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Impact of Terrorism on International Tourism Demand

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Abstract: Tourists seek safe and secure destinations and avoid that of overwhelmed by terrorism. This study quantifies the relationship between terrorism and international tourism demand in 200 destination countries and regions for the period of 1995 to 2020. To achieve the objective, the study implied two-dimensional analyses by using the gravity model through Pooled ordinary least square estimator to pay special attention to demand distribution. Our empirical results depict that, terrorism and terrorism in a destination country have a statistically insignificant relationship on international tourism demand, more specifically, the here radical decline in GDP was observed in the sub-period 2006 – 2020 due to the global financial crisis and its aftershocks which badly affects tourist's attraction to destination countries. This study pinpoints new insights for national tourism policymakers and business purposes.

Keywords: Tourism; Terrorism; Gravity Model; POLS regression.

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1. Introduction

Tourist safety and security risks have remained substantial issues for a long. Hence, personal security was observed as one of the critical, unavoidable, and alarming situations for tourists. As argued by Buckley & Klemm (1993), tourist insecurity and fear are key obstacles to global tourism as steadily increasing terrorist incidents worldwide. Tourists avoid destinations that have been overwhelmed by terrorism. According to Mansfeld & Pizam's (2006) research, the tourism industry is widely recognized as a significant global issue for countries of origin. As Chronicled by Agnew (2010), Terrorism is a systematic and consistent plan experienced by the state, social or political group against each other by the means of movement of violence resulting in the assassination, usage of explosives, murder, killing, hijacking, and disruption, to create a fear of terror in the state. Terrorism and tourism are determining factors to each other, the massive impact of terrorism has been observed on tourist destinations. On average, approximately 21,000 individuals are impacted annually due to acts of violence or related threats. In 2014 worldwide terrorism losses were observed 44,000 deaths compared to 2010 which were only 8000. However, an enormous death ratio was observed in 2017 which is about 95% experienced in the Middle East, South Asia, and Africa. Economic success is badly affected by the threatening power of terrorism which left an adverse impact on tourist destinations and the personal safety of tourists. Past studies from the literature ascertain dramatically declining tourist arrival the worldwide tourist's arrival so for the insecure risky environment in the destination country. According to International Air Transport Association (2011), The 9/11 attacks kept a

bequest for international tourism, While, several years passed away but this catastrophe consistently affected international tourism by imposing extra security checks and unusual visa handling procedures which thoroughly changed people's psyche. After the 2011 attacks, international arrivals declined by about 8.5% and remained stuck till three years more to reach the previous level (World Bank, 2016). International flights and their revenue generation were reduced by 2.7% to 6.7% correspondingly (International Air Transport Association, 2011). Subsequently, consistency has yet to be observed in terror attacks. As earlier, more than 40 people were killed and about 300 people injured in a blast at Ataturk international airport Istanbul on 28th June 2016, in which 13 foreigners died, belonging to Saudi Arabia, Jordan, Ukraine, China, Iran, Iraq, Uzbekistan, and Tunisia (The Goldman, 2016). In December 2016 the terrorist attacks in Paris left an adverse impact on international tourism, resulting European tourism industry declining its revenue from €800 to €1 billion (Bremner, 2015; Morris, 2015). Similarly, Khan and Ruiz Estrada (2015) chronicled that, the sudden rise of ISIS in Syria and Iraq has created resilient fear and uncertainty throughout the entire globe. Most studies pinpointed that terror incidents are caused by obtaining social or political goals through violent acts and rising fear. This is because of keeping in the course the political and social objective, which make it varied from criminal acts. Terror acts may be intrinsic or extrinsic with a strong division (Enders et al, 2011). Public well-being is having an adverse impact due to terrorism (Schmid and Muldoon, 2015). Consequently, the psychological effect remains for a longer period (Wessely, 2013). Seddighi et al (2001); Lin et al. (2017), terrorism has a destabilizing effect on politics, leading to a gradual decrease in tourist arrivals. Many studies observed the insignificant effect of terrorism, on tourism relationships (Gamage et al., 2017; Baker, 2014; Muckley, 2010). In past years, few studies identified Terrorism as a political instrument. In the 90s terror, incidents increased globally, resulting in about 85% of attacks and 95% of deaths accounted in MENA countries, some South Asian and African regions were also affected, and the 2nd wave of terror was observed in Afghanistan, Pakistan, and India which was mostly related to native political ends, where 7% of all outbreaks and 2% deaths were reported (Global Terrorism Index, 2016). Although various research investigations are being conducted to check the impact of terrorism on tourism, the significance of the study is still up-healed (Arana & Leon, 2008). Similarly, many research practitioners have shepherded studies on terrorism tourism influence and terror acts on various destinations, correspondingly 9/11 attacks in the USA (Goodrich, 2002), in Nepal attacks (Bhattarai, Conway and Shretha, 2005), 2011 attacks in Oslo, massacres (Wolf and Larsen, 2014), in 2015, Paris attacks (Bremner, 2015; Morris, 2015, in 2015, Khan and Ruiz Estrada (2015) ISIS emergence in Syria and Iraq in 2015 and Turkish attacks in 2016 (The Goldman, 2016). These research investigations are after factual studies, but the current study goes beyond this approach. This study aims to evaluate the impact of terrorism on international tourism demand for 200 destination countries from 1995 to 2020 where data is divided into sub-groups and sub-periods to capture the impact before and after the financial crises era during the period under review. Terrorism is measured by using the National Consortium for the Study of Terrorism and Responses to Terrorism (2020) through world governance indicators (2020), so terrorism is measured by terror attacks as a proxy of terrorism with victims (fatalities) per 10,000 inhabitants as to capture the trends and changes in terror attacks throughout the entire globe. This study precedes a broad global perspective rather than a small sample size quantitative research approach to evaluate and examine the relationship between terrorism and tourism demand. The findings of this paper deliver valuable and beneficial information to policymakers, states, economists, and interested people to manage upcoming terror calamities and increase economic growth by creating a sustainable environment.

2. Literature Review

Nevertheless, terror attacks create stern effects on the tourism industry for both tourists arriving in countries as well as tourists. (Ryan, 1993). Agnew (2010) argued that

criminal operations by the people, those typically involved in brutal acts, target the general public as well as armed forces that aims to create a disruptive environment in the state and their affairs, social activities as well as religious dot. Although tourism is augmenting susceptibility to terrorism, it has a negative impact on the tourism of terrorism. According to Sonmez (1998) in comparison effect, it was found that, despite political instability, terror activities had rapid consequences on tourism demand resulting it left enduring signs on international tourism demand. Goodrich (2002) found that after the 9 / 11 attacks, there were sharp and continued decline effects observed in the tourism industry in the USA and tremendous deterioration observed in sales of travel, tourism, and hospitality, around about half of the sales declined. This adverse effect was not only observed in the US economy but left long-lasting effects on the world's tourism industry, correspondingly, Arana and Leon (2008) found that the German tourism industry also faced deterioration effect due to attacks on US economy even though, Germany is believed to be one of the safe and sound countries of the world. However, it was found that for sound tourism, tranquility, protection, and safety measures are very essential ingredients to promote attention to tourists and tourists' arrivals. Regardless of the above, Saha and Yap (2014) investigated the relationship between Terrorism and political turmoil checking the impact on tourism demand; it was found that terrorism against political turmoil has fewer effects on tourists. Rather than terrorism alone, political instability with terrorism creates disrupting effect. In the study of Yap and Saha (2014), they theorized that tourist attraction increases from low to moderate political risk nations. Similarly, Llorca-Vivero (2008) theorized that the impact of terrorism on tourism is particularly less in developed countries and more in developing countries by analyzing the 134 countries' data through an augmented gravity model (Rossello Nadal, J., & Santana Gallego, 2022; Zhang et al., 2022). Correspondingly, Goldman and Neubauer –Shani (2016) conceived that terrorism and international tourism demand have an inverse U relationship to each other while they sought to answer the question: Does international tourism affect transnational terrorism, which merely shows a significant relationship between tourists to destination countries and terror acts conditional that, both are non – native. The study conducted by Abbasi et al. (2022) revealed a noteworthy impact of political instability on the global tourism demand of 200 nations between 1995 and 2020. Nonetheless, according to Mansfeld & Pizam (2006), most repeated attacks create an adverse impact on tourism demand rather than less frequent terrorist attacks, as security risk increases along the chances of a negative impact on tourism demand will be larger. In some cases, media plays an exaggerated role, this un constructiveness insignificantly affects the tourist's arrivals and destruct the image of tourist destinations. In general, many pieces of literature are concerned with the impact of terrorism on tourism demand, most of the studies to this extent are descriptive, this particular research is pinpointed by the theory of international tourism demand model and evaluates the impact of terrorism on international tourism demand, This study applies pooled OLS regression through Gravity model to check the impact on tourism demand for collectively and separately for developing and developed countries while segregating the data through the period and sub-period level to check the different responses of tourism demand from different angles (Lin et al., 2022; Tong et al., 2022; Lopez et al., 2023).

3. Materials and Methods

To quantify the impact of terrorism on international tourist destinations, this data set consists of 200 destination countries and regions from 1995 to 2020. In this study, International tourism demand is measured by total tourist arrivals (Tou), which is a proxy of all tourist arrivals at destination countries to visit archaeological sites, Business, and other leisure activities. Past literature used tourist arrivals and tourist expenditure both in alternative forms for measuring tourism demand (Ouerfelli, 2008). In this paper, the study used a panel data set of 200 destination countries for the period of 26 years

from 1995 to 2020. This study excludes all those countries and regions from the analysis by which complete data is missing for affirmed period. In the sampling selection context, the study uses data from 200 destination countries respectively. All sorts of data and variables used in this study gotten from the source World Development Indicators (WDI, 2017), World Bank group (2017), United Nations World Tourism Organization (UNWTO, 2017), National Consortium for the Study of Terrorism and Responses to Terrorism (2017), World Governance Indicators (2017) Mitchell (2004) and data for terrorism are obtained from the Global Terrorism Database. Balli et al. (2015), define the gravity model to check the bilateral relationship among countries for selecting their destinations, so here study similar to Balli et al. (2015) used the gravity model to check the impact of terrorism on international tourism demand. This study also explored the chances of international tourists' responses to destination countries according to the attractiveness of the tourist destinations (Yap & Saha, 2013; Altindag, 2014). In this sense, we expect that terrorism has a smaller impact on tourism in destinations where some special attractions are pinpointed for tourists, hence, difficult to find a substitute for tourism. Consequently, we tried to break down the countries into two parts according to attractiveness in a large number of UNESCO World Heritage Sites and unattractiveness of tourists with no World Heritage Sites. Due to the distinct effects of developing and developed countries, here study spilled countries into two parts. The countries with higher HDI (Human Development Index) are denoted as developed countries, while the countries having lower HDI are denoted as developing countries.

Table 1. Data Sources.

Variable	Definition	Source
$LnTou_{ijt}$	Log of Tourist arrivals to the destination country from the origin country	UNWTO (2017)
$LnGDPpc_{jt}$	Log of Real GDP per capita of the destination country	The World Bank Group (2017)
$LnPop_{jt}$	Log of the population of the destination country	
$Rlaw_{jt}$	Rule of Law of the destination country	The World Bank Group. (2017)
Terrorism	Number of fatalities in terrorist attacks at the destination country	National Consortium for the Study of Terrorism and Responses to Terrorism (2017)
$VoiceAccount_{jt}$	Voice and Accountability at the destination country	Mitchell (2004)

[1] Authors Compilation.

The characteristic of interest is Terrorism ($Terrorism_{jt}$) which is measured by the number of fatalities in terrorist attacks at the destination country and the dependent variable is tourist arrivals (Tou), which is measured through the logarithm of total tourist arrivals at destination countries. To diminish the effect of omitted variable biases, the study suggested some control variables by adopting the multivariate method. This paper also estimates the fixed effect account through conditional quantile regression model panel quantile Regression estimation techniques have been employed. We shall also try to find out the importance of parameter heterogeneity using quantile regression approaches. Here Study uses an Econometric Model, & findings are estimated by pooled ordinary least-squares (POLS) and FE panel data regression model. Gravity Model widely spread model used in international trade that predicts bilateral trade flows based on economic and non-economic sizes with the remoteness between two countries. Similarly, (Anderson & Van Wincoop, 2003; McCallum, 1995; Rose, 2000), migration

(Gil-Pareja, Llorca, & Martínez, 2006; Karemera, Oguledo, & Davis, 2000) and foreign direct investment (Bergstrand & Egger, 2007; Eichengreen & Tong, 2007; Head & Ries, 2008) based on the basic gravity model by predicting economic and non - economic measurements on the flow of goods internationally. So the same was used in the transformational form as follows:

$$lnF_{IJ} = \beta + \alpha lnGDP_I + \lambda lnGDP_J + \xi lnDist_{IJ} + \epsilon_{IJ} \quad (1)$$

Where F_{IJ} denotes the international flow of goods between origin and destination countries, Gross domestic product is denoted by GDP, term Dist is used to estimate the distance between I and J countries; ϵ_{IJ} is the log-normal stochastic disturbance error term with $E(\epsilon_{IJ}) = 0 \; and \; \beta = \ln(B)$ and $B, \propto, \lambda \; and \; \xi$ are parameters to be estimated. Since it is a well-known fact that tourism is believed to be an unusual trade and the tourist flow was analyzed through the gravity model (Durden & Silberman, 1975; Gordon, 1973; Kliman, 1981; Malamud, 1973; Pyers, 2006; Quandt & Baumol, 2009; Wilson, 2007). Despite using GDP, several practitioners used population to determine the economic masses of the country. The major problem faced by the researchers in the gravity model was the lack of theoretical background during the preliminary stages. But at this stage Deardorff, 1998, different scholars linked the gravity model with Heckscher – Ohlin models that support enhancing returns and product differentiations in the dynamic and technological environment worldwide. The most attractive and most cited paper in this regard was proposed by Anderson and Van Wincoop (2003), where a well-structured gravity model is used that provides multivariate and bilateral trade confrontation with consistent and efficient estimates. In this study, we used the gravity model to check the impact of terrorism on international tourism demand by using the following equation.

$$lnTou_{ij} = \alpha + \beta_o lnGDP_i + \beta_j lnGDP_j + \beta_{ij} lnDist_{ij} + \epsilon_{ij} \quad (2)$$

Terrorism will be measured through OLS (Pooled regression model Where $lnTou_{ij}$ is a log of tourist arrival between the origin Country. Countries "I" to of destination Countries "J", α and β are the coefficients and ϵ_{ij} is a stochastic error term. As to analyze the total tourists' arrival to a destination country by using its destination country and year of arrival, the study uses a panel data set of 200 destination countries from 1995 to 2017 through straight forward linear regression technique to predict the demand for tourism.

$$lnTou_{it} = \alpha + \beta' cntr_{it} + \gamma' attacks_{it} + \delta_t + \epsilon_{it} \quad (3)$$

Here lnTou for tourism demand tends to measure the log of tourist arrivals at the destination country with a designated year. Panel fixed effect and year fixed effect are part of this model to confine the yearly fixed effect (δ_t) common for all countries. Variables in the above equation are used in two categories for this model, at the first category all control variables are used with the name ($cntr_{it}$), whereas, LnGDPpcit is employed as a proxy for income for the logarithm of real GDP per capita income, whereas, GDP is measured by taking entire economic activities within a boundary of the country. Lim (2006); Yap & Saha (2013), employed the logarithm of the population by controlling the size of the state or country, so in this connection, we have used LnPopit as a controlling variable for the size of the country for an ith period. Here study split the countries into two groups focusing on higher or lower Human Development Index (HDI). Whereas most studies used HDI values ranging between 0 to 1. The countries having HDI near 0 are considered as lower Human development countries, while the countries with HDI near 1 are treated in the High Human Development group and

others which are within the approximation of 0.5 and 0.8 are treated as medium Human development countries (Türe, 2013; Abbasi et al., 2022). The above two variables are acquired from the World Bank as the source of World Development Indicators (WDI, 2017). Furthermore, how the people of the state are likely to contribute and decide with their abilities to select the government, using their freedom of expression or freedom of association and freedom for media as well as the most important factor which is used as Voice Account and denoted to "voice and accountability". This variable is also obtained from the world bank through World Governance Indicators (2017). In our study, we employed this variable for the reason to check the effect of the sovereignty of the citizens and their rights and obligations. This variable is also used by Kaufman et al. (2007) and brought out in World Governance Indicators (WGI) by the World Bank. Through the WGI, this variable has covered a range between -2.5 to 2.5, whereas – 2.5 indicates the rank of the country in weak association and 2.5 indicates the strong association in the country by their ranking. The fourth control variable used in this study is Rlawjt, denoted to Rule of law is a world governance indicator used by the World Bank Group, it controls the degree to which citizens are legally bound to obey the rules of the state and the likelihood of misdeed brutality. The empowerment and control of law in society, Rule of Law especially employed all the persons are subject to the law Moreover, the measurement scales of this WGI indicator ranging in between – 2.5 to 2.5 according to the World Bank group. Where - 2.5 means, there is weak control over the rules and regulations whereas 2.5 indicates strong control over rules and laws by measuring the quality of the governance in a designated state. This study uses the rule of law as a control variable by indicating the countries with the perception of the extent to which people abide to follow the rules of law tightly or loosely.

The variable of interest is Terrorism used in this research study with the sign (Terrorismjt). This variable is also used by various practitioners in the field of research. Likewise, Niemeyer (2004); Ll orca-Vivero (2008); Feridun (2011), the factor terrorism, they used in their studies as a surrogate of the tourism demand by keeping the effect of terrorism as the figure of terrorist attacks. For the sack of the definition of terrorism, this study has used terrorist attacks done per 10,000 inhabitants. So for the data of this variable obtained from the Global Tourism Database (GTD, 2015), and it has been defined by GTD defines terrorism as the threatened or actual use of illegal force and violence by a non-state actor to attain a political, economic, religious, or social goal through fear, coercion, or intimidation. It is appropriate to mention that, the main interest variable is obtained from the World Governance Index (WGI), so the same can be interpreted in percent form. Here the following equation is used by estimating the impact of political instability on international tourism demand through a polled ordinary least square estimator (POLS) with a fixed-effect model to check the flow of people in destination countries.

$$lnTou_{jt} = \alpha + \beta_1 attacks_{it} + \beta_2 lnVa_{jt} + \beta_3 lnRLaw_{jt} + \beta_4 lnGDPpc_{jt} + \beta_5 lnPop_{jt} + \delta_t + \epsilon_{it} \quad (5)$$

This model is used to investigate an appropriate association between DV and IV along with controls. This model is estimated by a pooled fixed effect technique and fixed effects (δ_t) are also included to capture the period effects common to all countries.

4. Results and Discussion

This section study analyzes the empirical results of the international threat like terrorism on international tourism demand. So the first part of the analysis focuses on the relationship between terrorism and international tourism demand. The second part analyzes the effects after controlling several economic factors and with and without heritage variables by utilizing panel fixed effects. Table 2 shows the description of the variables used through the regression model along with the definition and source by which data is obtained, furthermore, detail of the above variables is also defined in the Methodology section. Table 3 demonstrates the Pooled OLS regression on income level, it shows the result of estimating equation (5), using $LnTou_{jt}$ for total tourist arrivals. Whether traveling to the destination countries for the voyage or trade principles, Data is segregated according to the development level. Here tourist arrivals are regressed on income level, each column consists of estimating data of all countries, then segregating the countries according to the developing and developed nature respectively. The POLS is estimating all variables which are part of this study. *Terrorism* is for proxy of terror attacks or Terrorism in the destination country and coefficient $LnGDPpc_{jt}$ is significantly positive which indicates that richer countries receive more tourists. Also, the coefficient $LnPop_{jt}$ is significantly positive, which is a log of the population; shows a percent increase in the population of the destination country will raise more tourists in the country. Whereas, the coefficient $VoiceAccount_{jt}$ appeared with a negative sign, implying statistically negative which shows less control over the quality of the institutions; can be interpreted that, any country do not respect human rights and freedom will attract fewer tourists. The coefficient $Rlaw_{jt}$ with a positive sign shows that, if rules and laws are properly followed by the people of the destination country attract more tourists. The coefficient of $Terrorism_{jt}$ is the proxy of terror attacks with victim's fatalities per 10,000 inhabitants (this data is obtained from the Global Terrorism Database) which is appeared at the negative sign in all three columns with the value of -0.0006, -0.0014, and -0.0013 for all countries, developing and developed countries respectively. So the coefficient of variable $Terrorism_{jt}$ appears statistically and significantly negative for all three columns which entails that, a 1% increase in the ratio of terror attacks per 10,000 inhabitants at the destination country, reduces the tourist arrivals by 0.0006%, 0.0014%, and 0.0013% for all countries, developing countries, and developed countries respectively. as for the $Terrorism_{jt}$ concerns, $Terrorism_{jt}$ is clearly defined in the methodology section as an index so for the (percent terrorist attacks per 10,000 inhabitants, the meaning must be in terms of a 1% change or increase in the value of the index). Therefore, according to the above results of terrorism at the destination country, the tourism industry is negatively affected by terrorism, and the same effect is seen from time to time from a terrorism point of view, but according to the data, the effect looks diminutive as compare to instantaneous impact. Hence table 4 is estimated based on sub – period basis. Data is segregated into three decades. In the first decade data for 200 destination countries are regressed for the entire period of 1995 to 2020 to check the entire impact on the tourism sector. Here the coefficient $LnGDPpc_j$ shows statistically significant for all countries from 1995 to 2020, implying that, tourism gradually increased in richer countries; as wealthier nations attract more tourists, people with a higher level of income were more likely to travel. Hence the dependent variable is uttered as the logarithm of total tourist arrivals, so the slope coefficient for all countries for the entire period is grasped as a 1% increase in real GDP per capita tends to increase tourist arrivals at the destination country by 0.8068% increasing the ratio of tourists in the destination country. But according to the sub-periods in column 2 and 3 for $LnGDPpc_j$ the coefficient value 1.056 and 0.2338 is estimated for the sub-periods 1995 –

2006 and 2007 – 2020 respectively. There is a bigger difference in real GDP per capita for both sub-periods. But we look to the past, in the year 1995 there was a wave of financial crisis observed after the Mexican financial crisis when Mexico's peso devalued in December 1994, so this financial crisis captured the global economy. And second-time financial crisis was observed in 2007 and 2008, which was the global financial crisis known as the worst financial crisis which embarked in 2007 with a crisis in the subprime mortgage market in the USA. Hence the crisis was followed by the global economic downturn, which observed a great recession. So in our study, the coefficient for $LnGDPpc_j$ shows 0.2338 comparatively low GDP per capita is recorded in the sub-period 2007 to 2020 rest of the other two columns. So in this connection during the 2007 and 2008 global financial crisis, the GDP was strongly affected throughout the globe, so the same effect was also seen in the estimated value of the coefficient. This coefficient of 0.2338 seems significant at 10% but not at 5% and 1% is only for the global financial crisis which captured the overall economy of the world and the overall GDP of the globe dramatically declined resulting in the tourism industry in an entire global economy is suffered during a crisis period. This is the main reason the coefficient *LnGDPpcjt* value is shown to downturn comparatively all others in the decade 2007 and 2008. in the same way, the coefficient $LnPop_{jt}$ is the logarithm of the population appeared significantly positive at 10%, 5%, and 1% respectively for all countries for the entire period from 1995 to 2020, tends to rise in population of the destination country by 1% is associated to increase in tourist's arrival by 0.2948%, but differently for two sub- decades, where, coefficient value -0.496 for sub-period 1995 to 2006 and coefficient value -0.0078 for the sub-period 2007 to 2020 is shown in table 4. Hence, the $LnPop_{jt}$ coefficient value -0.496 appeared negative for the sub-period 1995 – 2006, in which the population of tourists in destination countries reduced and less attraction of tourists observed; so, the reason may be the financial crisis and its shocks in 1995 and afterward, resulting in population parameter declined in destination countries. Similarly, in the sub-period 2007 – 2020, the population parameter is badly affected by pertaining the value of coefficient -0.0078, the main reason may be the financial crisis again got birth in 2007 and 2008 and hit the entire economy of the world, their aftershocks were also seen in 2009 and 2010. Where overall economies of the globe were in the worst condition and real GDP per capita was also badly affected. According to the economists, the 2007 and 2008 financial crises were observed as the worst financial crisis of the decades. As resulting, DGP declined and people's attraction towards tourist countries was also affected in the crisis period. Table 4, Illustrate the Pooled OLS regression based on sub - Period, which reveals the results of estimating equation (5), in which $LnTou_{jt}$ is used as the logarithm of total tourist arrivals at the destination country, in this model data is divided according to the sub-periods starting from 1995 to 2020. Here model estimating the data for all countries is isolated by their periods, three-column analyses are used by the model. In first column model estimates the data for all countries from 1995 to 2020, the second column estimates the data from 1995 to 2006, and the third column regress the data from 2007 to 2020. Here study breaks down the periods into sub-periods to check the period-wise effect of terrorism on international tourism demand. The first column estimates the entire period data from 1995 to 2020 to check the effect on internal tourism demand, while the two columns are broken down into sub-periods due to the purpose of the financial crisis got existence in 1995 and the second time in 2007 and 2008 respectively.

This is maybe the main reason for the coefficient $VoiceAccount_{jt}$ appearing with a negative sign. This is the case where the country has less control over enterprises and loose governance will have adverse consequences on international tourism demand. The same is for the coefficient $Rlaw_{jt,}$ in Table 4. The estimated values of the coefficient range among variables are 0.0929, -0.1853, and -0.0762 for the entire period from 1995 – 2020, sub-period 1995 to 2006, and sub-period 2007 to 2020. For the entire period, the coefficient value is statistically, significantly positive at only 10% and 5%, implying that rules of law have significantly positive relations towards tourism, and countries having sound rules of law that promote tourism by attracting the tourists to destination

countries. But on the other hand, the coefficient values for both sub-periods are observed dissimilar from the entire period. As for POLS model estimation concerns, the model has estimated the overall impact of political instability on international tourism demand. Here table 4 predicts the values of three main study variables according to the entire period and sub-periods. We also looked at the coefficient of $Terrorism_{jt}$ for destination countries, used as a surrogate of terror attacks per 10,000 inhabitants appeared statistically negative for entire periods as well as for both sub-periods with the value of the coefficient -0.0006, -0.0004, and -0.0005, by implying that, a 1% increase in the ratio of terror attacks at the destination country, it reduced the tourist arrivals by 0.0006, 0.0004 and 0.0005 for entire periods, sub-period 1995 – 2006 and sub-period 2007 to 2020 respectively. Hence terrorism has badly affected the tourism industry and created adverse consequences for the tourism sector correspondingly.

Table 2. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Tou_{ijt}	211,073	74372.76	860131	0	7.90E+07
$Terrorism_{jt}$	853,798	21.17051	140.5264	0	3926
$VoiceAccount_{jt}$	803,760	0.097398	0.967273	-2.25916	1.80099
$Rlaw_{jt}$	808,882	0.09037	0.971597	-2.17849	2.10027
$LnGDPpc_{jt}$	804,351	8.614261	1.531559	5.139216	12.17039
$LnPop_{jt}$	824,051	15.16585	2.415432	8.384119	21.05974

[2] Authors Compilation.

Table 3. Pooled OLS (Income Level)

Development Level	All Countries	Developing Countries	Developed Countries
Variables			
$Terrorism$	-0.0006***	-0.0014***	-0.0013***
	0.0001	0.0001	0.0006
$PolStab_{jt}$	0.0188	0.1169***	0.0286**
	0.0209)	0.0159	0.0126
$VoiceAccount_{jt}$	-0.1279***	-0.0957***	-0.0493***
	0.0339	0.0143	0.0157
$Rlaw_{jt}$	0.0929**	1.0051***	0.2083***
	0.0407	0.0263	0.028
$LnGDPpc_{jt}$	0.8068***	0.5693***	0.5498***
	0.045	0.0106	0.0137
$LnPop_{jt}$	0.2948***	0.6254***	0.5713***
	0.0872	0.0052	0.0032
Observations	203,079	87,412	115,667
R-Square	0.3922	0.412	0.604

Note: TA, tourist arrival numbers. ln denotes natural logarithm. Numbers in parentheses are standard errors. *** denotes significance at the 1% critical level.

[3] Authors Compilation

Table 4. Pooled OLS (Sub-Period)

Sample	1995-2020	1995-2006	2007-2020
Variables			
Terrorism	-0.0006***	-0.0004	-0.0005***
	0.0001	0.0006	0.0002
$VoiceAccount_{jt}$	-0.1279***	0.413***	-0.1534**
	0.0339	0.0557	0.0687
$Rlaw_{jt}$	0.0929**	-0.1853**	-0.0762
	0.0407	0.0754	0.028
$LnGDPpc_{jt}$	0.8068***	1.056***	0.2338*
	0.045	0.9922	0.1199
$LnPop_{jt}$	0.2948***	-0.496**	-0.0078
	0.0872	0.2237	0.2212
Observations	203,079	90,565	112,514
R-Square	0.3922	0.3971	0.411

[4] Authors Compilation

5. Conclusions & Recommendations:

This study aims to investigate the performance of the international tourism industry in terms of tourist arrivals in the association between terrorism for 200 destination countries throughout 1995 – 2020 with a fixed effect technique to manage the unobservable country effects which are constant over time. Hence, the multivariate method was also used to reduce an omitted variable bias to check the impact of terrorism on international tourism demand; by paying unusual consideration to the demand distribution, the panel quantile estimation techniques have also been employed. This study explored the effect of terrorism on tourism according to the attractiveness and unattractiveness of a country to tourists and its level of development, so, the analysis suggested that terrorism has adverse consequences on tourist arrivals either for a personal or business trip. Moreover, this study focused on income–demand nexus. Thus, the study also found a dramatic decline in GDP in the sub-period 2006 – 2020, the reason was the global financial crisis in 2007 – 08 and its aftershocks, as a result, tourism demand drastically suffered across the globe in the subsequent period. Similarly, the coefficients log of population, rule of law, voice, and accountability are also found statistically insignificant for the sub-period 2006 – 2020, which is evidence of the financial crisis and its adverse impact on tourism demand. One limitation of the current study is that it looked at terrorism as a whole. Terrorism which targets specific tourism destinations or travelers may be more damaging to international tourism. Tourists of various nationalities may be more susceptible to terrorist activities as a result of their nations' political stances or worldviews. These difficulties were not addressed in the current work and will be dealt with in future research. This study is based on two-dimensional analyses (destination and year), where the data is considered only for total tourist arrivals at the destination country and year, moreover, the study based upon three – dimensional analysis (origin, destination, and year) the subject of interest to be left for future study. This study aims to examine the impact of terrorism on international tourism demand. So, here two-dimensional analyses are used (country of

destination and Period wise effect). Origin–destination pair is missing for this study which is a future suggested topic.

5.1. Practical Implications:

Our findings may assist practical implications, and the results may recommend the policies for tourism are not equally likely throughout different demand levels across the countries; likewise, income has positive but differential impacts; hence, policymakers should perceive that tourist attraction can be increased as to raise in people's income that must be focused upon less attracted tourism demand countries. Based on our findings we suggest that The expansion of tourist offerings is recommended for nations of destination as a strategy to reduce the impact of outside events, such as terrorism or recessions, by moving outside conventional tourist attractions. The diversification of tourism offerings, encompassing societal, thrills, sustainable tourism, and cuisine, can broaden the tourist reliance for nations and mitigate their reliance on specific categories or locations. Enhancing destination branding is of paramount importance for countries to allocate resources towards efficacious branding tactics that accentuate their distinctive selling propositions and favorable characteristics. The establishment of a robust and favorable destination image can potentially augment the perceived level of safety and security of a country, which in turn can lead to an increase in tourist influx. The aforementioned tasks may encompass the demonstration of cultural legacy, prioritization of safety protocols, and endorsement of favorable encounters recounted by past patrons. To effectively tackle worldwide issues such as terrorism and economic downturns, host nations must engage in collaborative efforts with international entities, neighboring states, and other pertinent parties. The act of exchanging optimal methodologies, information, and assets can positively impact the enhancement of security protocols and crisis management proficiencies. In addition, collaborative endeavors have the potential to restore confidence in the area and entice visitors who prioritize safety and protection.

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