Globalization Nexus Terrorism: Evidence from Pakistan

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ARTICLE DETAILS

The current study investigates nexuses between globalization and terrorism in context of Pakistan. Time series data utilized for time period 1981 to 2017. The data has been taken from the World Governance Indicator (WGI) and Swiss global index (KOF). Augmented Dicky fuller (ADF) test was applied to check out stationarity of all variables such as terrorism, globalization, remittances, foreign direct investment and trade. The results of ADF test indicated that all variables were stationary at first difference. For empirical analysis Johnson co-integration and VAR model under causality were applied. The co-integration result shows all variables terrorism, globalization, FDI, remittances and trade are not co-integrated. Vector Auto Regression (VAR) Model under causality test shows that Globalization is causing factor of terrorism. While, other controlling variables such as remittances cause globalization, foreign direct investment and trade.

Keywords
Terrorism, Globalization, FDI, Remittances, Trade, ADF, Johnson co-integration, VAR model

JEL Classification:
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1. Introduction
The escalation and the relation of the domestic economy with the world are known as globalization and concept of globalization came into existence in 1961 and became famous in 20th century documented by (Ali (2005); Afzal (2007). Globalization consists of various types transactions, such as the freedom and ability of people to move freely, transactions through goods and the transferring of the funds. Globalization may definitely denote the end of the nation-state if the nation-state fails to redefine itself to rally the novel situation it faces in the worldwide environment reported by (Carnoy 2001). A distinguished effort that familiarize word globalization allowed Lexus and Olive Tree (1999) and reported by a commentator (Thomas Friedman) who defined globalization as the organization and strengthening of in exacting financial mutually dependent between dissimilar nation which in his view would donate to the avoidance of aggressive conflict. Specifically focusing upon and studying the economy of Africa reported by Lutz and Lutz (2014) have discovered relationship between terrorism and political, economic and social globalization. However, the study investigates and asks for the directions based upon the interrelationships that are not supported by the validate statistics. These
interrelationships and correlations are very delicate and sometimes unauthentic too and unreliable too, therefore the policies made in relation to these correlations may result in the misguidance. Further ahead Zimmermann (2011) has recorded and documented fascinating theoretical findings related to links between globalization and terrorism. These findings are based upon very solid foundation. He states that in his opinion the results and outcomes of globalization in relation to the terrorism may appear and have formation in various ways. Such as ethno-separatists, ideological and religious cultural. The escalation in the process of exchanging products, people and ideas is known as the definition of globalization documented by (held et al 1999) Beside these theoretical finding, due to a number of reasons, globalization can also play a vital role in encouraging and supporting the act of violence (Terrorism) reported by (Li &Schaub, 2004) That is why globalization could be curse as well as a blessing, specially under the circumstances that countries that are more linked and non-segregated in the system, could benefit more from the stability than those countries which are not much linked and involved in the system. Such countries that are not involved continue to face disturbance and interferences. Terrorist activities in these groups of states distracting the development of growth with increase inflation level. The international openness and the negative impact of terrorism on economic development and positive impact of terrorism and globalization advised that the latter alleviates the negative effect on growth helps to clear why the terrorism are changed across border and hold significant policy recommendation documented by Younas (2015). The relationship between terrorism and foreign direct investment of European Union and European Economic Area stats terrorist activity decreased security and poise of investors in stats bare to terrorist activities and decreasing the flow of foreign direct investment as well as an indirect negative relationship between the economy and terrorism verified by Bezić et al (2000)

2. Literature Review
Most of the study have been conducted to examine the relationship between the globalization and terrorism in the host country and could not reach the commonly expected conclusion that the term globalization deters terrorism. Hybrid results came into being as result of diverse studied regarding relationship of globalization and terrorism such as results documented by Asongu &Nicholas Biekpe, (2017) on globalization and terrorism in 51 African countries used the Generalized Method of Movements and Fixed Effects regression the result concluded negative impact of economic globalization on terrorism while, positive effect of social, and political globalization on terrorism. The similar results concluded by Alam, H.M et al (2017),Zimmerman,E (2011) and Motahari,S, Dehghani. (2015) for time series and panel data that their negative relationship between the FDI and terrorism. Moreover there is present negative relationship terrorism and globalization. Positive relationship determined by Lutz B.J & Lutz,J.M (2014,2015) between globalization and terrorism in Middle East and North Africa the data range from1970 to 2010 and the standardized method were used. Terrorism and globalization has own case and effect. The same result is reported by Ogu .M,I et al (2015) explored the relationship among terrorism and globalization in Nigeria Demir.S & Varlık.A.B(2015) examined the cause effect relationship between the globalization and terrorism for weak nations. Terrorism has in direct relationship with globalization. Stibli.F (2010) worked on “Terrorism in the context of globalization” conducted a qualitative study the same result documented. Cronin et al. (2006) investigated theoretical analysis that globalization has impact on transnational terrorism. The advantages of globalization were that terrorism could be stopped through global cooperation in law enforcement and the exchange of intelligence, in the first place through global controls on financial activities. The similar result concluded by Lizardo.O(2006) and Li. Q , Schaub.D (2004) the effect of economic trade integration on terrorism and also the effect on the culture globalization on U.S translational terrorism that there is indirect negative impact on the economic globalization on terrorism. While, Murphy.J.F (1990, 2002) reported that globalization and terrorism have strong connections, in current situation the globalization is a significant danger for terrorism, and terrorism has negative impact on globalization. On other hand if the policy of globalization improved then the globalization is the efficient way to control terrorism. Ali.R.S et al (2017) determined the worker remittances impact on terrorism in five South Asian countries. Result concluded that worker remittances and other control variables like inflation, unemployment and population size have a significant positive correlation with terrorism and also show the causality exists
between the remittance, population, and inflation with unemployment, while the bidirectional causality exists between unemployment and terrorism. Sousa. D et al (2010) the similar result are investigated.

3. Research Methodology
4. Theoretical Framework

The grievance theory provides combatant arguments for the reason of civil war. Supporters of this arguments imagine that the armed clashes are due to the warrior desire for own enhancement in a given nation in many ways these incentives are expressed including the economic achievement by having control of resources and goods or having a high power. Below models present main theoretical framework for current study.

Nexus between Globalization and Terrorism

Globalization \(\rightarrow\) Terrorism

It’s probably, unsustainable to explain terrorism and globalization Regardless of focus on development. Association between globalization and terrorism has already been explored in the literature. As displayed in above figure, a mutually-reinforcing relationship has been examined between globalization and terrorism. However, globalization affect terrorism separately both positively and negatively, further it can be suggested that globalization and terrorism variables may not possess any direct impact on globalization. To explain the above diagram by applying grievance theory, Stewart (2008) state that there is an association between armed violence (including terrorism) and horizontal inequalities (insecurity) and the nature violence can be well explaining with the above diagram also whenever these variables are explored to globalization in environment. Walton (2010) argues that terrorism is a reply to relative scarcity. When the population is aware of their political rights, from which they are unaware for a long time, then that population will ask for their rights and it can be done calmly or having violence in some cases.

Econometric model for empirical estimations.

\[ T_t = \beta_0 + \beta_1 G_t + \beta_2 FDI_t + \beta_3 R_t + \beta_4 T_t + U_t \ldots \ldots \] (1)

T= Terrorism
G= Globalization
T= Trade
FDI= Foreign Direct investment
R= Remittances
U= Error Term
t= time series

Table:1 Correlation Matrix

|      | TER  | GLOB  | FDI            | REM  | TRAD |
|------|------|-------|----------------|------|------|
| TER  | 1    |       |                |      |      |
| GLOB | -0.566818 | 1    |                |      |      |
| FDI  | -0.3085763 | 0.46953844 | 1    |      |      |
| REM  | -0.3930221 | 0.21112538 | 0.57490286 | 1    |      |
| TRAD | -0.1894872 | 0.12636867 | 0.20608785 | -0.3374714 | 1    |

Table 1 indicated correlation among the different variables figure 1 in diagonal form show that all variables are perfectly correlated itself. The -0.56 strong negative association between terrorism and globalization. The -0.308 means that there is having weak negative relationship between the terrorism and foreign direct investment and also -0.393 strong negative associations among the terrorism and remittances. The 0.189 weak negative relationship between terrorism and trade. The globalization and foreign direct investment 0.46 has weak positive relationship but insignificant. Remittance and globalization 0.21 shows positive weak correlation which is less than 50% while, trade and globalization
show 0.12 correlations which is less than 50%. Remittance and foreign direct investment 0.57 strong positive correlation relationship while, trade and foreign direct investment 0.20% weak positive correlation. Trade and remittances shows (-0.33) negative weak correlation ship. Fortunately, correlations among the independent variables are too weak that is why avoid multi co-linearity.

Table 2: Result of unit root Test for all variables

| Variables   | At Level | Ist difference |
|-------------|----------|----------------|
|             | Intercept| Trend and intercept | Intercept |
| Terrorism   | -1.504722 | -1.874955 | -5.129393 |
| Globalization | -1.339119 | -2.179629 | -5.317017 |
| FDI         | 0.277048  | -7.664390 | -6.181847 |
| Rem         | 1.373774  | 1.816442  | -3.725911 |
| Trade       | -3.385146 | -3.363848 | -6.514313 |

Null Hypothesis: Existence of unit root. *, ** denotes the rejection of Null at 5% and 10% level respectively.

Table 2 demonstrated Augmented Dickey fuller test results for unit root of all variables Terrorism, Globalization, FDI, Remittances and Trade at level and at 1st difference.

Table 3: Johnson Co-Integration Test for all variables

| Trend Assumption: Linear deterministic trend Series: terrorism, globalization, foreign direct investment, remittances, trade Lags Interval (in first differences): 1 to 1 |
|-----------------------------------------------|----------|----------------|----------------|----------------|
| Unrestricted Co-integration Rank Test (Trace) | Hypothesized No. of CE(s) | Eigen value | Trace Statistic | 0.05CriticalValue | Prob.** |
| None*                                        | 0.624578 | 66.97979 | 69.81889 | 0.0825 |
| At most 1                                    | 0.440680 | 32.69015 | 47.85613 | 0.5740 |
| At most 2                                    | 0.184179 | 12.35399 | 29.79707 | 0.9188 |
| At most 3                                    | 0.124851 | 5.229368 | 15.49471 | 0.7840 |
| At most 4                                    | 0.015922 | 0.561747 | 3.841466 | 0.4536 |

Trace test indicates no co-integration at the 0.05 level * denotes rejection of the hypothesis at the 0.05 level **MacKinnon-Haug-Michelis (1999) p-values

Table 3 shown results for the unrestricted co-integration trace tested for the variables such as terrorism, globalization, foreign direct investment, remittances and trade. The first Colum in the table shows the number of co-integration equation of null hypothesis. Null hypothesis indicates that there is no co-integration means that all variables terrorism, globalization, Foreign Direct Investment, remittances and trade are not co-integrated. Probability values 0.0825 % which is higher than 5%. The trace statics value is 66.97979% and the critical value is 69.81889% trace statics value is lower than critical value. Second Colum of the table explains that the probability value 0.5740 % which is equal to 0.5% and the trace statistic value 32.69015% which is lower than critical value 47.85613 %. The third Colum of the table discusses the trace statistic value, the probability value and critical value. The p value 0.9188% which is lower than 0.05% and the trace statistic value 5.229368% which is lower than critical value 15.49471% and the last and forth Colum shows that the trace statistic value which is 0.561747% lower than the critical value3.841466%. so current study accept null hypothesis that these all variables cannot co-integrate and also have no long run association ship, means that all the variables do not move together. So, current study can run unrestricted VAR model.
Table :4  VAR Granger Causality for Terrorism

| Dependent variable :TER | Excluded | Chi-Square | D.F | Probability |
|-------------------------|----------|------------|-----|-------------|
|                         | GLOB     | 2.913822   | 2   | 0.2330      |
|                         | FDI      | 0.686218   | 2   | 0.7096      |
|                         | REM      | 0.436047   | 2   | 0.8041      |
|                         | TRAD     | 1.217743   | 2   | 0.5440      |

Table 4 shown dependent variable is terrorism and the independent variables is globalization, foreign direct investment, remittances and trade. The first independent variable globalisation the second is FDI the third is remittances and the fourth one is trade chi-square values of these independent variables is 2.913822, 0.68218, 0.436047, 1.217743 and correspondingly the probability value is 0.7096%, 0.8041% and 0.5440% which is more than 5% so the null hypothesis is accept rather than reject the alternative hypothesis it means that, FDI (lag1 and lag2), rem (lag1and lag2) trade (lag1and lag2) jointly cannot a cause terrorism. The same result documented by Asongu &Nicholas Biekpe (2017) The globalization is a cause of terrorism.

Table :5  VAR Granger Causality for Globalization

| Dependent variable :Glob | Excluded | Chi-Square | D.F | Probability |
|--------------------------|----------|------------|-----|-------------|
|                         | FDI      | 6.411434   | 2   | 0.0405      |
|                         | TER      | 5.958112   | 2   | 0.0508      |
|                         | REM      | 4.216515   | 2   | 0.1214      |
|                         | TRAD     | 6.137005   | 2   | 0.0465      |

Table 5 shown the dependent variable globalization and independent variables are foreign direct investment, terrorism, remittances and trade. The first independent variable FDI the second one is Terrorism the third is remittances and the fourth one is trade chi-square values of these independent variables is 6.411434, 5.958112, 4.216515, 6.137005 and correspondingly the probability value is 0.0405%, 0.0508% and 0.0465% which is less than 5% so the null hypothesis is reject rather than accept the alternative hypothesis it means that, FDI (lag1 and lag2), Terrorism (lag1 and lag2), trade (lag1and lag2) jointly a cause globalization and also remittances 0.1214 is less than 5% so the remittances cause the globalization. Same result documented by Motahari (2015)

Table :6  VAR Granger Causality for FDI

| Dependent variable :FDI | Excluded | Chi-Square | D.F | Probability |
|-------------------------|----------|------------|-----|-------------|
|                         | GLOB     | 5.934631   | 2   | 0.0514      |
|                         | TER      | 0.193104   | 2   | 0.9080      |
|                         | REM      | 43.04893   | 2   | 0.0001      |
|                         | TRAD     | 0.209187   | 2   | 0.9007      |

Table 6 depict dependent variable is foreign direct investment and independent variables are
globalization, terrorism, remittances and trade. The first independent variable globalization the second is terrorism the third is and the remittance fourth one is trade chi-square values of these independent variables is 5.934631, 0.193104, 0.209187 and correspondingly the probability value is 0.0514%, 0.9080%, 0.9007% which is more than 5% so the study cannot reject the null hypothesis rather than accept the alternative hypothesis. It means that the globalization (lag1 and lag2), terrorism (lag1 and lag2), trade (lag1 and lag2) jointly cannot cause of Foreign Direct Investment. Same result documented by Iqbal et al. (2017). The remittance 0.0001 value is less than 5% so the study reject the null hypothesis means that the remittance is cause of foreign direct investment. Same result consists by Zulfiqar Ali. (2017).

Table 7: VAR Granger Causality for Remittances

| Dependent variable: Rem | Excluded | Chi Square | D.F | Probability |
|-------------------------|----------|------------|-----|-------------|
| GLOB                    | 5.597424 | 2          | 0.0609 |
| FDI                     | 6.494777 | 2          | 0.0389 |
| TER                     | 2.511956 | 2          | 0.2848 |
| TRAD                    | 4.535979 | 2          | 0.1035 |

Table 7 indicated dependent variable remittances and independent variables is globalization, foreign direct investment, terrorism and trade. The first independent variable globalization the second FDI third one is terrorism and the fourth one is trade chi-square values of these independent variables are 5.934631, 2.511956, 4.535979 and correspondingly the probability value is 0.0609%, 0.2848% and 0.1035% which is more than 5% so we cannot reject the null hypothesis rather than accept the null hypothesis. It means that the globalization (lag1 and lag2), terrorism (lag1 and lag2), trade (lag1 and lag2) jointly cannot cause of remittances. The FDI 0.038 value is less than 5% so the study reject the null hypothesis means that the FDI is cause of remittances. Same result concluded by Amir Anwar and Mughal (2016).

Table 8: VAR Granger Causality for Trade

| Dependent variable: Trade | Excluded | Chi-Square | D.F | Probability |
|---------------------------|----------|------------|-----|-------------|
| GLOB                      | 3.446392 | 2          | 0.1785 |
| FDI                       | 4.336362 | 2          | 0.1144 |
| TER                       | 0.678461 | 2          | 0.7123 |
| REM                       | 8.050405 | 2          | 0.0179 |

Table 8 demonstrated dependent variable trade and independent variables globalization, foreign direct investment, terrorism and remittances. The first independent variable globalization the second is FDI the third is terrorism and the fourth one is remittances chi-square values of these independent variables is 3.446392, 4.336362, 0.678461, and correspondingly the probability value is 0.7123% which is more than 5% so we cannot reject the null hypothesis rather than accept the null hypothesis. It means that the terrorism (lag1 and lag2) cannot a cause of trade. The remittances 0.0179 value and globalization 0.1785% value and the FDI 0.1144% is less than 5% the study reject the null hypothesis means that the remittance, Globalization, FDI is the causes of trade. The same result consists by Evans. O Kelikume. (2018).

5. Conclusion

Current study examines nexus between globalization and terrorism in context of Pakistan and used other macroeconomics variables as control variables. Time series data are collected for the time period 1981-2017. The data regarding terrorism taken from the World Governance Indicator (WGI) and the data for globalization was taken from the Swiss global index (KOF). The macroeconomic variable data taken
from WDI. When the entire test was applied result for correlation matrix shows that the correlations among independent variables are too weak that is why multi-co linearity are too minimum. The ADF result shows all variable stationary at first difference while, result of VAR model under causality show globalization is a cause of terrorism while other variables show mix results.

6. Future Research Directions
   - The data range can be expanding in order to include maximum number of years.
   - Better proxy variables can be used in order to examine relationship between globalisation and terrorism.
   - It can be expanding to panel analysis rather than time series analysis and existing methodology can be modified or further enhance.

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