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Why Nations Breed Terror: Governance Failures, Inequality, Economic Sanctions, and Religious Diversity in Panel Data Perspective

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ABSTRACT
The study assesses the major determinants of the terrorism for a selected sample of twenty countries from the Asian region, Eastern Europe, and African continent for a period of ten years from 2011 to 2020. A dynamic panel model of system GMM has inspected the impacts of various socioeconomic roots on terrorism including GNI per capita, government effectiveness, income inequality, religious diversity, and economic sanctions. The findings reveal that the current year terrorism GTI has a positive and statistically significant association with the previous year terrorism GTI_{t-1}. Income inequality presented by the Gini coefficient also has a positive and statistically significant linkage with terrorism. Moreover, religious diversity has shown a negative and noteworthy association with terrorism. Likewise, an inverse association has been found between economic sanctions and terrorism, while Government effectiveness has shown a slight negative role in determining terrorism. The current study will help the policymakers in better understanding the underlying causes that push people or organizations to extreme ideology and violent behavior, allowing for the formation of more effective counter-terrorism tactics. By recognizing patterns of marginalization, inequality, deprivation and institutional quality, policymakers may undertake targeted policies that treat the core causes rather than the symptoms.

Keywords: Terrorism**;** Gini Coefficient; Economic Sanctions**;** Income Inequality; GMM

Introduction

Terrorism infers the physical and mental development of frightening human beings and masses of society through violence, (Michael, 2007). To understand the exact meaning of terrorism, it is necessary to look at the etymology of the term violence, the term which is quite related to terrorism. Latin violence means “to misuse or to go against the socially accepted norms”. Terrorism means to enforce one’s own explanations of religious beliefs, cultural, political, and economic norms, and values through violence in society, (Michael, 2007). A wide and best economic description of roots of terrorism commonly emphasizes two major aspects, the poor socio-economic environments, and the lack of appropriate economic opportunities. In fact, deprivation in terms of poverty and unjust distribution of wealth is feeding frustration, abhorrence and grievance which make

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DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 10 (October) (2025)

violence and extremism more likely (Newman (2006); Sun et al (2022). (Krieger and Meierrieks, 2010) have linked terrorism with poverty through social spending, claiming that if social spending rises, socioeconomic conditions improve causing a general fall in violence and terrorism. The authors affirm that these conclusions specifically apply to domestic terrorism. Research studies connect terrorism with poverty, and the lack of basic needs of life, (Paul and Jianguo, 2002, Kevin, 2005 and Ghulam, et al 2014). (Freytag. A, et al, 2011) have discussed terrorism in the lights of poor level of socioeconomic conditions while taking political and demographic variables as their controlled variables. Their study reveals that there is a positive correlation between poor socioeconomic conditions and the level of terrorism. (Caruso and Schneider, 2011) have also the same findings as they correlated terrorism and political violence with socioeconomic factors. They have discussed it in terms of opportunity cost. An individual's likelihood of engaging in terrorist activities diminishes as their economic opportunities increase.

Income inequality is a substantial disproportion and inequality of income among entities, population, groups, and social classes, (Britannica.com). It can be estimated through different approaches including Gini index, Lorenz curve, functional or factors that share distributions of income and personal or size distribution, (Todaro and Smith, 2017). Inequality encourages frustration, which inflames an aggressive response to get rid of it, and this relationship has been named as “frustration-aggression mechanism” (Krieger and Meierrieks, 2019). Increase in inequality exhibits the major proportion of increase in terrorism in South Asia. Population growth rate is next to it followed by political instability, unemployment, poverty, and inflation, (Ghulam, et al 2014). Nations face civil wars and violence when the sense of deprivation surges and resultants of arms groups assemble and start operating in different shapes like ethnic, religious, and demographic groups. Surging terrorism cannot be restricted to these aspects solely as other factors like political framework of a country also contribute to add fuel to the fire, Ajide et al (2020): Kirisci (2020). Weak and unstable political structure offers a better learning environment to the terrorist groups so that they could easily execute terror attacks, (Campos and Gassebner, 2013; Noor et al., 2024). Terrorism, civil wars, and domestic violence predominantly prevail in most of the less developed and lower developing economies of the world, and it is difficult to deny that mostly, these are the countries which are struggling for political stability. Ample of studies suggest that a failed or weak states provide a ‘‘sanctuary’’ or a “breeding ground” for fanatics and radicles who will threaten global interests. Due to the absence of proper law and order situation with struggling institutions and the lack of accountability, rulers of such ineffective governments abuse the freedoms of self-governing statehood and cause a genuine threat to the local security.

Global terrorism is not exempt from the influence of socio-religious factors. Given the enormous attention from the international media on terrorism backed by religious thoughts and differences, terrorism cannot be disconnected from this defining root. It seems possible to accept the facts that the existence of more religious clusters and groups in a state would stimulate extremism and violence as per the presumption that some religious groups can go for violent measures against others. Contrarily, it is also an acceptable fact that the existence of several religions in a country inspires public to be more tolerant towards other religions and their religious practices. Furthermore, (Blomberg and Hess, 2008; Rasheed et al., 2025) have debated the issue by arguing that it cannot be ignored that sometimes small groups of religious minorities in different countries of the world that are seriously connected with one specific religion execute

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violence and aggressive measures in conflict with the dominant religions as an exertion to stop their religious rights abuses.

Economic sanctions have received relatively less attention when it comes to explaining the factors influencing terrorism. Sanctions have been given importance in the study as plentiful of past literature concludes that economic sanctions acquire targeted objectives and strategic goals but underestimate their unintended consequences. This overlooking is awkward as if even made with heavy concessions, the national and international costs will be much higher while considering a specific episode of economic sanction a successful one, (Altmann and Giersch 2022). These unintended consequences of economic sanctions have made the term "economic sanctions" a substantial root of terrorism. Existing studies explain two possible impacts of sanctions on terrorism. The first view is that the economic sanction decreases terrorism due to the lack of funding for the propagation of terrorism followed by the comprehensive measures being taken by the country's security institutions against terrorism amid the overall loss to the economy, as also described by Wang et al (2022). The second possibility is that the economic sanctions will increase terrorism, as per the findings of Seung-Whan and Shali (2013) sanctions lead towards economic hardships which further intensify their level of grievance and compel masses to go for terrorism.

An ample amount of work has been carried out on the determinants of terrorism, however there is no such comprehensive study where terrorism has been discussed in the lights of economic sanctions and religious diversity. This study has tried to fill this gap by analyzing terrorism not only in the lights of other socioeconomic and political roots but also in the context of these two essential variables. The study has tried to find the exact role of per capita income, income inequality, government effectiveness, religious diversity, and economic sanctions in determining terrorism in the selected panel from Asia, Eastern Europe, and Africa.

The rest of the article contains, section 2 explains the literature review, section 3 explores econometric methodology, section 4 is all about data section, section 5 contains results and discussion, section 6 is about conclusion while the remaining portion is about policy recommendations and some limitations of the study.

Literature Review

The literature on terrorism is vast, reflecting its multidimensional causes and consequences across political, social, and economic spheres. While the Global Terrorism Index (GTI) provides a comprehensive measure of terrorism by accounting for incidents, fatalities, injuries, and property damage, understanding its drivers requires synthesizing both theoretical perspectives and empirical findings. Scholars have long debated whether terrorism stems primarily from socioeconomic deprivation, institutional weaknesses, cultural differences, or international dynamics. To address this complexity, it is essential to review the theories that link terrorism with its key determinants, and then to examine empirical contributions that provide evidence from diverse contexts.

The theoretical foundations of terrorism point to the importance of state capacity and governance. Weak and ineffective governments create spaces where terrorist groups thrive. According to Campos and Gassebner (2013), fragile state institutions struggle to maintain law and order, leaving citizens disillusioned with formal structures and more likely to embrace extremist solutions. Krieger and Meierrieks (2010) argue that when governance fails, the opportunity cost of joining terrorist groups decreases, since institutional mechanisms for grievance redress are absent. In contrast, strong government systems enhance stability by providing citizens with accessible, fair, and legitimate

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DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 10 (October) (2025)

avenues to address their concerns, thus reducing the likelihood of violent alternatives. Hendrix and Young (2014) emphasize that government effectiveness enhances the rule of law and social contract, limiting terrorism by increasing the costs of rebellion.

Economic factors have also been central to terrorism theories, particularly income levels. Poverty and low per capita income are often linked to terrorism through economic deprivation theories. Paul and Jianguo (2002) and Kevin (2005) suggest that poor socioeconomic conditions make individuals more susceptible to extremist recruitment, as terrorism can provide financial or social incentives that surpass the limited opportunities available in struggling economies. Caruso and Schneider (2011) reinforce this by highlighting how limited job prospects and persistent poverty lower the opportunity cost of violence. Yet, the evidence is contested; Piazza (2006) challenges the assumption that poverty directly causes terrorism, instead arguing that institutional and social factors moderate this relationship. Nevertheless, the frustration-aggression hypothesis articulated by Krieger and Meierrieks (2019) provides theoretical backing for the notion that economic deprivation, when combined with grievances, may trigger extremist responses.

Inequality is another critical aspect and can be best articulated through relative deprivation theory. In societies with large income gaps, disenfranchised segments of the population feel excluded and treated unjustly. Such resentment can lead to radicalization (Todaro & Smith, 2017). Obviously, there is empirical support for this theoretical link, as discussed when Ghulam et al. (2014) and Nabin et al. (2022) observed a correspondence between higher inequality and greater terrorist activity. The frustration-aggression link bolsters this demonstration, suggesting social and/or economic inequality correlates with a degree of discontent that ultimately finds expression in violence (Krieger & Meierrieks, 2019). In other words, each inequality heightens discontent and undermines social cohesion, which establishes a socio-economic environment to promote terrorism.

The discussion is further affected by cultural and religious aspects to consider. In the study of terrorism, the relationship between religious diversity poses a paradox. Pluralism proposes that diversity leads to a greater tolerance in society, fostering coexistence and interaction amongst differing faith groups. Boylan (2010) and Feldman and Ruffle (2008) suggest that societies that are religiously pluralistic are better equipped to resist the power of extremist ideology; societies that are exposed to a plurality of beliefs facilitate acceptance. A counterargument exists in clash-of-civilizations views that diversity will fuel violence, particularly when minority groups feel discriminated against or marginalized. Piazza (2008) notes that in these situations, the presence of religion may also be the impetus for violence Along similar lines, Blomberg and Hess (2008) argue that religious minorities who experience repression are more likely to engage in violent radicalization. Thus, the effect of religious diversity is dependent on the institutional context, as well as the extent to which states engage in promoting inclusion.

Economic sanctions serve as another determinant, functioning in two diametrically opposed directions theoretically. From a deterrence perspective, sanctions may reduce terrorism by undermining terrorist organizations' financial supply chains and forcing governments to prioritize security over economic concerns (Wang et al., 2022). From a grievance perspective, in contrast, sanctions may exacerbate economic hardships, increase public frustration, and drive disaffected groups toward extremism (Choi & Luo, 2013). In fact, empirical studies often support grievance theory. - As evidence, Altmann and Giersch (2021) find that sanctions could unintentionally increase terrorism and terrorist fatalities/attacks, which logically follows from the grievance perspective. This duality implies that while sanctions can be effective at times, they may also produce counterproductive effects, depending on the extent of economic disruption and the

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DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 10 (October) (2025)

government's ability to minimize disruption.

These theoretical perspectives emphasize that terrorism is not resolved by any one feature of grievances, resources, or governance or the social interactions and frameworks which lead to a terrorist action occurring but instead emerges as the result of the dynamic interrelationship of the governance capacity of the state, moral, economic, social, cultural and international dynamics. Governmental effectiveness and income as indicators of state capacity and development are crucial to understanding terrorism interactions as are inequity and sanctions which speak to grievance dynamics, and more importantly, culture and cultural diversity demonstrate the cultural dimension of exploitation and extremism. When we better understand how theory links together, our approach to evaluating the empirical research on terrorism becomes much more solidified.

Empirical work provides important insight into how those theoretical links and assumptions manifest across countries and regions. In preliminary work, Abadie (2006) found little evidence that poverty-induced terrorism; rather, the findings suggested that 'non-poverty crime' predicts terrorism. Similarly, Piazza (2006) concluded that poverty and unemployment are less significant than political variables in terms of their relationship with terrorism; therefore, inequalities in society seem to have less of a predictive impact. Mixed models have reopened the investigation into the relationship of poverty and terrorism. For example, Caruso and Schneider (2011) find that poor economic conditions magnify terrorism when combined with ineffective institutions, indicating that the institutional context is critical. As Krieger and Meierrieks (2011) modeling the significance of fundamental socioeconomic factors such as poverty and inequality, concluded that these factors affected terrorism indirectly through predict governance quality.

Research on inequality commonly finds that it has a positive relationship to terrorism. Ghulam et al. (2014) demonstrated an example of this with evidence from Pakistan, where increased income inequality led to a higher incidence of terrorist attacks. Nabin et al. (2022) extend this confirming evidence to a South Asian dataset showing that greater inequality increases terrorist risk. These findings confirm the relative deprivation theory that inequalities perceived to be unfair, or social exclusion result in violence.

With respect to governance, Campos and Gassebner (2013) established that poor state capacity is among the strongest predictors of terrorism. Weak institutions do not prevent violent groups and, as such, a group sees diminishing opportunity cost of terrorism. Krieger and Meierrieks (2010) illustrated how ineffective governance decreases the opportunity cost of terrorism, which makes terrorism a logical choice for underdeveloped individuals and groups. Hendrix and Young (2014) confirmed this relationship when they empirically demonstrated that higher quality governance structures lead to a reduction of terrorism by providing stability and accountability.

The effects of religious diversity have shown inconsistent empirical findings. Feldman and Ruffle (2008) found that religious diversity was linked to lower terrorism than ideological extremism, which bolstered the pluralism perspective. Similarly, Boylan (2010) implied that diversity could lead to tolerance. On the other hand, Piazza (2008) observed that religious diversity increases the risk of terrorism when coupled with political exclusion, while Blomberg and Hess (2008) indicated that repression of certain minority groups tends to provoke violent responses. As a general takeaway, the observations suggest that the connection between diversity and terrorism is extremely sensitive to context with regards to the inclusivity of political institutions.

Economic sanctions have also been an active area of research, and several studies have reported a backlash from sanctions whereby terrorism increased instead. For example,

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DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 10 (October) (2025)

Choi and Luo (2013) stated that rising terrorism occurred, in part, due to the economic suffering that sanctions imposed on populations. Altmann and Giersch (2021) provided similar evidence in the context of terrorist fatalities, where sanctions were correlated with an increase in fatalities attributed to terrorism. In contrast, Wang et al. (2022) suggested an alternative perspective and claimed that sanctions could reduce terrorism, because they diminish resources for violent groups to access or use random acts of violence to terrorize. These conflicting findings and perspectives point to the relative effectiveness of sanctions based on the variety of sanctions employed as well as being sensitive to how resilient the targeted state is to coercive aims.

Many research projects have attempted to bring together these determinants into generic models. In this regard, Krieger and Meierrieks (2019) argued that terrorism may result from multiple opportunity structures and grievances, instead of just one or the other as a causal factor. By proposing this comprehensive model, Krieger and Meierrieks build on the call to take governance, economic, and social factors into account regarding terrorism. Likewise, Piazza (2006) made arguments for extending beyond poverty in explanations of terrorism so that political and institutional factors are included.

What empirical literature provides in the aggregate is the notable role that structural and contextual factors shape terrorism. The quality of governance has emerged as a strong determinant of terrorism. Poverty does not explain terrorism on its own. Inequality and exclusion are prominent factors leading to terrorism, suggesting some confirmation of grievance factors. Religion diversity and sanctions exhibit mixed results suggesting a contextual dependence of their influence. In a similar theme, both studies point to arguments for complex anti-terrorism strategies that address governance, economic opportunity, and social inclusion.

Research Methodology

The methodological approach of this research forms the foundation for analyzing the determinants of terrorism across a large panel of countries over time. The analysis is based on panel data that spans thirty-four countries, mostly from regions with varied political systems, economic conditions, and exposure to terrorism. These include highly affected states such as Afghanistan, Iraq, Pakistan, Nigeria, and Syria, as well as less affected states such as Sweden, Canada, and Japan. The inclusion of countries with high and low incidences of terrorism provides heterogeneity that allows for an examination of cross-country differences in the dynamics of terrorism. This analysis encompasses the period from 2002 to 2022, covering two decades marked by development of key global events, such as the post-9/11 security environment, the rise of transnational terrorist networks, the global financial crisis, the Arab Spring, and international sanctions regimes. Similarly, a key benefit of this timeframe is the convergence of international data sources of relevance from the Global Terrorism Index, along with important institutional and socioeconomic indicators.

This study will use panel data for methodological purposes, as there are several benefits to its use, including increased degrees of freedom; reduced collinearity among explanatory variables; and the control of unobserved heterogeneity, which could bias results if a purely cross-sectional, or a purely time-series approach is employed (Baltagi, 2005; Wooldridge, 2010). While panel data analysis offers several advantages over either of the two forms of data analysis, it provides the most benefits over data analysis because it offers both the temporal dimension of the data, as well as the spatial dimension to be incorporated, allowing for the analysis of a multifaceted phenomenon like terrorism, that provides greater overall trustworthiness and validity.

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DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 10 (October) (2025)

The dependent variable in this study is terrorism, operationalized by the Global Terrorism Index (GTI). The GTI was developed by the Institute for Economics and Peace (IEP, 2023), which collected data on terrorism activity, casualties, injuries, and damage to property to create a comprehensive measure of total terrorism. GTI is considered one of the most comprehensive measures of terrorism as it comprises both quantitative measures of terrorism as well as qualitative measures to assess its effects. This construction of terrorism as operationalized in the GTI is superior to utilizing the number of incidents of terrorism alone because it incorporates both appropriateness of frequency of terrorism as well as severity across countries.

The first independent variable, government effectiveness, is taken from the Worldwide Governance Indicators (WGI) project led by the World Bank (Kaufmann et al., 2010; Rasheed et al., 2022). This variable assesses perceptions of public services quality, civil servant capacity, bureaucracy autonomy from political pressures, and the reliability of government policies, and is presented on a scale from -2.5 (weak) to +2.5 (strong). This indicator is not a direct measurement, but a combination of indices based on survey items and expert assessments. The indicator is important to construct because terrorism is often associated with weak state capacity where ineffective governments cannot respond adequately to grievances, enforce law and order, or prevent the formation of a non-state armed group (Campos & Gassebner, 2013; Krieger & Meierrieks, 2010).

As a measure of economic prosperity and development, gross national income (GNI) per capita is included in this analysis. GNI per capita data comes from the World Development Indicators (World Bank, 2023), measured in constant 2015 US dollars for consistency over time. GNI per capita is the total income of a country's citizens and businesses, divided by the total population. GNI per capita represents the average standard of living and is a common tool for classifying countries into income groups. In terrorism studies, GNI per capita is used to test the economic deprivation hypothesis that asserts that lower levels of income and poverty reduce the opportunity cost of joining extremist movements by making it easier to transition into terrorism (Paul & Jianguo, 2002, 2011; Caruso & Schneider, 2011). GNI per capita is produced on an annual basis and standardized across countries for the purpose of comparability.

The Gini index is the standard measure used for income inequality, with a scale from 0 to 100, with higher values representing greater inequality. The data comes from the World Bank's World Development Indicators and World Income Inequality Database (Solt, 2016). The Gini index is based on household survey data that measures income or consumption shares of populations. The theoretical rationale for including inequality rests on relative deprivation theory that suggests perceived injustice and unequal opportunity cause frustration and anger, conditions in which terrorism can flourish (Todaro & Smith, 2017). Empirical studies, including Ghulam et al. (2014) and Nabin et al. (2022), also find higher inequality to be positively correlated with terrorism, which provides a strong rationale for inclusion.

Religious diversity is also an important explanatory variable. The variable captures the approximation of any two randomly selected individuals from a population having different religions and is constructed using an index devised in Alesina et al. (2003). The index ranges from 0 to 1, where 1 indicates wider religious diversity. The index requires country-level data on the shares of people in different religions (i.e., Christianity, Islam, Hinduism, Buddhism, and other minority religions) in order to be constructed. As an illustration, consider a nation with 70% of the population identifying themselves as Christian, while the remaining 30% identifying as Muslim. The index represents the probability that two randomly selected individuals come from different religions. We

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DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 10 (October) (2025)

decided to include religious diversity based on a couple of contingent opposing theories. Pluralism theory predicts that exposure to multiple religions will promote tolerance and impact extreme beliefs (Boylan, 2010; Feldman and Ruffle, 2008) or similarly, the clash-of-civilizations hypothesis theorizes that religious diversity increases tension especially if discriminated or excluded from society (Piazza, 2008; Blomberg and Hess, 2008). In constructing the variable, we took care to ensure the index is tapping into structural heterogeneity, but not necessarily religious conflict, so we can quantitatively consider the objective nature of diversity itself. The religious diversity index was calculated as it has been done with the Pew Research Center. It was computed utilizing a three-step mechanism that puts together the amount of religious diversity present in each unit of cross-section of the panel data. Table 1 describes the range of diversity levels from the highest diversity to the lowest.

Table 1: Levels of Diversity and Corresponding Range

Level of diversity	Range
Highest	9.5 ≤
Very High	7.0-9.4
High	5.5-6.9
Moderate	3.0-5.4
Low	0.0-2.9

Note. The scale categorizes countries by their level of religious diversity.

Economic sanctions are included as a final explanatory variable. Data is obtained from the Global Sanctions Database (Felbermayr et al., 2020), which records sanctions imposed by one or more countries or international organizations on target states. The sanctions variable is operationalized as a binary indicator, taking the value 1 if a country is subject to any sanctions in a given year and 0 otherwise. This construction allows the study to capture both the presence and absence of sanctions without differentiating between types (e.g., trade sanctions, financial sanctions). The theoretical motivation is grounded in both deterrence and grievance perspectives: while sanctions may limit resources available for terrorism, they can also exacerbate economic hardship, fuel resentment, and indirectly contribute to violence (Choi & Luo, 2013; Altmann & Giersch, 2021).

Table 2: Description of Variables

Variable	Abr.	Unit	Source
Global terrorism index	GTI	Index	Institute for Economics and Peace (2025)
Government effectiveness	GE	Index	Worldwide Governance Indicator (2025)
GNI per capita	GNI	Constant USD	World Development Indicator (2025)
Gini index	GI	Index	World Development Indicator (2025)
Religious diversity	RD	Index	Pew Research Center (2025)
Economic sanctions	ES	Dummy	U.S. Department of State (2025)

The baseline econometric specification for the study links terrorism with its determinants as follows:

$$GTI_{it} = \alpha + \beta_1 GE_{it} + \beta_2 GNI_{it} + \beta_3 RD_{it} + \beta_4 RD_t + \beta_5 GI_{it} + \beta_6 ES_{it} + \varepsilon_{it}$$

where GTI_{it}_represents terrorism in country i at time t, GE_{it} is government effectiveness,

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DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 10 (October) (2025)

GNI_{it} is gross national income per capita, GC denotes gini coefficient of income inequality, RD is religious diversity, and ES represents Economic sanctions. The terms εit is the idiosyncratic error.

Prior to estimation, the issue of multicollinearity among independent variables is addressed using the Variance Inflation Factor (VIF). The VIF for the j^{th} variable is calculated as:

$$VIF_j = \frac{1}{1 - R_j^2}$$

where R_j^2 is the coefficient of determination when the j^{th} variable is regressed on all other independent variables (Gujarati & Porter, 2009). A VIF greater than 10 is commonly considered problematic (Kutner et al., 2005; Sajid et al., 2025). Ensuring low multicollinearity improves the stability and interpretability of regression estimates.

Given potential endogeneity in the model, particularly between terrorism and government effectiveness or economic development, the Generalized Method of Moments (GMM) estimator is adopted. Dynamic panel models often include lagged dependent variables, which introduce bias in ordinary least squares (OLS) or fixed-effects estimators. Arellano and Bond (1991) proposed the difference GMM estimator, using lagged levels of endogenous variables as instruments. Blundell and Bond (1998) extended this to system GMM, combining equations in levels and differences to improve efficiency. This study applies system GMM, which is especially suitable in panels with a large number of cross-sections but a relatively short time span (Roodman, 2009).

The dynamic specification of the terrorism equation can be written as:

$$GTI_{it} = \alpha + \beta Govt\_effectiveness_{it} + \delta GNI/PC_{it} + \lambda Gini\_idex_{it} + \gamma Religious\_diversity_i + \phi Economic\_sanctions_i + \mu_i + \nu_{it} \quad (1)$$

Note that the terms religious diversity and economic sanctions vary across the countries (only cross-sectional differences have been analyzed) and are time-invariant, that's why there is no 't' in their subscripts. The model becomes dynamic if we include lagged dependent variable on the right side of equation 1, as:

$$GTI_{it} = \alpha + \beta Govt\_effectiveness_{it} + \delta GNI/PC_{it} + \lambda Gini\_idex_{it} + \gamma Religious\_diversity_i + \phi Economic\_sanctions_i + \theta GTI_{it-1} + \mu_i + \nu_{it} \quad (2)$$

Now, it can be seen obviously, that the model is suffering from the problem of endogeneity, as lagged value of GTI is varying with the residual.

By taking lag of equation 2, we get:

$$GTI_{it-1} = \alpha + \beta Govt\_effectiveness_{it-1} + \delta GNI/PC_{it-1} + \lambda Gini\_idex_{it-1} + \gamma Religious\_diversity_i + \phi Economic\_sanctions_i + \theta GTI_{it-2} + \mu_i + \nu_{it-1} \quad (3)$$

By subtracting equation 3 from equation 2, we get:

$$GTI_{it} - GTI_{it-1} = (\alpha - \alpha) + \beta(Govt\_effectiveness_{it} - Govt\_effectiveness_{it-1}) + \delta\left(\frac{GNI}{PC}_{it} - \frac{GNI}{PC}_{it-1}\right) + \lambda(Gini\_index_{it} - Gini\_index_{it-1}) + \gamma(Religious\_diversity_i - Religious\_diversity_i) + \phi(Economic\_sanctions_i - Economic\_sanctions_i) + \theta(GTI_{it-1} - \theta GTI_{it-2}) + (\nu_{it} - \nu_{it-1}) \quad (4)$$

$$\Delta GTI_{it} = \beta \Delta Govt\_effectiveness_{it} + \delta \Delta GNI/PC_{it} + \lambda \Delta Gini\_index_{it} + \gamma(0) + \varphi(0) + \theta \Delta GTI_{it-1} + \Delta \nu_{it} \quad (5)$$

Clearly, opting for a difference GMM approach is not feasible, as it would result in the

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DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 10 (October) (2025)

exclusion of two important time-invariant variables: religious diversity and the dummy variable, the economic sanctions. Alternatively, we can consider employing the System GMM approach as suggested by (Roodman, 2009), which allows us the flexibility to include these time-invariant variables.

To ensure the robustness and reliability of the econometric results, the study applies a series of diagnostic tests specifically designed for dynamic panel data estimations. These tests assess endogeneity, serial correlation, and the overall validity of the chosen instruments, which are critical conditions for the consistency of the system GMM estimator (Arellano & Bover, 1995; Blundell & Bond, 1998; Roodman, 2009).

The Wu–Hausman test serves as a primary check for endogeneity. The test compares the estimates obtained from ordinary least squares (OLS) with those obtained from an instrumental variable (IV) estimator. If regressors are truly exogenous, both estimators should produce consistent results, although the OLS estimator is more efficient. The test statistic is expressed as:

$$H = \left(\hat{\beta}_{OLS} - \hat{\beta}_{IV}\right)' \left[\mathrm{Var}\left(\hat{\beta}_{IV}\right) - \mathrm{Var}\left(\hat{\beta}_{OLS}\right)\right]^{-1} \left(\hat{\beta}_{OLS} - \hat{\beta}_{IV}\right) \quad (6)$$

Under the null hypothesis of exogeneity:

$$H \sim \chi^2(k)$$

where “k” represents the number of regressors. A rejection of the null hypothesis implies that the regressors are endogenous, validating the use of an IV estimator such as GMM (Hausman, 1978). This test is particularly important in the context of terrorism studies, where variables such as governance quality and economic inequality may simultaneously influence and be influenced by terrorism itself, creating reverse causality (Dreher et al., 2010).

The Arellano–Bond test is employed to detect autocorrelation in the differenced residuals of the model. Since first-order serial correlation is expected as a mechanical consequence of differencing, the crucial condition for model validity is the absence of second-order serial correlation, which would indicate that instruments are correlated with the error term. The test statistic is given as:

$$m_k = \frac{\sum_{i=1}^{N} \sum_{t=k+2}^{T} \hat{v}_{it} \hat{v}_{i,t-k}}{\left(\sum_{i=1}^{N} \sum_{t=k+2}^{T} \hat{v}_{it}^2\right)^{1/2}}$$

where k=1,2. A significant result for AR(1) is expected, but the key condition is that AR(2) remains insignificant, which supports the validity of lagged variables as instruments (Arellano & Bond, 1991). Empirical studies applying system GMM in related fields also rely heavily on this test to validate instrument exogeneity (Holtz-Eakin et al., 1988; Bond, 2002).

The validity of instruments is further examined through the Sargan test of overidentifying restrictions. This test evaluates whether the instruments used are uncorrelated with the error term and correctly excluded from the estimated equation. The statistic is computed as:

$$J = \hat{u}^2 Z' \left(Z' \widehat{\Omega}\, Z\right)^{-1} Z' \widehat{U} \quad (9)$$

where Z is the instrument matrix, $\widehat{U}$ the residual vector, and Ω as a weighting matrix. The null hypothesis of this test is that the instruments are valid (Sargan, 1958). Thus, failure to reject the null would support the chosen instruments. In the presence of

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 10 (October) (2025)

heteroskedasticity, the Hansen J-test would then be considered as a robust alternative, as it provides consistent results when the assumption of homoscedastic errors is violated (Hansen, 1982).

These tests together provide an overall assessment of whether the dynamic panel specification is correctly identified and whether the instruments used are relevant and valid. Therefore, as long as the chosen instruments pass the diagnostic tests, the system GMM estimator will provide consistent and unbiased estimates, allowing inference regarding the association of governance, inequality, economic conditions, religious diversity, and international sanctions, with terrorism outcomes. Evidence from the Wu–Hausman test, the Arellano–Bond test, and the Sargan/Hansen tests provides a comprehensive diagnostic method that adds robustness to the findings in the study. Together these tests address potential concerns around endogeneity, serial correlation, and instruments, confirming that the methodological choices of this study are suitable for the complexities of terrorism research in a multi-country panel context.

To summarize, the methodological framework of this study includes a comprehensive panel dataset, meticulously constructed variables, and robust econometric methods to analyze the determinants of terrorism. The use of system GMM and the results being subjected to rigorous diagnostic checks ensures that potential endogeneity is accounted for and credible conclusions can be drawn from the findings. By incorporating economic, institutional, social, and international factors into one empirical model, the researcher can conceive the multidimensional understanding of terrorism that is made possible by the methodology, making this approach suitable for the research questions.

Results and Discussions

The empirical analysis begins with a descriptive overview of the variables used in the study, followed by diagnostic tests and the estimation of the dynamic panel model using system GMM. This approach ensures that the results are consistent, robust, and in line with the econometric strategy outlined in the methodology. Table 3 shows the Descriptive statistics of variables used in the study.

Table 3: Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
GTI	4.727	2.682	0.000	9.213
Govt eff	0-.655	0.751	-2.447	1.648
GNI pc	0.942	8.437	-52.79	27.17
Gini index	33.415	7.012	24.00	50.30
RG div	2.594	1.729	0.100	5.600

Referring to the table 4, the mean value of Global terrorism index is 4.727 having a minimum of zero and maximum of 9.213. Belarus and Bhutan are the countries having a zero score of GTI in most of the time frame being under consideration of the study. Likewise, the maximum value of 9.213 is the worst possible score of in the panel secured by Pakistan in 2011. In 2011, terrorist activities have spoiled the image even more destructively and the incidents like the suicide attack on Frontier corps when the then US vice president Joe Biden arrived in Islamabad, US air strike killing al Qaida leader Osama bin Laden in Abbottabad and many others were carried out in the same period. Government effectiveness lies in the range of -2.447 and 1.648 for the panel under observation. The mean government effectiveness is -0.655 which implies that the average score of the panel is not too good regarding government effectiveness. The worst possible score is that of Somalia back in 2014 having a score of -2.447 which also

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 10 (October) (2025)

exposes the real face of government effectiveness in Somalia. The best record keeping country in the context of government effectiveness is Bhutan having the highest score of 1.648 back in 2020. Per capita growth in percentage GNI has a mean value of 0.94. A massive maximum of 27.17% has been recorded in Syria back in 2020 after a continuous fall in their GNI per capita drastically in the preceding years. The substantial minimum of GNI per capita growth is also observed in the Syrian Arab Republic back in 2014 when the Bashar al-Assad leaded republic acted as a battlefield for the global powers.

Gini index has a maximum value of 50.3 indicating a higher level of income inequality secured by Zimbabwe in 2019 followed by a minimum of 24 secured by Ukraine in 2014. Countries like India, Turkey and Burundi have a dismal track record in income inequality while countries including Belarus and Ukraine are relatively better in this regard. Religious diversity is maximum in Sri Lanka that has an index score of 5.6. Belarus, Kazakhstan, and Russian federation have also a relatively greater degree of diversity. The least religious diverged countries are Iran and Somalia having RDI score of 0.1, where the religion Islam is completely dominating. Other countries having a lesser diversity of religion are Pakistan, Turkey, and Tajikistan. The dummy variable, Economic sanction lies between 0 and 1 as it is a qualitative variable having two possible outcomes. Dummy equal to 0 means no restriction and dummy equal to 1 infers certain economic restrictions are imposed on a country in the taken time.

Before proceeding to estimation, potential econometric concerns were examined. Table 4 shows the Variance Inflation Factor (VIF) results confirm that multicollinearity is not a problem in the model, with a mean VIF of 1.334, well below the conventional threshold of 10 (Gujarati, 2009; Asteriou & Hall, 2011). This indicates that explanatory variables are sufficiently independent to allow reliable estimation.

Table 4: Variance Inflation Factor

Variables	VIF
GC	1.483
RD	1.455
GE	1.35
ES	1.243
GNI	1.139
Mean VIF	**1.334**

Endogeneity concerns were addressed through the Durbin–Wu–Hausman (DWH) test, which is widely regarded as one of the most reliable diagnostics for detecting endogenous regressors in panel data analysis (Hausman, 1978; Wooldridge, 2010). In this study, the probabilities reported for both the Durbin (0.0014) and Wu–Hausman (0.0015) statistics strongly reject the null hypothesis of exogeneity, thereby justifying the use of dynamic estimation methods such as the Generalized Method of Moments (GMM) rather than relying on static panel estimators like fixed effects or random effects. This rejection indicates that the regressors are not strictly exogenous and that conventional estimators would likely suffer from bias and inconsistency (Baum, Schaffer, & Stillman, 2003).

Table 5: Durbin Wu-Hausman test for endogeneity

Statistic	Prob
Durbin	0.0014

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 10 (October) (2025)

Wu-Hausman	0.0015

The validity of the chosen instruments was assessed with the Sargan test of overidentifying restrictions, a standard diagnostic in GMM applications (Sargan, 1958; Hansen, 1982). The reported chi-square statistic of 30.64 with a probability value of 0.132 exceeds the conventional significance threshold of 0.05, implying that the null hypothesis of instrument validity cannot be rejected. This result indicates that the instruments are both valid and uncorrelated with the error term, thus ensuring the reliability of the GMM estimator in this context (Roodman, 2009).

Table 6: Sargan Test of over identification

Chi-square	Chi-square Prob
30.64	0.132

Further robustness checks were conducted through the Arellano–Bond tests for autocorrelation, which are essential to validate dynamic panel models (Arellano & Bond, 1991). As expected, the test for first-order autocorrelation [AR(1)] in first differences is statistically insignificant, while the test for second-order autocorrelation [AR(2)] also shows no evidence of serial correlation, with p-values of 0.310 and 0.315 respectively. These findings are consistent with theoretical expectations, as the presence of AR(1) is typical in differenced equations, while the absence of AR(2) is critical to guarantee the consistency of the system GMM estimator (Baltagi, 2021).

Table 7: Arellano-Bond test for autocorrelation

	Z-Stat	p-value
Arellano-Bond test for AR(1) in first differences	-1.02	0.310
Arellano-Bond test for AR(2) in first differences	-1.00	0.315

The GMM estimation results provide important insights into the determinants of terrorism. Using two step GMM, from the table 9, it has been estimated that current terrorism is a positive function of its lag value, backing up the findings of Kennedy and Sherley (2006) and Silke (2005). Kennedy and Sherley (2006) have explored the relationship between contemporary terrorism and the subsequent military interventions by the state, concluding that such military interventions will raise terrorism in the near future and hence there exists a strong positive causal linkage between current terrorism and lag terrorism. Consistent with these findings, the given analyses disclose a notably strong and statistically significant relationship between present-day and lagged terrorism. This can be attributed to the counterproductive nature of responses to terrorist attacks. These Military operations cause collateral damage, which further suffers innocent civilians and contributes to an overall escalation in terrorism and violence. Estimation results further suggest that the Gini index has shown a positive and statistically significant linkage with terrorism, backing up the findings of (Kevin, 2005) and (Ehrlich and Liu, 2002). As Gini index rises, economy approaches towards unequal distribution of resources and thus causing a surge in terrorist activities. A single index rise in Gini coefficient is associated with 0.029 index points rise in terrorism and this impact is statistically significant at 1% alpha value. Various cross countries analyses argue that economic inequality is related to extra terrorist attacks. Referring to “Gini index

ISSN Online: 3007-3154
ISSN Print: 3007-3146

Vol. 3 No. 10 (October) (2025)

explained and Gini coefficient around the world" by (Hayes, 2022), it is evident that most of the African and South American economies have relatively higher values of gini index, and most of the African continent is in a viscous trap of enormous terrorism. The results further affirm a negative relationship between GNI per capita growth and GTI, and the impact is highly significant. As GNI per capita growth rises, poverty falls and terrorism declines supporting the findings of (Ghulam et al, 2013). A 1% rise in GNI per capita is associated with a 0.027 index point fall in terrorism. Greater expectations regarding public and private goods cause political violence more likely, (Gurr, 2017). It is a prevalent aspect of human psychology that individuals are more exposed to contemplating extremism when they experience deprivation and fail to fulfill their basic life needs. A challenging economic situation amplifies the likelihood of political extremism, fostering civil unrest and uncertainty. This trend is also backed by the negative sign of GNI per Capita growth in the given estimation analysis. Greater the religious diversity, lesser is the degree of terrorism baking up the findings of (Feldman and Ruffle, 2008). It implies that countries with greater diversification of religions (Kazakhstan, Belarus, Bhutan, Russian Federation and Sri Lanka) are less exposed to the curse of terrorism as compared to the countries having less religious diversification (Iran, Pakistan, Somalia, and Turkey). A 1 index point rise in the diversification of religions is associated with 0.116 index points fall in terrorism and the impact is significant at 1% level of alpha. As discussed earlier, Iran, Pakistan, Somalia, Tajikistan, and Turkey have a lesser value of RD implies that these countries have a very lesser religious diversity dominating Islam as the most prominent religion in these countries. Belarus, Bhutan, India, Kazakhstan, Russian Federation and Sri Lanka have a considerably higher RDI scores inferring that these nations have a greater religious diversification. From the results, it can be easily commented that terrorism is more prominently prevailing in the countries with lesser RD values.

Taking countries upon which economic sanctions are not imposed as our base category, the countries upon which the economic restrictions are imposed have shown less terrorism as compared to the countries upon which there imposed no economic restrictions supporting the findings of (Wang et al 2022) opposing the findings of (Altmann and Giersch, 2021). Countries upon which economic sanctions are not imposed and in the absence of other explanatory variables, have a 0.015 index points terrorism which after imposing economic sanctions lowered to -0.308 index points [(0.015) + (-0.323)]. In a nutshell, economically sanctioned countries are less exposed to terrorism by 0.323 points than countries upon which economic sanctions are not imposed. As discussed in the literature review, that economic sanctions can enforce terrorism in either way. Some of the researchers were of the view that these sanctions can surge terrorism by promoting economic hardships and other were not convinced by this claim. The opponents' findings were based on the case study of Iran where economic sanctions were playing role in reducing terrorism. The results in the table also support the findings of the later ones. Government effectiveness is slightly concerned with terrorism in the selected sample as it is insignificantly affecting terrorism, backing up the findings of (Newman, 2007) and (Hehir, 2007). If the value of government effectiveness index rises, the intensity of terrorism fell. Based on the findings each index point rise in government effectiveness is associated with a 0.018 index point fall in terrorism. Following up the approach of (Newman, 2007), failure of the state is not a sufficient root of terrorism although a weaker and a relatively failed state could provide a favorable environment for terror groups to operate easily.

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 10 (October) (2025)

Table 8: Generalized Method of Moment Estimation:

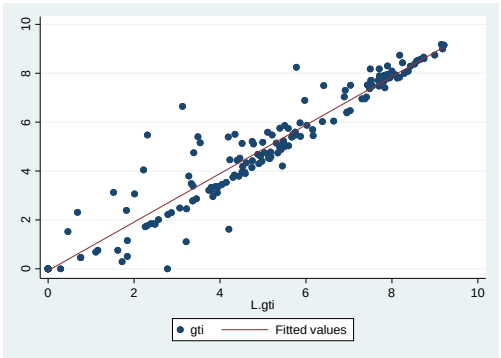
Variable	Coefficient	Std. Error.	t-value	p-value
L.GTI	0.847***	0.021	40.23	< 0.01
GC	0.029***	0.010	2.91	< 0.01
GNI	-0.027***	0.001	-31.09	< 0.01
GE	-0.018	0.082	-0.22	< 0.01
RD	-0.116***	0.036	-3.17	< 0.01
ES	-0.323***	0.048	-6.68	< 0.01
Constant	0.115***	0.024	4.791	< 0.01

*, **, *** represent levels of significance at 10%, 5% and 1%.

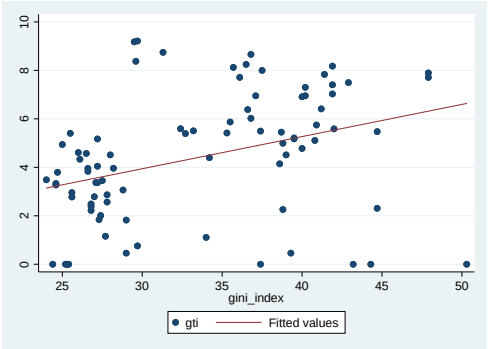
The graphical evidence presented in the line plots further illustrates the relationships between terrorism and its key determinants. The strong persistence of terrorism across time, the positive linkage with inequality, and the negative associations with growth and religious diversity are visually confirmed. These patterns reinforce the regression findings and offer a more intuitive representation of the underlying dynamics.

Overall, the results suggest that terrorism is shaped by a combination of persistent conflict dynamics, economic inequality, developmental constraints, and social structures such as religious diversity. Sanctions also emerge as a policy tool with potentially unintended but beneficial side effects in curbing terrorism, though the context-specific nature of such effects warrants caution. The findings highlight the multidimensionality of terrorism and suggest that effective counterterrorism strategies must address not only immediate security threats but also deeper economic and social inequalities.

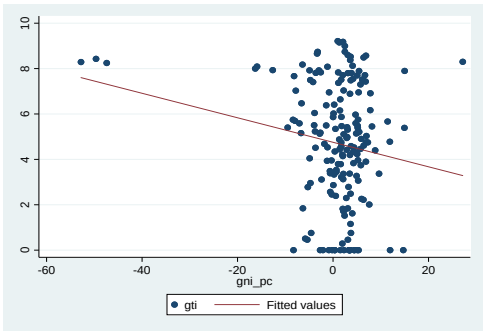
Figure 1: Line Graphs of Global Terrorism Index (GTI) and Explanatory Variables



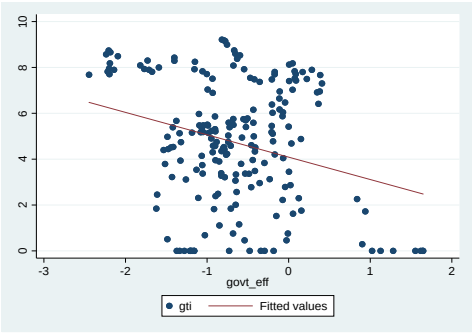
a) GTI_{t-1}



b) Gini Index



c) GNI per Capita



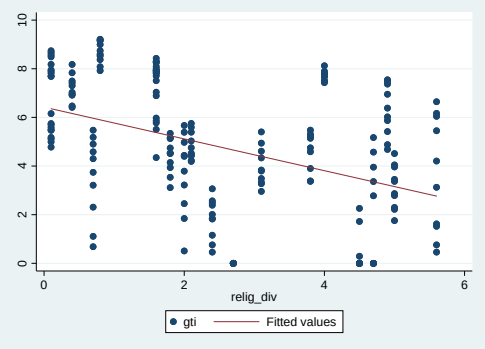
d) Government Effectiveness

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 10 (October) (2025)



e) Religious Diversity

Conclusions and Policy Recommendations

In the concluding remarks, it can be stated that lag terrorism significantly impacts current terrorism. Past terrorism has a considerable influence on current levels of terrorism, and counter-terrorism measures can lead to retaliatory actions and a rise in future terrorism. The analysis shows that economic sanctions can reduce terrorism, as seen in Pakistan, where such measures led to success in countering terrorism. Religious diversity plays a crucial role in determining terrorism, with countries like Russia, Belarus, Sri Lanka, and Bhutan having greater religious diversity and lower terrorism impact. In contrast, countries like Iran, Pakistan, and Somalia with less diversity experience higher terrorism levels. The findings also highlight the inverse relationship between income per capita and terrorism, where higher income leads to reduced terrorism. Income inequality is positively linked to terrorism, as it creates a sense of deprivation among the masses, leading to rebellion and terrorism in less developed nations.

Based on the limited analysis, it has been recommended that:

For countering terrorism effectively, it is necessary to find and identify the actual cause of intervention and these interventions should be specific and well directed. Any miscalculated measure could rise terrorism, and an unintended terrorism spiral can be started.

Comprehensive and well directed actions against globally declared terrorist organizations is the need of the day and if not taken seriously, it could lead towards many punitive and unintended consequences in the form of economic sanctions costing severe economic loss.

Last , but not least, there should be as lesser income differences as possible among general masses. Lower-income people should be provided with more earning opportunities to reduce their sense of deprivations and should be supported by the state as well as the private sector of the society to help them in getting out of the viscous cycle of poverty trap.

Terrorism is a vast phenomenon mainly caused by different political, social, religious, and cultural determinants. This study has tried to explain this phenomenon in the light of these main five roots which have a space of extension. Other roots can also be taken into consideration including ethnic differences, educational differences, and even the power structure in a country. Further this study has only considered economic sanctions as a time invariant phenomena, which can vary across the time also. Research could explore these dynamics by including longitudinal data and examining the contextual factors that influence the impact of sanctions which implies that future research could examine the multidimensional effects of sanctions on countries and their populations.

ISSN Online: 3007-3154
ISSN Print: 3007-3146

Vol. 3 No. 10 (October) (2025)

References

Abadie, A. (2006). Poverty, political freedom, and the roots of terrorism. American Economic Review, 96(2), 50–56. https://doi.org/10.1257/000282806777211847

Abbas, S. A., & Syed, S. H. (2021). Sectarian terrorism in Pakistan: Causes, impact, and remedies. Journal of Policy Modeling, 43(2), 350-361.

Abbot Kenneth, W. (1987). Economic Sanctions and International Terrorism.

Ajide, K. B., & Raheem, I. D. (2020). Does democracy really fuel terrorism in Africa? International Economic Journal, 34(2), 297-316.

Akhmat, G., Zaman, K., Shukui, T., & Sajjad, F. (2014). Exploring the root causes of terrorism in South Asia: everybody should be concerned. Quality & Quantity, 48(6), 3065-3079.

Alesina, A., Devleeschauwer, A., Easterly, W., Kurlat, S., & Wacziarg, R. (2003). Fractionalization. Journal of Economic Growth, 8(2), 155–194. https://doi.org/10.1023/A:1024471506938

Altmann, T., & Giersch, J. (2022). Sanctioned terror: economic sanctions and more effective terrorism. International Politics, 59(2), 383-397.

Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. Review of Economic Studies, 58(2), 277–297. https://doi.org/10.2307/2297968

Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. Journal of Econometrics, 68(1), 29–51. https://doi.org/10.1016/0304-4076(94)01642-D

Asteriou, D & Hall, G.S. (2011) Applied Econometrics. 2nd edition, Palgrave Macmillan.

Baltagi, B. H. (2005). Econometric analysis of panel data (3rd ed.). John Wiley & Sons.

Baltagi, B. H. (2021). Econometric analysis of panel data (6th ed.). Springer.

Baum, C. F., Schaffer, M. E., & Stillman, S. (2003). Instrumental variables and GMM: Estimation and testing. Stata Journal, 3(1), 1–31. https://doi.org/10.1177/1536867X0300300101

Bird, G., Blomberg, S. B., & Hess, G. D. (2008). International terrorism: Causes, consequences, and cures. World Economy, 31(2), 255-274.

Blomberg, S. B., & Hess, G. D. (2008). The Lexus and the olive branch: Globalization, democratization, and terrorism. In P. Keefer & N. Loayza (Eds.), Terrorism, economic development, and political openness (pp. 116–147). Cambridge University Press. https://doi.org/10.1017/CBO9780511754420.006

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. Journal of Econometrics, 87(1), 115–143. https://doi.org/10.1016/S0304-4076(98)00009-8

Bond, S. (2002). Dynamic panel data models: A guide to micro data methods and practice. Portuguese Economic Journal, 1(2), 141–162. https://doi.org/10.1007/s10258-002-0009-9

Boylan, B. M. (2010). Economic development, religion, and the conditions for domestic terrorism. Britannica.com.

Campos, N. F., & Gassebner, M. (2013). International terrorism, domestic political instability, and the escalation effect. Economics & Politics, 25(1), 27-47.

Caruso, R., & Schneider, F. (2011). The socio-economic determinants of terrorism and political violence in Western Europe (1994–2007). European Journal of Political Economy, 27, S37-S49.

ISSN Online: 3007-3154
ISSN Print: 3007-3146

Vol. 3 No. 10 (October) (2025)

Choi, S. W., & Luo, S. (2013). Economic sanctions, poverty, and international terrorism: An empirical analysis. International Interactions, 39(2), 217-245.

Dreher, A., Gassebner, M., & Siemers, L.-H. R. (2010). Does terror threaten human capital formation? Evidence from schooling in 110 countries. Economics Letters, 107(3), 315–317. https://doi.org/10.1016/j.econlet.2010.02.008

Ehrlich, P. R., & Liu, J. (2002). Some roots of terrorism. Population and environment, 24(2), 183-192.

Felbermayr, G., Kirilakha, A., Syropoulos, C., Yalcin, E., & Yotov, Y. V. (2020). The global sanctions data base. European Economic Review, 129, 103561. https://doi.org/10.1016/j.euroecorev.2020.103561

Feldman, N. E., & Ruffle, B. J. (2008). Religious terrorism: A cross-country analysis. In P. Keefer & N. Loayza (Eds.), Terrorism, economic development, and political openness (pp. 193–228). Cambridge University Press.

Freytag, A., Krüger, J. J., Meierrieks, D., & Schneider, F. (2011). The origins of terrorism: Cross-country estimates of socio-economic determinants of terrorism. European Journal of Political Economy, 27(S1), S5–S16. https://doi.org/10.1016/j.ejpoleco.2011.06.009

Ghulam, Y., Hafeez, A., & Ullah, M. I. (2014). Income inequality and terrorism: A case study of Pakistan. Pakistan Journal of Social Sciences, 34(2), 637–650.

Goldman, S. O., & Noy, S. (2022). The size of terror organizations: poverty and economic inequality as mobilizing forces. Studies in Conflict & Terrorism, 45(10), 843-861.

Goldstein, K. B. (2005). Unemployment, inequality, and terrorism: Another look at the relationship between economics and terrorism. Undergraduate Economic Review, 1(1), 6.

Gujarati, D. N., & Porter, D. C. (2009). Basic econometrics (5th ed.). McGraw-Hill.

Gujarati, D.N. (2009) Basic Econometrics. 4th Edition, McGraw-Hill Companies.

Gurr, T. R. (2017). Sources of rebellion in Western societies: Some quantitative evidence. In Collective violence (pp. 132-148). Routledge.

Hansen, L. P. (1982). Large sample properties of generalized method of moments estimators. Econometrica, 50(4), 1029–1054. https://doi.org/10.2307/1912775

Hausman, J. A. (1978). Specification tests in econometrics. Econometrica, 46(6), 1251–1271. https://doi.org/10.2307/1913827

Hayes, A. (2022). Gini index explained and Gini coefficient around the world. Investopedia. Retrieved from https://www.investopedia.com Hayes, A. (2022). Gini Index.

Hehir, A. (2007). Humanitarian intervention after Kosovo: Iraq, Darfur and the record of global civil society. Palgrave Macmillan.

Hehir, A. (2007). The myth of the failed state and the war on terror: A challenge to conventional wisdom. Journal of intervention and statebuilding, 1(3), 307-332.

Hendrix, C. S., & Young, J. K. (2014). State capacity and terrorism: A two-dimensional approach. Security Studies, 23(2), 329-363.

Holtz-Eakin, D., Newey, W., & Rosen, H. S. (1988). Estimating vector autoregressions with panel data. Econometrica, 56(6), 1371–1395. https://doi.org/10.2307/1913103

https://datatopics.worldbank.org/world-development-indicators//themes/poverty-and-inequality.html.

https://www.pewresearch.org/

https://www.thebalance.com/

Institute for Economics and Peace (IEP). (2023). Global Terrorism Index 2023:

ISSN Online: 3007-3154
ISSN Print: 3007-3146

Vol. 3 No. 10 (October) (2025)

Measuring the impact of terrorism. Sydney, Australia. https://www.visionofhumanity.org

Kaufmann, D., Kraay, A., & Mastruzzi, M. (2010). The worldwide governance indicators: Methodology and analytical issues. World Bank Policy Research Working Paper 5430.

Kennedy, D. M., & Sherley, A. J. (2006). Countering terrorism through military intervention: Evidence from Iraq. International Security, 30(4), 84–112.

Kevin, J. (2005). Poverty and terrorism: A cross-country analysis. Journal of Peace Research, 42(2), 131–150.

Kirisci, M. (2020). Fighting for survival: responding to state capacity and terror group end. Critical Studies on Terrorism, 13(2), 312-336.

Krieger, T., & Meierrieks, D. (2010). Terrorism in the worlds of welfare capitalism. Journal of Conflict Resolution, 54(6), 902-939.

Krieger, T., & Meierrieks, D. (2011). What causes terrorism? Public Choice, 147(1–2), 3–27. https://doi.org/10.1007/s11127-010-9601-1

Krieger, T., & Meierrieks, D. (2019). Income inequality and terrorism: An economic perspective. Journal of Economic Surveys, 33(2), 614–643. https://doi.org/10.1111/joes.12280

Krieger, T., & Meierrieks, D. (2019). Income inequality, redistribution, and domestic terrorism. World Development, 116, 125-136.

Kutner, M. H., Nachtsheim, C. J., Neter, J., & Li, W. (2005). Applied linear statistical models (5th ed.). McGraw-Hill Irwin.

Lum, C., Kennedy, L. W., & Sherley, A. (2006). Are counter-terrorism strategies effective? The results of the Campbell systematic review on counter-terrorism evaluation research. Journal of Experimental Criminology, 2(4), 489-516.

Manokha, I. (2008). Al-Qaeda terrorism and global poverty: new social banditry. Journal of Global Ethics, 4(2), 95-105.

Michael, M. (2007). Violence and terrorism: Conceptual frameworks. Journal of Political Studies, 14(1), 15–29.

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

Nabin, M. H., Chowdhury, M. T. H., Bhattacharya, S., & Sgro, P. M. (2022). Terrorism and uneven economic development. Economic Modelling, 105870.

Nabin, M., Khan, M., & Uddin, M. (2022). Income inequality and terrorism: Evidence from South Asia. International Journal of Social Economics, 49(5), 657–673. https://doi.org/10.1108/IJSE-03-2021-0146

Newman, E. (2006). Exploring the “root causes” of terrorism. Studies in Conflict & Terrorism, 29(8), 749–772. https://doi.org/10.1080/10576100600704069

Newman, E. (2006). Exploring the “root causes” of terrorism. Studies in Conflict & Terrorism, 29(8), 749-772.

Newman, E. (2007). Weak states, state failure, and terrorism. Terrorism and Political Violence, 19(4), 463–488. https://doi.org/10.1080/09546550701590636

Noor, M., Khan, D., Khan, A., & Rasheed, N. (2024). The impact of renewable and non-renewable energy on sustainable development in South Asia. Environment, Development and Sustainability, 26(6), 14621-14638.

Paul, C. R., & Jianguo, L. (2002). Poverty, inequality, and terrorism. World Development, 30(2), 263–280. https://doi.org/10.1016/S0305-750X(01)00120-9

Piazza, J. A. (2006). Rooted in poverty?: Terrorism, poor economic development,

ISSN Online: 3007-3154
ISSN Print: 3007-3146

and social cleavages. Terrorism and political Violence, 18(1), 159-177.

Piazza, J. A. (2008). A supply-side view of suicide terrorism: A cross-national study. The Journal of Politics, 70(1), 28-39.

Piazza, J. A. (2008). Do democracy and free markets protect us from terrorism? International Politics, 45(1), 72–91. https://doi.org/10.1057/palgrave.ip.8800217

Rasheed, N., Khan, D., & Khan, A. (2025). Socio-Economic Drivers of Sustainable Consumption Behaviour in Rural and Urban Areas: A Partial Least Squares Multi-Group Analysis. Journal of Asian Development Studies, 14(3), 323-340.

Rasheed, N., Khan, D., & Magda, R. (2022). The influence of institutional quality on environmental efficiency of energy consumption in BRICS countries. Frontiers in Energy Research, 10, 943771.

Roodman, D. (2009). A note on the theme of too many instruments. Oxford Bulletin of Economics and Statistics, 71(1), 135–158. https://doi.org/10.1111/j.1468-0084.2008.00542.x

Roodman, D. (2009). How to do xtabond2: An introduction to difference and system in Stata. The stata journal, 9(1), 86-136.

Sajid, M., Ali, A., Ahmad, S., Shil, N. C., & Arshad, I. (2024). Global and domestic drivers of inflation: evidence from select South Asian countries. Journal of Economic and Administrative Sciences, https://doi.org/10.1108/JEAS-05-2023-0110

Sale, H. A. (2020). Unintended Consequences? The Impact of Targeted Economic Sanctions on International Terrorism.

Sargan, J. D. (1958). The estimation of economic relationships using instrumental variables. Econometrica, 26(3), 393–415. https://doi.org/10.2307/1907619

Schumacher, M. J., & Schraeder, P. J. (2021). Does domestic political instability foster terrorism? Global evidence from the Arab Spring Era (2011–14). Studies in Conflict & Terrorism, 44(3), 198-222.

Seung-Whan, C., & Shali, L. (2013). Sanctions and terrorism: Economic constraints and political violence. International Interactions, 39(2), 159–185. https://doi.org/10.1080/03050629.2013.768480

Silke, A. (2005). Fire of Iolaus: The role of state counter-terrorism in generating new terror. In T. Bjørgo (Ed.), Root causes of terrorism: Myths, reality and ways forward (pp. 241–255). Routledge.

Solt, F. (2016). The standardized world income inequality database. Social Science Quarterly, 97(5), 1267–1281. https://doi.org/10.1111/ssqu.12295

Sun, Y., & Luo, M. (2022). Impacts of terrorist events on tourism development: Evidence from Asia. Journal of Hospitality & Tourism Research, 46(4), 696-723.

Sun, Y., Liu, H., & Xu, J. (2022). Poverty and terrorism: A panel data analysis. Defence and Peace Economics, 33(2), 175–195. https://doi.org/10.1080/10242694.2020.1756817

Todaro, M. P., & Smith, S. C. (2017). Economic development (12th ed.). Pearson.

Todaro, P.M & Smith, C.S. (2017) Economic Development. Pearson India Education Services.

Wang, T., Xu, J., & Yang, L. (2022). Do economic sanctions reduce terrorism? Evidence from panel data. Journal of Peace Research, 59(6), 812–828. https://doi.org/10.1177/00223433221089494

Wang, Y., Shen, Y., & Han, Z. (2022). Economic sanctions and state-sponsored terrorism: the case of Iran. Israel Affairs, 28(5), 645-660.

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Vol. 3 No. 10 (October) (2025)

Wooldridge, J. M. (2010). Econometric analysis of cross section and panel data (2nd ed.). MIT Press.

World Bank. (2023). World development indicators. World Bank. https://databank.worldbank.org/source/world-development-indicators.