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### How Does Terrorism Affect Economic Growth? A Case Study of Pakistan

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#### ABSTRACT

The aim of the study is to examine how and when terrorism start in the country. Terrorism spoil the infra structure of a country. We analyze the effect of Terrorism on the economic growth in Pakistan by using annually time series data from 1970 to 2015. We have employed Autoregressive Distributed Lag model (ARDL) to examine the long run relationship of Terrorism and Economic growth in Pakistan. Data is gathered from World Development Indicator (WDI) and Global Terrorism Database (GTD). The short run dynamics are obtained through Error Correction Mechanism. The empirical results reveal that terrorism has negative impact on the Economic Growth and reduce the speed of economic growth. It also reduces foreign direct investment (FDI) in the country which results less investment. Whenever investment decreases the employment opportunities also reduce and unemployment creates in country. Unemployment creates aggression among people which is one of the causes of terrorism.



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#### Introduction

Terrorism is described as “It is the use of violence by individuals or the groups to attain the political and social objectives”. It is a global phenomenon. It is highlighted after the 9/11 attacks on the world trade centre in America in 2001. South Asia and the Middle of the East are very much affected by war against terrorism. Due to terrorism, Pakistan suffers a lot economically. Terrorism as it has been characterized since 9/11 has so far taken a loss of life of thousands of individuals, generally in Iraq took after by Afghanistan and Pakistan. This variant of war against terrorism has expanded terrorists as well as it has died right around 4,000 innocent individuals in Pakistan only. There are two main things which create terrorism and intolerance of Pakistan in religious grounds. Before 1980, religion was not a disputable issue in Pakistan. However, the partisan hostile to Shiite activist gatherings like the Sipah-e-Sahaba, were lecturing contempt against the Shiite Muslims. This partisan brutality came to Pakistan simply after the 1979 transformation in Iran, which changed the nature and extent of sectarian violence in Pakistan. This was additionally bothered

when a Sunni-commanded Iraq with the support of USA and Saudi Arabia which pursued a war upon Shiite ruled Iran. These partisan associations were instrumental in the change of Pakistan into an auxiliary war zone which thusly is a noteworthy reason for ascend in religious fanaticism and bigotry in Pakistani Society. A huge gathering of so-called Islamic researchers today in Punjab who had a place with hard-line Salafi convention of Islam, do transparently approve of suicide bombing. The followers of this group have faith in pursuing jihad against The Jews and The Shias and have appeared in majority rule government. The group pioneers have lectured that jihad ought to be pursued until 'Islam' turns into the prevailing power in the world. It is absolutely in conflict with the philosophy on which Quid-e-Azam prefaced his battle for Pakistan. He didn't win Pakistan by pursuing a bleeding Jihad yet brought it into being by pursuing majority rule battle against the British and the Hindus. The Muslims of unified India voted enormously for a different land where they would not be minimized by a non-Muslim dominant part.

Other than those religious and ethnic clashes, another factor came in the shape of Balochs patriotism. Balochistan was formerly a free state, which in 1951 chose to converge with Pakistan. However, after some time Balochs felt that their assets were abused by focal government, while they are not given their due offer in those assets. This is on account of Balochistan is rich in oil and gas, also, the greatest flammable gas save in Pakistan is arranged in Balochistan. This feeling of hardship drove them to begin aggressor struggle. Military operations were completed against those militants in 70's and uprising was stifled. However, this new sort of militancy again began in the 2000's.

### **Literature Review**

Collier (1998) illustrate model of the monetary impacts of civil war and the post-war period is produced. A key component is the change of the capital stock through capital flight. Post-war this flight can either be switched or, then again keep, depending mostly upon how far the capital stock has changed in accordance with the war. The model is tried on information for every single common war since 1960. After long polite wars the economy recoups quickly, though after short wars it keeps on declining. We at that point consider the impact on the organization of monetary action, recognizing war-helpless and war-safe exercises. Proof for Uganda shows such compositional impacts to be generous. The paper researches the results of common war for GDP and its synthesis. It centers especially upon the conduct of the economy in the early years of a peace settlement. Common wars are at risk to be more harming than worldwide wars in a few regards. They are unavoidably battled altogether on the domain of the nation. They are probably going to undermine the state: the two its foundations, for example, property rights, and its associations, for example, the police. By differentiate; as Herbst (1991) has contended, worldwide wars have a tendency to fortify the state. The devastation fashioned by fighting, and the disintegration of establishments and associations, constitute a weakening in the monetary condition. It may be normal that the closure of common wars would deliver a thusly expansive peace taking.

Drakos and Kutan (2001) reveals that buyer decision demonstrate created by Enders, Sandler and Paries (1992) is used to concentrate the territorial impacts of psychological warfare on contenders' pieces of the overall industry in tourism division were included nations appreciate critical tourism exercises be that as it may, are liable to high recurrence of fear monger assaults. The hypothetical model is tried for three Mediterranean nations, in particular Greece, Israel, and Turkey, for the period from January 1996 to December 1999, utilizing the apparently random relapse show. Italy is utilized as a control variable in estimations, going about as an intermediary for visitor exercises in whatever remains of the Mediterranean area furthermore, giving an extra goal to voyagers to visit. Confirm demonstrates that the tourism business in Israel and Turkey are more delicate to psychological oppression episodes than in Greece. There are likewise huge local disease impacts

of psychological oppression. They find that a more elevated amount of fear-based oppressor occurrences in Greece is related with an expansion in the relative piece of the pie of Israel in the area, while psychological oppression in Israel advantages Turkey's piece of the pie. Likewise, record confirms that the area (urban versus country) and the power of fear-based oppressor episodes assume an essential part in the basic leadership procedure of vacationers for selection of goals.

Mordoch and Sandler (2001) depends on a neoclassical development model to experimentally test for the impacts of a common war on relentless state pay per capita both at home and in neighboring nations. Also, this model gives the premise to measuring long-run and short-run impacts of common wars on wage per-capita development in the host nation and its neighbors. Confirmation of noteworthy inadvertent blow-back on monetary development in neighboring countries is revealed. Also, this harm is ascribed to nation particular impacts as opposed to movement, human capital, or speculation variables. As the "Potheyr of the measure" used to intermediary the contention increments, there are improved neighbor overflows. Besides, inadvertent blow-back from common wars to development is more claimed in the short run. Notwithstanding amid times of relative tranquil concurrence among significant forces, common wars with at least 1000 fight passing's have tormented countries consist. In 1998, there're 25 noteworthy common wars seething in Africa, Asia, and somewhere else. Since 1960, every thoughtful war has been in creating nations, whose monetary development and advancement are able to be blocked by the subsequent human capital misfortunes, decreased speculations, framework annihilation, and check movement interruptions. The information used to evaluate the parameters of the different determinations originates from four sources: the Penn World Tables, Barro and Lee (1996); individual correspondence with Nicholas Sambanis of the World Bank; and the Correlates of War Project (COW), Civil Wars. Factors which are utilized as a part of the paper are genuine GDP per capita in consistent dollar, normal speculation share, and yearly populace development (pop) and information use between the time of 1960-1985. The observational discoveries bolster our instinct that the nation's most at hazard from coincidental losses coming from bordering common wars they are those with longer touching fringes with countries in common clash. Additionally, they examined that common war made a critical harmful impact on short-run development inside the nation and its neighbors. There was less obvious confirmation of a harmful effect of common wars on long-run development when considered over a quarter century time frame, which is likely because of the short-run nature of numerous common wars, so that their short-run effect is they kenned by union.

Piazza (2006) investigates the prominent theory that destitution, disparity, and poor financial improvement are main drivers of psychological oppression. Utilizing a progression of numerous relapse investigations on fear-based oppressor episodes and setbacks in ninety-six nations from 1986 to 2002, the examination considers the criticalness of neediness, lack of healthy sustenance, imbalance, and joblessness. The discoveries are that, in opposition to well-known conclusion, no critical connection between any of the measures of financial improvement and psychological warfare can be resolved. Or maybe, factors, for example, populace, ethnic-religious decent variety, expanded state restraint what's more, most fundamentally, the structure of gathering legislative issues are observed to be noteworthy indicators of fear-based oppression.

Frey et al. (2006) studied the patterns and results of fear-based oppressor exercises are frequently caught by checking the quantity of episodes and losses. All the more as of late, the impacts of psychological oppressor follows up on different parts of the economy have been broke down. These expenses are studied and put in context. As financial outcomes are just a piece of the general expenses of fear-based oppression, conceivable methodologies for assessing the utility misfortunes of the individuals influenced are talked about. Results utilizing the life fulfillment approach, in

which singular utility is approximated without anyone else's input revealed subjective prosperity, propose that individuals' utility misfortunes may far surpass the absolutely none Enders & Sandler (2006) research on psychological oppression's effect on administration and universal business has expanded considerably since 9/11. However hypothetical and theoretical pondering the idea of the psychological militant danger and its suggestions for MNEs, their partners, and the worldwide business condition stays immature. To offer another conceptualization of the psychological militant risk that considers its persisting elements and also its new measurements and detail the suggestions for MNE procedure. As opposed to constituting a miniaturized scale level political hazard, the risk postured by worldwide psychological militant systems, nations fight, is best comprehended as a kind of full-scale level instability. A progression of recommendations educated by hypotheses of ecological instability and multifaceted nature are advanced and the paper finishes up with suggestions and headings for future inquire about.

Gaibullov and Sandler (2008) try to show that transnational psychological militant assaults had a noteworthy development restricting impact. An extra fear monger episode per million people diminish total national output (GDP) per capita increase by around 1.5%. Transnational psychological warfare decrease development by blocking in government consumptions. Not at all like creating nations, twisted nations can draw in psychological warfare without showing unsavory monetary outcomes; an inner conflict has the best development worry, about twofold that of transnational fear-based oppression. Data is used from ITERATE Global terrorism database and Armed conflict database. For creating Asian nations, wars have a much more prominent effect than fear-based oppression due on the jamming in of government costs. Arrangement suggestions show the requirement for the Asian nations to help their inferior neighbors in adapting to the depressing development outcomes of biased brutality. This is especially important as generation gets to be distinctly divided in Asia with a specific end goal to benefit from similar favorable position and as provincial foundation systems. In the last, struggle plus fear-based oppression in single nation can make bottlenecks with area wide financial outcomes The Association of South East Asian Nations (ASEAN) and European Union connection can help with planning endeavors to put down clashes and dispose of fear mongering. The Asian Development Bank and the World Bank could assume key parts, particularly after a contention finishes, to channel help for change so that once-troubled nations can gain ground quickly. Nongovernmental associations and the United Nations could likewise help with this post-struggle restoration.

Bashir et al. (2013) tried to investigate in the document influence of terrorism activities on financial markets prove from KSE that the impact of terrorism occurring in Pakistan on the KSE Karachi stock trade for the time of 1/2005 to 12/2010, using the GARCH and GARCH-EVT to recognize the relationship between the two factors; the review built up psychological militant exercises unfavorably influence the money related markets and KSE, it is exceedingly noteworthy connection. The motivation behind why the negative connection exists is a direct result of the premier increment in the quantity of terrorist attacks in Pakistan.

Javed et al. (2013) explores the relationship among now of psychological oppression occurrences, age reliance proportion, future, GDP, development of populace and capital arrangement percent of GDP in Pakistan for the period 1980–2011. The information for the momentum looks into ponders for the period 1980–2011 have been gathered from different sources. The information for the quantity of fear-based oppressor occurrences have been gathered from the Global Terrorism Database (GTD). The informative factors incorporate gross capital development percent of GDP, development of net residential salary (GDP) per capita, development of populace, future, age reliance proportion and proficiency rate. Information for capital arrangement percent of GDP, development of net local pay (GDP) per capita, development of populace, future, age reliance proportion and proficiency rate have been gathered from the World Development Indicator (WDI)



(2012) and different issues of Economic Survey of Pakistan. Johansen's strategy for co-integration and VAR is utilized to discover the connection among reliant and illustrative factors. Be that as it may, the effect of informative factors on capital development percent of GDP with the exception of no of psychological oppression and age reliance proportion is sure over the long haul amid the time of study. Likewise, the negative effect of fear-based oppression on capital arrangement percent of GDP mirrors the way that fear based oppressor assaults a possible decision measure up to open war in face of enhanced state limit.

Fatima et al. (2014) tries to give the observational proof of fear-based oppressor exercises effect the monetary development and the outcomes demonstrate that the terrorism exercises negatively affect the monetary development of the nation. The seven-year information from 2004 to 2010 from the World Bank was utilized for the investigation. ADF was utilized to discover the co reconciliation between psychological oppressor exercises of these two nations. Two variables GDP growth rate and terrorism are utilized. This paper likewise dives into the points of interest of the connection between the terrorism exercises and the financial development of India and Pakistan also, made a correlation between these two. India's financial development has no effect of psychological oppressor exercises while the financial development of Pakistan does. Comes about additionally demonstrated that the Indian fear monger exercises have an effect on the Pakistani psychological oppressor exercises in the short run, yet this effect is not steady over the long run.

Iqbal & Lodhi (2014) said fierce and religious radicalism is quickly expanding in Pakistan in the course of recent years. There is not just one factor that is in charge of the present monetary emergency in Pakistan however every now and again evolving governments, incapable arrangements, defilement, misallocation and underutilization of assets joined with government's inability to battle against fear-based oppression and fanatic viciousness has emergency the economy since past decade. An economy that is battling hard to get by in the focused world has encountered low GDP development rates, open and private speculation, decrease in FDI and tourism, joblessness and neediness levels that never existed. The examination is a subjective one and it tries to look at the effect of vicious and religious fanaticism on the economy of Pakistan by doing a cost and advantage investigation of US-drove war on dread that Pakistan participated in 2001. The examination depends on the optional information got from different Aggressiveness Reports of World Economic Forum, Pakistan Institute for Peace thinks about, SBP, Handbook of Statistics and different issues of Economic Survey of Pakistan. The aftereffects of the examination demonstrate that psychological oppression and fierce fanaticism has made a terrible name for the nation in this manner exasperating the speculation atmosphere unfavorably. Expanded barrier consumption has diminished open and private venture and ranges distressed with fanaticism have confronted descending winding in monetary action.

Hyder et al. (2015) have similar perspectives as indicated by them in the history, Pakistan is confronting the danger of psychological conflict. Other than confronting the results of Afghan War, Pakistan is also influenced by different tribal and religious clashes which have prolonged psychological militants' exercises. These ions have extremely influenced the structure of Pakistan. Utilizing information on psychological warfare from Global Terrorism Database, OLS for the era 1981-2012 has been joined. The study proposes that psychological warfare has badly influenced the financial increase in Pakistan. Along with the different factors that were utilized the fear-based oppression is most serious and major giver in lessening the monetary expansion.

## **Theoretical Framework**

### **Definitions: GDP**

Gross domestic product (GDP) is one of the primary indicators which are used to gauge the health of a country's economy. It is the widest quantitative measurement of the entire economic activity

of a country. It shows the monetary value of all services and finished goods produced inside the geographic limits of a country during a specific time span (one fiscal year). One can think of it as the size of the economy. Its growth is considered as a significant indicator of the economic performance of a country. The economy of a country is in downturn when its GDP declines. On the other hand, when GDP grows, the National Reserves usually tend to instigate the economy by increasing the ratio of interest rates and fear of inflation follows this.

### **Population Growth (Pop)**

The increase in the number of people, reside within the state or country. It considered as the number of people increased in population in a country, a state or a city. Global human population is increasing day by day.

### **Human Capital Gross Enrollement Ratio**

Human capital is in monetary terms that how much a person skilled. How much a person is skilled. If anyone is skilled will be able for earning something.

### **Gross Fixed Capital Formation**

Gross Fixed Capital Formation spending on the fixed assets' maintenance. It means it considered as depreciation cost.

### **Terrorism**

It is defined like as get work from anyone without his will. The GTD (Global Terrorism Database) defines terrorism as “the threatened or actual use of illegal force and violence by a non-state actor to attain political, economic, religious, or social goal through fear, coercion, or intimidation”.

### **Model Spesification**

✓ ECONOMIC MODEL

$GDP=f(\text{POP}, \text{HC}, \text{GFCF}, \text{TERR})$

Per capita GDP is the function of pop, HC, GFCF, and Terrorism

These terms stand for:

- ✓ GDP=Gross Domestic product
- ✓ POP=Population Growth
- ✓ HC= Human Capital (used as proxy of school enrollment)
- ✓ GFCF=Gross Fixed Capital Formation
- ✓ TERR= Terrorism
- ✓ ECONOMETRIC MODEL

$GDP=\beta_0+\beta_1\text{HC}+\beta_2\text{GFCF}+\beta_3\text{POP}+\beta_4\text{TERR}+u_i$

In above model, GDP, GFCF, HC, TERR are referred to dependent and independent variables whereas  $\beta$ 's explain the effect of independent variables on the dependent variables. In the model,  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$  and  $\beta_4$  show the effect of independent variables on the dependent variables. Whereas  $\beta_0$  shows the effect of all omitted or unexplained variable's effect on dependent variables.

### **Methodology**

In order to estimate the impact of terrorism in GDP in Pakistan we use the annual data from 1970 to 2015. The data of GFCF, HC, and POP is taken from the world development indicator of World Bank (WDI). The data of terrorism are taken from Global Terrorism Database (GTD). The GTD database provides details regarding total number of civilians, security forces and terrorist deaths, including data on injured persons in all terror related events, which have happened in various years in different parts of Pakistan.

In order to estimate the relationship between Terrorism and Growth of the Pakistan Economy we take the time series data from the 1970 to 2015. We have utilized ARDL model to catch short and long run association. We have directed the ADF test for request of combination. We have applied Wald test for the existence of co-integration. We have utilized Granger Causality test for circumstances and end results. Results are shown in the table A1 in appendix whereas the results of bond test and ARDL are shown in the tables A2 and A3 in appendix respectively.

For the purpose to check stationarity, the E-views software is used. First of all, stationarity is checked at level of all variables. But no variable is stationary at level. After that we check all variables at 1st difference. At 1st difference, all variables except pop are stationary. It means there is something happens in the pop data. To remove the problem, we take 2nd differenced to make the data stationary. So, the pop variable is stationary at 2nd difference.

### **Results**

The estimates show that the value of F-statistics is 6.123504 it is greater than upper bound value 3.52. Therefore, we reject the null hypothesis of no co-integration and concludes that there is co-integration relationship in our data. Once the co-integration relationship confirms, the next step is to estimate the long run model. The estimated long-term relationship is given below.

### **Long Run**

The coefficient of TERROR variable is -0.043. It indicates that as the terrorism increases by one unit the GDP will decrease by 0.042 times. The probability value is 0.0614 which less than 10 % level of significance. So, the kill variable is highly statistically significant so the impact of terrorism is negative GDP which is support the existing literature. The coefficient of LGFCF variable is 216.79268. It indicates that as the increase in LGFCF by 1 unit the GDP will increase has 216.79268 five times. The probability value is 0.1264 which less than 10 % levels of significance so the GFCF variable is statistically highly significance.

The coefficient of population growth is minus 78.718192. It indicates that 1-unit change in population growth will decrease GDP 78.718192 times. The probability value is 0.0625 which is less than 10% level of significance so the POP value is highly statistically significance.

The coefficient of human capital is 42.642173. It indicates that as the increase in human capital by 1 unit will increase GDP by 42.642173 times. The probability value is 0.0048 which is less than 10 % level of significance so the human capital variable is highly statistically significance.

### **Short Run**

The ECT value is -0.324 and probability value 0.0052. It is statistically highly significance the coefficient of ECT is 0.324 which shows that every year 32.40% error will be rectified so after 3 ½ years total error will be removed and the long run stable equilibrium can be achieved.

### **Conclusion and Policy Recommendation**

The aim of the study is to analyze the impact of terrorism on economic growth (GDP) in Pakistan by using annually time series data from 1970 to 2015. We have employed Autoregressive Distributed Lag model to examine the long run relationship of economic growth and terror attacks in Pakistan. The short run dynamics are obtained through Error Correction Mechanism. The empirical results reveal that both the variables i.e. GDP and terrorism are inversely related. All other variables like POP (population growth) and GFCF (gross fixed capital formation) also affect GDP. HC (Human capital) and GFCF (gross fixed capital formation) are positively affected while POP (population Growth) has negative effect on GDP (economic growth).

In the long run, 1 percent increases in terrorism yields an average 0.043087 percent decrease in GDP while 1 percent increase in GFCF yields an average 216.79268 percent increase in GDP. In short run, 1 percent increases in terrorism yields an average 0.013963 percent decrease in GDP, while 1 percent increase in GFCF yields an average 650133284 percent in GDP after lag 1.

### Policy Recommendation

In the light of the above study and results we can say;

- ✓ There should be control on the border lines with neighboring countries, which cause the suspicious activities in Pakistan.
- ✓ There should be check and balance on entry and exit ways of all cities.
- ✓ Government should be more efficient regarding all the security departments in Pakistan so that every single activity may be monitored.
- ✓ Government of Pakistan should be focused on policies for foreign direct investment in country so that capital formation may increase in country and economic growth may boost up.
- ✓ Government should also pay attention on school enrollment so that the literacy ratio may increase. Besides this the government should take initiatives for the betterment of the school health and nutrition for increasing the literacy rate in the country.
- ✓ To control suspicious and terror activities, every individual of Pakistan should be registered with central database like NADRA.
- ✓ To prevent from deaths due to terror attacks, government should make rescue teams more efficient and more effective so that quick medical treatment may provide to victims.

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