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THE IMPACT OF TERRORISM ON ECONOMIC GROWTH IN PAKISTAN: AN EMPIRICAL ANALYSIS

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ABSTRACT

The goal of the study to explore the impact of terrorism on economic growth by utilizing time series data from 1974 to 2015, the period for which consistent data is available in case of Pakistan. In this study, Autoregressive Distributed Lag (ARDL) model employed to conduct an enquiry of cointegration and short-run dynamics among the dependent and independent variables of the model. The empirical results of this model assure that there is the existence of cointegration and short-run dynamics among the terrorism and economic growth in case of Pakistan. The results of this analysis show that an upward shift in the terrorist activity will downward shift in economic growth and insignificant relationship in both long-run and short-run analysis of the model. Thus, it is advised that government should plan such type of policy through which terrorism reduce and economic growth becomes stable.

Keywords: terrorism, GDP, FDI, remittances
JEL Codes: D25, F24

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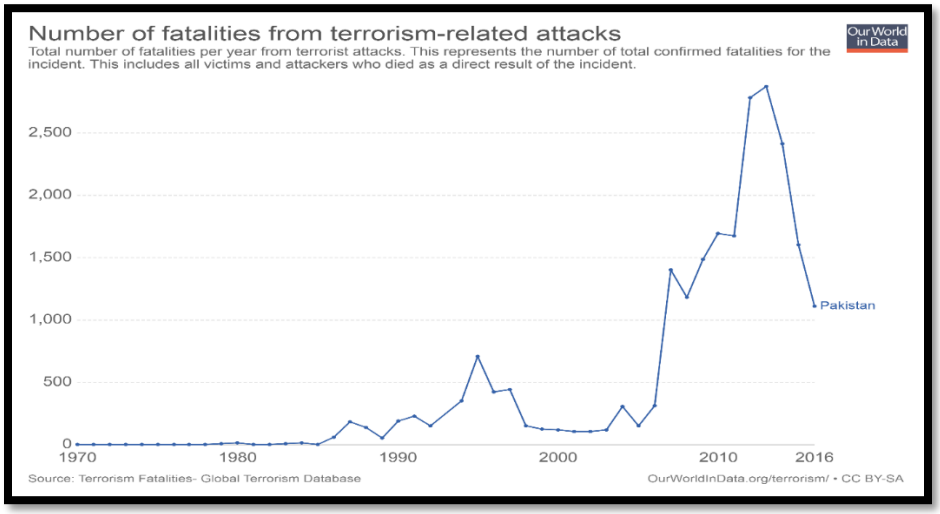
I. INTRODUCTION

Firstly, the basic or main aim is to well understand the nature, qualities and importance of economic growth. The amount of goods and services produced within a country are the perfect scale to well understand the economic growth (Ricardo 1817). Economic Growth is an amount of capacity to produce goods and services, as compared it from the one period of time to another. The economic growth of a country shows the value and importance of a country towards the other nations. Mostly, the policymakers and economists are more interested towards the negative (downward movement of economic growth) or positive (upward movement of economic growth) impact of economic growth. Crafts (2000), after the World War II, most of the nations adopted such policies to improve the condition of their economic growth. The most efficient definitions of terrorism is a mixture of three components (i) activities of attacks by an individuals and organizations (Nasir et al., 2011), (ii) use of terrific violence (Enders and Sandler, 2006), and (iii) propaganda (Iussa and Tavares, 2007). As we know from the history of Pakistan, the nation is facing external and internal outliers but the rate of these shocks or outliers increases at the terrific rate after 9/11. The main impact of terrorism on economic growth in case of Pakistan is negative. Theoretically, it can be easily understood that the increase in terrorism will impact decrease in the economic growth. The negative or decrease impact on economic growth can be explained as that the foreign direct investment increase the economic growth which shows their positive relationship. So, terrorism activities decrease the rate of foreign direct investment and great bombastic attacks completely destroy and vanished the huge infrastructure in just one seconds. Overall, it shows the decrease in economic growth. Terrorism is a name of planned exercise of serious or immediate danger and threat of terrific violence by an individual or organization in order to attain the personal, social, political and economic gains (Enders and Sandler, 2006). The rate of fatalities from terrorist attacks by an individual or organization increases over the time period (Global Terrorism Database).



The main aim of this study is to elaborate the impact of terrorism on gross domestic product per capita in case of Pakistan. This study also shows the impact of foreign direct investment net inflow, GDP Deflator, primary school enrollment, and worker remittances on gross domestic product per capita in case of Pakistan.

II. LITERATURE REVIEW

Many of the economists or researchers gives many perspectives on the impact of terrorism on economic growth at national and international levels. The most discussed variables in their researches are terrorism, economic growth, inflation, poverty and foreign direct investment. Some of them are discussed below: Shahbaz (2013) examines the linkages between inflation, economic growth and terrorism in case of Pakistan utilizing yearly data from 1971 to 2010 in case of Pakistan. In this study, ARDL approach is employed to shows that there is cointegration between the above given variables in case of Pakistan. When terrorist attacks rate increases so it become cause of reduction in investment, trust of investors and negatively affecting financial market. This results lower economic growth. Our empirical results indicate that there is negative relationship among terrorism and economic growth. So, policy makers must take immediate steps to control inflation and make opportunities of job and make it equal access to each sector of society. So, it will surely decrease the terrorism. Shahbaz et al., (2013) examine the linkages between terrorism and economic

growth in Pakistan by including capital and trade openness by utilizing the data from 1973 to 2010. The ARDL bounds test is used to detect long-run relationship among the given variables. Our empirical results confirm the long-run relationship among these variables. Our study also includes other factors which affect the terrorism in case of Pakistan. Thus, the government should take steps to control terrorist activity. It will lower the inequality and poverty rate in case of Pakistan. Blomberg et al., (2002) examine an economic model of terrorism using the panel data of 130 nations from 1968 to 1991 of terrorist incidents and economic variable. Tornell (1998) obtains the terrorism activities as a reason of people violence against the economic crisis and drastic political issues that can change their conditions. The result finally shows the reduction in economic activity and increased in terrorism. This paper shows that economic activity and terrorism are dependent of one another and have negative relationship. Developed countries face higher rate of terrorism. These results are in support of our theoretical model.

Alan and Jitka (2003) organize the linkages among education, poverty and terrorism. Our proof gives clarification that decrease in poverty or an increase in schooling system would decrease terrorism. Stern (2000) refers that most of the madrasahs or religious institutes in case of Pakistan are sponsor by industrialist and foreign institutes. She further reports: "Madrasahs offer only religious instruction, ignoring science subject's importance for functioning in modern society." These observations counseled that if international institutes strive to use education as part of game plan to reduce the terrorist activity, it should not put any restriction to increasing years of schooling. Spilerman and Steklov (2009) signal that societal cause to Terrorist attack. Nations faced terrific terrorism, with bombastic attacks on buses, restaurants, coffee shops, and retail outlets. In this study, we experience the effects of terrorism on civilian society in the United States. The psychological impacts, the actions taken by individuals to improve their security, and further adjustments made by actors and by private enterprise foundations to assure increased economic growth. Beck (2002) gives guidance that because societies are facing threats from terrorist's additionally from financial risks. Thus, government have to refresh the evolution of new actions. Mehmood (2013) inspects that the death rate by terrorism at macroeconomic level in case of Pakistan by using the sample over 4,500 terrorist incidents and resultant 10,200 deaths from 1973 to 2010 to research the relationship among terrorism and the macro economy. One lead from this method that not only allow the heterogeneous units in countries but it also enables differentiate among short and long-run impacts. This study mentions the harm faced by injured individuals, impacts on economic conditions as it is expected the loss in real GDP. Pakistan should end up the war, and adopt main steps to enhance its export sector and to motivate the investments and worker remittances. Khan (2012) determines the linkages between the terrorist incidents and the importance of literacy rate in case of Pakistan by utilizing time series data from the period of 1972 to 2008. The Johanson estimation is used to show the long-run relationship among variables. The conclusion of this study shows that there is negative relationship among above given variables in the long run and also conclude that the positive relationship of above given variables and it can be proved in two procedures. First one is, education convey improvement in people about the fallacious activities. If perfect plan is not made then it becomes cause of violence. Second, terrorist organization needs educated individuals. So, they can adjust themselves in this environment.

Syeda et al., (2015) explain the causes and incentives for terrorism in case of Pakistan by using panel data of five regions of Pakistan from 1980 to 2010. The results finalize that irrelevant increase in expenditures and bad law & order conditions results increased terrorist activity in Pakistan. There is positive relationship among inequality and terrorist attacks. We recommend that the government should adopt such policies to resolve these problems. Ahmad and Zeb (2016) explore the direct and indirect impacts of terrorism on youth in case of Pakistan. After Pakistan independence in 1947, Pakistan has facing within and outside security challenges of the country. The main reason of security issues starts when Pakistan indulges into the Afghan-Soviet War. The most targeted places after 2002, are markets, restaurants, schools, mosque etc. These incidents highly effect the youth of the country. Terrorism shows negative impacts on economic growth and tensed the youth by mixture of terrific terrorism, unbearable poverty and highly unemployment. Hyder et al., (2015) examine the impact of terrorism on economic development in case of Pakistan from 1981 to 2012. To understand their impacts Solow growth model has been used by utilizing data on terrorism rate of fatalities from Global Terrorism Database. The results of this study show that terrorism has negative influence on economic growth in case of Pakistan. This study also presents that foreign support after the participation in the war against terrorism by aid, grants or debt have positively influenced the economic growth of Pakistan. Agrawal (2011) explores the influence that international terrorist activities has on investment net inflow of developed countries by utilizing time series data. Use Vector auto regression analysis to find out the terrorism influence positive or negative and significant or insignificant. Enders and Sandler (1996) refers an "environment of alarming and enhancing financial

risk" responses investors to make investments. Somewhere else to protect the results from the reduction in FDI net inflows. Results shows negative and significant relation among terrorist and FDI net inflows.

Afzal et al., (2012) explore the relationship among education, poverty and economic growth by using time series data from 1971 to 1972 and from 2009 to 10 in case of Pakistan. Education is a multifaceted procedure and it improves the economic growth and decrease the poverty by enhance its production. The empirical results of ARDL bounds testing shows positive and statistically significant relationship among education, capital and reduced poverty towards economic growth both in the short-run and long-run. Babar et al., explore the effects of terrorism, CPI, exchange rate and interest rate on foreign investment in case of Pakistan by using time series quarterly data from 2003 to 2014. Multiple regression analysis was applied to inspect the linkages between multiple variables. Variables which are shown above have positive impacts with investment. This study concludes that terrorist activities shown short-run influence on the investment which becomes a reason of the lack of long-run investment in Pakistan. Alam et al., (2017) explore the impacts of terrorism on investment net inflows in case of Pakistan by utilizing time series data from 2000 to 2015. In this study, log of FDI net inflows and log of terrorism is taken. Correlation and Ordinary Least Square (OLS) techniques applied to finalize the linkages and significance among the FDI net inflows and Terrorism. The study finally conclude that terrorism negatively impact the FDI net inflows. Terrorism completely muddle economic and business condition of a country which slows down the rate of business activities. The annual expression of the study is same as with Shahbaz et al. (2012), Rasheed & Tahir (2012), Hyder et al. (2015) and Agrawal (2011). Haider and Anwar (2014) explain the disadvantageous effects of terrorism towards the Foreign Direct Investment (FDI) net inflows in case of Pakistan. This study applied time series analysis to show the effects of terrorism on FDI net inflows. After 2003, 52,000 individuals were hunted by terrorist attacks in Pakistan. The results conclude that negative relationship among terrorism and FDI net inflows. Rehman (2016) explores the Foreign Direct Investment has main role to enhance the economic growth by span saving investment gap and maintain the high technology. This study shown that the economic and social factors of FDI in case of Pakistan from 1948 to 2015. Co integration and error correction techniques applied on both long-run and short-run to measure the effects of the factors of FDI, which is correct, in case of Pakistan. The results recommended that social variables are more significant than economic variables in the influence of FDI in case of Pakistan.

III. THE METHODOLOGY

The main important things to run an econometric model is to explain the economic theory to show up the relationship among the variables which satisfy the theoretical model. An econometric model presents heterogeneous units of different economic situations with some assumptions. This study explains the impact of terrorism in case of Pakistan. Foreign direct investment net inflow, GDP deflator, primary school enrollment and worker remittances are logically and theoretically are explained in this model. As we know, two or more variables is not sufficient to explain the overall economic and terrorism situation in an economy. The main focus of this study is to stable the economy not by only decreases the rate of terrorism but also by decrease the rate of GDP Deflator, increase the FDI, primary school enrollment and WR which is somehow also affected by the terrorism rate. Following the previous methodologies, Ali (2011), Ali (2015), Ali (2018), Ali and Bibi (2017), Ali and Ahmad (2014), Ali and Audi (2016), Ali and Audi (2018), Ali and Rehman (2015), Ali and Naeem (2017), Ali and Zulfiqar (2018), Ali et al., (2016), Arshad and Ali (2016), Ashraf and Ali (2018) Haider and Ali (2015), Sajid and Ali (2018), Ali and Senturk (2019), Kassem et al, (2019) and Ali and Bibi (2020). Functional form can be written as:

$GDPt = f(Terrt, FDInIt, SEPSt, WRt)$ (1)

GDPpc = Gross Domestic Product per capita
Terr = Rate of fatalities from terrorist attacks
FDInI = Foreign Direct Investment net inflow
SEPS = Primary School Enrollment
WR = Worker Remittances

Following the log log form of the function of the model becomes as:

$LGDPpct = \alpha. + \alpha 1Terrt + \alpha 2LFDInIt + \alpha 3LSEPSt + \alpha 4LWRt + et$ (2)

The overall data of the model are collected by Global Terrorism Database, World Development Indicator and Pakistan Economic Survey. In econometric models, the time series data are involved and sometimes it faces non-stationary and the results are spurious. Nelson and Plosser (1982) refers that non-stationary issues are mostly occur in time series data. The temporary shocks which vanished over the time period occur in stationary time series data and its mean value come back to zero and variance becomes constant over the time. The permanent shocks occur in non-stationary

time series analysis and in this occurrence, the mean does not return even in long-run and variance move infinity as time goes to infinity. The Unit root tests are used to detect the presence or absence of non-stationary in the data. For this detection, this study used Augmented Dickey Fuller unit root test (1981) which is the extensive form of Dickey Fuller unit root test. In this test, it used lagged dependent difference operator and this is the point of difference between DF and ADF test. Mostly, for the analysis of cointegration, ARDL is employed. This analysis helps us to determine the cointegration relationship among the dependent and independent variables. ARDL model was established by Pesaran et al. (2001) in order to include I(0) and I(1) in the similar estimation. I(0) shows level stationary and I(1) shows integration at fist difference. If the estimation have both I(0) and I(1), then we able to apply OLS on the estimation. ARDL provide accurate and logical information about the structural breaks in the data. Pattichis (1999) explains the properties of short-run and long-run equilibrium by using Unrestricted Vector Error Correction Model technique.

IV. EMPIRICAL RESULTS AND DISCUSSION

Table 1: Descriptive Statistics

	LOGGDPPC(CLCU)	TERR(D)	FDINI OF GDP	GDP DEF	LOG SEPS	LOG WR
Mean	4.598932	541.2619	0.817596	10.22984	4.041980	3.466214
Median	4.618869	151.5000	0.587824	8.865679	4.071067	3.352485
Maximum	4.769555	2874.000	3.668323	25.43683	4.333467	4.299219
Minimum	4.389863	0.000000	0.045594	2.463093	3.696444	2.530225
Std. Dev.	0.112859	797.8661	0.823513	5.774041	0.211515	0.429241
Skewness	-0.341702	1.644189	2.101354	1.275236	-0.350774	0.423314
Kurtosis	2.046958	4.622104	7.087060	3.934963	1.660136	2.573170
Jarque-Bera	2.406831	3.52815	6.14193	2.91336	4.002959	1.573185
Probability	0.300167	0.204008	0.400500	0.201570	0.135135	0.455394
Sum	193.1552	22733.00	34.33904	429.6534	169.7632	145.5810
Sum Sq. Dev.	0.522227	26100202	27.80511	1366.922	1.834275	7.554148
Observations	42	42	42	42	42	42

The overview of the properties of data through descriptive statistics with 42 number of observations is shown in the above table 1. The empirical results show that the Gross Domestic Product per capita and Primary School enrollment is negatively skewed. Other variables which are Terrorism, Foreign Direct Investment net inflow, Gross Domestic Product Deflator and Worker Remittances are positively skewed. The estimated results indicate that dependent Gross Domestic Product and all other independent variables have positive kurtosis. The probability values of Jarque-Bera report that the all independent and dependent variables do not reject the null hypothesis of normality. This validate that data are normally distributed.

The estimated results of unit root tests of Gross Domestic Product per capita model are stated in table 2. The outcome of Augmented Dickey-Fuller unit root test shows by comparing it probability values with the level of significance at 1%, 5% and 10% that the dependent variable log Gross Domestic Product per capita is non-stationary at level (constant) but stationary at first difference. The independent variables which are terrorism, log primary school enrollment and log worker remittances are non-stationary at level (constant) but stationary at first difference also by comparing it probability values with the level of significance at 1%, 5% and 10%. But two independent variables which are foreign direct investment net inflow and GDP deflator are stationary at level (constant) but non-stationary at first difference also by comparing it probability values with the level of significance at 1%, 5% and 10%. Thus, there is hybrid order of integration which is appropriate condition for applying ARDL cointegration approach.

Table 2: Unit Root Tests

Variables	Level (Constant)	P-Value	First difference	P-Value
Log GDPpc	I(0)	0.4846	I(1)	0.0334
Terr	I(0)	0.4993	I(1)	0.0115
FDInI	I(0)	0.0782	I(1)	0.0039
GDP def	I(0)	0.0003	I(1)	0.0000
Log SEPS	I(0)	0.8234	I(1)	0.0017
Log WR	I(0)	0.7910	I(1)	0.0013

ARDL bounds testing approach is applying for explore the cointegration among Log Gross Domestic Product per capita, terrorism, foreign direct investment net inflow, GDP deflator, Log primary school enrollment and Log worker remittances which are presented in the table 3. This table shows that the F-statistics (4.251932) is greater than the critical values of lower and upper bound at 1%, 2.5%, 5% and 10%. Hence the cointegration relationship between variables is exist because the null hypothesis of no long-run relationship exist is rejected.

Table 3: ARDL Bounds Testing Approach

Dependent Variable: Log GDP pc

Test Statistics	Value	K
F-Statistics	40251932	5
Critical Value Bounds		
Significance	Lower Bound	Upper Bound
10%	2.26	3.35
5%	2.62	3.79
2.5%	2.96	4.18
1%	3.41	4.68

This table 4 shows the estimated long-run coefficients using ARDL Approach that explain the positive or negative and significant or insignificant relationship among dependent and independent variable. Thus, the coefficient of terrorism reveals that there is negative and insignificant relationship among terrorism and Gross Domestic Product per capita. The results indicate that the 1 unit increase in terrorism, on average, decreases by 0.000019% GDP per capita in case of Pakistan, in the long-run, by holding all other variables constant and there is insignificant relationship among them. The estimated results indicate that the 1% increase in foreign direct investment net inflow, on average, increases by 0.005348% GDP per capita in case of Pakistan, in the long-run, by holding all other variables constant and there is insignificant and positive relationship among them. The estimated results indicate that the 1% increase in GDP Deflator, on average, decreases by 0.005425% GDP per capita in case of Pakistan, in the long-run, by holding all other variables constant and there is significant and negative relationship among them. The estimated results indicate that the 1% increase in primary school enrollment, on average, increases by 0.334320% GDP per capita in case of Pakistan, in the long-run, by holding all other variables constant and there is significant and positive relationship among them. The estimated results indicate that the 1% increase in worker remittances, on average, increases by 0.051967% GDP per capita in case of Pakistan, in the long-run, by holding all other variables constant and there is significant and positive relationship among them.

Table 4: Estimated Long run coefficients using ARDL Approach

ARDL (2, 2, 2, 2, 2, 2)

Dependent Variable: LogGDPpc: Time Period 1974-2015

Variable	Coefficient	Std. Error	t-Statistics	Prob.
TERR	-0.000019	0.000013	-1.393827	0.1736
FDInI	0.005348	0.008149	0.656266	0.5167
GDP def	-0.005425	0.002216	-2.448132	0.0204
LSEPS	0.334320	0.052404	6.379617	0.0000
LWR	0.051967	0.028029	1.854072	0.0736
C	3.153857	0.210957	14.950255	0.0000

Thus, the overall results of long-run analysis show that primary school enrollment and worker remittances has positive and significant impact on GDP per capita. The GDP Deflator has negative and significant impact on GDP per capita. Whereas, foreign direct investment has positive and insignificant impact on GDP per capita. Thus, the main important variable of this paper terrorism has negative and insignificant impact on GDP per capita in case of Pakistan. This results or relationship suggest that for improve the GDP per capita government should reduce the terrorism and GDP Deflator and rise the primary school enrollment, foreign direct investment net inflow and worker remittances in case of Pakistan.

This table 5 shows the short-run dynamic between log GDP per capita, terrorism, GDP deflator, log primary school enrollment and log worker remittances in case of Pakistan. The estimated results indicate that the 1 unit increase in terrorism, on average, decreases by 0.000003% GDP per capita in case of Pakistan, in the short-run, by holding all other variables constant and there is insignificant and negative relationship among them, this results is same as effect on GDP per capita in long-run. The estimated results indicate that the 1% increase in foreign direct investment net inflow, on average, increases by 0.006767% GDP per capita in case of Pakistan, in the short-run, by holding all other variables constant and there is significant and positive relationship among them, this results is not as same as effect on GDP per capita as in long-run.

Table 5: Error Correction Representation

ARDL (2, 2, 2, 2, 2, 2)
Dependent Variable: logGDPpc
Time Period 1974-2015

Variable	Coefficient	Std. Error	t-Statistics	Prob.
D(TERR)	-0.000003	0.000003	-1.228647	0.2288
D(FDInI)	0.006767	0.002117	3.137701	0.0038
D(GDP def)	0.000083	0.000181	0.383477	0.7041
D(LSEPS)	0.059982	0.027718	2.164013	0.0386
D(LWR)	0.009324	0.004395	2.121375	0.0423
CointEq(-1)	-0.179416	0.061156	-2.933748	0.0064

R-squared	0.708412	Mean dependent var	0.009361
Adjusted R-squared	0.483095	S.D. dependent var	0.007871
S.E. of regression	0.005659	Akaike info criterion	-7.208997
Sum squared resid	0.000705	Schwarz criterion	-6.449001
Log likelihood	162.1799	Hannan-Quinn criter	-6.934207
F-statistics	3.144059	Durbin-Watson stat	2.245964
Prob(F-statistics)	0.006378		

The estimated results indicate that the 1% increase in GDP deflator, on average, increases by 0.000083% GDP per capita in case of Pakistan, in the short-run, by holding all other variables constant and there is insignificant and positive relationship among them, this results is totally opposite as effect on GDP per capita as in long-run. The estimated results indicate that the 1% increase in primary school enrollment, on average, increases by 0.059982% GDP per capita in case of Pakistan, in the short-run, by holding all other variables constant and there is significant and positive relationship among them, this result is same as effect on GDP per capita in long-run. The estimated results indicate that the 1% increase in primary school enrollment, on average, increases by 0.009324% GDP per capita in case of Pakistan, in the short-run, by holding all other variables constant and there is significant and positive relationship among them, this result is same as effect on GDP per capita in long-run. Thus, the overall results of short-run dynamics show that foreign direct investment net inflow, primary school enrollment and worker remittances has positive and significant impact on GDP per capita. The GDP Deflator has positive and insignificant impact on GDP per capita. Whereas, the main important variable of this paper terrorism has negative and insignificant impact on GDP per capita in case of Pakistan. This results or relationship suggest that for improve the GDP per capita government should reduce

the terrorism and rise the GDP deflator, primary school enrollment, foreign direct investment net inflow and worker remittances, in short-run, in case of Pakistan. The cointegration shows (-0.1794) and (0.0064) significant coefficient which is theoretically accurate. This impact reveals the rate of adjustment from short-run to long-run equilibrium. Additionally, short-run deviation in the last period is corrected by 17.94% in future in case of Pakistan. . Therefore, the R-squared of the model is 0.70 which shows that 70% variation in dependent variable is explain by listed independent variables. Overall F-statistics shows that the model is overall statistically significant.

Table 6: Serial Correlation

Breusch-Godfrey Serial Correlation LM Test

F-statistics	1.070952	Prob. F(1,21)	0.3125
Obs*R-squared	1.940925	Prob. Chi-Square(1)	0.1636

The above table 6 shows that Breusch-Godfrey serial correlation LM test shows that there is no serial correlation between the dependent and independent variables in the model by do not reject the null hypothesis of no serial correlation.

Table 7: Diagnostic

F-statistics	0.553108	Prob. F(17,22)	0.8918
Obs*R-squared	11.97705	Prob. Chi-Squared(17)	0.8015

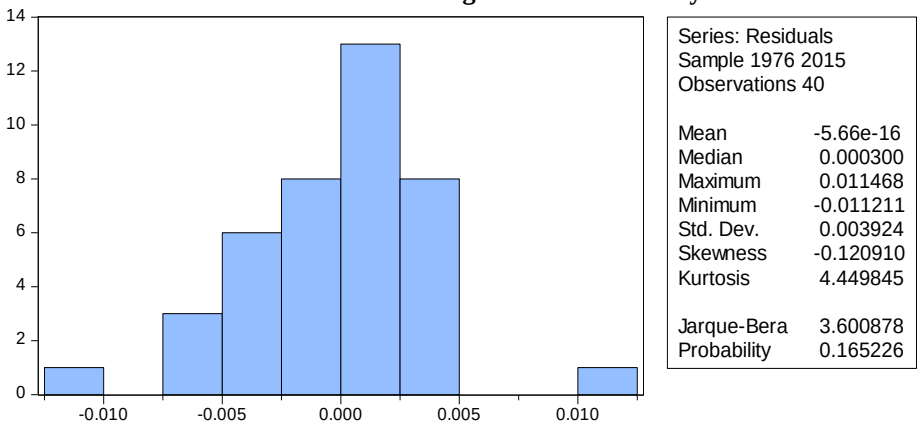
The above table 7 shows that Breusch-Pagan-Godfey test shows that there is no hetroskedasticity among the dependent and independent variables in the model by do not reject the null hypothesis of no hetroskedasticity.

Table 8 **Ramsey RESET Test**

Test Statistics	Value	Df	Probability
t-statistics	0.494188	21	0.6263
F-statistics	0.244222	(1, 21)	0.6263

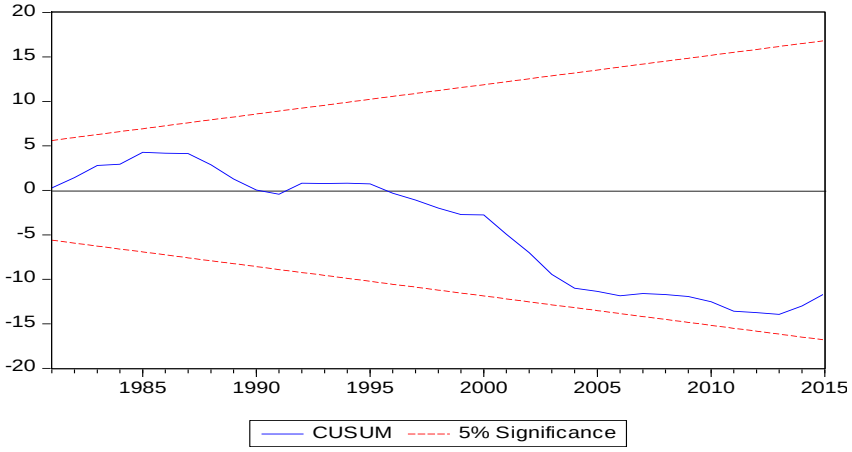
The above table 8 shows that Ramsey RESET test shows that the model is correctly specified (p-value 0.6263) using the 1 fitted values and by do not reject the null hypothesis of correctly specified.

Table 9: Plot of Histogram: J-B Normality



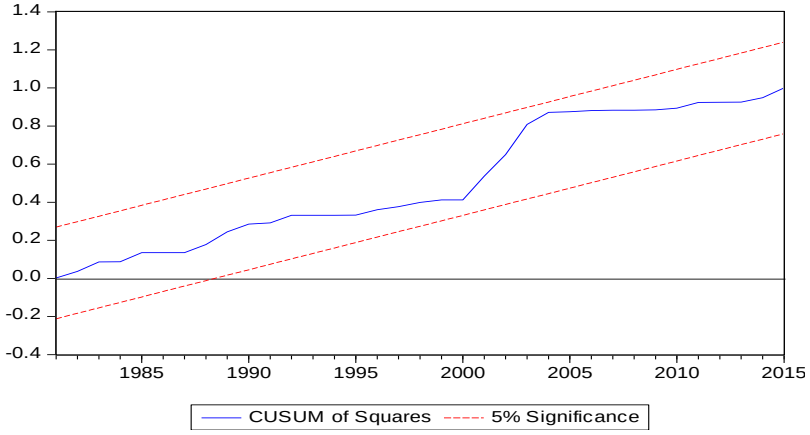
The above table 9 shows that J-B Normality test shows that all the variables are normally distributed (P-value 0.1652) by do not reject the null hypothesis of normally distributed.

Figure 1: Plot of Cumulative Sum of Recursive Residuals



The plotted figures 1 and 2, both shows the stability of parameters and structural breaks of the estimated model. The Cumulative Sum of recursive residuals (CUSUM) and Cumulative Sum of Squares of recursive residuals (CUSMSQ) lies among the critical lines which prove that model is stable by do not reject the null hypothesis of stability.

Figure 2: Plots of Cumulative Sum of Squares of Recursive Residuals



V. CONCLUSIONS

The study of the model shows that ARDL bound testing approach is employed that which shows that there is cointegration between the dependent and independent variables in the model. The long-run results indicate that terrorism has negative and insignificant relationship with gross domestic product per capita in case of Pakistan. The long-run estimates show that there is positive and insignificant relationship among foreign direct investment net inflow and gross domestic product per capita in case of Pakistan. The GDP Deflator has negative and significant impact on gross domestic product per capita in Pakistan. The primary school enrollment has positive and significant impact on gross domestic product per capita in Pakistan. The worker remittances have positive and significant impact on gross domestic product per capita in Pakistan. The short-run dynamics indicates that foreign direct investment net inflow, primary school enrollment and worker remittances has positive and significant impact on gross domestic product per capita. The GDP deflator has positive and insignificant impact on gross domestic product per capita. The terrorism has negative and insignificant impact on gross domestic product per capita in case of Pakistan. The ECM of the model is negative and significant which shows its speed of adjustment from short-run to long-run equilibrium. The diagnostic tests indicate that there is no serial correlation, no hetroskedasticity. It shows normally distribution and correctly specification of the model. Finally, the study concludes that to improve the GDP, the terrorism has to reduced. It is recommended to the government that because of the negative impact of terrorism on GDP, they should take on such

policies that would reduce the terrific and bombastic attacks by an individuals and organizations. Thus, it helps in acquiring the full fruit of economic growth in Pakistan. And the policies bringing economic stability.

REFERENCES

Afzal, M., Malik, M. E., Begum, I., Sarwar, K., & Fatima, H. (2012). Relationship among education, poverty and economic growth in Pakistan: an econometric analysis. *Journal of Elementary Education*, 22(1), 23-45.

Agrawal, S. (2011). The impact of Terrorism on Foreign Direct Investment: which sectors are more vulnerable*? CMC Senior Theses*.

Ahmed, Z. S., & Khan, Z. (2016). Direct and Indirect Impacts of Terrorism on Youth in Pakistan. *Journal of the Research Society of Pakistan*, 53(1), 235-249.

Alam, H. M., Akram, M., & Iqbal, Z. (2017). The Terrorism and Foreign Direct Investment: The case of Pakistan. *Journal of Research Society of Pakistan*, 54(1), 71-77.

Ali, A. & Naeem, M.Z. (2017). Trade Liberalization and Fiscal Management of Pakistan: A Brief Overview. *Policy Brief-Department of Economics, PU, Lahore*. 2017 (1), 1-6.

Ali, A. (2011). Disaggregated import demand functions of Pakistan; An empirical Analysis. M-Phil Thesis, NCBA&E, Lahore, Pakistan, 1-70.

Ali, A. (2015). *The impact of macroeconomic instability on social progress: an empirical analysis of Pakistan*. (Doctoral dissertation, National College of Business Administration & Economics Lahore).

Ali, A. (2018). Issue of Income Inequality Under the Perceptive of Macroeconomic Instability: An Empirical Analysis of Pakistan. *Pakistan Economic and Social Review*, 56(1), 121-155.

Ali, A. and Bibi, C. (2017). Determinants of Social Progress and its Scenarios under the role of Macroeconomic Instability: Empirics from Pakistan. *Pakistan Economic and Social Review* 55 (2), 505-540.

Ali, A., & Ahmad, K. (2014). The Impact of Socio-Economic Factors on Life Expectancy in Sultanate of Oman: An Empirical Analysis. *Middle-East Journal of Scientific Research*, 22(2), 218-224.

Ali, A., & Audi, M. (2016). The Impact of Income Inequality, Environmental Degradation and Globalization on Life Expectancy in Pakistan: An Empirical Analysis. *International Journal of Economics and Empirical Research*, 4 (4), 182-193.

Ali, A., & Audi, M. (2018). Macroeconomic Environment and Taxes Revenues in Pakistan: An Application of ARDL Approach. *Bulletin of Business and Economics* (BBE), 7(1), 30-39.

Ali, A., & Rehman, H. U. (2015). Macroeconomic instability and its impact on the gross domestic product: an empirical analysis of Pakistan. *Pakistan Economic and Social Review*, 285-316.

Ali, A., & Şenturk, İ. (2019). Justifying the Impact of Economic Deprivation, Maternal Status and Health infrastructure on Under-Five Child Mortality in Pakistan: An Empirical Analysis. *Bulletin of Business and Economics*, 8(3), 140-154.

Ali, A., & Zulfiqar, K. (2018). An Assessment of Association between Natural Resources Agglomeration and Unemployment in Pakistan. *Pakistan Vision*, 19(1), 110-126.

Ali, A., Ahmed, F., & Rahman, F. U. (2016). Impact of Government Borrowing on Financial Development (A case study of Pakistan). *Bulletin of Business and Economics* (BBE), 5(3), 135-143.

Ali, A., Mujahid, N., Rashid, Y., & Shahbaz, M. (2015). Human capital outflow and economic misery: Fresh evidence for Pakistan. *Social Indicators Research*, *124*(3), 747-764.

Arshad, S., & Ali, A. (2016). Trade-off between Inflation, Interest and Unemployment Rate of Pakistan: Revisited. *Bulletin of Business and Economics (BBE)*, *5*(4), 193-209.

Ashraf, I., & Ali, A. (2018). Socio-Economic Well-Being and Women Status in Pakistan: An Empirical Analysis. *Bulletin of Business and Economics (BBE)*, 7(2), 46-58.

Babar, S. F., Sattar, A., Shah, N., & Laeque, H. Terrorism in Pakistan and Its Impact on Foreign Investment. *Journal of Research Society of Pakistan*, 1(1), 61-83.

Blomberg, S. B., Hess, G. D., & Weerapana, A. (2002). Terrorism from within: An economic model of terrorism. *Working paper series//Claremont Institute for Economic Policy Studies.* 21(1), 17-28.

Butler, T. (2011). What causes Terrorism*? Public Choice,* 147(2), 3-27.

Christodoulou, C. I., & Pattichis, C. S. (1999). Unsupervised pattern recognition for the classification of EMG signals. *IEEE Transactions on Biomedical Engineering*, 46(2), 169-178.

Crafts, N. F. (2000), Globalization and Growth in the Twentieth Century. *International monetary Fund*.

Enders, W., Sandler, T., 2006. Distribution of transnational terrorism among countries by income class and geography after 9/11. *International Studies Quarterly*, 50 (2), 367–393.

Haider, M., & Anwar, A. (2014). Impact of terrorism on FDI flows to Pakistan. *University Library of Munich, Germany.*

Haider, S., de Pablos Heredero, C., Ahmed, M., & Dustgeer, S. (2015). Identifying Causes of Terrorism in Pakistan. *Dialogue (Pakistan)*, 10(3), 220-236.

Hyder, S., Akram, N., & Padda, I. U. H. (2015). Impact of terrorism on economic development in Pakistan. *Pakistan Business Review*, 839, 704-722.

Ismail, A., & Amjad, S. (2014). Determinants of terrorism in Pakistan: An empirical investigation. *Economic Modelling*, 37(3), 320-331.

Javed, Z. H., Farooaq, M., & Qadir, S. (2013). Impact of life expectancy and terrorism on capital formation: Empirical evidence from Pakistan. *International Journal of Innovative Research and Development*, 2(3), 788-803.

Kassem, M. Ali, A. & Audi, M. (2019). Unemployment Rate, Population Density and Crime Rate in Punjab (Pakistan): An Empirical Analysis. *Bulletin of Business and Economics (BBE)*, 8(2), 92-104.

Khan, H. (2012). Determinants of Terrorism in Pakistan: A Time Series Analysis.

Khan, S., & Seltzer, A. (2016). The Impact of Fundamentalist Terrorism on School Enrolment: Evidence from North-Western Pakistan. *IZA Discussion Papers*, 2004-2009.

Krueger, A. B., & Malečková, J. (2003). Education, poverty and terrorism: Is there a causal connection? *Journal of Economic perspectives*, 17(4), 119-144.

Llussá, F., Tavares, J., 2007. Economics and terrorism: what we know, what we should know and the data we need. *CEPR Discussion Papers 6509, C.E.P.R. Discussion Papers.*

Mehmood, S. (2014). Terrorism and the macro economy: Evidence from Pakistan. *Defense and Peace Economics*, 25(5), 509-534.

Michael, S. (2007). Terrorism a socio-economic and political phenomenon with special reference to Pakistan. *Journal of management and social sciences*, 3(1), 35-46.

Nelson, C. R., & Plosser, C. R. (1982). Trends and random walks in macroeconmic time series: some evidence and implications. *Journal of monetary economics*, 10(2), 139-162.

Rehman, H. U. (2016). Comparative analysis of the socio-economic determinants of foreign direct investment: evidence from Pakistan. *Pakistan Economic and Social Review*, 54(2), 255-274.

Sajid, A. & Ali, A. (2018). Inclusive Growth and Macroeconomic Situations in South Asia: An Empirical Analysis. *Bulletin of Business and Economics (BBE)*, 7(3), 97-109.

Shahbaz, M. (2013). Linkages between inflation, economic growth and terrorism in Pakistan. *Economic Modelling*, 32(1), 496-506.

Shahbaz, M., Shabbir, M. S., Malik, M. N., & Wolters, M. E. (2013). An analysis of a causal relationship between economic growth and terrorism in Pakistan. *Economic Modelling*, 35(1), 21-29.

Spilerman, S., & Stecklov, G. (2009). Societal responses to terrorist attacks. *Annual Review of Sociology*, 35(1), 167-189.

Syed, S. H., Saeed, L., & Martin, R. P. (2015). Ali, A & Bibi, C. (2020*).* Public Policies, Socio-Economic Environment and Crimes in Pakistan: A Time Series Analysis. *Bulletin of Business and Economics,* 9(1), 1-11.