

## **Terrorism and its Impact on Economic Growth: Evidence from Pakistan and India**

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**Abstract:** The terrorism incidents had always been a problem in the developing countries and the last few decades had increased them exponentially. This paper tries to give the empirical evidence of terrorist activities impact on the economic growth and the results show that the terrorism activities have a negative impact on the economic growth of the country. The seven year data from the World Bank was used for the analysis. ADF test was used to find the co integration between terrorist activities of these two countries. This paper also digs into the details of the relationship between the terrorism activities and the economic growth of India and Pakistan and made a comparison between these two. India's economic growth has no impact of terrorist activities while the economic growth of Pakistan does. Results also showed that the Indian terrorist activities have an impact on the Pakistani terrorist activities in the short run, but this impact is not stable in the long run.

**Key words:** ADF test was used to find • Growth and the results show • Increased them exponentially

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### **INTRODUCTION**

September 2001 has given birth to the importance of the study of terrorism and thus resulted in the extensive research on the terrorism which has gained much attention in recent years. There is also the emergence of literature about terrorism in prospective of economics since the year 2001, which helped to recognize this important issue [1].

It provided the answers of the questions and cause the emergence of the new queries about the reason that why do the terrorist attacks occur. Today, most of the researches are being conducted to find the consequences of the terrorism especially in the economic terms.

The incident of 9/11 has changed the economic picture completely due to the change in the macroeconomic and geopolitical situation of the whole world. They are defining now terrorism in multiple manifestations. Most of the terrorist groups have links with each other and they do train the areas of each other for the recruitment, training, exchanging the weapons with

isn't legal and they do plan for the joint activities and the joint ventures in addition to the provision of the logistical support for each other. Pakistan is also one of those countries whose economic development, the social system and the political structure is being eroded as the consequence of the terrorism. These are open challenge to the law and order situation of Pakistan, are violating the human rights of the civilians and also causing severe damage to the infrastructure and reduce the economic opportunities. Destruction of the property, damage of infrastructure, loss of human lives and reduction in the short term economic activity are the immediate outcomes of the terrorism. It also increases the perceived risk and uncertainty which finally give rise to the low investment and reduced economic growth.

This terrorism has also hit the area of Pakistan and India. The consequences in India are not much dependent on the terrorism as in case of Pakistan. As it is much clear from the increases suicidal and the bombing attacks in the multiple areas of Pakistan which have not only reduced the human capital by taking thousands of the human lives

but also have a great impact on the economic indicators and the FDI. In this paper we tried to find out the impact of terrorism on the GDP growth rate in the case of Pakistan and India and then we also investigated any relationship between the terrorism of India and Pakistan due to sharing the same geographical area.

**II-Literature Review:** Multiple researchers have different opinions about the impact of the terrorism on the indicators of the economic growth. We have presented different results of the different articles which could be the milestone for the further researches.

According to many researchers the terrorism is the basic cause of the decreased economic growth. It is also the cause of the feeling of the social and the political injustice and thus resulting in the narrowing of the mindset of the people. Most of the times, this is being termed as the expression of the political and the religious belief injustice, by the terrorist. But it has also been seen that the terrorists have emerged from the developed and rich countries. These are consistent with the findings of Blomberg, Hess and Weerapana [2]. These two researchers developed a model and find out that the terrorist activity rate is quite higher in the high income countries during the period of the recession. According to the findings of Blomberg, Hess and Orphanides [3], by the help of the panel regression controlling for the country fix effects, the terrorism activities has a negative impact of .57 percent points on the GDP growth rate.

They further come up with the point that the economic activities and the terrorism are not independent of each other. One new finding they had was about the impact of the terrorist activities on the economic activities. They say that though the terrorism activities are higher in the high income and democratic countries, but still they don't have the impact upon the economic activities. The terrorism has also a relationship with the business cycle and it has also been seen that the economic weakness also increases the chances of the terrorist activities.

In the context of Asian countries, the developed countries have ability to bear terrorist activities regardless of showing any effect on growth. While developing countries the transnational terrorist attacks reduces the per capita income and increases the government's expenditure on security measures. Ultimately, it is drawing the wealth of necessary private and public assets [4].

But one thing is noteworthy that Al-Qaida has emerged from the poverty stricken Afghanistan basically on the name of jihad from the different so called

"Muddarasas" in Pakistan. So poverty could also be the root cause of the terrorism. The terrorist activities lasting longer also cause the decreased growth both in the directly and indirectly form. The best example is in the era of 1970 when the terrorism caused the GDP of Spain to reduce by 10% [5].

Abadie and Gardeazabal, [5] talked about another aspect of the terrorism and compared its severity with the external wars and the internal conflicts. They say that the external wars and the internal conflicts have a much higher negative impact on the economic growth as compared to the terrorist activities. The diversion from the spending of the government activities also impacts the terrorism activities.

Abadie and Gardeazabal, [5] came up with the results that the impact of terrorism activities is very small and is statistically insignificant, but according to writer these results need too much care to be interpreted properly. But according to them these results are due to the poor form of the data. According to Tavares, [6] the cost of the terrorism is being reduced in the countries having developed institutions. But overall the terrorism indicators have a negative impact on the GDP growth rate. According to Gupta, Clements, Bhattacharya, & Chakravarti, [7] armed conflict and terrorism lead to a higher share of defense spending in total government expenditure, which has a negative effect on growth by diverting resources away from spending on socially and economically productive sectors that promote economic growth.

**Terrorism Indicator:** To attain the political aim, the intentionally threatening of the civilians through the violence is called the terrorism. This is mostly used to create the fear among the people through the tool of violence. This is mostly done by the one group of people by menacing the other citizens of non combatant state. For our research, we have chosen no. of terrorist attacks in a given year as an indicator of terrorist activities.

**Macroeconomic Indicator of Economic Growth:** Most of the times the GDP per capita income is being used to explore the impact of terrorism on macroeconomic indicators. We used the real GDP growth rate to compensate the impact of the unequal distribution of income.

**Hypothesis:**

H<sub>0</sub>: Terrorism has no negative impact on economic growth of a country.

H<sub>A</sub>: Terrorism has negative impact on the economic growth rate of a country.

**Data and Methodology**

**Data Description**

**Sample:** Our selected sample consists of real GDP growth rate and terrorist activities in Pakistan and India. The sample is taken from 2004 to 2010. here we want to test the severity of terrorist attacks and their impact on economic growth in the countries like Pakistan and India after 9/11. From the literature review, it is found out that in lower income and lower middle income countries, terrorist activities have a more significant impact on economic growth than in the higher income countries. To strengthen the findings of previous researches we have taken India as Higher income country and Pakistan as a lower middle income country as ranked by World

bank (world bank). CIA is the most reliable source for the economic data at present. Almost the data of the entire world are available on the CIA site. We utilized the data from the site of CIA and downloaded the GDP of India and Pakistan from 2004 till 2010 and then saw the impact of the terrorism activities on the GDP growth rate. We took GDP growth rate in place of the per capita income. The reason is the inequality of income in the people of Pakistan and India. The number of terrorism attacks is being collected from the database of the world wide tracking system of WITS.

**Sample Size:** A Sample is taken for the 7 years from 2004 to 2010. As the data from 1999 to 2003 was not available for terrorist attacks in Pakistan. So we have taken the data from 2004 to 2010.

Data Set

Year	India's real GDP growth rate*	India's no. of terrorist attacks#	Pakistan's real GDP growth rate*	Pakistan's no. of terrorist attacks#
2004	6.2	384	5.5	150
2005	8.40	1391	6.1	449
2006	9.19	1045	6.6	372
2007	9	905	6.6	889
2008	7.40	743	5.3	1836
2009	7.40	702	2.7	1916
2010.	8.30	860	4.3	1331

**Econometric Modeling and Techniques:** The Real GDP growth rate is taken as dependent variable Y and no. of terrorist attacks in a given year are taken as independent variable X. We applied OLS here for determining the impact of terrorism on economic Growth of a country. Unit root test (ADF test) is applied for to check the stationarity and cointegration of variable. Then we apply Granger-causality test for verifying this relationship, i.e. either terrorism is the cause of economic decline or not. We also applied Arch to measure the volatility of the real GDP growth rate of both countries.

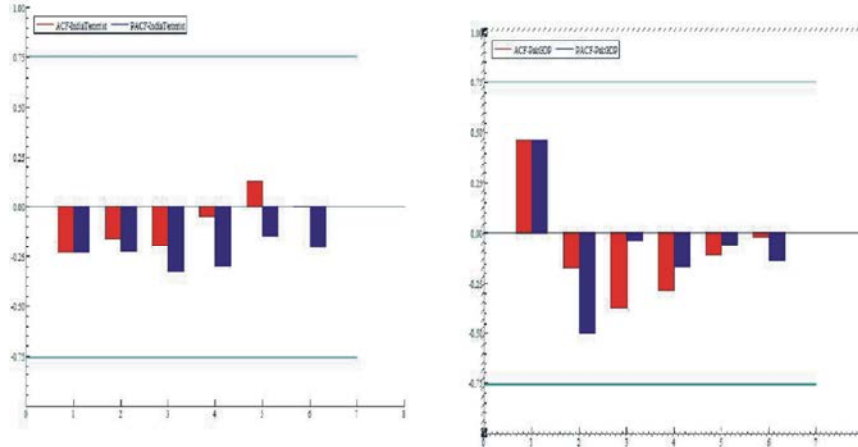
**Model:**

$$\text{Country RGDPG\%} = \alpha + \beta \text{ Country Terrorist attacks} + \epsilon_t$$

**Empirical Analysis and Results**

**Testing Auto-Regression**

**Graphical Analysis:** ACF at lag K is being represented by ρ. It denotes the correlation between the lines of -1 and +1. The graph is being named as the chorelogram. Q statistics is being used to check that either the series is white noise or not. To check that either the past is impacting the future, we used the graphical testing first and applied ACF and PACF. The result of the ACF and PACF shows that there is no impact of the past lags on the GDP in the both cases of India and Pakistan.



**ARIMA:** To check that either any lag is significant or not we applied the ARFIMA. The results showed that no lag is significant means past don't have any impact on the future. In short the past GDP of Pakistan and India both don't impact the future GDP of the countries. So in our model we won't include any lag.

**Granger Causality Test for Pakistan**

**Hypothesis:**

- H<sub>0</sub>: Terrorism is not the granercause of economic growth of Pakistan.
- H<sub>A</sub>: Terrorism is the granercause of economic growth of Pakistan.

Level of significance: = 10%  
 Test statistics = F test.

$$F \text{ test} = ((R_{ssr} - R_{ssur}) / K) / R_{ssur} / (n - K)$$

EQ (1) Modeling Pak GDP by OLS

**Restricted Model:**

$$*PAK \text{ RGDPG}\% = \alpha + \beta \text{pakGDP}_1 + \epsilon_t$$

The estimation sample is: 2004 - 2010

	Coefficient	Std.Error	t-value	t-prob	Part.R^2
PakGDP_1	0.518461	0.4573	1.13	0.320	0.2432
Constant	2.43242	2.573	0.945	0.398	0.1826
Sigma	1.49246				
R^2	0.24323	F(1,4) = 1.286 [0.320]			
log-likelihood	-9.69978	DW			1.59
no. of observations	7		No. of parameters 2		
mean (PakGDP)			5.26667	Var(PakGDP)	1.96222

**Unrestricted Model**

$$*PAK \text{ RGDPG}\% = \alpha + \beta \text{pakGDP}_1 + \text{PakTerorrist}_1 + \epsilon_t$$

EQ (2) Modelling PakGDP by OLS (using new03.in7)

The estimation sample is: 2004 - 2010

	Coefficient	Std.Error	t-value	t-prob	Part.R <sup>2</sup>
PakGDP_1	-0.270460	0.3277	-0.825	0.470	0.1850
Constant	8.76686	2.258	3.88	0.030	0.8340
PakTerorrist_1	-0.00216145	0.0006232	-3.47	0.040	0.8004
Sigma		0.769976			RSS 1.77858696
R <sup>2</sup>		0.848931			F(2,3) = 8.429 [0.059]
Log-likelihood		-4.86581			DW 2.09
No. of observations		7			No. of parameters 3
Mean (PakGDP)		5.26667			Var(PakGDP)1.96222

**Results And Interpretation:**

F calculated=16.22

Ftable (k,(n-k))=4.54

Reject H<sub>0</sub>, if Fcalculated > table

Which is rejected in this case so it means terrorism is granger cause of economic growth. The Results support the hypothesis that terrorism has an impact on GDP growth rate of Pakistan.

**Granger Causality Test for India:**

**Hypothesis**

H<sub>0</sub>: Terrorism is not granercause to the economic growth of India.

H<sub>A</sub>: Terrorism is granercause to the economic growth of India.

Level of significance = 10%

Test statistics = F test.

$$F \text{ test} = ((R_{ssr} - R_{ssur}) / K) / (R_{ssur} / (n - K))$$

EQ (3) Modelling IndaGDP by OLS (using new02.in7)

The estimation sample is: 2004 – 2010

**Restricted Model**

\*india RGDPG% =  $\alpha + \beta$ IndiaGDP\_1 +  $\epsilon_t$

	Coefficient	Std.Error	t-value	t-prob	Part.R <sup>2</sup>
Indiagdp_1	0.100000	0.3310	0.302	0.778	0.0223
Constant	7.49000	2.648	2.83	0.047	0.6666
Sigma		0.84602			RSS 2.863
R <sup>2</sup>		0.0223108			F(1,4) = 0.09128 [0.778]
Log-Likelihood		-6.29396			DW 1.31
No. Of Observations		7			No. Of Parameters 2

Mean (IndaGDP) = 8.28333 Var (IndaGDP) = 0.488056

**Unrestricted Model**

\*India RGDPG%=  $\alpha + \beta$  IndiaGDP\_1 + IndiaTerorrist\_1 +  $\epsilon_t$

EQ (4) Modeling IndiaGDP by OLS (using new02.in7)

The estimation sample is: 2005 - 2010

	Coefficient	Std.Error	t-value	t-prob	Part.R <sup>2</sup>
IndaGDP_1	-0.358041	0.4895	-0.731	0.517	0.1513
Constant	9.40688	2.958	3.18	0.050	0.7713
India Terrorist_1	0.00199254	0.001638	1.22	0.311	0.33
Sigma	0.799454	RSS	1.91737837		
R <sup>2</sup> 0.345232 F(2,3) = 0.7909 [0.530]					
log-likelihood	-5.09123	DW	1.95		
No. of observations	7	No. of parameters	3		
Mean (IndaGDP)	8.28333	Var(IndaGDP)	0.488056		

**Results and Interpretation:**

F calculated=1.97

Ftable (k,(n-k))=4.54

Accept H<sub>0</sub> if F-test < F-table

Which is accepted in this case so it means terrorism has no impact on GDP of India or it is not the granger cause of GDP.

**ARCH Effect on the GDP growth rate of Pakistan and India**

**ARCH EFFECT of Pakistan GDP**

**Hypothesis**

H<sub>0</sub>: There is no ARCH effect present in real GDP growth rate of Pakistan.

H<sub>A</sub>: There is ARCH effect present in real GDP growth rate of Pakistan

Level of significance = 10%

Test statistics = T- Test.

**Results and Interpretation:**

EQ(1) Modelling \*yt by OLS (using new03.in7)

The estimation sample is: 2004 - 2010

	Coefficient	Std.Error	t-value	t-prob	Part.R <sup>2</sup>
Constant	0.869371	11.57	0.0751	0.943	0.0011
sigma	28.345	RSS	4017.18139		
R <sup>2</sup>	2.73079e-034				
log-likelihood	-28.0334 DW	2.14			
no. of observations	7	No. of parameters	1		
mean(*yt)	0.869371	var(*yt)	669.53		
residuals [2005 - 2010] saved to new03.in7					

Algebra code for new03.in7:

"residual 2" = residuals<sup>2</sup>;

EQ (2) Modelling residual 2 by OLS (using new03.in7)

The estimation sample is: 2004 – 2010

	Coefficient	Std.Error	t-value	t-prob	Part.R <sup>2</sup>
Residual 2_1	1.06471	0.5081	2.10	0.127	0.5941
Constant	392.847	389.4	1.01	0.387	0.2533
Sigma 755.926	RSS 1714273.65				
R <sup>2</sup>	0.594143	F(1,3) = 4.392 [0.127]			
log-likelihood	-38.9573	DW 2.04		No. of observations 7	No. of parameters 2
Mean (residual 2)	798.019	Var(residual 2)		844766	

**Interpretation:**

T-Calculated = 2.10      T-table = 1.456

Reject H0 if T-calculated > Table which is rejected in this case so it means there is ARCH effect is present. And the Real GDP growth rate of Pakistan is very volatile in given years.

**ARCH EFFECT of India GDP**

**Hypothesis:**

H<sub>0</sub>: There is no ARCH effect present in real GDP growth rate of India.

H<sub>A</sub>: There is ARCH effect present in real GDP growth rate of India

Level of significance = 10%

Test statistics = T- Test.

Results and Interpretation.

EQ (1) Modelling \*yt india by OLS-CS (using new03.in7)

The estimation sample is: 2004 - 2010

Coefficient	Std.Error	t-value	t-prob	Part.R <sup>2</sup>
Constant	2.79236	3.473	0.804	0.458
Sigma	8.50588	RSS	361.749627	
R <sup>2</sup>	2.94392e-032			
Log-likelihood	-20.8112	DW	0.983	
No. of observations	7	No. of parameters	1	
mean(*yt india)	2.79236	Var(*yt india)	60.2916	

EQ (2) Modelling residual ind2 by OLS (using new03.in7)

The estimation sample is: 2004 - 2010

	Coefficient	Std.Error	t-value	t-prob	Part.R <sup>2</sup>
Residual ind2_1	-0.273462	0.3446	-0.793	0.485	0.1735
Constant	53.2866	36.42	1.46	0.240	0.4165
Sigma	60.578	RSS	11009.086		
R <sup>2</sup> 0.173468	F(1,3) = 0.6296 [0.485]				
log-likelihood -26.3373	DW 2.52				
No. of observations 7	No. of parameters 2				
mean(residual ind2) 33.975	Var(residual ind2) 2663.92				

**Interpretation:**

T calculated= -0.793 t- table= 1.456

Reject H0 if T-calculated > Table which is accepted in this in this case so it means there is no ARCH effect is present. And the Real GDP growth rate of India is not very volatile in given years.

**Stationarity Test for india and Pakistan**

**Stationarity Test:** First of all unit root tests is performed on the data of India and Pakistan separately and then between Pakistan terrorist attacks and Indian terrorist attacks. In the 1<sup>st</sup> step to investigate whether they are stationary or not. The Augmented Dickey-Fuller (ADF) unit root test is used for this purpose. The ADF regression equations are:

$$Y_t = \beta Y_{t-1} + \epsilon_t \dots \tau \text{ statistics}$$

Statistics is used for this purpose.

The null hypothesis to check whether the variables are stationary or not, the following hypothesis is being developed:

- H<sub>0</sub>: p= 1
- H<sub>A</sub>: p< 1

If null hypothesis is rejected, it means that the data is stationary and if it is accepted, it means data is non-stationary.

**Cointegration:** In the 2<sup>nd</sup> step we will perform cointegration.

- H<sub>0</sub>: There is no cointegration.
- H<sub>A</sub>: There is cointegration.

To check cointegration, t-adf calculated value is being compared with t-adf critical values. These critical values are being determined by the formula:

$$C(p) = \Phi_{\infty} + \Phi_1/T + \Phi_2/T^2$$

**Empirical Results for Co-integration Between Terrorism and GDP Growth Rate of Pakistan:**

Unit-root tests (using new03.in7)

The sample is: 2004 – 2010

PakGDP: ADF tests (T=4; 5%=-2.04 1%=-3.68)

D-lag	t-adf	beta Y_1	sigma	t-DY_lag t-prob	AIC F-prob
2	10.91	1.4162 0.1631	-16.92 0.0376	-3.513	
1	-0.9278	0.82666	1.956	-0.4294	0.7094 1.64800376
0	-0.9768	0.85273	1.669	1.236	0.0564

Unit-root tests (using new03.in7)

The sample is: 2004 – 2010

PakTer: ADF tests (T=4; 5%=-2.04 1%=-3.68)

D-lag	t-adf	beta Y_1	sigma	t-DY_lag t-prob	AIC F-prob
2	0.5297	1.9344	852.8	-0.7026	0.6101 13.61
1	-0.6528	0.73843	737.0	0.8855 0.4693	13.51 0.6101
0	0.03005	1.0076	710.0	13.34	0.6935

EQ (1) Modelling PakGDP by OLS-CS (using new03.in7)

The estimation sample is: 2004 – 2010

Coefficient Std.Error t-value t-prob Part.R<sup>2</sup>



Constant	6.67968	0.7361 9.07	0.000	0.9428
PakTer	-0.00139101 0.0006169 -2.25 0.074	0.5042		
Sigma	1.08266 RSS	5.86078645		
R <sup>2</sup> 0.504164	F(1,5) = 5.084 [0.074]			
Log-likelihood	-9.31088	DW 1.45		
No. of observations	7	No. of parameters 2		
Mean (PakGDP)	5.3	var(PakGDP) 1.68857		

Unit-root tests (using new03.in7)

The sample is: 2007 - 2010

residuals: ADF tests (T=4; 5%=-2.04 1%=-3.68)

D-lag	t-ADF	beta Y <sub>1</sub>	sigma	t-DY <sub>lag</sub> t-prob	AIC	F-prob
2	-1.209	-1.0626	1.617	0.6001 0.6559	1.075	
1	-1.372	-0.31057	1.334	0.7281 0.5423	0.8830	0.6559
0	-1.373	0.21908	1.225	0.6182 0.7623		

**Interpretation:** From the empirical results it has been found that both Real GDP growth rate and NO. of terrorist attacks are non stationary and their residuals are also non stationary. So there is no cointegration between them. so they are linked to each other.

**Empirical Results for Co-integration Between Terrorism and GDP Growth Rate of India:**

Unit-root tests (using new03.in7)

The sample is: 2007 - 2010

India GDP: ADF tests (T=4; 5%=-2.04 1%=-3.68)

D-lag t-ADF	Beta Y <sub>1</sub>	sigma	t-DY <sub>lag</sub> t-prob	AIC	F-prob
2	-0.04488	0.99583	1.368	-0.8016	0.5698 0.7409
1	-0.4610	0.96475	1.240	-0.02688	0.9810 0.7371 0.5698
0	-0.5703	0.96518	1.013		0.2375 0.7801

Unit-root tests (using new03.in7)

The sample is: 2007 - 2010

IndTer: ADF tests (T=4; 5%=-2.04 1%=-3.68)

D-lag t-ADF	Beta Y <sub>1</sub>	sigma	t-DY <sub>lag</sub> t-prob	AIC	F-prob
2	1.227	1.3789	129.4	1.056	0.4826 9.840
1	0.6133	1.1125	133.1	1.109	0.3831 10.09 0.4826
0	-0.8948	0.92812	138.1		10.07 0.5411

**EQ (1) Modelling IndaGDP by OLS-CS (using new03.in7)**

The estimation sample is: 2004 - 2010

Coefficient	Std.Error	t-value	t-prob	Part.R <sup>2</sup>
Constant	5.76898	0.8877	6.50	0.001 0.8941
IndTer	0.00257332	0.0009771	2.63	0.046 0.5811
Sigma	0.746342	RSS	2.7851312	
R <sup>2</sup>	0.581093	F(1,5)=6.936	[0.046]*	
Log-likelihood	-6.70692	DW 1.68		
no. of observations 7	no. of parameters	2		
Mean (India GDP)	7.98571	Var (IndaGDP)	0.949796	

Unit-root tests (using new03.in7)

The sample is: 2007 - 2010

Residuals ddd: ADF tests (T=4; 5%=-2.04 1%=-3.68)

D-lag	t-adf	beta Y_1	sigma	t-DY_lag	t-prob	AIC	F-prob
2	-0.4939	0.66127	0.2556	-1.625	0.3513	-2.614	
1	-3.483*	-0.35029	0.3448	2.379	0.1404	-1.823	0.3513
0	-1.591	0.27771	0.5511	-0.9795	0.2678		

**Interpretation:** From the empirical results it has been found that both Real GDP growth rate and NO of terrorist attacks are non stationary and their residuals are also stationary up to one lag. So there is co integration between them.so they are independent of each other.

**Testing Stationarity and Cointegration Between India and Pakistan Terrorist Attacks:** We are checking that is the terrorism in Pakistan and India are co integrated or not. Here we will first check that the data of terrorism of both the countries are stationary or not and if non stationary, then we will check that either data is cointegrated or not. For this w will first check graphically first.

**Graphical Testing:** Stationarity means that the data revolves around its mean and if it is not then the data is called non-stationary.

Graphically we can see that the data of India is non-stationary and the same is the case with the data of Pakistan which is also non-stationary as it doesn't revolves around its mean value.

**Unit Root Test:** We will confirm the stationarity and non stationarity through unit root testing and the results showed that the both terrorism series are non-stationary.

PakTerrorist: ADF tests (T=3; 5%=-2.07 1%=-4.33)

D-lag	t-adf	beta Y_1	sigma	t-DY_lag	t-prob	AIC	F-prob
2	0.0000	2.1380	+Inf	-0.0000	0.0000	-58.71	
1	-0.8802	0.62227	756.5	1.083	0.4747	13.49	0.0000
0	-0.05987	0.98313	788.4			13.60	0.0000

Terrorism activities in Pakistan

IndTerrorist: ADF tests (T=3; 5%=-2.07 1%= 4.33)

D-lag	t-adf	beta Y_1	sigma	t-DY_lag	t-prob	AIC	F-prob
2	0.0000	1.6544	+Inf	0.0000	0.0000	-58.84	
1	0.8178	1.2528	158.5	1.006	0.4980	10.37	0.0000
0	-0.3048	0.96451	159.0			10.40	0.0000

Terrorism activities in India

**OLS:** We applied OLS on the terrorism of both countries and fitted the model.

$$T_p = \text{constant} + T_I + e_t$$

**Cointegration:** And find the residuals, then applied the unit root testing on the residuals to find the cointegration. The results showed that the residuals are non-stationary meaning that there is spurious correlation between the two terrorism activities. It showed that the terrorism activities in Pakistan have an impact of the terrorism activities of India. They are not stable in long term.

Residuals: ADF tests (T=3; 5%=-2.07 1%=-4.33)

D-lag	t-adf	beta Y_1	sigma	t-DY_lag	t-prob	AIC	F-prob
2	-0.0000	0.27271	+Inf	-0.0000	0.0000	-57.81	
1	-3.964	-0.00054380	250.6	2.404	0.2510	11.16	0.0000
0	-1.720	0.32883	461.4			12.58	0.0000

### CONCLUSION

The results show that the terrorism has an impact on the economic growth in cases of Pakistan. The increase in the number of the terrorist attack would definitely going to reduce the GDP growth rate in Pakistan. The results of Pakistan are quite consistent with the Blomberg, Hess and Weerapana (2004), who also found the negative relationship between these two. But in the case of India there is no relationship found between the Real GDP growth rate and the terrorist attacks. These finding are also quite consistent with the Blomberg, Hess and Weerapana [8] which also say that if there is democracy in that specific area and it is high income country then there would be no impact of the terrorism on the economic indicators. But India is the middle income country then we can say that the developing country with the increasing income rate the impact of the terrorist activities don't have any impact on the GDP growth rate. But terrorism of India co-moves with GDP growth rate of india [9].

India and Pakistan share the same geographical area, same history and somewhat same culture in many aspects. Above all india and Pakistan has fought three wars and there is most of the times high tension between each other. They both blame each other for their terrorist attacks and they always consider each other as the enemy. This is the reason we tried to find out that is there any relationship of the terrorist attacks between the india and Pakistan. The expected relationship is not being found rather we found no causal relationship between the Indian and Pakistani terrorism incidents. They, no matter, share the same geographical region and the similar kind of the resources but still we found no impact of Indian and Pakistan terrorism impacting each other. But they are not stable in long term.

### Recommendation:

- The limited data availability hindered our research in many aspects. And above all, the contrasting information on the different websites raise the reliability of the data so we simply took the CIA as the reliable source.
- The limited time and low data availability has restricted the scope of our research. This could be

done in the multiple areas like the Iran, Palestine, Iraq and many others. The street crimes of USA and UK could be taken in place of the terrorist attacks.

- Drone attacks are basically for the war against terrorism but we found a significant negative relationship between the drone attacks and the growth of GDP. But due to lack of availability of the literature review we skipped the inclusion of this aspect. This line needs to be explored in the Pakistani context.

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