Impact of Terrorism on Economic Growth in South Asian Country

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ABSTRACT

The association among terrorism and economic growth is crucial from macroeconomics perspective. This analysis is carried out to extract the influence of terrorism on economic growth in Pakistan, incorporating trade, foreign aid and capital for the period of 1981-2016. This study applied ARDL bounds testing to inquire the problem and found a co-integration nexus among the used macroeconomic indicators. The evidence shows that terrorism has an inverse relationship with economic growth that is statistically significant. Terrorism may cause to create insecurity and devastating recreational places. There is need to resolve the issue of terrorism to enhance the ability of other economic indicators which cause to enhance the growth of Pakistan.

Keywords: Terrorism, Trade, Foreign Aid, ARDL

JEL Classifications: F14, F43

1. INTRODUCTION

Terrorism is the usage of threats of ferocity to pursue religious, political or social goals. It has become a major and tremendously ruinous fact in all over the world. In fact, terrorism affects developing countries very much badly than developed nations, because terrorism is the main result of non-distributing resources towards safer economic sectors. In developing countries, resources are much more concentrated, few fields are affected badly due to terrorism.

Global Terrorism Index report exposed that economic impact of terrorism has achieved three pinnacles since 2000 and is linked to the three mega waves of terrorism. Very first significant increase in the economic impact of terrorism took place in 2001, at the time when September 11 attacks happened in Washington and New York. The second summit occurred in 2007, at the height of the war in Iraq. The third one summit started in 2012 and goes on, with the economic impact of terrorism reaching a peak of US$ 105.6 billion in 2014. The increase over the past 4 years is mainly due to the rise of terrorism in Syria, Afghanistan and Iraq. In 2015, economic impact of terrorism on the world reached 89.6 billion US Dollars, diminishing by 15% from its 2014 level.

In Pakistan, terrorist incidents are conducted in a designed and arranged way. Terrorists participated in black market, designed to produce panic between the populations and wish to attain their caustic and painful destination. They produced violence, plant bombs in local places, committed murder and abduct people for redeem. Almost 35 thousand people killed between the time periods of September 11, 2001 to May 2011. The annual number of victims of terrorist attacks are 164 in 2003 which are increased to 3318 in 2009. During the period of 2000 to 2010 aggregate economic cost of terrorism is $68 billion (Government of Pakistan).

In the year of 2014 to 2016, Pakistan witnessed lesser terrorist attacks and death. In the year of 2016, 956 deaths has recorded due to terrorism, a 12% decrease is recorded from previous year. The country where most of the terrorist attacks on educational

institutes took place from 1990 to 2013 is Pakistan. Here a total of 753 attacks occurred whose primary purpose was to destroy educational buildings, especially of female institutes, rather the human loss (Government of Pakistan).

On 16th December, 2014 an inhumanity happened in the Army Public school Peshawar, children were compelled to watch extreme violence and at the end, 150 were killed including 132 children, 120 are injured. This attack is regarded as the most brutal and violent attack on record since 1970.

The terrorist war against the tribal areas of Pakistan has positively affected the growth of Pakistan. It is disappearing in the social, political and economic context and constitutes a danger for the tourism industry. Terrorism affects some key industries, including tourism, air transport and exports that can affect GDP and growth (Nitsch and Schumacher, 2004) (Table 1).

Pakistan is confronting a serious trouble of terrorism which affects the international tourism, FDI, human capital, capital formation and investment. Afterward the consequences of 9/11, Pakistan made up mind to join the war on terrorism. The nation has endured enormous economic and humanistic loss because of the battle against terrorism. It also ruins foreign direct investment. To eliminate terrorism, more funds have been allocated to fight terrorism instead of spending it on general development projects.

By using the ARDL bound test, this study focused on empirical inspection to demonstrate the existence of a linkage between economic growth and terrorism in a selected country, namely Pakistan. This analysis has been found using data set from 1981 to 2016. It is undertaken to analyze the most recent issue in the country and try to find out its consequences.

The purpose to conduct the following research is to investigate the impact of terrorist attacks on the growth of Pakistan. It is an effort to provide the new dimensions to the prevailing studies which explore the repercussion of terrorism on various social factors.

The research organization devoted into literature review, methodology, data, results and discussion, and the last one is conclusion.

2. LITERATURE REVIEW

The linkage among terrorism and economic growth was studied widely in the literature. There are some studies which are in the favor of conventional view that terrorism affect economic growth negatively, while some other studies found no link between them in case of developed countries. There are many other factors which affect the economic growth through terrorism, e.g. trade, FDI, foreign aid, and capital accumulation. This section presents the review of the literature into three subsections.

2.1. Economic Growth and Terrorism

Gaibulloev and Sandler (2009) described the effect of terrorism and conflicts on income per capita growth in Asia. They covered the time period from 1970 to 2004, and employed OLS, one and two way fixed effects model. Results found that transactional terrorism has significant growth threading effects for developing countries of Asia in short run. They also found that transactional terrorism reduces growth by herding in government spending and a loss of investment because of enhance in terrorist incidents.

Bloomberg et al. (2004) explore the links among incidence of terrorism and economic circumstances for panel data of 130 countries for 1968-2000, and employed Markov model. They detected that terrorism has inverse effect on economic growth. They concluded that investment expenditure convert to government spending through terrorism. Terrorism has different consequences for different nations, for example, terrorist acts more frequent and impact less significant in advanced countries like OECD than under developed countries. Their empirical findings showed that terrorism and economic activity are interdependent.

Motahari and Dehghani (2015) ascertained the effects of terrorism and globalization on the growth for MENA countries, using panel co-integration and GMM approach. They established that terrorism shocks have inverse impact on attraction of FDI, and trade liberalization.

Persitz (2005) examined the effect of Palestinian terror incident on the Israeli economy and OECD countries. He utilized trimonthly data from 1980 to 2003, used counterfactual methodology. He found there is no terror since 1994 and GDP was 8.6% in 2003. Palestinian terror minified the contribution of merchandise balance and investment, and increased the share of government expenditures.

Gries et al. (2011) ascertained the connection amid economic growth and terrorism for 7 western countries. They covered up the time from 1950 to 2004. They employed Hsiao granger causality test, bivariate and trivariate causality test. Their outcomes indicated that economic performance in influencing terrorist threats seems

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Administration</th>
<th>2016-2017</th>
<th>2017-2018</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Compensation to affecters</td>
<td>91.6</td>
<td>38</td>
<td>130.89</td>
</tr>
<tr>
<td>2.</td>
<td>Physical infrastructure</td>
<td>273.323</td>
<td>113</td>
<td>384.93</td>
</tr>
<tr>
<td>3.</td>
<td>Foreign investment</td>
<td>1205.301</td>
<td>129</td>
<td>1254.4</td>
</tr>
<tr>
<td>4.</td>
<td>Denationalization</td>
<td>252.191</td>
<td>0.004</td>
<td>251.190</td>
</tr>
<tr>
<td>5.</td>
<td>Industrial outcome</td>
<td>595.3001</td>
<td>976.38</td>
<td>1043.9</td>
</tr>
<tr>
<td>6.</td>
<td>Tax aggregate</td>
<td>2493</td>
<td>14.180</td>
<td>3459.7</td>
</tr>
<tr>
<td>7.</td>
<td>Expenses of uncertainty</td>
<td>71</td>
<td>345.65</td>
<td>416.24</td>
</tr>
<tr>
<td>8.</td>
<td>Expenditure</td>
<td>594</td>
<td>8.661</td>
<td>939.4</td>
</tr>
<tr>
<td>9.</td>
<td>Other</td>
<td>7.071</td>
<td>8.661</td>
<td>15.7</td>
</tr>
<tr>
<td>Total lost</td>
<td>5548.891</td>
<td>2074.431</td>
<td>7543.320</td>
<td></td>
</tr>
</tbody>
</table>

Source: MoF: Ministry of interior, M/o Foreign Affairs Joint Ministerial Group
to have significant for some countries while attacked economies are good in adjusting the violence of terrorism.

Hyder et al. (2015) investigated the effect of terrorism on economic development in Pakistan for 1981-2012. They found adversely effect of terrorism on growth in Pakistan. Moreover, foreign assistance has directly link with economic growth.

Meierrieks and Gries (2013) inspected the causative linkage among the terrorism and economic growth for 160 countries. They covered data set from the period of 1970 to 2007, and employed granger causality test with panel data. They discovered that there exist causal coalition among terrorism and economic growth.

Ocal and Yildirim (2010) examined the consequences of terrorism on economic growth in case of Turkey for the time period of 1987-2001. They employed regression analysis, spatial variation with geographically weighted regression (GWR). They used real per capita GDP, provincial per capita government expenditure, average level of education and terrorism indicator. They results showed that GWR model remarkably better the model suiting over traditional global model.

2.2. Economic Growth and Trade
Din et al. (2003) scrutinized the association among the trade openness and economic growth in case of Pakistan’s economy. They employed time series data which covered the period of time from 1960 to 2001. They used Engle and Granger co-integration and error correction approach to determine the linkage among the trade openness and economic growth. Results indicated that in short period there exist no causal relationship among trade openness and economic growth, while two way directional causality found between openness and economic growth in long run.

Adhikary (2011) inspected the relationship between capital, FDI, economic growth and trade openness in case of Bangladesh. They utilized time series analysis and covered the period of time from 1986 to 2008. They applied Johansen Juselius procedure to crack co-integration within the variables. Results showed long term linkage among GDP and other endogenous variables. FDI and GDP has direct and significant effect, while trade openness has diminishing effect on GDP growth rate. The empirical findings concluded that Bangladesh ought to develop FDI based policies and insure eminent degree of capital formation in order to improve its global economic growth rates.

Shahbaz (2012) investigated effects of trade openness on economic growth in the nexus of Pakistan. He covered the period of time from 1971 to 2011. He employed the ARDL bound test technique to investigate the long term association. They found the co-integration between series, also found that trade openness, labor and capital has direct effect on economic growth and enhanced the growth in the long run.

Khalid (2016) analyzed the effect of trade openness on economic growth in the case of Turkey. They used data set from 1960 to 2014. They applied ARDL bound test to investigate the short and long period connection among economic growth and trade openness. Results revealed that trade openness increased growth for short run period, while, in long run, no relationship exists. Moreover, results are statistically direct and significant for long run association. The results proposed that economic growth is driven by capital and the trade index, which contribute or sustaining short and long term economic growth.

2.3. Economic Growth and Human Capital
Benhabib and Spiegel (1994) found the relationship of human capital in economic development data from the global and regional United States. They used dataset the time period from 1965 to 1985. They employed growth accounting regressions by a Cobb Douglas production function and took differences to detect the long run connection. They found the direct relationship among growth and human capital.

Galor and Tsiddon (1997) analyzed the interaction among the division of human capital, technology and logical progress and economic growth. This demonstrated that the interaction between an externality of the local domestic environment and a global technology, growth of human capital, the division of income, the difference in wages between expert and unskilled labor and economic growth. They suggested that an economy that is premature actually implement a policy to strengthen equality can be trick at an early phase of growth.

Cadil et al. (2014) scrutinized the effect of human capital on regional economic growth and unemployment. They took regional NUTS data for the time period 2007-2011. They found that generally we can’t say that human capital is a direct effect of growth in some regions of EU. Moreover, their findings showed that bounce effect of human capital endowment on growth and employment in the EU NUTS 2 region was available for a given time period.

Peliescru (2015) used data set from 1990 to 2000 for various EU countries to detect the effect of education on economic growth. They also covered the time period from 2000 to 2012 to determine the relationship between human capital and economic growth. The results found that statistically direct relationship among GDP and innovation capability of human capital highlighted through many patents and the qualification of the employees. Inverse linkage exists between education spending and GDP per capita.

Siddique et al. (2017) tried to examine the effect of terrorism on domestic investment and FDI with the evidence of Pakistan. They employed ARDL co-integration approach ascertain the long run relationship. They detected that there exist long term association among terrorism and investment inflow. The empirical result revealed that domestic investment and FDI has negative effect on terrorism. Moreover, trade and human capital are cause to raise the investment.

3. THEORETICAL FRAMEWORK AND METHODOLOGY

3.1. Theoretical Framework
Terrorism often leads to the collapse education infrastructure, worsening school results; low enrollment rates, and all have the
inverse impact on economic growth. Terrorism also destructs the human capital of a country. It limits the trade and commercial action that restrain the economic growth.

Terrorism demolish the human capital worsening in the education standards, low rates of enrollment, effects the productivity of labor. “Falling investor confidence may trigger a generalized drop in an asset prices and a flight to quality that increases the borrowing costs for riskier borrowers (IMF, 2001).” These indicators have adversely impact on economic growth through terrorism.

Capital assembling, by enhancing the productivity of the labor, plays an indispensable important role in the economic growth. Hence, capital accumulation by enlarging the scale of production and specialization increases the production and productivity in the economy and there by promotes economic growth.

\[
\text{Economic Growth} = f (\text{Capital})
\]  

(1)

The effects of terrorism on growth are also discussed in the literature (Bloomberg et al., 2004; Gaibulloev and Sandler, 2009; Gries et al., 2011).

\[
\text{Economic Growth} = f (\text{Capital, Terrorism})
\]  

(2)

Trade serves as a crucial part in economic growth. It helps to achieve the efficiency in the allocation of resources through exports, which cause to enhance economic growth (see, for instance, Siddique et al., 2018; Siddique and Majeed, 2015)

\[
\text{Economic Growth} = f (\text{Capital, Terrorism, Trade})
\]  

(3)

Pakistan is one of the major revivers of foreign aid, which is donated by many organizations and different countries. US had been donated over $66 billion in nonmilitary aid to Pakistan since 1947, in 9/11 incident flew $13 billion (Birdsall and Fukuyama, 2011). At that time, Pakistan economy faced the boom-bust cycle with a decreasing trend since 1960s (Planning Commission of Pakistan, 2010). Foreign aid is also added in growth model by Ali et al. (2018).

\[
\text{Economic Growth} = f (\text{Capital, Terrorism, Trade, Foreign Aid})
\]  

(4)

By converting Eq. 5 into Cobb Douglas form

\[
EG = f (K, TER, T, FA)
\]  

(5)

\[
EG_t = K_t^{\alpha_1} \cdot TER_t^{\alpha_2} \cdot T_t^{\alpha_3} \cdot FA_t^{\alpha_4}
\]  

(6)

To linearized the equation, natural logarithm can be taken as,

\[
\ln (EG_t) = \alpha_1 \ln (K_t) + \alpha_2 \ln (TER_t) + \alpha_3 \ln (T_t) + \alpha_4 \ln (FA_t)
\]  

(7)

In this given model economic growth (EG) is dependent variable while capital (K), trade (T), terrorism (TER) and foreign aid (FA) are independent variables. All variables are used with natural logarithm (ln), \( \alpha \) shows elasticity of economic growth.

3.2. Methodology

Various tests are applied to crack the reliability of the data for Pakistan over 1981-2016. These are consistent on serial correlation LM test, heteroskedasticity test, Ramsey reset and JarqueBera test. Heteroscedasticity test is about problem of constant variance of error term while Ramsay reset indicates that our functional form is good and the last test Jarque-bera test is employed to assure the normal distribution.

To establish the linkage among terrorism and economic growth, the co-integration approach is utilized for short and long run dynamics. Before applying co-integration approach, firstly, unit root test is employed to assure the integration order. If more or less variables are on the level and rest of the variables at first difference, then suitable method is ARDL of co-integration.

3.2.1. Unit root test

Before proceeding co-integration the initial part is to determine the integration order of the variables used in the study. So, firstly, ADF test is used which is originated by Dickey and Fuller in (1970, 1981) to undertake the problem of autocorrelation.

\[
\Delta Y_t = \alpha + \gamma Y_{t-1} + \delta_t + \epsilon_t
\]  

(8)

Eq. 8 shows ADF test with intercept

\[
\Delta Y_t = \alpha + \beta + \gamma Y_{t-1} + \delta_t + \epsilon_t
\]  

(9)

Eq. 9 shows ADF test with intercept time trend

\[
\Delta Y_t = \gamma Y_{t-1} + \delta_t + \epsilon_t
\]  

(10)

Eq. 10 shows ADF test without intercept and trend

\[
H_0 : \gamma = 0
\]

\[
\Delta Y_t = Y_t - Y_{t-1}
\]

\( \epsilon_t \) = Error Term

In Augmented Dickey Fuller test, rejection of null hypothesis in case of larger value than critical and take the alternative, which means variables are integrated of order I(0). The hypothesis is accepted if statistical value is not greater than critical value which means series of variables not stationary at level. First difference of the variables are taken to make the series stationary.

3.2.2. ARDL co-integration test

ARDL model additionally lengthened by Pesaran et al. (2001) and it approaches with individuals’ co-integration. It is the leverage of ARDL approach that it does not accept all variables to be I(1) or not all variables I(0), it means all variables stationary at mix order. For small data, ARDL bound test is more advanced and yield stable results, accordingly to Shin and Pesaran (1999). To analyze time series data with different order of integration, this study employed ARDL bound testing for co-integration and substitute to co integration model for Engle Granger (1987).
The following study utilized the ARDL model to inquire the long term and short term linkage among indicators. The ARDL model for co-integration in the short run may be written as following:

\[ \Delta \ln(EG)_t = \alpha_0 + \sum_{i=1}^{p} \alpha_i \Delta \ln(K)_{t-i} + \sum_{i=0}^{p} \alpha_i \Delta \ln(TER)_{t-i} + \sum_{i=0}^{p} \alpha_i \Delta \ln(T)_{t-i} + \sum_{i=0}^{p} \alpha_i \Delta \ln(FA)_{t-i} + \gamma_1 \ln(K)_{t-i} + \gamma_2 \ln(TER)_{t-i} + \gamma_3 \ln(T)_{t-i} + \gamma_4 \ln(FA)_{t-i} + \epsilon_t \]

Here, \( \Delta \) is the first deviation operator, \( \Delta T \) refers to the natural log of trade, \( \Delta FA \) refers to the natural log of foreign aid, \( \Delta TER \) refers to the terrorism and \( \Delta K \) refers to the natural log of capital formation. And \( \alpha_1, \alpha_2, \ldots, \alpha_p \) show the short term parameter of the model while parameters \( \gamma_1 = \gamma_2 = \gamma_3 = \gamma_4 \) represent the long term connection. The null hypothesis is:

\[ H_0: \gamma_1 = \gamma_2 = \gamma_3 = \gamma_4 = 0 \]
\[ H_1: \gamma_1 \neq \gamma_2 \neq \gamma_3 \neq \gamma_4 \neq 0 \]

Refusal of null hypothesis (\( H_0 \)) will support the presence of cointegration.

If there exist co-integration in the model then long term connection would be estimated by the following equation:

\[ \ln(EG)_t = \alpha_0 + \sum_{i=0}^{p} \alpha_i \ln(K)_{t-i} + \sum_{i=0}^{p} \alpha_i \ln(TER)_{t-i} + \sum_{i=0}^{p} \alpha_i \ln(T)_{t-i} + \sum_{i=0}^{p} \alpha_i \ln(FA)_{t-i} + \epsilon_t \]

4. DATA

This section describes data on all variables which are brought from WDI (2018) except Terrorism from Global terrorism database over the period 1981-2016. In this study, economic growth is dependent variable while terrorism, gross fixed capital formation, foreign aid and trade are independent variable.

4.1. Terrorism

Terrorism has been determined as the yearly number of terrorist attacks in Pakistan. According to previous literature, the inversely impact of terrorism on economic growth is seen (Bloomberg et al., 2004; Gaibulloev and Sandler, 2009) According to past studies, the literature has dealt domestic and foreign tourists.

Global terrorism database (GTB) is utilize to extract the data on terrorist incidents. The study used natural logarithm of terrorism which is measured by number of attacks.

4.2. Economic Growth

According to literature, GDP is used to inquire the linkage among terrorism and economic growth. Many studies found the negative impact of terrorism on economic growth (Bloomberg et al., 2004). This study is used natural logarithm of GDP growth at constant 2010 US dollars as proxy of economic growth.

4.3. Foreign Aid

Official development assistance (ODA), in current US$, includes disbursements of concessional loans and donations made by the official agencies of members of the development assistance committee (DAC), multilateral institutions and by non DAC couriers encourage the economic development and wellbeing of the countries and districts on the DAC list of ODA receivers.

4.4. Trade

Trade acts as a substantial and direct part in economic growth and economic prosperity. According to literature, trade has direct effect on economic growth and there exist a strong causal link among trade and economic growth. (Shahbaz, 2012).

According to Heckscher-Ohlin Theory, trade can use domestic capital resources more efficiently through imported capital goods and international inputs, other than these inputs are much expensive to be make locally (Yanikkaya, 2003).

Trade is the aggregate of total imports and exports of goods and services, calculated on the basis of the proportion of GDP. International trade is beneficial because it provides quality and variety of products, easily accessible worldwide at lower prices, increase investment related to globalization, and creates opportunities, provides economies of scale and increase GDP per capita.

4.5. Capital

Gross national fixed investment includes land improvements such as ditches, drains, fence etc. Purchases of plants, tools, machinery and constructions of roads, railway, commercial and industrial buildings. Capital is used as an independent variable by taking natural logarithm (Table 2).

5. RESULTS AND DISCUSSION

Following chapter contains empirical determinations of model which detect the linkage among the terrorism and economic growth for Pakistan over 1981-2016.

5.1. Results of ADF Test

ADF test is not only used for intercept but also considered with trend and intercept, and without trend and intercept for all variables. Results of Augmented dickey fuller test are depicted in Table 3.

The unit root test results detected that three out of five variables are stationary at first difference in case of ADF with intercept only. While two variables trade and economic growth are stationary at level. When it is applied with trend and intercept, it shows that 2 variables out of five are integrated of order 1, while other three variables are stationary at level.
Table 2: Summary of variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Used for</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic growth (annual %)</td>
<td>Economic growth (EG)</td>
<td>World Development Indicator (2018)</td>
</tr>
<tr>
<td>Trade (% of GDP)</td>
<td>Trade (T)</td>
<td></td>
</tr>
<tr>
<td>Net official development assistance and official aid received(current US$)</td>
<td>Foreign aid (FA)</td>
<td></td>
</tr>
<tr>
<td>Gross fixed capital formation (% of GDP)</td>
<td>Capital (K)</td>
<td></td>
</tr>
<tr>
<td>Number of attacks</td>
<td>Terrorism (TER)</td>
<td>Global terrorism database</td>
</tr>
</tbody>
</table>

Table 3: Results of unit root test (ADF test)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Level</th>
<th>1st Difference</th>
<th>Decision</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t-stat:</td>
<td>Prob:</td>
<td>t-stat:</td>
<td>Prob:</td>
</tr>
<tr>
<td>ADF with intercept</td>
<td></td>
<td></td>
<td>I(0)</td>
<td></td>
</tr>
<tr>
<td>EG</td>
<td>3.8859</td>
<td>0.0051</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TER</td>
<td>2.3031</td>
<td>0.1770</td>
<td>5.7702</td>
<td>0.0000</td>
</tr>
<tr>
<td>T</td>
<td>2.9562</td>
<td>0.0489</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FA</td>
<td>1.8939</td>
<td>0.3313</td>
<td>6.9449</td>
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</tr>
<tr>
<td>K</td>
<td>1.6669</td>
<td>0.4390</td>
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<tr>
<td>ADF with trend and intercept</td>
<td></td>
<td></td>
<td>I(0)</td>
<td></td>
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<tr>
<td>EG</td>
<td>4.1022</td>
<td>0.0172</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TER</td>
<td>3.0544</td>
<td>0.1323</td>
<td>5.8667</td>
<td>0.0003</td>
</tr>
<tr>
<td>T</td>
<td>3.3408</td>
<td>0.0759</td>
<td></td>
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<tr>
<td>FA</td>
<td>4.3480</td>
<td>0.0076</td>
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<tr>
<td>K</td>
<td>2.3438</td>
<td>0.4011</td>
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<td>ADF without intercept and trend</td>
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<td>I(0)</td>
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<tr>
<td>EG</td>
<td>1.3384</td>
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<tr>
<td>T</td>
<td>0.6256</td>
<td>0.4391</td>
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<tr>
<td>FA</td>
<td>3.1726</td>
<td>0.0348</td>
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<tr>
<td>K</td>
<td>0.6344</td>
<td>0.4354</td>
<td>5.2811</td>
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Table 4: Outcomes of ARDL bounds F-test

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<th>F-stat</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
<td>Lags</td>
<td>Critical value at 1%</td>
</tr>
<tr>
<td>EG</td>
<td>4</td>
<td>I(0)</td>
</tr>
<tr>
<td>T</td>
<td>2</td>
<td>I(1)</td>
</tr>
<tr>
<td>FA</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>TER</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

Table 5: Results of short and long run ARDL co-integration

<table>
<thead>
<tr>
<th>Variables</th>
<th>Short run results</th>
<th>Long run results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficients</td>
<td>P-value</td>
</tr>
<tr>
<td>T</td>
<td>0.0641</td>
<td>0.2330</td>
</tr>
<tr>
<td>T (–2)</td>
<td>0.0699</td>
<td>0.1728</td>
</tr>
<tr>
<td>FA</td>
<td>0.5746</td>
<td>0.1477</td>
</tr>
<tr>
<td>TER</td>
<td>-0.0707</td>
<td>0.3984</td>
</tr>
<tr>
<td>TER (–2)</td>
<td>-0.3835*</td>
<td>0.0073</td>
</tr>
<tr>
<td>K</td>
<td>0.4032</td>
<td>0.8444</td>
</tr>
<tr>
<td>KFP (–4)</td>
<td>-3.5769</td>
<td>0.0761</td>
</tr>
<tr>
<td>Constant</td>
<td>3.8576</td>
<td>0.7126</td>
</tr>
<tr>
<td>R²</td>
<td>0.3642</td>
<td></td>
</tr>
</tbody>
</table>

In the same way when ADF is applied without intercept and trend, unit root test indicates that one variable stationary at level while other four variables are stationary at 1st difference.

Further, it enforced towards ARDL model to find the short and long term linkage among dependent and independent variables. This methodology selected on the basis of ADF test results, as some variables are stationary at level and some are integrated at first difference.

5.2. Results of ARDL Bounds F-test

According to the ARDL Bound test results, the study refuse the null hypothesis of no co-integration and admit the alternative hypothesis. As in the given Table 4, F-statistics 4.4123 is higher than critical values, which shows the existence of a long run co-integration among economic growth, trade, terrorism, capital and foreign aid.

The coefficient of terrorism indicates the inverse and statistically substantial effect on economic growth. It yields that a one percent increase in terrorism would negatively affect the economic growth by 0.3053% in long run. The results of terrorism ordered with Bloomberg et al. (2004), Gaibulloev and Sandler (2009), Farooq and Khan (2014) and Hyder et al. (2015). Coefficient of foreign aid has also shown direct association with economic growth which is statistically significant.

5.3. Results of ARDL Co-integration

Table 5 consists the outcomes of ARDL co-integration with dependent variable in short and long run. Results revealed that in short run terrorism and capital have inverse association with economic growth, while foreign aid and trade have direct association on economic growth in sort run.

In long run, results indicated that the coefficient of trade which is taken as percentage of GDP is directly linked with economic growth and also statistically significant. A one percent enhance in trade extends to 0.1822% increase in economic growth in long run. Shahbaz (2012) found direct linkage among the trade and economic growth while Khalid (2016) found direct relationship in short run. Coefficient of foreign aid has also shown direct association with economic growth which is statistically significant. As a one percent enhance in capital would directly affect the economic growth by 5.43%.

6. CONCLUSION

The study is conducted with the purposes of figuring the nexus among terrorism and economic growth in case of Pakistan. It is an attempt to analyze the most recent vague in the country and try to find out the consequences of terrorism, it give new dimensions to the prevailing studies which explore the repercussion of terrorism on various social factors. Data has been collected through world development indicator and global terrorism database for the period of 1981 to 2016. The findings indicated that terrorism has affected...
economic growth negatively. Terrorism is fundamentally a political economic issue. Government policies without direction and the international political scene over the past four decades are the cause of this problem. Terrorist attacks to destroy historic sites. In Pakistan, terrorist attacks are concentrating in areas of tourist attractions such as the Swat and Northern areas.

Government should take concentrate measures to reduce terrorism and the cost of terrorism in the country. This analysis shows that terrorism has inverse impact on economic growth that, the results indicate to policy makers to protect resources and better allocation to shrink the economic losses from ferocity. Government should take steps, for migration of the people who are living illegally in the country. Measures need to be taken to block the illegal money entering in the country from overseas.

REFERENCES