CORRUPTION, TERRORISM AND INSTITUTIONS AMONG SELECTED COUNTRIES OF THE WORLD

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ABSTRACT
Corruption and Terrorism are burning issues for mankind especially in developing economies. Both these issues are big threat for national security. These core issues are accelerated in the presence of poor institutional performance. Corruption and Terrorism is not only major obstacle in the way of growth, development and economic activities in developing countries it also harness the trust of the people in the institutions and government of the state. Institutions are the main apparatus to minimize the Corruption and Terrorism by efficient performance. In order to test the relationship between corruption, terrorism and institutions panel data technique is used. The time span of study is 2005-2020. It is found that in the presence of well-functioning economic and political institutions corruption and terrorism is minimized
Keywords: Terrorism, Institutional Performance, Panel data, FDI, Corruption

INTRODUCTION
This world is beset with a three faceted dilemma i.e corruption terrorism and failure of respective institutions at large. During the recent history the entire world has seen massacre killing in almost major countries of the world ranging from developing to develop. This chimera has played havoc with them indiscriminately and incessantly. Corruption can be seen as the pivot instigator which leads to terrorism and failure of the concerned institutions efficiency. According to United Nations meeting (2018), the cost of global corruption is $2.6 trillion per annum. Corruption is basically the misuse of one's authority due to which people gain personal benefits. Corrupt person not only damage the entire setup of the institution and efficiency of institution but also malfunctions the whole country as well. Besides this, Arbalino and Raffaele (2017) found the positive and significant relation among institutional quality and economic growth. Corruption is not separated from institutional quality because in modification of institutions corruption is top prior phenomena. For the growth process of an economy good institutional quality is an excellent tool. Existence of corruption and tax evasion of public is common phenomena that shrink the level of growth and development (Bird et. al 2008).

Corruption act as background for the terrorism because terrorism is mostly resulted from the unfairness produced by corrupt system. Young (2017) examined the consequences of terrorism. It is sometime result of the support of some enemy country or organization which are financially supported to harm the security and peace in a state. Since 1980 to 2015, overall terrorist attacks, number of killed persons and injured people are 67518, 188775 and 272683 separately in Muslim countries. Similarly, in Non-Muslim states, from 1980 to 2015, entire attacks of terrorism, killed people and wounded persons are 86914, 159386 and 167828 separately (Hussain & Qasim, 2019). Shelly (2014) found positive relationship between corruption and terrorism. Corruption and terrorism act as join forces to flourish criminal activities .Jackson (2015) examined that terrorism not only affect people it also affect the state. Terrorism is a practice of violence performed against civilians.

Institutions of the state are weakened by deep-rooted corruption and do not show only poor

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performance against terrorism but are weak to exploit by terrorist groups. The concerned institutions failed to maintain and stable the society as these institutions are also controlled by corrupt persons who are loyal neither with their institutions nor with the country. Mount (2010) found that corruption not only destroy the effectiveness of the institutions, but it acts as a big obstacle in the way of growth. Poor institutional quality and weak check and balance by institutions give rise to corruption which is related to terrorist activities. All of these evils are interlinked with one another. Institutions cannot be reformed or improved until corruption is undermined and terrorism cannot reduced until corruption and poor institutions improved. Similarly terrorism cannot be addressed until and unless both the corruption and the institutions are improved. Effort to remove only one thing will meet unfavorable results.

A latest review of the World Economic Forum high spot that significant challenging element for doing successful business in Pakistan is fraud and corruption (World Economic Forum, 2017). The most prominent sectors of the economy where corruption is at peak level is Police department. Moreover, the corruption is very high in judicial system and public sector which provide services to common man (GAN Business Anti-Corruption Portal, 2017). Pakistan remained prominent in the strategic policies of US since last 50 years. Pakistan bears enormous damages and economic losses and face terrorism. Why is it that Pakistan has rarely disappeared for any length of time from the United States' strategic radar screen? For more than five decades, it has loomed large in one form or another, as either a staunch ally, a troublesome friend, or even a threat. Now, for the first time, it is all of these things.

Along with the introduction, we organized remainder of this paper in the following manner. In the next section, we presented a summary of the recent empirical studies. Section 3 briefly describes the settings for pooled OLS analysis. Next, section 4 provides a description of data and preliminary analysis, and interesting features of data. Section 5 then describes the results and their discussion. Finally, Section 6 summarizes the paper's results.

Objectives of the study

To analyze the effects of institutions on corruption.
To analyze the effects of institutions on terrorism.

Hypotheses

Ho: Institutions have no significant effect on corruption.
Ho: Institutions have no significant effect on terrorism.

REVIEW OF LITERATURE

Corruption and terrorism are common and big challenges in the developing countries of the world. These not only affect the business activities, trade and FDI. Corruption also dampen the prosperity and level of growth. This situation give rise to reduction in investment and a big hindrance in institutional performance which act as a breeding ground for terrorism. Both these crimes are brought up by inefficient institutional performance in developing countries. Corruption and terrorism are closely related to each other. Corruption act as a root cause for the terrorism. Because it is a practice by some authorize people for personal benefit which hinders development. This is because of inefficient performance and low level of check and balance by institutions in developing countries.

The pragmatic indication inclines to recommend that corruption reduces economic growth, particularly in states where investment is not sufficient and have poor governance as Mo (2001), Aidt et al. (2008), Hodge et al. (2011), Huang, (2016), Tsanana et al. (2016), Chang and Hao (2018), Cieślik and Goczek (2018).

Nahil and Malek (2016) elaborated the relationship between the corruption and terrorism. The study shows that the corruption is threat for development, political stability and security of a country. It act as the breading ground of the terrorism. The study examined the long run relationship between corruption and terrorism. Panel data of one hundred twenty three countries are used. Time span of this study is from 2003 to 2014. Error correction model and pedronis residual based panel co integration test is used. Results shows the positive relation among both variables. Both variables converge collectively.

Haung (2016) examined the impact of corruption on economic growth. The study also test the causality between corruption and economic growth. Positive relationship is found in Korea and inverse in China. Data of 13 Asian pacific economies are capture to investigate the relation among corruption and economic growth. Time period of this study is from 1997 to 2015. Granger causality approach is

applied to test data. Results conclude the significant causality among both variables in Korea and found insignificant china in other countries.

Hossain (2016) examined the relationship between corruption and foreign direct investment. Negative relationship is found between corruption and FDI. The data set of 48 countries are used for this study. The time span of study is from 1998 to 2014 to explain the relation among corruption and FDI. Random effect model, feasible general least square model and panel corrected standard errors are applied in this model to analyze data. Results conclude the significant and negative relation among corruption and FDI.

Hayat (2017) examined the relationship between institutional quality economic growth and FDI. Institutional quality positively affect the level of growth. To check the direct and indirect effect of institutional quality on growth and FDI indicators are used. Dataset of 106 countries are taken which shows the positive affect of institutional quality on growth in developed nation. It also shows that rule and law have significant effects on the flow of foreign direct investment.

Svetla (2015) examined the relationship between total foreign aid and terrorism that how foreign Aid is effective in reduction of terrorism. Data is taken from Global Terrorism Database (GTD). Data of 190 countries are conducted. Twenty seven socioeconomic and political indicators are used to measure total Aid. The time span of the study is 1990 to 2010. Negative binomial method is used to analyze data. Results shows that sectorial Aid is statistically and negatively associated with terrorism.

Jajkowicz and Drobiszova (2015) investigate the impacts of corruption on government expenditures. Results shows the positive relationship between corruption and government expenditures. Data is analyzed by using the technique of pooled OLS. This study cover the data of twenty one OECD countries are estimated. Results shows the positive relation among corruption and government expenditures. Government expenses increase on defense, health, services for public religion and culture due to high level of corruption.

Hakimi and Hamidi (2015) explores the impacts of corruption on economic growth in MENA regions. This study found that MENA countries faces different problems which cause reduction in level of growth because of corruption. The study based on the data of 15 Middle Eastern and North African economies. Time span of study is from 1995 to 2013 causality and panel data is applied. Results conclude that in MENA economies corruption creates problem in economic growth.

Frank et al., (2015) examined the relationship between corruption and growth. To check the impacts of corruption on economic growth time series data is used. Time span of the study is from 1960 to 2012. To analyze data unit root test, co integration and error correction model is used to check the long run relationship among both variables. Results shows that corruption has inverse relationship with economic growth.

Ugur (2014) elaborated that corruption maintain a negative and harmful effect on per capita GDP and economic growth. Though strict actions are taken and even empirical studies after controlling biasness, it is found that corruption is the robust factor of low economic growth.

Zumve, et al., (2013) examined the correlation among corruption and terrorism in Nigeria. The study also examined the interconnection among the poverty generated by official corruption negligence of state regarding people for their needs and terrorism in Nigeria. Results shows that economic deprivation frustration and corruption are the causes of terrorism. If people are economically deprive frustrated then they take part in terrorist activities. The mismanagement of state corruption and inefficient institutions cause terrorism in Nigeria.

Bilal, et al., (2013) analyzed the relationship among institutions and economic growth in Asian countries. Many empirical studies analyze that human capital, population, trade geography and technology are the main channels of economic growth. The time span of the study is 1970 to 2005.Anual time series data is analyzed. The study analyze data using OLS method. Results shows the positive relation between FDI and growth level in Malaysia. Furthermore results shows positive relationship among FDI and gross national income.

Kalbasi (2012) analyze that bad scores of corruption and other economic problems resulted from the social disorders in Arab world. Both corruption and terrorism have convergence between them. The author analyze the relation among corruption and other economic problem by using the data of 13 Arab countries. The results shows the long run relationship between corruption and terrorism. Johenson co integration technique is used and the results shows that corruption and terrorism is convergent in most Arab countries over time.

Campos, N and M, Gassebner (2012) examined the relationship between the political instability and terrorism. This study also examined the causes of terrorism and how political instability cause increase in terrorism across countries over time. Both variables are found positively associated with one another. The time span of the study is 1973 to 2003. Results shows that domestic terrorism give rise to terrorism internationally. Civil war increases terrorism to international terrorist activities in developing countries where the efficiency of institutions are low or not work properly.

Theoretical Framework

Corruption, Terrorism and Institutions

Corruption is originated from Latin word Rumpere which means to break something. The implication is to something badly broken, as a moral code or a rule and regulation. Corruption is one of the most earliest and puzzling phenomenon of society which exists in every nation. Corruption is an institution uses by individual or groups to gain private benefits rather than social welfare. Corruption is the abuse of assigned authority for personal or additional positive gain (Petrou & Thanos, 2014). Corruption is a multidimensional, complex or common concept for individual interest as a result of use of public power. Some studies find that corruption and growth has positive relation which is good for economy (Lee et al, 2015).

Determinants of corruption

Corruption is a common and worldwide concept which is determined by economic, legal and social factors.

Economic factors

Corruption and economic growth has complex relationship. It has different nature in developed and developing countries. Because in developed countries the institutions are efficient and work properly so corruption is less in these countries. In case of developing countries it has different nature. First of all the resources are limited which cause to spread the corruption. Secondly the institutions and legal work in developing countries are inefficient which spread corruption. Corruption spread mostly in the countries where income is low. Because high income countries have preventions against corruption as (1) high wages (2) education (3) technical improvement (4) improvement in managerial skills (5) good transportation and improved mass media.

Income distribution

Corruption level can be explained through the income distribution. If the income distribution is unequal, corruption exist highly. If income distribution is equal and middle class people have authority to check the elite's activities corruption will be lower. If the rich people are less in number, they have more opportunities for corrupt activities to enhance their status. For this purpose rich people hoarded money and took part in practices of rent seeking and bribery. Consequently as blood circulate in veins corruption circulates in society.

Inflation

Inflation can be pretentious by the level of corruption. Investment and economic growth level can cause to reduction in high and variable inflation (Braun & Tella, 2004). So, the corruption negatively affect the economic growth and level of investment. Inflation affect all economic activities. Likewise, inflation also give rise to unequal income distribution. This situation led to increase the level of corruption (Paldam, 2002). Inequality also rises due to the high level of inflation. Inflation disturbs the economic activities of a country by different channels regarding wages and prices. It is also another factor which analyzes corruption. The subsistence income level falls due to inflation because it affect the wages of public sector which reduce the purchasing power of people. So people tried hard to meet their basic necessities by illegal way. This situation leads the people toward corruption, fraud and embezzlement. It also give rise to uncertainty regarding prices and agent behavior cost (Braun, 2004).

Economic freedom

Economic freedom based on the administrative activities of the country. Corruption usually spread due to the unrestricted management power and by government actions. Therefore the larger administration and management has larger opportunities for corruption expansion in the country (Tanzi, 1998).so the theory shows that unrestricted management give rise to corruption. When government constraints and laws used for personal benefits, economic freedom abolished. Whereas interference of administration regarding licenses and laws or rules provide fertile ground or more opportunities for corruption (Shen & Williamson, 2005)

Social factors

Culture and Geography

Geography includes both human geography and physical. This refer to a relation between society and human which create norms, culture and the geography of human built institutions to check the bribery (Ali & Isse, 2003). Institutional check and balance is necessary for the bribe persons. The possibility is lower in the patchy and mixed society that economic agents deals fairly. The highly splinted societies are more corrupt then the homogenous societies. So those countries which are numerous protestant are less corrupt (Chang & Golden, 2010).

Education

Education has significant role in mitigating the corruption. Extraordinary ranks of corruption are sturdily connected through small GDP and low normal education achievement (Getz & Volkema, 2001; Beets, 2005). Truex, (2011) found that education trim down the corruption and corrupt actions. When society become educated they positively change and the reduction in corruption is obvious. So when nation become educated they can fight against the corrupt activities and for their rights then society has positive change.

Terrorism

Terrorism is an act of violence by some unauthorized or unofficial people or group to create fear in the people. Terrorism is not only an abuse which threaten the national security, it effects the trade and business activities which cause reduction in GDP in an economy. It became social and common issue in developing countries. The funding sources inspires terrorist groups to change into "Narco-Terrorist", who increasingly involved in drug trafficking and other illegal organized crime to gain money. Different terrorists groups are named regarding to their aims and purposes. Terrorism not only affects the human mind to a great extent, it harms the national security. To rule on people's mind   terrorists want to banquet terror in area of high population in order to advertise for their act. To meet their political wants terrorist are fetching in criminal or terrorism activities (Hoffman, 1998; Shelley & Picarelli, 2002). Terrorism is resulted from poverty and low level of education. But the major cause of terrorism is corruption. Corruption resulted from some personal or political will of high class or authorize person. When corruption prevails in society or in an economy it disturbs the whole system, create an inequality gap between people which grow up the hate emotions between people. This leads the people who affected by corruption to engage in different illegal activities to gain their right or goal.

Theories of Terrorism

Terrorist want power over the society through the activities of fear and terror. In history these are very ancient and notorious practices to achieve personal interest. Borum (2004) terrorism is the combination of some strategic or psychological features. Terrorism starts when a clash blow up between two asymmetric parties. In this situation the weaker party use terror as weapon and media is used as medium of achieving the intended goal and to inspire the public.

Anarchism

In nineteenth century anarchism is referred as roots of terrorism. Anarchism is derived from a word Anarkos which is a Greek word means without a chief. This term is coined by Joseph (1840). Later in nineteenth century Russian, Europeans and Americans owned this idea whose goal is to abolish government and replace it by voluntary cooperation. Industrial working people mostly adopt this idea (Fowler 1972). In the start of 20th century many political killings were prompted by anarchists. These killings spread fear among the governments on national and international level. The political killings include the killing of Tsar Alexander 2 who killed by Ignatei and a French president Marie Francois killed by Sante Geronimo in 1894 by anarchist persons. A French anarchist Martial Bourdin bombed Greenwich laboratory of London. All this proves that anarchism act as motivational ideology of terrorism. In 1901, the US faced a heartbreaking event as President W. McKinley was shot through Pan-American Exposition in New York. Mr. Czolgosz, a recognized follower of the anarchist program, performed all this (Jensen, 2001).

Fascism

Fascism is derived from a Latin word which means use power to scare people. This term is introduced by Benitto Mussolini in 1922. Fascism is a propaganda which the failure fascist adopt in state terrorism for those people who against the government and not abide the government. A successful fascist cannot practice the all of this type of activities.so fascism also related to terrorism (International Terrorism and Security Research, 2014)

Orthodox theory
Orthodox theory deals with the logic of terrorism and understand the political tactics for revolution and change in the society. The main theme of this theory is change, this change may brought by to kill or harm someone or to terrorize the people.
(a)Functional
It is functional and reactionary theory because it deals with reaction of government or state as a result of terrorism actions against the liberal approaches. In other words the government or state is compelled by some draconian trials to change the political situation and institutions. This shows that the current government is not able to govern or run the country or state.
(b)Symbolic
This concept refers that representative act of terrorism which are used to frighten or scare. According to Sun Zu the goal of terrorism is to kill one person or frighten thousands.it is psychological war which advertise the political or personal interest.
(c)Tactical
This is the third and last component of orthodox theory of terrorism which deals with strategic tactical of terrorism. It has two tactical methods. The first is short term method in which resources are Limited for example hijacking and bank robbery etc. The second method is long term method with revolutionary movements for freedom against repressive government
Religious terrorism
Criminology demonstrates the relationship between religion and terrorism. Some criminologist explains that on the earth about half of most dangerous terrorist groups are set of by religious canons and concerns (RAND, 1993). Most of these groups convince their believer to eliminate the evils by combative means for test their faith on God. They believe that God demanded these actions to protect their religion in future.
Institutions
The term institution is widespread and the interesting area of research from last 10-15 years in development economics. Firstly the broader concept of institution is developed by new institutional economist in 1990s. Institutions are some rules and regulations of societal game that shape the human relation. Institutions also secure the property rights of individual or a firm in a society (North, 1990). Institutional quality maximize the level of growth by good performance. This also cause a big reduction in different economic problems in poor countries. Some institutions are formally established for the betterment of state and public and some are informally working in the countries. Coase (1960) explained that competitive market found a solution to increase the aggregate income in the presence of zero cost of bargaining. Transaction cost is zero in contracts also. Institutions are dismissed or terminated. But in this situation a problem is found that if transaction occurs and the information is incomplete regarding contracts or bargaining then institutions do matter. Acemoglu et al. (2005) analyzed the institutions as with the help of two related concept

Political institutions creates and enforce law. Institutions resolve the conflicts and make policies for social as well as economic system. Political institution covers all political parties, trade unions and courts. They linked with the Government and constitutions which are designed. Acemoglu (2005) examined that distribution of resources determine the distribution of political power and institutions in the society.

Economic institutions includes the factor which govern the resources distribution and incentives structure in the society. As the structure of property rights, contracts and laws, entry barriers tax schemes and tax which affect economic performance and level of growth. Economic institutions encourage the social arrangement. Economic institutions not only facilitate transaction cost it also protect property rights and incentives to investment. The concept of economic institutions is very old. Economic institutions plays very important role to increase economic growth .Economic institutions affect the growth directly and indirectly.

DATA SOURCES AND METHODOLOGY
Data is collected from International Transparency Corruption perception index, World development indicator and from Fraser institute of economic freedom. For study Panel data approach is used. The data of 78 countries is conducted for cross country analysis. Following methodology is used in this study.

Methodology
Panel data
Corruption and political institutions have negative correlation which shows that corruption can be minimized if political institutions work properly and efficiently. This study also analyse A panel data set is contains for each individual cross sectional and time series data set. For example data of GDP, Saving, Investment and FDI of different countries for same time period. The panel data deals with the behavior of observed units. It is more informative then cross sectional, pooled or the time series data. It is also called micro panel or longitudinal data. Panel data is more explanatory than other types of data to explain any model (Gujrati, 1978). The panel data observation increase drastically. Units are calculated as (1, 2, 3…..n) and time is (1, 2, 3, 4…..T). Tx N is used to calculate total no of observation. If we have time span of 10 years and data of 100 countries to observe than total no of observation will be 1000.
Pooled OLS
Pooled OLS assumes that the intercept and coefficient slope are same across entities and time. The regression equation is as

$$Y_{it} = \beta_1 + \beta_2 X_{2it} + \beta_3 X_{3it} + \mu_{it}$$

Pooled OLS technique is simple but it gives us poor results because it is native approach. In the data of developing countries it has the heterogeneity problem and problem of diversity also in structural characteristics.
Fixed effect approach
This approach is used to explore the variables influence which differ over time. In this approach constant is not same fo group and each group has specific intercept. This model also assumes that each country has different intercept (Demitrios, 2006). Fix effect also explore the relation between outcome variable and the predictor. It assumes that intercept term is different across countries and coefficient slope is constant. The regression equation for it is as

$$Y_{it} = \beta_{1i} + \beta_2 X_{2it} + \beta_3 X_{3it} + \mu_{it}$$

The term (i) is used to indicate the intercept and explains that every country has its specific intercept which sometimes change or not across countries. The intercept term is invariant across time and also invariant across entities.
Random effect approach
The basic assumption of Random effect is that intercept across countries is randomly selected. It also assumes that every country has different error term (Demitrios, 2011). Regression equation for random effect is as

$$Y_{it} = \beta_1 + \beta_2 X_{2it} + \beta_3 X_{3it} + \varepsilon_i + \mu_{it}$$

Since $$\omega_{it} = \mu_{it} + \varepsilon_i$$

Then $$Y_{it} = \beta_1 + \beta_2 X_{2it} + \beta_3 X_{3it} + \omega_{it}$$

The term   is known as composite error term. It is sum of cross section and time series error term. It is also called error correction model (Gujrati, 1978).
Hausman Test
For post estimation we use hausman test after the use of fixed and Random effect. This test is applied after the results we calculated from fix and random effect. Fixed effect approach is appropriate when the p value is significant less than 1% 5% 10%. If the values of model are insignificant then Random effect is appropriate.
Empirical results

This study inspects the association between the corruption, Terrorism and Institution. Time span of the study is 2005 to 2015. Fixed effects and D&K approach is applied. Data is composed from Global Terrorism Index, World Development Indicator (WDI) and International Transparency Corruption Perception Index (CPI). Following models are used for empirical estimation.

Model 1: Corruption and political institutions

The econometrics version of the model is as follows.

$$LnCOR_{it} = \alpha_0 + \alpha_1 LnPOI_{it} + \alpha_2 GDC_{it} + \alpha_3 LnFDI_{it} + \alpha_4 LnGEA_{it} + \mu_{it1}$$

This model evaluate the relationship among corruption, political institution, GDC and foreign direct investment. Following table shows the results of this model.

Correlations Matrix.

A correlation table basically defined an association among variables.

Table No. 1 Correlation between variables is expressed as

Logcor logpoi loggdc logfdi loggea
cor | 1.0000
poi | -0.4102 1.0000
gdc | 0.2800 -0.1265 1.0000
fdi | -0.0901 0.0488 -0.0365 1.0000
gea | 0.3860 -0.1309 0.0394 0.0003 1.0000

Correlation among the variables corruption, political institutions, gross domestic product, and foreign direct investment and government expenditures is examined. Political institutions and FDI are negatively correlated with corruption. Gross domestic product at constant dollar price and government expenditures are positively correlated with corruption.

Corruption and Political Institution

The relation among corruption and political institutions. Results are given in the following table.

Table No. 2 Political institutions and corruption

Variables	OLS	FE	D&K
Logpoi	0.000	0.819	0.776
	(-0.2740)*	(-0.0039)	(-0.0039)
Loggdc	0.000	0.000	0.007
	(0.0455)*	(1.5923)	(1.5923)*
Logfdi	0.620	0.786	0.764
	(-0.0067)	(-0.0016)	(-0.0016)
Loggea	0.000	0.000	0.001
	(0.4440)	(.1266)	(0.1266)*
Constant	0.000	0.000	0.00
	(.4296)*	(1.0095)*	(1.0095)*
Auto	Hetro	Ramsay	Hausmans
(0.000)	(0.000)*	(0.000)*	(0.000)*

Note: The coefficient values are in parenthesis and *,**,*** express significance level at 1%,5% and 10% correspondingly.

The analysis is passed out through pooled OLS, Fixed Effect and Drisc and kraay models. The relation among corruption, Logpoi (political institutions), Loggdc (growth rate), logfdi(Foreign Direct Invesfment) and loggea (government expenditures) is estimated. Political institutions are significant in OLS, and no major role in FE and D & K model, however, the coefficient sign is negative. The coefficient sign indicates that 1% increase in institutional performance decreases corruption 27% in OLS estimation. Loggdc and loggea are significant in OLS & FE and in D & K models. This shows 1% increase in Loggdc and loggea increase the corruption 15% and 12 % in FE and D&K method respectively. In case of developing countries corruption and growth has positive relation because of different macroeconomic and other factors. FDI is insignificant in OLS, FE and D&K method. Negative sign of coefficient of FDI shows that 1% increase in FDI decrease the corruption 1.6% in FE and D&K method. Diagnostic tests are applied, auto and hetero are present in the model. Hausman test result indicates the appropriation of fixed effect. Ramsey test elaborate the omission of significant variable.

Model 2: Corruption and economic Institutions

The econometrics version of the model is as follows.

$$LnCOR_{it} = \beta_0 + \beta_1 LnELP_{it} + \beta_2 LnFDI_{it} + \beta_3 LnGDC_{it} + \beta_4 LnPOT_{it} + \mu_{it2}$$

The relationship between corruption, economic institutions, foreign direct investment, Gross Domestic product at constant dollar price, and population is estimated in this model. The results are presented in the following table

Correlation Matrix

A correlation is simply defined as a relationship between two variables.

Table No. 3 Correlation between variables is expressed as

Logcor logelp logfdi loggdc logpot
Logcor| 1.0000
Logelp - 0.0900 1.0000
Logfdi | -0.0901 -0.0157 1.0000
Loggdc| 0.2800 0.2740 -0.0365 1.0000
Logpot| 0.0397 0.0678 -0.0257 0.2864 1.0000

Correlation between variables corruption, economic institutions, foreign direct investment and Gross domestic product at constant dollar price and population are analyzed in this model. Population and growth rate is positively correlated with corruption. FDI and Economic institutions are negatively correlated with corruption.

Corruption and economic institution

Economic institutions plays robust role to minimize corruption as political institutions if there performance is efficient are given in the following table.

Table No. 4 Economic institutions and corruption

Variables	OLS	FE	D & K
Logelp	0.000	0.637	0.204
	(-0.4664)*	(-0.1009)	(-0.01009)*
Logfdi	0.611	0.563	0.522
	(-0.0019)	(-0.0034)	(-0.034)**
Loggdc	0.000	0.000	0.006
	(0.5690)	(0.3365)	(0.3365)*
Logpot	0.000	0.001	0.000
	(0.4377)	(0.1263)	(0.1263)
Constant	0.000	0.406	0.731
	(0.8041)	(0.4017)*	(0.4017)
Auto	Hetro	Ramsay	Hausman
(0.004)*	(0.000)*	(0.000)*	(0.000)*

Note: The values in parenthesis are coefficient and *,**,*** show significance level at 1%,5% and 10% respectively. The analysis is carried out through pooled OLS, Fixed Effect and Drisc and Kraay models. Relationship between logelp (economic institutions) and corruption is significant and negative in OLS model and have negative coefficient sign in FE and D & K models. Loggdc (Growth rate) and Logpot (population) is positively related to corruption, however Logfdi (foreign direct investment) is negatively co related with corruption.

Positive sign of Loggdc shows that 1% increase in Loggdc increase the corruption 56% in OLS and 33% in FE and D & K method. Logpot has positive relationship with corruption shows that 1% increase in Logpot increases the corruption 43% in OLS and 12% in FE and D&K method. Diagnostic tests are applied, auto and hetero are present in the model. Hausman test result indicates the appropriation of fixed effect. Ramsey test elaborate the omission of significant variable.

Model 3 Terrorism and political institutions

The econometrics version of the model is as follows.

$$LnAKG_{it} = \delta_0 + \delta_1 POI_{it} + \delta_2 TRD_{it} + \delta_3 FDI_{it} + \delta_4 GFC_{it} + \mu_{it3} \ldots\ldots\ldots\ldots 3$$

The association between terrorism, political institutions, trade, foreign direct investment and gross fixed capital is estimated in this model. The results are given in the following table.

Correlation Matrix

A correlation is simply defined as a relationship between two variables.

Table No. 5 Correlation between variables is expressed as

Logakg logpoi logtrd logfdi loggfc
Logakg| 1.0000
Logpoi -0.0426 1.0000
Logfdi -0.0207 -0.0934 1.0000
Logtrd| -0.0220 0.0488 -0.0123 1.0000
Loggfc| -0.0185 -0.0349 0.1010 -0.0359 1.0000

Correlation between variables terrorism, political institutions, population, trade and gross fixed capital is examined in this model. Political institutions and population is positively correlated with terrorism (annual killing). All variables are negatively correlated with terrorism.

Terrorism and political institution:

Terrorism is an act which terrorist use to horrify the innocent people. Terrorism is result of different social and economic inequalities which give rise to terrorist attacks. This situation is result of poor institutional performance in developing countries.

Table No. 6 Political institutions and Terrorism

Variable	OLS	FE	D & K
Logpoi	0.674	0.533	0.247
	(-0.0608)	(-0.2258)	(-0.2258)
Logtrd	0.000	0.000	0.000
	(-0.9019)	(-1.6139)	(-1.6139)
Logfdi	0.037	0.003	0.003
	(-0.1098)	(-0.1947)	(-0.1947)
Loggfc	0.428	0.044	0.072
	(-0.0361)*	(-0.4664)	(-0.4664)
Constant	0.001	0.722	0.733
	5.126	(-2.1655)*	(-2.1655)*
Auto	Hetro	Ramsay	Hausmans
(0.001)*	(0.000)*	(0.047)*	(0.000)*

The analysis is carried out through pooled OLS, Fixes Effect and Drisc and Kraay models. Relationship between terrorism, Logpoi (political institutions), logtrd (trade), Logfdi (Foreign Direct Investment) and Loggfc (gross fixed capital) is estimated. Political institutions, trade, foreign direct investment gross fixed capital is negatively correlated with terrorism. Political institutions are insignificant in OLS, FE and D&K method. The coefficient sign of political institution is negative which shows that 1% increase in efficiency of political institution decreases the terrorism 6% in OLS and 22% in FE and D&K method. In developing and developed economies terrorism affect the level of trade. FDI is significant in OLS, FE and D & K method. The coefficient sign of FDI is negative which shows that 1% increase in FDI reduce the terrorism 10% in OLS and19 % in both FE and D & K method. GFC is negatively correlated with terrorism in OLS, FE and D & K method. Negative sign shows that 1% increase in GFC decrease the terrorism 3.6% in OLS and 46% in FE and D & K method. Diagnostic tests are applied, auto and hetero are present in the model. Hausman test result indicates the appropriation of fixed effect. Ramsey test elaborate the omission of significant variable.

Model 4 Terrorism and economic institutions

The econometrics version of the model is as follows.

$$LnAKG_{it} = \sigma_0 + \sigma_1 LnELP_{it} + \sigma_2 LnTRD_{it} + \sigma_3 LnFDI_{it} + \sigma_4 LnGFC_{it} + \mu_{it4}$$

This model estimate the relationship among terrorism, economic institution, trade, foreign direct investment and gross fixed capital. Following table shows the results of this model.

Correlations Matrix

A correlation table basically defined an association among variables. Correlation between variables is expressed as:

Table No. 7 Correlation between variables is expressed as

	logakg	logelp	logtrd	logfdi	loggfc
akg	1.0000				
elp	- 0.0035	1.0000			
trd	-0.0207	0.0036	1.0000		
fdi	-0.0220	-0.0157	-0.0123	1.0000	
gfc	-0.0185	0.2410	0.1010	-0.0359	1.0000

Correlation among the variables terrorism, economic institutions, trade FDI and gross fix capital is examined. Economic institutions, trade, foreign direct investment and gross fixed capital are negatively correlated with terrorism.

Table No. 8 Economic institutions and Terrorism

Variables	OLS	FE	D and k
Logelp	0.988	0.233	0.067
	(-0.0036)*	(-0.2301)	(-0.2301)
Logtrd	0.000	0.000	0.000
	(-0.9268)	(-0.6274)*	(-0.6274)*
Logfdi	0.041	0.004	0.005
	(-0.1087)	(-0.1861)	(-0.1861)
Loggfc	0.376	0.024	0.042
	(-0.0435)	(-0.5039)*	(-0.5039)*
Constant	0.001	0.627	0.627
	(5.0592)*	(-2.8568)*	(-2.8568)*

Note: The coefficient values are in parenthesis and *,**,*** express significance level at 1%,5% and 10% correspondingly. The analysis is carried out through pooled OLS, Fixes Effect and Drisc and Kraay models. Relationship between Logelp (economic institutions), Logtrd (trade), Logfdi (foreign direct investment) and Loggfc (gross fixed capital) is estimated. All the variables are negatively co related with corruption. Economic institutions are significant in D&K method and insignificant in both FE and OLS method. The coefficient sign of economic institution is negative which shows that 1% increase in efficient economic institution decreases the terrorism 36% in OLS and 23% in FE and D&K. Trade is significant in OLS, FE and D&K method. The negative sign of coefficient of trade shows that 1% increase in trade decreases the terrorism 92% in OLS and 62% in FE and D & K method. FDI is significant in OLS, FE and D & K method. The coefficient sign of FDI is negative which shows that 1 increase in FDI reduce the terrorism 10% in OLS and 18% in both FE and D & K method. GFC is negatively and significantly correlated with corruption in OLS, FE and D & K method. Positive sign shows that 1% increase in GFC increase the corruption 56% in OLS and 33% in FE and D & K method. Diagnostic tests are applied, auto and hetero are present in the model. Hausman test result indicates the appropriation of fixed effect. Ramsey test elaborate the omission of significant variable.

CONCLUSION AND POLICY IMPLICATIONS

Conclusion

The study examines the effect of institutions on corruption and terrorism. Four models are used to evaluate the relationship among corruption terrorism and institutions. Results shows that corruption and Terrorism can be minimized in the presence of efficient institutions. Pooled OLS, Fixed effect and D&K techniques are used to analyze data. The analysis is carried out for 88 economies and time span of the

study is from 2005 to 2020.

Firstly the relationship between Corruption and Political institutions is evaluated. This is done with model estimation and set of control variables. The results indicate that corruption and political institutions have negative relationship. The relationship between both variables is robust, however the relationship between GDP growth and government expenditure has positive relation with dependent variable. When political institutions increase their performance with efficient working corruption is reduced. In the second model, the relationship between corruption and economic institutions is evaluated and both have negative relationship. However the relationship between GDP growth rate and Population has positive relation. The relationship between Terrorism and Political institutions is evaluated in the third model. The results indicate that Terrorism and political institutions have negative relationship. In the fourth model, the association between Terrorism and economic institutions is evaluated. The results show that Terrorism and economic institutions have negative relationship. The relevant diagnostic tests are applied as Autocorrelation, Hetroscadicity, Hausman and Ramsey and findings are persistent.

Policy Implications

- The government of these countries has to focus more on the performance of political and economic institutions to minimize the corruption.
- The role of institutions is critical in case of Terrorism. As their performance increases terrorism minimized. So the government focus more on institutional performance.
- FDI is crucial for economic growth of the countries. With the increase in FDI corruption and terrorism reduced.
- The government stress to increase the trade. It's not only increase GDP but reduces terrorism.

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