.

4.4. Bound test Results:

Bound test is very important to know that the co integration among the variables exists or not. It all depends on the value of F-statistic. If the value of F-statistic is more than the lower and upper bound value it means that co integration exist among the variables. The results are shown in Table 5 and 6.

Table 5: The F-test for Co-integration of Model 1

	Significance Level							
	1%		**2.5%**		**5%**		**10%**	
F-Statistics	(0)	(1)	(0)	(1)	(0)	(1)	(0)	I(1)
7.423	3.29	4.37	2.88	3.87	2.56	3.49	2.2	3.09

Table 6: The F-test for Co-integration of Model 2

	Significance Level							
	1%		**2.5%**		**5%**		**10%**	
F-Statistics	I(0)	(1)	(0)	(1)	(0)	(1)	(0)	I(1)
3.8166	3.06	.15	.7	.73	2.39	3.38	2.08	3.00

In the above tables 5 and 6 both of the models show that the value of F-statistic is more than the upper and lower bound at 5 percent significance level which means that co-integration exist and there is a long run as well as short run relationship.

6.3 Estimation of Long run results:

Now we can estimate the long run results with the help of ARDL technique in tables .7 and 8.

Table 7: Long- Run results of Model 1

Dependent Variable: FDI				
Explanatory Variables	**Coefficient**	**Standard Error**	**t-statistic**	**Prob.**
CPI	-229.3310	40.0525	-5.7257	0.0004
ER	264.8553	72.6700	3.6446	0.0065
HU	0.007	0.0001	5.5862	0.0005
NTA	-29.6818	12.5412	-2.3667	0.0455
C	-47601.07	9520.261	-4.9999	0.0001

The results of this model show that the core variable is terrorism (NTA) which has negative significant relationship with foreign direct investment (dependent variable). It shows when terrorism increases foreign direct investment will decrease. It also shows that inflation (CPI) and foreign direct investment have negative relationship because when inflation increases the production cost will increase and it will make our product expensive for foreigners and will reluctant to purchase our products and consequently our exports will decrease. Exchange rate and human capital have positive positive relation with foreign direct investment in the long run because when exchange rate and human capital increases then foreign investors invest their capital. In short, the results show that in long run all the variables have significant effect on foreign direct investment.

Table 8: Long- Run results of Model 2

Dependent Variable: LTI				
Explanatory Variables	**Coefficient**	**Standard Error**	**t-statistic**	**Prob.**
LNTA	-0.7759	0.3552	-2.1842	0.1606
LEMP	2.5263	2.6665	-0.9473	0.4434
LFDI	0.3142	0.1041	3.0181	0.0945
LCPI	1.4798	0.3104	4.7665	0.0413
LAGTI	-1.8206	8.4607	-2.1466	0.1649
C	15.8374	8.8740	1.7846	0.2162

Table 8 shows that dependent variable tourism industry negative and insignificantly affected with number of terrorist attacks. Instead of terrorism all the other independent variables like employment level, foreign direct investment and consumer price index positively related with tourism industry. It means when more tourists visit Pakistan then employment level, foreign investment and prices of goods and services will increase in the long run.

4.5. Short Run Results:

Short run results of model show in the table 9 that in short run, number of terrorist attacks negatively affect foreign direct investment. In the same way, the results show that the human capital also negatively relations with foreign direct investment but consumer price index has positive affect on foreign direct investment.

In table 9 the Error Correction Model shows the convergence and divergence values which means that how much the model converges or diverge to the dependent variable or how the variables are adjusted with dependent variable. The data shows the variables are 82.4 percent converge to the dependent variable. The results are given in Table 9.

Table 9: Short Run Results of Model 1

ARDL (1, 1, 2, 1,2): **Dependent** variable: FDI				
Variables	Coefficients	Std. Error	t-Statistic	Prob.
D(ER)	149.2813	27.8194	5.3660	0.007
D(CPI)	119.8267	34.6589	3.4573	0.0086
D(HU)	-0.0004	0.0001	-3.843	0.0156
D(NTA)	-0.5097	3.7801	-0.1348	0.8961
Coint Eq(-1)*	-0.8243	0.0874	-8.5076	0.0000

Table 10: Short Run Results of Model 2

ARDL(1, 1, 1, 1, 1,1): **Dependent variable: LTI**				
Variables	Coefficients	Std. Error	t-Statistic	Prob.
D(LNTA)	-0.0142	0.0147	-0.9675	0.435
D(LFDI)	0.1419	0.0304	4.6621	0.043
D(LEMP)	3.0647	0.5308	-5.7736	0.028
D(LCPI)	1.6739	0.1605	10.4259	0.009
D(LAGTI)	-7.1007	1.1610	-4.4053	0.047

CointEq(-1)*	-1.2676	0.1226	-10.3375	0.0009

Table 10 shows that there is negative relationship between number of terrorist attacks and tourism industry. It means when terrorism increases tourists hesitate to visit the Pakistan. But the other variables like employment, consumer price index and foreign direct investment have positive affect on tourism industry. In this model co-integration equation shows that the variables 126 percent converge to the dependent variable. The negative sign also shows the convergence of the variables. This value is very high which shows that in short run rate of adjustment is very high to the equilibrium.

7.CONCLUSIONS:

In this research paper, we utilized autoregressive distributive lag model to determine the effect of terrorism on inflows of foreign direct investment in Pakistan for time of 2001-2017. By applying ARDL technique it was confirmed that co integration exists in long run and short run between selected variables. Number of terrorist attacks in Pakistan have negative effect on FDI in short run and in long run. Human capital and exchange rate have positive association with FDI inflows in Pakistan. However, in long run consumer price index have opposite but significant effect on direct investment. In short run the factors are inspected by co-integration equation model.

The results of second model show that there is significant negative relationship between consumer price index and tourism industry. The other variable, employment level has positive association with the tourism industry. LFDI has positive and significant association with this industry in long run. LNTA which is the intermediary variable utilized rather than terrorism make negative and negligible association with tourism industry in short runs.

8. Policy Recommendations:

In the light of above findings and conclusions the following recommendations are made for policy makers:-

- In order to promote tourism industry Pakistan should take strict measures to curb terrorism.
- The Government of Pakistan should take policy and security measures to generate secure environment for free movement of tourists in the country.
- Government should take steps to facilitate the tourists especially in northern areas of the country.
- To decreasing consumer price index foreign investors and policy makers should follow to opening investment assessment.
- The government should improve tourism industry that employment level increases in Pakistan because when terrorism increase tourism decrease and employment level also decreases.
- Pakistan Tourism Development Corporation (PTDC) should take appropriate steps for improvement of tourism industry.

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CONTRIBUTION OF AUTHORS AND CONFLICT OF INTEREST

This research work was carried between collaboration of two authors. **Author 1: Zaheer Hussain** is an M.Phil scholar at Department of Economics, Institute of Southern Punjab. He designed study, collected and analyzed data. He also wrote first draft of the manuscript under the supervision of author 2. **Author 1: Prof. Dr. Abdul Ghafoor Awan** is his first Ph.D in Economics from Islamia University of Bahawalpur-Pakistan and second Ph.D is in Business Administration from University of Sunderland, United Kingdom. He contributed in this research paper by way of guiding author first about title selection, data collection and statistical analysis. He edited and gave final shape to the manuscript. In order to learn about his fields of research please look at his Web of Science Researcher ID M-9196 2015 or his Profile at Google scholar.

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