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When is Foreign Aid Effective in Fighting Terrorism? Threshold Evidence

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Abstract

Building on previous literature, we assess when foreign aid is effective in fighting terrorism using quantile regressions on a panel of 78 developing countries for the period 1984-2008. Bilateral, multilateral and total aid indicators are used whereas terrorism includes: domestic, transnational, unclear and total terrorism dynamics. We consistently establish that foreign aid (bilateral, multilateral and total) is effective at fighting terrorism exclusively in countries where existing levels of transnational terrorism are highest. This finding is consistent with our theoretical underpinnings because donors have been documented to allocate more aid towards fighting transnational terrorist activities in recipient countries because they are more likely to target their interests. Moreover, the propensity of donor interest at stake is likely to increase with initial levels of transnational terrorism, such that the effect of foreign aid is most significant in recipient countries with the highest levels of transnational terrorism. Policy implications and future research directions are discussed.

JEL Classification: C52; D74; F42; K42; O38

Keywords: Foreign aid; Terrorism; Quantile regression

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1. Introduction

According to a new report on Global Peace released in June 2015, macroeconomic factors have substantially been affected by the deterioration on peace over the past couple of years (Arnet, 2015). According to the account, consequences of the Arab Spring and increasing spread of terrorism are unlikely to stop in the near future, hence diminishing the possibilities of a strong rebound in political stability, non-violence and peace. The resulting real economic cost associated with (i) increasing violence and (ii) measures for its containment, stood around 19% of global economic growth between 2012 and 2013. This represents about 1,350 USD per capita. If World violence were to be mitigated by 10%, it would generate wealth equivalent to inter alia: sixfold of Greece's total bailout, tenfold of the total official development assistance (ODA) to poor from rich countries and threefold the total income of 1.1 billion people living under 1.25 USD a day or in extreme poverty. The associated cost to providing support to about 50 million internally displaced persons (IDPs) and refugees is highest since the Second World War and now cost about 123 billion USD annually. The ultimate consequence is a negative economic cycle with inter alia: low economic growth as more and more resources are allocated for counterterrorism. Hence terrorism slows down growth, reducing the capacity of developing nations to fight terrorism. The nexus between fighting terrorism and foreign aid stems from a number of factors: first, some developing nations do not have the capacity to fight terrorism. Second, some forms of terrorism are transnational in motivation and activity such that their encounter also requires an international approach and resources. Yet even domestic terrorism can have spill over effects. Third, some forms of terrorism aim at assets and interests of developed nations in the developing countries.

The purpose of this paper is to empirically establish when foreign aid is effective in fighting terrorism. We use bilateral, multilateral and total aid variables of foreign aid without distinguishing it into tied and untied aid for counterterrorism. This is behind the backdrop that terrorism is fought both directly and indirectly through military interventions and socio-economic development. According to Azam and Thelen (2008) the level of foreign aid received reduces the supply of terrorist attacks by recipient countries, as does the recipient country's level of education. Azam and Thelen (2010) find that Western democracies which are the main targets of terrorist attacks, should invest more funds in foreign aid, with special emphasis on supporting education, and use military interventions more sparingly. We would

like to establish what type of aid is effective under what type of terrorism? Terrorism is distinguished into: domestic, transnational, unclear and total terrorism dynamics.

A lot of previous literature has focused on linkages among other macroeconomic variables, terrorism, conflicts and political violence. To the best of our knowledge, this underlying literature has revolved around: the impact of terrorism on innovation (Koh, 2007), the influence of natural resources (Humphreys, 2005) and the role of development assistance in reducing the negative impact of terrorism on macroeconomic variables (Bandyopadhyay et al., 2014; Efobi et al., 2015; Asongu et al., 2015). This last stream on the use of foreign aid to fight terrorism is closest to the present line of inquiry.

Another evolving current of the literature has been devoted to the fight against crimes, conflicts and terrorism. Some mechanisms that have been explored entail the following: respect of the rule of law (Choi, 2010); ensuring external and internal transparency (Bell et al., 2014); the relevance of corruption-control as the most effective governance tool (Asongu & Kodila-Tedika, 2016); military dimensions (Feridun & Shahbaz, 2010); the importance of investigating attitudes towards terrorism (Gardner, 2007); the growing role of press freedom and publicity (Hoffman et al., 2013) and critical role of education (Brockhoff et al., 2014), especially in terms of bilingualism to consolidate the spirit of mutual identity (Costa et al., 2008) and lifelong learning in reducing political violence and instability (Asongu & Nwachukwu, 2016).

As far as we have reviewed, studies on the direct linkage between foreign aid and terrorism are scarce. We build on studies that have investigated the indirect linkages to investigate the effect of foreign aid on terrorism. These include, literature on the role of foreign aid in reducing the potentially negative effect of terrorism on FDI (Bandyopadhyay et al., 2014), especially when the underlying relationship is conditioned on domestic corruption-control levels (Efobi et al., 2015) and existing levels of FDI (Asongu et al., 2015). In order to provide room for more policy implication, we use four (three) terrorism (aid) variables, namely: domestic, transnational, unclear and total terrorism (multilateral, bilateral and total aid). The sample is focused on developing countries for a twofold reason: (i) Gaibulloev and Sandler (2009) have established that developing countries are more vulnerable to terrorist attacks and (ii) development assistance fundamentally flows from advanced to developing countries. The estimation strategy employed articulates the conditional distributions of terrorism because we aim to distinguish high- from low-terrorism countries in the underlying relationship. The intuition for this distinction is that, blanket foreign aid policies in the fight

against terrorism may not be effectiveness unless they are contingent on initial terrorism levels and hence, tailored differently across countries experiencing low, medium and high levels of terrorism. But before we engage the analysis, it is relevant to devote some space to briefly discussing the theoretical underpinnings for the underlying nexus between foreign aid and terrorism.

Foreign aid can be used by recipient countries affected by terrorism for conflict management and social control. This builds on the Conflict Management Model (CMM) and the Social Control Theory (SCT) from Thomas-Kilman and Black respectively (Akinwale, 2010, p. 125). This theoretical underpinning is consistent with recent literature that has employed foreign aid in dampening the potentially negative effect of terrorism on macroeconomic variables (Asongu et al., 2015). According to the CMM, strategic intentions revolve around two main axes (assertiveness and cooperation), which when combined with collaboration yields five styles of conflict management, notably: avoidance, competition, accommodation, compromise and collaboration. As concerns the SCT, nexuses among individuals, groups and organisations influence the exercise of one of the five main mechanisms of social control, namely: avoidance, self-help, negotiation, settlement and tolerance.

The account from Akinwale is in accordance with the broad literature on conflict management, *inter alia*: Black (1990), Thomas (1992), Borg (1992 and Volkema and Bergmann (1995). These underlying theoretical underpinnings are in line with the positioning of this study because development assistance is expected to reduce terrorism via channels of, among others: education, respect of the rule of law, subsidizing of government expenditure and social responsibility. In light of Gaibulloev and Sandler (2009) discussed above, the fight against terrorism crowds-out government expenditure, hence foreign aid could be used to subsidise the depleting government expenditure. Other factors (social responsibility, education and respect for the rule of law) have been documented by the substantial bulk of literature on their positive role on non-violence and political stability (Heyneman, 2002; Beets, 2005; Heyneman, 2008ab; Oreopoulos & Salvanes, 2009; Asongu & Nwachukwu, 2016).

It is also important to devote space to clarifying the expected effect of foreign aid on various terrorism dynamics, notably: domestic, transnational, unclear and total terrorism. Of these four, unclear and total terrorisms have not been documented to be particularly targeted by development assistance because donors tend to be more concerned about terrorists

activities that threaten them from a potential recipient country (Boutton and Carter, 2013). In this light, we expect donors' aid to be sensitive to transnational terrorism relative to domestic terrorism. According to Boutton and Carter, a donor country (e.g the USA) is particularly concerned with activities of terrorism within the state borders of a recipient country that targets the interest of the donor. Conversely, the presence of domestic terrorism that does not translate into transnational terrorism (to target donor interest) is generally unrelated to donor aid allocation. In this light, we expect the effect of foreign aid to be most significant in mitigating transnational terrorism. Moreover, given that we are assessing aid effects on terrorism throughout the conditional distribution of terrorism, the impact should be highest in top quantiles of the transnational terrorism distribution. In other words, we theoretically expect the effect of foreign aid to be most significant in countries with the highest levels of transnational terrorism.

The rest of the study is structured as follows. Section 2 discusses the data and methodology. The empirical results and discussions are covered in Section 3. Section 4 concludes.

2. Data and methodology

2.1 Data

Consistent with the motivation of the study, we build on panel data from Bandyopadhyay et al. (2014) and Efobi et al. (2015) which consists of three year non-overlapping intervals from 78 developing countries for the period 1984-2008¹. The starting year is 1984 because institutional variables from the International Country Risk Guide (ICRG, 2010) dataset are only available from this year. The dependent variables are terrorism dynamics, namely: domestic, transnational, unclear and total terrorism, with the last measurement being the sum of the first-three. The motivation of employing many terrorism indicators is to avail more room for policy implications. In the same vein, three foreign aid indicators are used, namely: bilateral, multilateral and total aid.

¹ The adopted countries include: "Albania, Costa Rica, India, Namibia, Syria, Algeria, Cote d'Ivoire, Indonesia, Nicaragua, Tanzania, Angola, Dominican Republic, Iran, Niger, Thailand, Argentina, Ecuador, Jamaica, Nigeria, Togo, Bahrain, Egypt, Jordan, Pakistan, Trinidad and Tobago, Bangladesh, El Salvador, Kenya, Panama, Tunisia, Bolivia, Ethiopia, Lebanon, Papua New Guinea, Turkey, Botswana, Gabon, Libya, Paraguay, Uganda, Brazil, Gambia, Madagascar, Peru, Uruguay, Burkina Faso, Ghana, Malawi, Philippines, Venezuela, Cameroon, Guatemala, Malaysia, Saudi Arabia, Vietnam, Chile, Guinea, Mali, Senegal, Yemen, China, Guinea-Bissau, Malta, Sierra Leone, Zambia, Colombia, Guyana, Mexico, South Africa, Zimbabwe, Congo, D. Republic, Haiti, Morocco, Sri Lanka, Congo Republic, Honduras, Mozambique and Sudan".

The control variables are selected based on documented factors behind the Arab spring (Khandelwal&Roitman, 2012) which have been employed more recently in predicting the Arab Spring (Asongu &Nwachukwu, 2015) and controlling for the effect of lifelong learning on non-violence and political stability (Asongu &Nwachukwu, 2016). These include: GDPg, inflation, infrastructure, exchange rate, political globalisation, civil conflicts. We have also documented in the introduction the linkage between economic growth and terrorism from a substantial bulk of literature. Very high inflation should logically be linked to political strife and violence, due to inter alia: (i) diminishing purchasing power and (ii) reducing domestic investment because of a negative economic outlook. Internal or civil conflicts should intuitively increase the likelihood for terrorist activities. Political globalisation has been documented to be associated with increased possibilities of conflicts (Lalountas et al., 2011; Asongu, 2014a). Infrastructural development in terms of mobile phone penetration facilitates the coordination and development of conflicts. It was very vital during and after the Arab Spring in countries still affected by the crisis. The effect of exchange rates on terrorism is difficult to establish in advance. While Rodrik (2008) has documented that the positive role of high exchange rates on economic growth is more apparent in developing countries, exchange rates not associated with a good production bases that facilitate exports (like the situation of Zimbabwe) may increase political strife, violence and ultimately breed fertile grounds for terrorism. Definitions of the underlying variables are provided in Table 1.

Table 1: Definition and source of variables

Variables	Signs	Definitions	Sources
GDP growth	GDPg	GDP growth rate (annual %)	
Infrastructure	LnTel	Ln. of Number of Telephone lines (per 100 people)	
Inflation	LnInflation	Ln. of Consumer Price Index (% of annual)	
Exchange rate	LnXrate	Ln. of Exchange rate (local currency per USD)	
Bilateral Aid	LnBilaid	Ln. of Bilateral aid, net disbursement (million USD)	
Multilateral Aid	LnMulaid	Ln. of Multilateral aid, net disbursement (million USD)	Bandyopadhyay et al. (2014) and Efobi et al. (2015)
Total Aid	LnTotaaid	Ln. of Total aid, net disbursement (million USD)	
Domestic terrorism	Domter	Ln. of Number of Domestic terrorism incidents	
Transnational terrorism	Tranater	Ln. of Number of Transnational terrorism incidents	
Unclear terrorism	Unclter	Ln. of Number of terrorism incidents whose category is unclear	
Total terrorism	Totter	Ln. of Total number of terrorism incidents	
Political	LnPolglob	Ln. of Index of political globalisation	

globalisation		
Internal conflicts	Civcon	Index of internal civil conflicts

GDP: Gross Domestic Product. WDI: World Development Indicators. Ln: Logarithm.

Table 2 presents the summary statistics of the employed variables. Some are defined in logarithms to enable comparisons in terms of means. We can also observe that there is a considerable degree variation in the variables, meaning that we can be confident that significant estimated nexuses would emerge.

Table 2: Summary statistics

	Mean	S.D	Minimum	Maximum	Obs
GDP growth	3.852	3.467	-10.933	17.339	612
Infrastructure (ln)	1.475	1.017	0.091	4.031	616
Inflation (ln)	2.414	1.384	-3.434	9.136	581
Exchange rate (ln)	2.908	3.870	-22.121	21.529	618
Bilateral Aid (ln)	5.181	1.286	0.765	8.362	602
Multilateral Aid (ln)	4.163	1.518	-1.249	7.105	600
Total Aid (ln)	5.550	1.276	0.800	8.495	608
Domestic terrorism(ln)	1.316	1.849	-1.098	6.038	405
Transnational terrorism(ln)	0.530	1.243	-1.098	4.143	353
Unclear terrorism(ln)	0.471	1.452	-1.098	4.454	224
Total terrorism(ln)	1.490	1.847	-1.098	6.168	451
Political globalisation (ln)	4.036	0.301	2.861	4.530	624
Internal conflicts	0.965	1.906	0	10	615

S.D: Standard Deviation. Obs: Observations.

The purpose of the correlation matrix in Table 3 is to control for concerns of multicollinearity and overparameterization. The potential concerns which are highlighted in bold are among foreign aid and terrorism dynamics. Therefore we avoid employing more than one foreign aid variable in the same specification. The underlying concerns are not very relevant to terrorism variables because they are used as dependent variables.

Table 3: Correlation Matrix (n=174, with uniform sample size)

GDPg	LnTel	LnInflation	LnXrate	LnBilad	LnMulaid	LnTotaid	LnDomter	LnTranater	LnUnclter	LnTotter	LnPolglob	Civcon						
1.000	0.058	-0.334	0.202	0.230	0.179	0.227	-0.094	0.015	-0.131	-0.077	0.117	-0.048	GDPg					
	1.000	-0.039	0.080	-0.256	-0.504	-0.363	0.173	0.188	0.026	0.172	0.362	-0.248	LnTel					
		1.000	-0.454	-0.287	-0.218	-0.297	0.066	0.107	0.029	0.057	-0.175	0.067	LnInflation					
			1.000	0.102	0.116	0.127	-0.077	-0.016	-0.061	-0.070	0.161	-0.075	LnXrate					
				1.000	0.590	0.958	0.110	0.042	0.068	0.118	0.277	0.190	LnBilaid					
						1.000	0.772	-0.034	-0.131	0.015	-0.035	0.196	LnMulaid					
								1.000	0.081	-0.001	0.064	0.087	LnTotaid					
										1.000	0.702	0.738	0.975	Domter				
												1.000	0.789	Tranater				
														1.000	Unclter			
															1.000	Totter		
																1.000	LnPolglob	
																	1.000	Civcon

GDPg: GDP growth rate. LnTel: Number of Telephone lines. LnXrate: Exchange rate. LnBilaid: Bilateral aid. LnMulaid: Multilateral aid. LnTotaid: Total aid. LnDomter: Number of Domestic terrorism incidents. LnTranater: Number of Transnational terrorism incidents. LnUnclter: Number of terrorism incidents whose category is unclear. LnTotter: Total number of terrorism incidents. LnPolglob: Index of political globalisation. Civcon: Index of internal civil conflicts.

2. 2 Methodology

Consistent with the underlying literature on conditional determinants (Billger&Goel, 2009; Asongu et al., 2015), in order to investigate if existing levels in terrorism affect the impact of foreign aid on terrorism in developing countries, we employ a quantile regression (QR) approach. It consists of assessing the determinants of terrorism throughout the conditional distributions of terrorism (Keonker&Hallock, 2001).

Previous studies on determinants like Bandyopadhyay et al., (2014) and Efobi et al. (2015), have reported parameter estimates at the conditional mean of the dependent variable. While mean effects are important, we extend the underlying terrorism literature by employing QR to distinguish between initial levels of terrorism. For example, while Ordinary Least Squares (OLS) assumes that terrorism and error terms are distributed normally, the QR approach is not based on the assumption of error terms that are normally distributed. Therefore, the technique enables us to assess the effect of foreign aid on terrorism with particular emphasis on low- medium- and high-terrorism countries. Accordingly, with QR, parameter estimates are derived at multiple points of the conditional distributions of terrorism (Keonker&Hallock, 2001). The QR technique is increasingly being employed in development literature, notably in: corruption (Billger&Goel, 2009; Okada &Samreth, 2012; Asongu, 2013) and health studies (Asongu, 2014b).

The θ th quantile estimator of terrorism is obtained by solving for the following optimization problem, which is presented without subscripts in Eq. (1) for the purpose of simplicity and ease of presentation.

$$\min_{\beta \in R^k} \left[\sum_{i \in \{i: y_i \geq x_i' \beta\}} \theta |y_i - x_i' \beta| + \sum_{i \in \{i: y_i < x_i' \beta\}} (1 - \theta) |y_i - x_i' \beta| \right] \quad (1)$$

Where $\theta \in (0,1)$. As opposed to OLS which is fundamentally based on minimizing the sum of squared residuals, with QR, the weighted sum of absolute deviations are minimised. For instance the 25th or 75th quantiles (with $\theta=0.25$ or 0.75 respectively) by approximately weighing the residuals. The conditional quantile of terrorism or y_i given x_i is:

$$Q_y(\theta / x_i) = x_i' \beta_\theta \quad (2)$$

where unique slope parameters are modelled for each θ th specific quantile. This formulation is analogous to $E(y/x) = x_i\beta$ in the OLS slope where parameters are investigated only at the mean of the conditional distribution of terrorism. For the model in Eq. (2) the dependent variable y_i is the terrorism indicator while x_i contains a constant term, *GDP growth, inflation, infrastructure, exchange rate, political globalisation and civil/internal conflicts*. The specifications in Eq. (1) are tailored to mitigate the multicollinearity and overparameterization issues identified in Table 3.

3. Empirical results

3.1 Presentation of results

Tables 4, 5, 6 respectively show findings for bilateral, multilateral and total aid. Panel A of all tables presents findings for domestic terrorism and transnational terrorism in the left-hand-side (LHS) and right-hand-side (RHS) respectively while Panel B shows results for unclear terrorism and total terrorism respectively in LHS and RHS. We notice that the OLS findings which are based on mean values of the dependent variables are different in terms of signs and magnitude of estimated coefficients when QR is considered. Hence, this difference also justifies the choice of the estimated technique.

The following findings can be established with regards to bilateral aid and terrorism in Table 4. First, bilateral aid: (i) increases domestic terrorism consistently with increasing magnitude from the 0.25th to the 0.75th quantile; (ii) increases transnational terrorism from the 0.10th to the 0.50th quantile but decreases it at the 0.90th quantile; (iii) has no significant effect on unclear terrorism and (iv) consistently increases total terrorism in a wave-like pattern. Second, the significant control variables have the expected signs. While inflation, infrastructural development (mobile phone penetration), political globalisation and civil conflicts affect inflation positively, the sign of exchange rate is mixed, while GDP growth mitigates the scourge. The ambiguity of the exchange rate is consistent with the discussion on the data section. As to what concerns the negative GDP growth effect, economic prosperity provides an economic outlook that is conducive for employment and characterised with less ambiguity on the part of investors who often prefer investment strategies that are less ambiguous (Le Roux & Kelsey, 2015ab). Hence, opportunities associated with broad-based economic growth in terms of employment and reductions of inequality are likely to sway the youth from terrorist sentiments (Singh, 2001, 2007; Efobi et al., 2015).

Table 4: Bilateral aid, Terrorism

Dependent Variable: Terrorism (Ln)												
Panel A: Domestic Terrorism and Transnational Terrorism												
	Domestic Terrorism (LnDomter)						Transnational Terrorism (LnTranater)					
	OLS	Q.10	Q.25	Q.50	Q.75	Q.90	OLS	Q.10	Q.25	Q.50	Q.75	Q.90
Constant	-4.70*** (0.000)	-1.09*** (0.000)	-4.050** (0.014)	-5.25*** (0.002)	-3.19** (0.043)	-2.483 (0.475)	-2.148** (0.018)	-1.80*** (0.000)	-4.38*** (0.008)	-1.624 (0.154)	0.521 (0.759)	-0.630 (0.697)
LnBilaid (Bilateral aid)	0.219** (0.011)	0.000 (0.992)	0.231* (0.085)	0.326*** (0.005)	0.389*** (0.000)	0.233 (0.202)	0.129** (0.046)	0.040** (0.039)	0.211* (0.059)	0.211*** (0.007)	0.110 (0.319)	-0.193* (0.052)
GDPg	-0.025 (0.278)	0.000 (0.985)	-0.036 (0.305)	-0.022 (0.497)	0.001 (0.962)	-0.023 (0.632)	-0.001 (0.951)	0.002 (0.714)	-0.020 (0.506)	-0.022 (0.313)	0.028 (0.430)	0.019 (0.477)
LnInflation	0.214*** (0.001)	0.000 (0.988)	0.051 (0.584)	0.242*** (0.005)	0.255*** (0.001)	0.257** (0.027)	0.155*** (0.001)	0.057*** (0.000)	0.131 (0.120)	0.110** (0.049)	0.145* (0.077)	0.234*** (0.001)
LnInfrastructure	0.370*** (0.000)	-0.000 (0.985)	0.381** (0.025)	0.455*** (0.002)	0.466*** (0.000)	0.278 (0.245)	0.268*** (0.001)	0.042 (0.252)	0.265* (0.086)	0.273*** (0.007)	0.413*** (0.002)	0.254** (0.032)
LnXrate (Exchange rate)	0.017 (0.445)	0.000 (0.995)	0.096*** (0.004)	-0.015 (0.638)	-0.042* (0.095)	-0.026 (0.604)	0.012 (0.495)	0.001 (0.862)	-0.002 (0.941)	-0.003 (0.857)	-0.003 (0.909)	0.041 (0.119)
Ln (Political globalisation)	0.789** (0.015)	-0.000 (0.999)	0.366 (0.424)	0.728 (0.103)	0.400 (0.335)	0.674 (0.459)	0.196 (0.406)	0.063 (0.504)	0.482 (0.250)	-0.016 (0.955)	-0.330 (0.443)	0.518 (0.192)
Civil Conflicts	0.447*** (0.000)	0.298*** (0.000)	0.485*** (0.000)	0.520*** (0.000)	0.479*** (0.000)	0.535*** (0.000)	0.260*** (0.000)	0.179*** (0.000)	0.242*** (0.000)	0.275*** (0.000)	0.295*** (0.000)	0.283*** (0.000)
Pseudo R ² /R ²	0.353	0.069	0.139	0.215	0.299	0.268	0.271	0.094	0.130	0.160	0.158	0.233
Fisher	26.98***						15.68***					
Observations	359	359	359	359	359	359	310	310	310	310	310	310

Panel B: Unclear Terrorism and Total Terrorism												
	Unclear Terrorism (LnUnclter)						Total Terrorism (LnTotter)					
	OLS	Q.10	Q.25	Q.50	Q.75	Q.90	OLS	Q.10	Q.25	Q.50	Q.75	Q.90
Constant	-2.560* (0.064)	-1.09*** (0.000)	-2.43*** (0.002)	-1.248 (0.615)	-1.915 (0.224)	-5.486 (0.141)	-3.51*** (0.002)	-2.059** (0.027)	-4.709** (0.011)	-4.337** (0.012)	-1.331 (0.362)	-0.308 (0.890)
LnBilaid (Bilateral aid)	-0.012 (0.912)	0.000 (1.000)	0.046 (0.483)	-0.017 (0.927)	-0.031 (0.803)	-0.447 (0.146)	0.255*** (0.001)	0.140* (0.050)	0.385*** (0.006)	0.362*** (0.002)	0.421*** (0.000)	0.269** (0.015)
GDPg	-0.042 (0.121)	0.000 (1.000)	-0.040** (0.016)	-0.060 (0.214)	-0.032 (0.246)	-0.055 (0.357)	-0.033 (0.165)	- (0.000)	-0.089** (0.030)	-0.012 (0.705)	-0.008 (0.766)	-0.017 (0.649)
LnInflation	-0.004 (0.938)	0.000 (1.000)	0.007 (0.862)	0.003 (0.979)	-0.072 (0.344)	-0.113 (0.310)	0.212*** (0.000)	0.096** (0.017)	0.096 (0.319)	0.200** (0.025)	0.251*** (0.000)	0.250*** (0.005)
LnInfrastructure	0.235* (0.059)	0.000 (1.000)	0.204*** (0.002)	0.252 (0.242)	0.235 (0.110)	-0.103 (0.802)	0.350*** (0.000)	0.181* (0.055)	0.329* (0.065)	0.426*** (0.004)	0.480*** (0.000)	0.447*** (0.002)
LnXrate (Exchange rate)	-0.011 (0.679)	0.000 (1.000)	0.027* (0.064)	-0.036 (0.414)	-0.017 (0.588)	-0.072 (0.331)	0.007 (0.747)	0.018 (0.294)	0.019 (0.582)	-0.008 (0.789)	-0.038 (0.107)	-0.004 (0.887)
Ln (Political globalisation)	0.599 (0.135)	0.000 (1.000)	0.241 (0.188)	0.252 (0.694)	0.656 (0.140)	2.529** (0.038)	0.526* (0.084)	0.057 (0.815)	0.517 (0.294)	0.533 (0.234)	-0.040 (0.915)	0.081 (0.885)
Civil Conflicts	0.288*** (0.000)	0.000 (1.000)	0.205*** (0.000)	0.368*** (0.000)	0.372*** (0.000)	0.352*** (0.000)	0.465*** (0.000)	0.388*** (0.000)	0.454*** (0.000)	0.555*** (0.000)	0.479*** (0.000)	0.517*** (0.000)
Pseudo R ² /R ²	0.248	-0.000	0.131	0.154	0.211	0.206	0.361	0.125	0.149	0.217	0.280	0.277
Fisher	11.52***						30.98***					
Observations	202	202	202	202	202	202	398	398	398	398	398	398

*** ** *: significance levels of 10%, 5% and 1% respectively. GDPg: GDP growth rate. OLS: Ordinary Least Squares. R² for OLS and Pseudo R² for quantile regression. Lower quantiles (e.g., Q 0.1) signify nations where Terrorism is least. LnDomter: Number of Domestic terrorism incidents. LnTranater: Number of Transnational terrorism incidents. LnUnclter: Number of terrorism incidents whose category is unclear. LnTotter: Total number of terrorism incidents.

The following findings can be established in relation to Table 5 on multilateral aid and terrorism. First, multilateral aid has: (1) no significant effect on domestic, unclear and total terrorisms and (2) a positive effect in the 0.10th and 0.25th quantiles and negative effect in the

0.90th quantile on transnational terrorism. The significant control variables have the expected signs.

Table 5: Multilateral aid, Terrorism

Dependent Variable: Terrorism (Ln)												
Panel A: Domestic Terrorism and Transnational Terrorism												
	Domestic Terrorism (LnDomter)						Transnational Terrorism (LnTranater)					
	OLS	Q.10	Q.25	Q.50	Q.75	Q.90	OLS	Q.10	Q.25	Q.50	Q.75	Q.90
Constant	-4.69*** (0.000)	-1.09*** (0.000)	-4.34*** (0.002)	-4.63** (0.031)	-3.087** (0.011)	-2.964 (0.380)	-1.787* (0.052)	-1.60*** (0.000)	-4.56*** (0.002)	-0.854 (0.464)	-0.658 (0.667)	-0.839 (0.488)
LnMulaid (Multilateral aid)	0.091 (0.247)	0.000 (0.987)	0.123 (0.209)	0.028 (0.833)	0.085 (0.213)	0.041 (0.833)	-0.025 (0.647)	0.033** (0.028)	0.137* (0.080)	-0.023 (0.717)	-0.078 (0.328)	-0.164*** (0.005)
GDPg	-0.023 (0.335)	0.000 (0.977)	-0.016 (0.593)	-0.014 (0.726)	0.010 (0.627)	-0.015 (0.714)	0.004 (0.840)	-0.0001 (0.986)	-0.028 (0.328)	0.005 (0.794)	0.012 (0.703)	0.025 (0.117)
LnInflation	0.196*** (0.002)	0.000 (0.985)	0.091 (0.204)	0.233** (0.014)	0.239*** (0.000)	0.244** (0.015)	0.134*** (0.006)	0.069*** (0.000)	0.138* (0.071)	0.115** (0.047)	0.126 (0.109)	0.219*** (0.000)
LnInfrastructure	0.316*** (0.004)	-0.000 (0.985)	0.345** (0.029)	0.256 (0.221)	0.317*** (0.001)	0.176 (0.435)	0.162* (0.054)	0.037 (0.268)	0.208 (0.154)	0.127 (0.236)	0.197 (0.100)	0.294*** (0.000)
LnXrate (Exchange rate)	0.020 (0.409)	0.000 (0.994)	0.091*** (0.001)	0.037 (0.363)	-0.028 (0.161)	-0.022 (0.647)	0.014 (0.452)	-0.001 (0.844)	0.014 (0.653)	0.003 (0.886)	0.020 (0.464)	0.030 (0.128)
Ln (Political globalisation)	0.994*** (0.002)	-0.000 (0.998)	0.588 (0.113)	0.971* (0.083)	0.825*** (0.008)	1.113 (0.221)	0.347 (0.151)	0.031 (0.727)	0.668* (0.079)	0.133 (0.660)	0.283 (0.465)	0.505* (0.090)
Civil Conflicts	0.466*** (0.000)	0.298*** (0.000)	0.455*** (0.000)	0.576*** (0.000)	0.527*** (0.000)	0.566*** (0.000)	0.269*** (0.000)	0.164*** (0.000)	0.246*** (0.000)	0.263*** (0.000)	0.294*** (0.000)	0.238*** (0.000)
Pseudo R ² /R ²	0.347	0.069	0.137	0.207	0.280	0.269	0.259	0.092	0.112	0.148	0.158	0.239
Fisher	26.58***						14.71***					
Observations	361	361	361	361	361	361	308	308	308	308	308	308

Panel B: Unclear Terrorism and Total Terrorism												
	Unclear Terrorism (LnUnclter)						Total Terrorism (LnTotter)					
	OLS	Q.10	Q.25	Q.50	Q.75	Q.90	OLS	Q.10	Q.25	Q.50	Q.75	Q.90
Constant	-2.026 (0.143)	-1.09*** (0.000)	-1.71*** (0.004)	-0.703 (0.722)	-1.977 (0.289)	-3.161 (0.407)	-3.24*** (0.005)	-1.164 (0.100)	-2.839 (0.157)	-3.308** (0.015)	-3.165* (0.087)	-0.559 (0.750)
LnMulaid (Multilateral aid)	-0.025 (0.797)	0.000 (1.000)	0.017 (0.693)	-0.171 (0.204)	0.032 (0.803)	0.004 (0.988)	0.070 (0.131)	0.034 (0.495)	0.161 (0.200)	0.092 (0.263)	0.094 (0.346)	0.062 (0.616)
GDPg	-0.046* (0.084)	0.000 (1.000)	-0.034** (0.010)	-0.052 (0.198)	-0.036 (0.332)	-0.079 (0.162)	-0.027 (0.264)	-0.013 (0.425)	-0.045 (0.296)	-0.015 (0.576)	0.020 (0.561)	-0.018 (0.618)
LnInflation	-0.028 (0.616)	0.000 (1.000)	-0.013 (0.687)	0.007 (0.946)	-0.025 (0.798)	-0.097 (0.376)	0.187*** (0.001)	0.019 (0.570)	0.067 (0.490)	0.205*** (0.005)	0.240*** (0.007)	0.232*** (0.008)
LnInfrastructure	0.163 (0.226)	0.000 (1.000)	0.185*** (0.003)	0.112 (0.576)	0.141 (0.460)	0.296 (0.461)	0.265** (0.012)	0.040 (0.648)	0.307 (0.163)	0.288** (0.022)	0.257* (0.069)	0.343** (0.019)
LnXrate (Exchange rate)	-0.010 (0.724)	0.000 (1.000)	0.025** (0.041)	-0.014 (0.729)	-0.028 (0.481)	-0.033 (0.660)	0.009 (0.697)	0.0006 (0.963)	0.028 (0.448)	0.013 (0.614)	-0.026 (0.394)	-0.026 (0.396)
Ln (Political globalisation)	0.513 (0.164)	0.000 (1.000)	0.121 (0.141)	0.287 (0.566)	0.572 (0.250)	1.134 (0.302)	0.751** (0.013)	-0.025 (0.895)	0.357 (0.504)	0.676* (0.054)	0.904* (0.058)	0.504 (0.286)
Civil Conflicts	0.288*** (0.000)	0.000 (1.000)	0.216*** (0.000)	0.381*** (0.000)	0.368*** (0.000)	0.468*** (0.000)	0.487*** (0.000)	0.392*** (0.000)	0.460*** (0.000)	0.567*** (0.000)	0.519*** (0.000)	0.536*** (0.000)
Pseudo R ² /R ²	0.246	-0.000	0.128	0.148	0.210	0.217	0.346	0.122	0.129	0.205	0.254	0.273
Fisher	10.96***						28.45***					
Observations	202	202	202	202	202	202	398	398	398	398	398	398

***, **, * significance levels of 10%, 5% and 1% respectively. GDPg: GDP growth rate. OLS: Ordinary Least Squares. R² for OLS and Pseudo R² for quantile regression. Lower quantiles (e.g., Q 0.1) signify nations where Terrorism is least. LnDomter: Number of Domestic terrorism incidents. LnTranater: Number of Transnational terrorism incidents. LnUnclter: Number of terrorism incidents whose category in unclear. LnTotter: Total number of terrorism incidents.

The following findings can be established with regards to total aid and terrorism in Table 6.

First, total aid: (i) increases domestic terrorism from the 0.50th to the 0.75th quantile; (ii)

increases transnational terrorism from the 0.10th to the 0.25th quantile but decreases it at the 0.90th quantile; (iii) has no significant effect on unclear terrorism and (iv) consistently increases total terrorism in a U-shape pattern from the 0.25th to the 0.75th quantiles. Second, the significant control variables have the expected signs.

Table 6: Total aid, Terrorism

Dependent Variable: Terrorism (Ln)												
Panel A: Domestic Terrorism and Transnational Terrorism												
	Domestic Terrorism (LnDomter)						Transnational Terrorism (LnTranater)					
	OLS	Q.10	Q.25	Q.50	Q.75	Q.90	OLS	Q.10	Q.25	Q.50	Q.75	Q.90
Constant	-4.85*** (0.000)	-1.09*** (0.000)	-4.69*** (0.001)	-6.07*** (0.000)	-3.905** (0.017)	-3.153 (0.371)	-2.262** (0.012)	-1.87*** (0.000)	-5.22*** (0.001)	-1.345 (0.257)	0.293 (0.872)	-0.724 (0.702)
LnTotaid (Total aid)	0.207** (0.030)	0.000 (0.992)	0.104 (0.390)	0.270*** (0.006)	0.379*** (0.000)	0.177 (0.435)	0.101 (0.148)	0.057*** (0.006)	0.187* (0.085)	0.132 (0.128)	0.097 (0.464)	-0.175* (0.089)
GDPg	-0.023 (0.325)	0.000 (0.983)	-0.018 (0.541)	-0.015 (0.563)	-0.014 (0.643)	-0.020 (0.175)	0.001 (0.933)	-0.0009 (0.897)	-0.031 (0.286)	-0.008 (0.705)	0.029 (0.468)	0.019 (0.583)
LnInflation	0.216*** (0.000)	0.000 (0.986)	0.068 (0.363)	0.255*** (0.000)	0.232*** (0.004)	0.254* (0.074)	0.156*** (0.001)	0.058*** (0.000)	0.155** (0.048)	0.115* (0.050)	0.152* (0.085)	0.234*** (0.005)
LnInfrastructure	0.386*** (0.000)	-0.000 (0.987)	0.313** (0.045)	0.473*** (0.000)	0.400*** (0.002)	0.194 (0.437)	0.255*** (0.002)	0.056 (0.140)	0.190 (0.216)	0.237** (0.033)	0.399** (0.011)	0.239* (0.059)
LnXrate (Exchange rate)	0.016 (0.477)	0.000 (0.996)	0.088*** (0.002)	-0.011 (0.653)	-0.035 (0.245)	-0.015 (0.770)	0.012 (0.419)	0.001 (0.876)	0.010 (0.741)	-0.007 (0.723)	-0.001 (0.950)	0.046 (0.119)
Ln (Political globalisation)	0.814** (0.014)	-0.000 (0.999)	0.700* (0.077)	0.944*** (0.008)	0.588 (0.186)	0.935 (0.332)	0.252 (0.294)	0.048 (0.619)	0.714* (0.073)	0.006 (0.982)	-0.270 (0.565)	0.539 (0.233)
Civil Conflicts	0.451*** (0.000)	0.298*** (0.000)	0.465*** (0.000)	0.558*** (0.000)	0.490*** (0.000)	0.539*** (0.000)	0.264*** (0.000)	0.179*** (0.000)	0.240*** (0.000)	0.281*** (0.000)	0.295*** (0.000)	0.268*** (0.000)
Pseudo R ² /R ²	0.356	0.069	0.137	0.221	0.298	0.268	0.270	0.095	0.128	0.160	0.155	0.23
Fisher	20.08***						16.03***					
Observations	364	364	364	364	364	364	314	314	314	314	314	314

Panel B: Unclear Terrorism and Total Terrorism												
	Unclear Terrorism (LnUnclter)						Total Terrorism (LnTotter)					
	OLS	Q.10	Q.25	Q.50	Q.75	Q.90	OLS	Q.10	Q.25	Q.50	Q.75	Q.90
Constant	-2.405* (0.079)	-1.09*** (0.000)	-1.780** (0.013)	-1.296 (0.753)	-2.884 (0.199)	-4.087 (0.281)	-3.72*** (0.001)	-1.544** (0.013)	-4.49*** (0.007)	-4.78*** (0.001)	-2.225 (0.164)	-0.439 (0.809)
LnTotaid (Total aid)	0.010 (0.934)	0.000 (1.000)	0.043 (0.479)	0.069 (0.724)	0.015 (0.938)	-0.252 (0.548)	0.241*** (0.007)	0.052 (0.310)	0.349*** (0.007)	0.261*** (0.009)	0.444*** (0.000)	0.248 (0.076)
GDPg	-0.043 (0.110)	0.000 (1.000)	- (0.003)	-0.051 (0.281)	-0.017 (0.678)	-0.060 (0.359)	-0.032 (0.192)	-0.024* (0.098)	-0.089** (0.017)	-0.017 (0.538)	-0.002 (0.948)	-0.010 (0.792)
LnInflation	-0.005 (0.921)	0.000 (1.000)	-0.016 (0.673)	0.022 (0.856)	-0.051 (0.663)	-0.094 (0.398)	0.214*** (0.000)	0.033 (0.225)	0.097 (0.264)	0.238*** (0.001)	0.255*** (0.002)	0.240** (0.015)
LnInfrastructure	0.203 (0.131)	0.000 (1.000)	0.204*** (0.002)	0.186 (0.403)	0.193 (0.396)	-0.060 (0.897)	0.358*** (0.001)	0.052 (0.465)	0.388** (0.024)	0.370*** (0.003)	0.543*** (0.000)	0.395** (0.012)
LnXrate (Exchange rate)	-0.008 (0.758)	0.000 (1.000)	0.021 (0.133)	-0.039 (0.400)	-0.036 (0.416)	-0.048 (0.555)	0.005 (0.800)	-0.002 (0.878)	0.027 (0.387)	-0.015 (0.562)	-0.043 (0.099)	-0.009 (0.796)
Ln (Political globalisation)	0.535 (0.186)	0.000 (1.000)	0.108 (0.531)	0.131 (0.829)	0.820 (0.202)	1.829 (0.164)	0.566* (0.069)	0.038 (0.820)	0.440 (0.320)	0.745** (0.044)	0.085 (0.842)	0.130 (0.794)
Civil Conflicts	0.286*** (0.000)	0.000 (1.000)	0.214*** (0.000)	0.356*** (0.000)	0.381*** (0.000)	0.463*** (0.000)	0.470*** (0.000)	0.389*** (0.000)	0.481*** (0.000)	0.568*** (0.000)	0.475*** (0.000)	0.534*** (0.000)
Pseudo R ² /R ²	0.240	-0.000	0.130	0.148	0.207	0.200	0.361	0.123	0.146	0.218	0.279	0.275
Fisher	11.14***						31.58***					
Observations	205	205	205	205	205	205	404	404	404	404	404	404

*** ** * : significance levels of 10%, 5% and 1% respectively. GDPg: GDP growth rate. OLS: Ordinary Least Squares. R² for OLS and Pseudo R² for quantile regression. Lower quantiles (e.g., Q 0.1) signify nations where Terrorism is least. LnDomter: Number of Domestic terrorism incidents. LnTranater: Number of Transnational terrorism incidents. LnUnclter: Number of terrorism incidents whose category in unclear. LnTotter: Total number of terrorism incidents.

3.2 Further discussion of results and policy implications

We further discuss the results in three main strands, notably: (i) the overwhelming negative effect of foreign aid variables on terrorism dynamics, (ii) comparing effects across panels and specifications and (iii) comparing and contrasting findings with previous studies that have employed the same dataset.

The consistent negative impact of foreign aid on terrorism (especially the effects of bilateral and total aid) may be explained from three angles: the motives of aid, insufficiency of aid and usage of aid (mismanagement). First, the motives of aid substantially vary from one donor to another. For instance, while the USA is substantially involved in Africa for security reasons, China's and France's presence in the continent are fundamentally driven by economic and politico-economic interests respectively. It also depends on the outcome of bargaining among donors *“Aid is the outcome of bargaining in a kind of political market made up of donor aid bureaucracies, multilateral aid agencies and recipient government officials. Indeed donors pursue multiple goals and these vary over time. For instance, economic gains seem important in Japanese aid, global welfare improvement in Nordic aid and political goals in French aid. Hence, few would object to the inference that our findings may also be explained by a motivation of the French to maintain their colonial legacies and influence in Africa”* (Asongu, 2014c, p. 472). In light of the above, the effect of aid on terrorism may be counterproductive, partly because it may also fail to address the root causes of terrorism which are often associated with inequality, religious fundamentalism and aversion to neo-colonialism, among others. This explanation is broadly consistent with the stance in the literature sustaining that overly reliance on development assistance could promote political instability owing to diminishing political accountability and low representation (Eubank, 2012; Asongu, 2015).

Second, insufficient foreign aid devoted to fighting terrorism (through inter alia, subsidising government expenditure, education, stimulating economic growth...etc) may end-up instead producing the opposite effect. For instance, much has been documented on the Free Syrian Army (FSA) joining the ranks of the Islamic State of Iraq and the Levant (ISIL) because of insufficient or lack of aid (Sherlock, 2014). Accordingly, in June 2014, nine USA-backed FSA commanders quit because of lack of aid (Syrian Free Press, 2014)².

²Some relevant excerpts from the Syrian Free Press include: *“While we thank donor countries for their assistance, it has been really insufficient, and simply too little to win the fight”*...*“We are fighting both the army*

Third, moral issues in the usage of funds like corruption and concentration of resources among the military elite could also explain the negative relationship. For instance, Efobi et al. (2015) have conditioned the effectiveness of development assistance in the fight against terrorism on corruption-control. Moreover, the FSA commanders have been living lavishly in Turkey instead of going to the battle front (Syrian Free Press, 2014). This point also doubles as ‘strategic and tactical military issues’ which we cannot engage to elaborate detail because they are beyond our expertise and out of scope.

As a policy implication, it is important to: (i) tailor foreign aid towards addressing the root causes of terrorism instead of the remote causes; (ii) increase aid to preventing freedom fighters from joining enemy ranks (iii) use corruption-free mechanisms to channel foreign aid destined to fighting and/or preventing terrorism.

In the second strand, it is relevant to compare the effects across panels and specifications. After comparing the findings, the following merit some elucidation: (i) the effect of total aid is driven substantially by bilateral aid, (ii) but for some significant effects on transnational terrorism, the impact of multilateral aid is consistently not significant and (iii) the finding that all forms of aid consistently mitigate transnational terrorism in the 0.90th quantile.

First, the fact that bilateral aid is established to substantially drive total aid builds on the evidence that their findings have similar tendencies in terms of significance for the most part, when compared. This tendency is unsurprising because bilateral (multilateral) aid is correlated with total aid at the height of 0.958 (0.772). We may therefore exceptionally establish that contrary to mainstream econometrics cautions, correlations here are relevant in determining causality.

Second, the fact that bilateral (multilateral) aid is overwhelmingly (scantly) significant in affecting terrorism, may be traceable to the; (i) size-effect in total aid and (ii) political economy of foreign aid. (1) From the size-effect in total aid, consistent with the narrative provided in the preceding paragraph, it is logical to expect bilateral aid to be closely related to the effect of total aid and hence, significantly different from the effects of multilateral aid because it is more closely associated with total foreign aid. Moreover, the greater the quantity of aid destined for a given development project, the more it is likely to be

and the Islamic State of Iraq and Syria (ISIS),”.... “Yet we haven’t got the help we need from countries who say they support our demands for democracy and a civil state.”

used positively or negatively to influence the underlying development outcome. (2) The greater significant influence of bilateral aid may be explained by the political economy of foreign aid. The strings attached to bilateral aid vis-à-vis multilateral aid are more likely to be greater because the negotiation process involves two parties and consensus is easily reached on the allocation of funds to fight terrorism purposes. Conversely, with respect to multilateral development assistance, multiple donors are involved with potentially conflicting interest at play. Whereas recent survey of the literature has established no apparent evidence on the effectiveness of one form of aid vis-à-vis another, when it comes to development outcomes in recipient countries (Biscaye et al., 2015), the political economy explanation provided sounds logical on two grounds: (i) it relates to differences in significance and not in terms of the signs of significance and (ii) from common sense bilateral aid may engender less bureaucracy and ineffectiveness (e.g. from former colonial powers to former colonies with the prime ambition of preserving some colonial legacies and strategic interests).

Two policy implications results from the above, notably the need to work towards: a reversal of the positive effect of bilateral aid and an understanding of reasons behind the overwhelming insignificance of the multilateral aid effect.

Third, the fact that all forms of aid consistently mitigate transnational terrorism in the 0.90th quantile has a very straight forward policy implication: foreign aid is more effective at fighting terrorism exclusively in countries where existing levels of transnational terrorism are highest. This finding is consistent with our theoretical underpinnings from Boutton and Carter (2013) because donors have been documented to allocate more aid towards fighting transnational terrorist activities in recipient countries because they are more likely to target their interests. Moreover, the propensity of donor interest at stake is likely to increase with initial levels of transnational terrorism, such that the effect of foreign aid is most significant in recipient countries with the highest levels of transnational terrorism.

The third strand is in line with the motivation provided for the choice of our data and sample. Hence, we devote space to discussing how the findings relate to and/or differ from those established by the literature based on the same sample. It should be noted that while Bandyopadhyay et al. (2014) and Efobi et al. (2015) have employed FDI as the development outcome, we have directly assessed the effect of foreign aid on terrorism. Accordingly, the underlying studies have investigated the hypothetical role of foreign aid in dampening the potentially negative effect of terrorism on FDI (Bandyopadhyay et al., 2014), contingent on corruption-control levels in recipient countries (Efobi et al., 2015). Whereas the former has

established evidence of the underlying hypothesis, results of the latter have only partially confirmed findings of the former.

For the purpose of avoiding repetitions and interest of remaining succinct, the results as discussed above improve our understanding of prior exposition by clarifying the hypothetically negative effect of foreign aid on terrorism. From our findings, we have established that foreign aid (bilateral, multilateral and total) is effective at fighting terrorism exclusively in countries where existing levels of transnational terrorism are highest. Two policy implications are apparent. First, it is relevant to first of all establish that foreign aid mitigates terrorism before assessing its role in potentially mitigating the negative effect of terrorism on macroeconomic outcomes. Second, Applied econometrics should not be restricted to the refutation or acceptance of existing theories. Therefore, extending previous studies with the same periodicity and sample is also a very useful scientific activity that discloses interesting policy implications.

4. Conclusion and further directions

We have built on previous literature to assess when foreign aid is effective in fighting terrorism using quantile regressions on a panel of 78 developing countries for the period 1984-2008. Bilateral, multilateral and total aid indicators are used whereas terrorism includes: domestic, transnational, unclear and total terrorism dynamics. We have consistently established that foreign aid (bilateral, multilateral and total) is effective at fighting terrorism exclusively in countries where existing levels of transnational terrorism are highest. This finding is consistent with our theoretical underpinnings from Boutton and Carter (2013) because donors have been documented to allocate more aid towards fighting transnational terrorist activities in recipient countries because they are more likely to target their interests. Moreover, the propensity of donor interest at stake is likely to increase with initial levels of transnational terrorism, such that the effect of foreign aid is most significant in recipient countries with the highest levels of transnational terrorism.

We summarise results from which the main finding is extracted as follows. First, bilateral aid: (i) increases domestic terrorism consistently with increasing magnitude from the 0.25th to the 0.75th quantile; (ii) increases transnational terrorism from the 0.10th to the 0.50th quantile but decreases it at the 0.90th quantile; (iii) has no significant effect on unclear terrorism and (iv) consistently increases total terrorism in a wave-like pattern. Second, multilateral aid has: (i) no significant effect on domestic, unclear and total terrorisms and (ii)

a positive effect in the 0.10th and 0.25th quantiles and negative effect in the 0.90th quantile. Third, total aid (i) increases domestic terrorism from the 0.50th to the 0.75th quantile; (ii) increases transnational terrorism from the 0.10th to the 0.25th quantile but decreases it at the 0.90th quantile; (iii) has no significant effect on unclear terrorism and (iv) consistently increases total terrorism in a U-shape pattern from the 0.25th to the 0.75th quantiles.

Future research directions could focus on inter alia: (i) using a post-Arab Spring periodicity to assess new patterns of the underlying relationships; (ii) engage country-specific studies because while the effect of foreign aid on terrorism have been substantially negative in this study, the involvement of Kenya in Somalia to fight Al Shabab with USA aid (for example) is proving successful and (iii) decomposing developing assistance into sector-specific aid could improve our insights into the aid-terrorism nexus.

References

Akinwale, A. K., (2010). "Integrating the traditional and the modern conflict management strategies in Nigeria", Department of Sociology, Faculty of Social Sciences, University of Ibadan, Nigeria.

Arnet, G., (2015), "Global peace index 2014: every country ranked", *The Guardian*, <http://www.theguardian.com/news/datablog/2014/jun/18/global-peace-index-2014-every-country-ranked> (Accessed: 17/06/2015).

Asongu, S. A., (2013). "Fighting corruption in Africa: do existing corruption-control levels matter?", *International Journal of Development Issues*, 12(1), pp. 36-52.

Asongu, S. A., (2014a). "Globalization (fighting), corruption and development: How are these phenomena linearly and nonlinearly related in wealth effects?", *Journal of Economic Studies*, 3(3), pp. 346-369.

Asongu, S. A., (2014b). "The impact of health worker migration on development dynamics: evidence of wealth effects from Africa", *The European Journal of Health Economics*, 15(2), pp. 187-201.

Asongu, S. A., (2014c). "The Questionable Economics of Development Assistance in Africa: Hot-Fresh Evidence, 1996-2010", *The Review of Black Political Economy*, 41(4), pp. 455-480.

Asongu, S. A., (2015). "On Taxation, Political Accountability and Foreign Aid: Empirics to a Celebrated Literature", *South African Journal of Economics*, 83(2), pp. 180-198.

Asongu, S. A., &Nwachukwu, J. C., (2015). “Revolution empirics: predicting the Arab Spring”, *Empirical Economics*: Revised and Resubmitted.

Asongu, S. A., &Nwachukwu, J. C., (2016). “The Role of Lifelong Learning in Political Stability and Non-violence: Evidence from Africa”, *Journal of Economic Studies*: Forthcoming.

Asongu, S. A., Efobi, U., &Beecroft, I., (2015). “FDI, Aid, Terrorism: Conditional Threshold Evidence from Developing Countries”, *African Governance and Development Institute Working Paper No. 15/019*.

Azam, J. P., & Thelen, V. (2008).The roles of foreign aid and education in the war on terror.*Public Choice*, 135(3-4), 375-397.

Azam, J. P., &Thelen, V. (2010).Foreign aid versus military intervention in the war on terror.*Journal of Conflict Resolution*, 54(2), 237-261.

Bandyopadhyay, S., Sandler, T., &Younas, J., (2014). “Foreign direct investment, aid, and terrorism”, *Oxford Economic Papers*, 66(1), pp. 25-50.

Bandyopadhyay, S., &Younas, J., (2014), “Terrorism: A Threat to Foreign Direct Investment”, *Doing Business AbroadPolicy Report*
https://www.stlouisfed.org/~media/Files/PDFs/publications/pub_assets/pdf/re/2014/d/terrorism.pdf(Accessed: 29/04/2015).

Beets, S. D., (2005).“Understanding the Demand-Side Issues of International Corruption.”*Journal of Business Ethics*, 57 (1), pp. 65-81.

Billger, S. M., & Goel, R. K., (2009), “Do existing corruption levels matter in controlling corruption? Cross-country quantile regression estimates”, *Journal of Development Economics*, 90, pp. 299-305.

Biscaye, P., Harris, K. P., Reynolds, T., & Anderson, C. L., (2015). “Relative Effectiveness of Bilateral and Multilateral Aid on Development and Social Outcomes”, *Evans School of Policy Analysis and Research (EPAR) Brief No. 294*, Seattle, Washington.

Black, D., (1990). The elementary forms of conflict management. New York, Plenum Press.

Borg, M. J., (1992). “Conflict management in the modern world-system”.*Sociological Forum*, 7(2), pp. 261-282.

Brockhoff, S., Kieger, T., &Meierrieks, D., (2014). “Great Expectations and Hard Times - The (Nontrivial) Impact of Education on Domestic Terrorism”, *Journal of Conflict Resolution*: doi: 10.1177/0022002713520589.

Boutton, A., and Carter, D. B., (2013). “Fair-Weather Allies? Terrorism and the Allocation of US Foreign Aid”, *Journal of Conflict Resolution*, 50(7), pp. 1144-1173.

Choi, S-W., (2015). "Economic growth and terrorism: domestic, international, and suicide", *Oxford Economic Papers*, 67(1), pp. 157-181.

Choi, S-W., (2010). "Fighting Terrorism through the Rule of Law?", *The Journal of Conflict Resolution*, 54(6), pp. 940-966.

Costa, A., Hernandez, M., & Sebastian-Gallés, N., (2008). "Bilingualism aids conflict resolution: Evidence from the ANT task", *Cognition*, 106 (1), pp. 59-86.

Efobi, U., Asongu, S., & Beecroft, I., (2015). "Foreign Direct Investment, Aid and Terrorism: Empirical Insight Conditioned on Corruption Control", *African Governance and Development Institute Working Paper No. 15/007*, Yaoundé.

Eubank, N., (2012), "Taxation, Political Accountability and Foreign Aid: Lessons from Somaliland", *Journal of Development Studies*, 48(4), pp. 465-480.

Feridun, M., & Shahbaz, M., (2010). "Fighting Terrorism: Are Military Measures Effective? Empirical Evidence from Turkey", *Defence & Peace Economics*, 21(2), pp. 193-205.

Gaibulloev, K., & Sandler, T., (2009). "The impact of terrorism and conflicts on growth in Asia", *Economics and Politics*, 21(3), pp. 359-383.

Gardner, K. L., (2007). "Fighting Terrorism the FATF Way". *Global Governance: A Review of Multilateralism and International Organisation*, 13(3), pp. 325-345.

Ghosh, J., (2013). "Towards a Policy Framework for Reducing Inequalities", *Development*, 56(2), pp. 218-222.

Gries, T., Krieger, T., & Meierrieks, D., (2011). "Causal Linkages Between Domestic Terrorism and Economic Growth", *Defence and Peace Economics*, 22(5), pp. 493-508.

Heyneman, S. P., (2002). "Defining the Influence of Education on Social Cohesion", *International Journal of Educational Policy, Research and Practice*, 3(4), pp. 73-97.

Heyneman, S. P., (2008a). "Education, social cohesion and ideology. In Right to Education: Policies and Perspectives, edited by Emin Karip, 89-104. Ankara: Turkish Education Association.

Heyneman, S. P., (2008b). "Buying your way into Heaven: The corruption of education systems in global perspective.", *Perspectives on Global Issues*, 2 (1), pp. 1-8.

Hoffman, A. M., Shelton, C., & Clevon, E., (2013). "Press Freedom, Publicity, and the Cross-National Incidence of Transnational Terrorism", *Political Research Quarterly*, 66 (4), pp. 896-909.

Humphreys, M., (2005). "Natural Resources, Conflict, and Conflict Resolution. Uncovering the Mechanisms", *Journal of Conflict Resolution*, 49 (4), pp. 508-537.

International Country Risk Guide. (2010) The political risk services group, available at

<http://www.prgsgroup.com/icrg.aspx>(Accessed 10 October 2010).

Khandelwal, P., & Roitman, A., (2012). “The Economics of Political Transitions: Implications for the Arab Spring”, *IMF Working Paper* No. 13/69, Washington.

Koenker, R., & Hallock, F.K., (2001), “Quantile regression”, *Journal of Economic Perspectives*, 15, pp.143-156.

Koh, W. T. H., (2007). “Terrorism and its impact on economic growth and technological innovation”, *Technological Forecasting and Social Change*, 74(2), pp. 129-138.

Lalountas, D.A., Manolas, G.A., & Vavouras, I. S., (2011), “Corruption, globalization and development: How are these three phenomena related?”, *Journal of Policy Modeling*, 33, pp.636- 648.

Le Roux, S., & Kelsey, D., (2015a). “Dragon Slaying with Ambiguity: Theory and Experiments”, Sara le Roux, Department of Economics, Oxford Brookes University.

Le Roux, S., & Kelsey, D., (2015b). “Strategic Substitutes, Complements and Ambiguity: An Experimental Study”, Department of Economics, Oxford Brookes University.

Meierrieks, D., & Gries, T., (2013). “Causality between terrorism and economic growth”, *Journal of Peace Research*, 50(1), pp. 91-104.

Öcal, N., & Yildirim, J., (2010). “Regional effects of terrorism on economic growth in Turkey: A geographically weighted regression approach”, *Journal of Peace Research*, 47(4), pp. 477-489.

Okada, K., & Samreth, S., (2012), “The effect of foreign aid on corruption: A quantile regression approach”, *Economic Letters*, 115(2), pp. 240-243.

Oreopoulos, P., & Salvanes, K. G., (2009). “How Large are Returns to Schooling? Hint: Money Isn’t Everything.”, *NBER Working Paper* No. 15339, Massachusetts.

Piazza, J. A., (2006). “Rooted in Poverty?: Terrorism, Poor Economic Development, and Social Cleavages”, *Terrorism and Political Violence*, 18(1), pp. 159-177.

Rodrik, D., (2008). “The Real Exchange Rate and Economic Growth”, Harvard University, <http://www.hks.harvard.edu/fs/drodrik/Research%20papers/RER%20and%20growth.pdf>(Accessed: 29/04/2015).

Shahbaz, M., Shahbaz, S., M., Nasir, M. M., & Edward, W. M., (2013). “An analysis of a causal relationship between economic growth and terrorism in Pakistan”, *Economic Modelling*, 35(September), pp. 21-29.

Shahzad, S. J. H., Zakaria, M., Rehman, M. U., Ahmed, T., & Fida, B. A., (2015) “Relationship Between FDI, Terrorism and Economic Growth in Pakistan: Pre and Post 9/11 Analysis”, *Social Indicators Research*, (March, 2015)
<http://link.springer.com/article/10.1007%2Fs11205-015-0950-5>

Sherlock, R., (2014). “‘Moderate’ Syrian rebels defecting to ISIS, blaming lack of U.S. support and weapons”, *National Post*,
<http://news.nationalpost.com/news/moderate-syrian-rebels-defecting-to-isis-blaming-lack-of-u-s-support-and-weapons> (Accessed: 19/06/2015).

Singh, P., (2001). “Punjab Terrorism: Truth Still Uncovered”, *Economic and Political Weekly*, 36 (40), pp. 3829-3831.

Singh, P., (2007). “The Political Economy of the Cycles of Violence and Non-violence in the Sikh Struggle for Identity and Political Power: implications for Indian federalism”, *Third World Quarterly*, 28(3), pp. 555-570.

Syrian Free Press (2014). “9 of the US Backed “Free Syrian Army” Commanders Have Quit, Claim “Lack of Aid””, *The Real Syrian Free Press Network*,
<https://syrianfreepress.wordpress.com/2014/06/15/9-of-the-us-backed-free-syrian-army-commanders-have-quit-claim-lack-of-aid/> (Accessed: 19/06/2015).

Thomas, K.W., (1992). Conflict and negotiation processes in organisations. In: Dunnette, M.D. and L.M. Hough eds. *Handbook of industrial and organisational psychology*. Palo Alto, CA, Consulting Psychologists Press. pp. 651-717.

Volkema, R. J., & Bergmann, T. J., (1995). “Conflict styles as indicators of behavioural patterns in interpersonal conflicts”. *The Journal of Social Psychology*, 135 (1), pp. 5-15.