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DOES BAD GOVERNANCE CAUSE ARMED CONFLICT?

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Abstract: *The issue of governance and armed conflict has been debated in recent years. Economists recognized that good governance is central to achieving higher economic development and also ending conflict. In this study, we investigate the effect of governance on armed conflict in 80 selected developing economies for the period 1996-2013. Using Logit model, we determine the response of armed conflict on six measures of governance: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption in a panel setting. As control variables, we include polity, polity square, social polarization, population and rugged terrain in the model. Interestingly, our results strongly suggest that good governance does contribute to reduce armed conflict. All the governance indicators show significant and negative impact on armed conflict. Moreover,our results suggest that the dimension of political stability and absence of violence is the best governance tool to end armed conflict.*

JEL classification: *D74, H11, H56*

Keywords: *Armed conflict, Governance, Logit model, Developing countries*

1. INTRODUCTION

After the end of the Cold War, a boom in the study of armed conflicts started. Among the many researchers engaged in investigation in this discipline are Collier and Hoeffler (1998, 2002, 2004), Elbadawi and Sambanis (2000), Fearon and Laitin (2003), Herge and Sambanis (2006), Blomberg *et al*. (2006), and Collier *et al*. (2009). Various models of armed conflict have been put forward, among which the two significant models are proposed by Collier and Hoeffler (2004) to explain the risk of civil war: theopportunity model and the grievance model.

According to the opportunity model, income foregone, geography and financing may increase the risk of civil war. In their study, Collier and Hoeffler (2004) use per capita income and rate of economic growth to proxy for income foregone and mountainous terrain for geography, whilefinancing is representedby primary commodity exports. Their results show that slow economic growth

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increases the risk of civil war. This finding is in line with earlier studies byCollier and Hoeffler (1998), Elbadawi and Sambanis (2000), Collier and Hoeffler (2002), Fearon and Laitin (2003); and further corroborated by later studies ofHerge and Sambanis (2006),Blomberg *et al.* (2006), Collier *et al.* (2009). Nevertheless, the results of Collier and Hoeffler (2004) do not suggest that mountainous countries face higher risk of war, which contrastFearon and Laitin (2003) whose findings show that mountainous terrain is positively relatedto higher risk of war.

A number of studies have found that natural resourcesarean important variable inthe opportunity model (Collier and Hoeffler, 2002, 2004). Undoubtedly, rebels will utilize natural resources to finance their warfare and increase their private income (Ross, 2004). To prove their point, Collier and Hoeffler (2002) usethe share of primary commodity export to GDP to proxy for natural resource wealth. They conclude that the ratio of primary commodity export to GDP increases the probability of civil war (Collier and Hoeffler, 2002). They further argue that rebels will have more motivation to engage in armed conflict when primary commodity exports to GDP increases.

Fearon and Laitin (2003) and Fearon (2005) use oil exports to proxy natural resources. However, they found that the relationship between natural resourcesand the probability of civil war onset is insignificant. Similarly, though contrary to the conclusions of their earlier study, Collier *et al.* (2004) found that the effects of primary commodities are not significant during the period under study. However, their results suggest that the duration of conflict willbe shortened when price of primary commodities decreases.Fearon (2004) used contraband such as opium, diamonds or coca to proxy for natural resources and found that natural resources lengthen the duration of civil war. Humphreys (2005) employed diamond production per capita, and oil production and reserves per capita to proxy for natural resources and found that natural resources shorten the duration of war.

On the other hand, Lujala *et al.* (2005) used diamond deposits and production to proxy for natural resources. By disaggregating data on diamonds into primary diamonds (non-lootable natural resource) and secondary diamonds (lootable); they foundstrong bivariate relationships between diamonds and civil war onset. The results indicate that the production of secondary diamonds increases the risk of ethnic war onset and the relationships between secondary diamonds and civil war is positive. In contrast, primary diamonds do not increase the risk of ethnic war onset. In another study, De Soysa and Neumayar (2007) disaggregate natural resource rents into mineral and energy rents and rents of these resources are deflated with gross national income. They found that energy wealth increases the risk of civil war onset but not mineral wealth.

For the grievance model, Collier and Hoeffler (1998, 2004) include inequality in terms of political and economic rights, income inequality, and ethnic or religious

diversities to examine the risk of civil war. Collier and Hoeffler (1998) found that ethno-linguistic fractionalization is significant and suggestsa strong determinant of the duration and the probability of civil wars. On the other hand, contrary to the earlier findings by Collier and Hoeffler (1998), Elbadawi and Sambanis (2000) conclude that ethno-linguistic fragmentation is not an important factor that increaseswar in Africa. Nevertheless, Elbadawi and Sambanis (2000) stress that weak political institutions increase the incidence of war in Africa. Furthermore, Elbadawi and Sambanis (2000) suggest that instituting democratic reforms could prevent future civil wars in Africa.

The study by Fearon and Laitin (2003) posit that civil violence is not likely to occur in more ethnically or religiously diverse countries when controlling for per capita income. Nevertheless, they conclude that countries are at risk of civil war because of the conditions that favor insurgency and not due to their ethnic or religious diversity. The conditions that favor insurgency include poverty,financially and bureaucratically weak states, political instability, rough terrain and large population. Collier and Hoeffler (2004) argue that inequality, political right, ethnic polarization and religious fractionalization arenot important factors in igniting civil war. However, Herge and Sambanis (2006) conclude that countries with recent political instability and inconsistent democratic institutions, small militaries and rough terrain, war-prone and undemocratic neighbor are more prone to civil wars.

The purpose of the present study is to investigate the effect of governance on armed conflict. Surprisingly, there is a lack of research on the dynamics between armed conflict and governance, even though one of the foremost groups in conflict research (Collier *et al.*) and the leading group in governance research (Kaufmann *et al.*) have both provided the framework that can link research on both these two aspects. In this study we investigate the effect of governance on armed conflict in 80 selected developing economies for the period 1996-2013. Using Logit model, our results suggest that good governance can reduce armed conflict.

The paper is organized as follows. In the next section we discuss some related literature on governance and armed conflict. Section 3 presents the model and variables used in the analysis. Our results are discussed in section 4, while the last section contains our conclusion.

2. LITERATURE REVIEW

The issues of governance and armed conflict have been debated in recent years whereby the Department for International Development (DFID) (2006) concludes that governance is central to achieving economic development and ending conflict. Bad governance is seen to be a major problem for economic growth and improved welfare in poor countries (Moore, 2001). In fact, bad governance has severe impact on economic growth. Wilkin (2011) concludes that bad governance is correlated

with development failure. For instance, Zimbabwe under the rule of President Robert Mugabe since 1998 had experiencedbad governance which had led to economic collapse (Collier, 2007). The country faces hyperinflation which had reached a rate of over 1,000 percent a year. Living standard and livelihood are adversely affected, and people suffer immensely as a result.

Bad governance does not improve the welfare of the people. For example, in 2004, the Ministry of Finance in Chad, a nation plagued by bad governance, investigates how much money dispersedfor public health services actually reached the clinics. Surprisingly, it was found that less than 1% of the funds actually reached the clinics while the balance 99% failed to arrive at their destination (Collier, 2007). Consequently, people in Chad are denied of good quality health care.

As United Nation Children's Fund (UNICEF) (2004:34) notes, "corruption and bad governance were among the causes of war. The majority of the people had no voice in the government and no opportunities in life and so they were easily provoked to violence". This view was demonstrated by the episodes of violent conflict in the Democratic Republic of Congo (DRC) following the practice of bad governance and lack of democracy in the country. In 1994, the Rwandan genocide laid the foundation forconflict in the DRC (Shekhawat, 2009). Shyala (2008) concludes that the failure and the breakdown of the states in DRC in 1990's, Uganda between 1981 and 1986, Burundi between 1983 and 1996 and Rwanda in 1994, are the results of bad leadership and bad governance. Corruption, nepotism, exclusion, injustice and unequal distribution of national resources have become the primary indicators of the sort of governance found in these countries. In fact, many countries in Africa that are without any system of good governance in place, show an association between conflicts and poor law enforcement in protecting the natural resource base and in observing human rights (Adano and Daudi, 2012).

Similarly, bad governance and the ambitions of power and wealth cause the civil wars in Liberia (Bah, 2010). In 1989, Liberia experienced the first violent civil war following the invasion by Charles Taylor's National Patriotic Front of Liberia. In 1997, Charles Taylor became the President of Liberia. In 1999, Liberia was plunged into a second civil war because of ethnic tensions, corruption, subjugation and poverty among the people (Annan, 2014). By the end of the second civil war, terrible acts of violence and atrocities against civilians in Liberia such as rape, torture, indiscriminate beating, killing and abduction had been committed (Vinck *et al.*, 2011).

Mali is another African nation that has suffered civil war and recurrent political instability, and bad governance led not only to the politicization of the army and security agencies, but also to the fragility of the state. Francis (2013: 5) stresses that "poverty, bad governance, marginalization, the exclusion of large sections of the Malian populace from the political and economic processes and the failure to

address fundamental grievances by the ruling and governing class in Mali created the breeding ground for Islamist extremists to gain a foothold" in Mali.

On the other hand, Usman *et al.* (2013) argue that bad governance and corruption are linked to conflict in Nigeria. In fact, the politicians themselves play a role in inciting conflict by capitalizing on the hostile ethnic nature of the Nigerian state in order to divert attention from failures in their leadership. Earlier Salawu (2010) contends that the failure of the Nigerian leaders to establish good governance has resulted in communal, ethnic, religious and class conflicts. Furthermore, poverty and unemployment have driven people to resort to violence and joining the rebels.

Empirical studies have indicated that good governance can mitigate armed conflicts. Norris (2011) asserts that countries with strong governance capacity such as control over corruption, maintain law and order, and can deliver effective public goods and services appear less vulnerable to the threat of armed internal conflict. This is supported by Fearon (2011) in which the governance indicators – government effectiveness, political stability and the rule of law are found to be important determinants in mitigating armed conflict onset.

On the other hand, the work of Hegre and Nygard (2014) also conclude that good governance is crucial to reducing the risk of conflict recurrence. Hegre and Nygard (2014:26) contend that "Countries that have experienced conflict have a higher risk of seeing renewed conflict. The risk of renewed conflict in countries with good governance, however, drops rapidly after the conflict has ended. In countries characterized by poor governance, this process takes much longer." Hence, improving governance is important to reduce the incidence of conflict. In another study, Walter (2014) concur that bad governance leads to repeat civil war. Walter (2014) posits that in a country ruled by a weak government which is unaccountable to the public, restrains public participation in economic and political process, and limits information and transparency; civil wars are more likely to repeat themselves. Conversely, rebels that face government leaders constrained by an independent judiciary, an empowered public, and an open and objective media are more likely to lay down their weapons and are less likely to use violence to keep the government in line (Walter, 2014). Similarly, Choi and Raleigh (2015) agree that with higher levels of political participation, the risk of violent and civil war is lower.

3. METHODOLOGY

In this study, the armed conflict model can be specified as follows,

$$ACD = f(GV, POL, POL^2, INSTB, SP, PP, RUG) \quad (1)$$

where ACD is armed conflict dummy, GV is the six dimensions of governance, namelyvoice and accountability (VA), political stability and absence of violence/

terrorism (PSV), government effectiveness (GE), regulatory quality (RQ), rule of law (RL), and control of corruption (CC); POL is polity, POL^2 is polity squared, INSTB is instability, SP is social polarization, PP is population, and RUG is ruggedness. For empirical analysis, armed conflict model will be specified in a stochastic form as follows:

$$ACD_{it} = \alpha_0 + \alpha_1 GV_{it} + \alpha_2 POL_{it} + \alpha_3 POL^2_{it} + \alpha_4 INSTB_{it} + \alpha_5 SP_{it} + \alpha_6 PP_{it} + \alpha_7 RUG_{it} + \varepsilon_{it} \quad (2)$$

where $i = 1, ..., N$ refers to countries, $t = 1, ..., T$ refers to period of time, and ε_{it} is the error term.

Since the dependent variable is binary, we define a logistic regression equation as follows:

$$Logit_{it} = L\left(\frac{P_{it}}{1-P_{it}}\right) = \beta_1 + \beta_2 LGV_{it} + \beta_3 LPOL_{it} + \beta_4 LPOL^2_{it} + \beta_5 INSTB_{it} + \beta_6 LSP_{it} + \beta_7 LPP_{it} + \beta_8 LRUG + \varepsilon_{it} \quad (3)$$

where $Logit_{it}$ represents logit, P_{it} is the probability of armed conflict occurring, (1-) is the probability of no armed conflict occurring, and L denotes variables in logarithm.

In the study on armed conflict, in line with the approach of various past studies, the dependent variable used is armed conflict dummy. The armed conflict dummy equals 1 when a new conflict outbreak or during an armed conflict with at least 25 battle deaths per year while armed conflict dummy variable equals zero when a conflict ended (Reynal-Querol, 2002; Fearon and Laitin, 2003; Collier and Hoeffler, 2004; Bergholt and Lujala, 2012). In this study we only include internal armed conflict, whichrefers to conflict that occurs between government of a state and one or more internal opposition group (s) without intervention from other states.

For the measurement of governance, we include six dimensions of governance indicators proposed by Kaufman *et al.* (2008), namely voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. According to Kaufmann *et al.* (2008), the definitions of these six dimensions are:

1. Voice and accountability (VA) measures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association and a free media;
2. Political stability and absence of Violence/Terrorism (PSV) measures perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism;

3. Government effectiveness (GE) captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies;
4. Regulatory quality (RQ) captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development;
5. Rule of law (RL) captures perceptions of the extent to which agents have confidence in and abide by rules of society, and in particular the quality of contract enforcement, property right, the police, and the courts, as well as the likelihood of crime and violence;
6. Control of corruption (CC) captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.

Since the data for the year - 1997, 1999, and 2001 are missing for all the governance indicators, we interpolate the missing value by taking averages.In addition, for ease of interpretation of the results, we modify the data for governance to positive values. The sign of these six dimensions are expected to be negative. A country with good governance which encompasses voice and accountability (VA), political stability and absence of violence/terrorism (PSV), government effectiveness (GE), regulatory quality (RQ), rule of law (RL), and control of corruption (CC) will face a lower risk of armed conflicts.

The regime variables such as autocracy and democracy are to measure freedom and political rights and the openness of political institutions. Polity data set is used to measure the regime types. The polity variable ranges from -10 (high autocracy) to 10 (high democracy). Additionally, this study normalized polity variable to 1 by adding 11 to the scores in order to eliminate the negative scores and zero scores. Additionally, this study includes polity square in order to test nonlinear relationship or inverted *U*-shape between democracy and armed conflict. Hence, the sign of the polity variable is expected to be positive and polity square is expected to be negative. On the other hand, we include instability variable in this study to capture the changes in political institutions or regime types. Political instability or regime instability will create disorganization and state weakness. Consequently, this situation may increase armed conflict risk (Fearon and Laitin, 2003). The sign for instability is therefore, expected to be positive.

There are three types of social polarization included in this study. Social polarizations are categorized into ethnic, religious, and language. According to Collier and Hoeffler (2004) these social polarizations are commonly perceived as

factors that cause armed conflict. According to Garcia-Montalvo and Reynal-Querol (2002), polarization is more appropriate to use to explain the risk of armed conflict than fractionalization. To compute polarization, we employ the formula proposed by Garcia-Montalvo and Reynal-Querol (2002) as follows:

$$POL_i = 1 - \Sigma_{i=1}^{N} \left(\frac{0.5 - \pi_i}{0.5} \right)^2 \pi_i \tag{4}$$

where π_i is the proportion of each religion (ethnics or languages) and N is the number of religion (ethnics or languages). To arrive at the social polarization index, we compute the average of the three indexes - ethnic, religion and language. The social polarization index is expected to show positive sign.

Population plays a role in armed conflict because population leads to the increase inthe number of people joining the rebels. Moreover, it is difficult for the government to control the masseswhen the country is populousand the punishment for rebellion is low (Fearon and Laitin, 2003; Collier and Hoeffler, 2004). Therefore, increase in population will raise the risk of armed conflict. Alternatively, Goldstone (2002) explains that population will increase the risk of armed conflict asincrease in population will lead to scarcity of resources. Moreover, the neo-Malthusians believe that population will create environmental destruction and violent conflict (Ehrlich, 1968; Hardin, 1968; Renner, 1996; Ehrlich and Ehrlich 1996). The sign for population is expected to be positive.

The ruggedness data measure "small scale terrain irregularities such as caverns, caves, and cliff walls" (Nunn and Puga, 2012: 21). This study includes ruggedness of a country as it can provide strategic locations for the rebels to hide and camp. Acountry that is characterized by mountainous terrain, caves and cliff will make it difficult for the government to search and defeat the rebels. In addition, a terrain ruggedness increase the survival chance for rebels and makes it is difficult for the government to observe and monitor the activities of the rebels.These conditions shape the feasibility of rebellion and thereforeincrease the risk of armed conflict (Collier and Hoeffler, 1998; Fearon and Laitin, 2003). The sign of ruggedness is expected to be positive.

In this study we investigate the determinants of armed conflict for 80 developing countries using annual data spanning from 1996 until 2013. These countries are listed in Table 1. Data on armed conflict dummy is obtained from the UCDP/ PRIO (2013) armed conflict dataset (Gledistch *et al.*, 2002; Themner and Wallensteen, 2013). Governance data is taken from the Worldwide Governance Indicators (WGI) published by the World Bank. Data on polity isextracted from the Integrated Network for Societal Conflict Research (INSCR). Data on ethnic, religious and languageis obtained from Alesina *et al.* (2003) and updateduntil 2013 using data on ethnic, religious and language collected from The World Factbook. Population

data iscollectedfrom the World Development Indicators published by the World Bank. The ruggedness data is compiled from Country Ruggedness and Geographical Data published in Nunn and Puga (2012).

Table 1
List of countries used in the study

Afghanistan	*Cuba*	*Madagascar (Malagasy)*	*Senegal*
Algeria	Djibouti	Malaysia	Serbia (Yugoslavia)
Angola	Dominican Republic	Mali	Sierra Leone
Argentina	Egypt	Mauritania	Somalia
Azerbaijan	El Salvador	Mexico	South Africa
Bangladesh	Eritrea	Morocco	Sri Lanka
Bolivia	Ethiopia	Mozambique	Sudan
Burkina Faso	Georgia	Myanmar (Burma)	Suriname
Burundi	Ghana	Nepal	Syria
Cambodia (Kampuchea)	Guatemala	Nicaragua	Tajikistan
Cameroon	Guinea	Niger	Thailand
Central African Republic	Haiti	Nigeria	Togo
Chad	India	Pakistan	Trinidad and Tobago
Chile	Indonesia	Panama	Tunisia
China	Iran	Papua New Guinea	Turkey
Colombia	Kenya	Paraguay	Uganda
Comoros	Laos	Peru	Uruguay
Congo	Lebanon	Philippines	Uzbekistan
Costa Rica	Liberia	Rumania	Venezuela
Croatia	Libya	Rwanda	Zimbabwe (Rhodesia)

4. EMPIRICAL RESULTS

The results of thelogit modelsare presented in Table 2. The results indicate that voice and accountability (LVA), political stability and absence of violence/terrorism (LPSV), government effectiveness (LGE), regulatory quality (LRQ), rule of law (LRL), control of corruption (LCC), polity (LPOL), polity squared ($LPOL^2$), social polarization (LSP), population (LPP),and ruggedness (LRUG)[1] are significant with the expected sign in the estimated logistic regressions.However, the result for instability (INSTB) is not significant at the conventional level.

The results in Table 2 suggest that the risk of armed conflict is higher when themeasure ofvoice and accountability, political stability and absence of violence/ terrorism, government effectiveness, regulatory quality, rule of law, control of corruptionare lower. In other words, these results reveal that bad governance increasesthe risk of armed conflict. This is because bad governance has severe adverse impact on economic growth and does not improve the welfare of the people. As a result people affected will rise and resort to violenceand armed conflict

Table 2
Results of logistic regressions

Independent variables:	*Model 1*	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*
LVA	-2.755***					
	(0.000)					
LPSV		-4.568***				
		(0.000)				
LGE			-1.581***			
			(0.000)			
LRQ				-1.069***		
				(0.000)		
LRL					-0.962***	
					(0.000)	
LCC						-1.322
						(0.000)***
LPOL	4.897***	2.201**	4.429***	5.268***	4.555***	4.627***
	(0.000)	(0.048)	(0.000)	(0.000)	(0.000)	(0.000)
$LPOL^2$	-0.869***	-0.483*	-1.005***	-1.176***	-1.060***	-1.072***
	(0.001)	(0.059)	(0.000)	(0.000)	(0.000)	(0.000)
INSTB	0.230	0.068	0.180	0.260	0.259	0.247
	(0.240)	(0.752)	(0.355)	(0.180)	(0.178)	(0.200)
LSP	1.327**	1.277*	1.567***	1.541***	1.563***	1.548***
	(0.019)	(0.056)	(0.005)	(0.006)	(0.005)	(0.006)
LPP	0.714***	0.615***	0.762***	0.706***	0.706***	0.671***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
LRUG	0.305***	0.361***	0.387***	0.347***	0.349***	0.359***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	-18.060***	-9.506***	-17.826***	-18.296***	-17.438***	-16.584***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Number of obs	1402	1402	1402	1402	1402	1402
Countries	80	80	80	80	80	80

Notes: LVA is log Voice and Accountability, LPSV is log Political Stability and Absence of Violence/Terrorism, LGE is log Government Effectiveness, LRQ is log Regulatory Quality, LRL is log Rule of Law, LCC is log Control of Corruption, LPOL is log polity, and $LPOL^2$ is log polity squared, INSTB is instability, LSP is log social polarization, LPP is log population, and LRUG is log rugged. Figures in the parentheses (.) are *p*-values. Asterisks ***,**,* denote statistically significant at 1%, 5% and 10% respectively.

in order to acquire what they feel they are entitled or require for survival. Therefore, bad governance can cause armed conflict (UNICEF, 2004).

In all our estimated logistic regression models, the results show that polity (LPOL) is positive and polity squared ($LPOL^2$) is negative, suggesting that the relationship between polity and armed conflict is nonlinear; exhibiting an inverted *U*-shape curve. Thus, this implies that as a country moves from a non-democratic

to a more democratic political system, the occurrence of armed conflict will be reduced. These results are in line with earlier studies by Boswell and Dixon (1990), Muller and Weede (1990), Hegre *et al.* (2001) and Fearon and Laitin (2003). It is likely that risk of armed conflict is highest for countries with semi-democracycompared to countries with full democracy. This suggests that full democracy provides multiple peaceful channels for people to express their discontent which will reduce the risk of armed conflict.

Social polarization plays an important role in influencing armed conflict. Our results show that in all the logistic models estimated, armed conflict and social polarization are positively related. This suggests that the risk of armed conflict is higher when social polarization (LSP) increases. The implication is that higher ethnic, language and religious polarization will increase the risk of armed conflict onset.Thus, diversity of ethnicities, languages and religions are commonly perceived as important factors that cause armed conflict. In heterogeneous societies, perceptions of unfair allocations and ethnic biasand the dominations of certain groups, whether in the political process or the distribution of economic resources, are among the causes of ethnic conflict. According to Sambanis (2002), discrimination at the group-level is considered to coincide with ethnic or religious divisions. Social diversity and heterogeneous societies are contributing factors to discontent which increases the risk of armed conflict. In a society with high level of conflicts, it is associated with high level of corruption, political instability and bad governance and institutions. These situations in turn deter investment, negatively impact economic growth and restrict development for the society. The effects of social polarization are channeled to the economy through the element of conflict.

Our results also indicate that there is a positive relationship between population (LPP) andarmed conflict.Population is almost as strong a risk factor for armed conflict because increase in population will provide a larger base for rebel recruitment. Fearon and Laitin (2003) and Collier and Hoeffler (2004) posit that given a weak government facingthe problem of managing an enormously large population, the rate for punishing the rebel will be low. As such, uncontrolled increase in population can contribute to the risk of armed conflict. Furthermore, increase in population can also result in resource scarcity (Goldstone, 2002). Given time, this phenomenon may increase the risk of armed conflict.

Lastly, our results suggest that the ruggedness of a country can contribute to armed conflict. The relationship between terrain ruggedness (LRUG) and armed conflict is positive and highly significant in all estimated regressions. The results suggest that greaterterrain ruggedness leads to the increase in the risk of armed conflict, supporting the notion that terrain ruggedness providesa 'safe haven' for the rebels and inhibits the government's efforts in tracking and apprehending the rebels.

5. CONCLUSION

War or armed conflict is among the most deadly of human phenomena with deep and manifold disastrous social and political consequences. States breakdown and collapse willcause untold sufferings and misery to the people. Without strong government and good governance, the people are vulnerable and at the mercy of the rebels and guerillas. Our study indicates that countries with large population;comprise of diverse ethnic, language and religious background; characterize with mountainous terrain; and under the rule of dictatorship (undemocratic rules) are prone to armed conflict.

Based on the convincing evidence from our results, bad governance is a key driver in initiating armed conflict in developing countries. The six dimensions of governance, namely voice and accountability, political stability, absence of violence or terrorism, government effectiveness, regulatory quality, rule of law, and corruption are important factors that lead people to revolt and join the rebels. Therefore, government institutions need to be strengthened to be able to deliver responsive, inclusive and accountable governance systems. Furthermore, government should improve fiscal accountability and transparency, and implement merit-based recruitment as well as inclusive socioeconomic development, education and health services. While graft and corruption should be dealt with seriously, the rule of law should also be strengthened to ensure public security and to establish the legitimacy of the state while providing proper channels for the people to voice their concerns and to seek redress.

Up-holding these six pillars of governance will build up the trust and confidence of the people in the government. With feeling of security, confidence and assurance for the future, it will reduce the inclination to take up arms and go on war. In summary, investment in good governance that will bring about improvement in the living conditions of the people, reducing inequality, and addressing political and social exclusion, is imperative for the prevention of armed conflict. This study concludes that the grievance model provides good explanatory power whichsupports that armed conflict is strongly linked to bad governance, undemocratic system of government and social polarizations.

Note

1. This studyretains the geographic measure, ruggedness in the grievance model. This is because ruggedness is "plausible and inoffensive" (Collier and Hoeffler, 2004: 575).

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