

**“Demographic Factors and the Propensity for Violence during Armed Conflicts: Voices  
of Survivors”**

**Paper presented at the 7<sup>th</sup> meeting of the SGIR Pan-European Conference on IR, held  
at Stockholm, Sweden, 8-11 September 2010**

**Megumi Nishimura**

**Doctor of Law**

**Professor**

**Faculty of Law**

**Ritsumeikan University**

## **Introduction**

During armed conflicts, many citizens have suffered the loss of family members, and others have been forced into exile. Moreover, homes may have been looted, and women may have been sexually assaulted. The stories of people's suffering go beyond a simple accusation of human rights violations, and forge a path toward reconstructing devastated communities. The death tolls in armed conflicts have been used to justify vengeful acts, or even humanitarian interventions by the international community, in the name of protecting the victimized ethnic groups.<sup>1</sup>

Even in countries such as Cambodia or Nigeria, which have experienced the most ferocious armed conflicts, not all citizens have fallen victim to the violence. Do victims have particular demographic characteristics that differentiate them from non-victimized persons? Does ethnicity delineate between the victims and the non-victims of violence during armed conflicts, as the media often claims? Have the political cleavages dividing the communities increased the severity of violence? This study addresses these issues by analyzing data from "the People on War project" (the PoW project) through latent class analysis (LCA). Data were collected by the International Committee of the Red Cross (the ICRC) at the 50<sup>th</sup> anniversary of the signature of the Geneva Conventions in 1999 throughout twelve armed conflict zones in the world. This paper first reviews the existing works on violence during armed conflicts and then defines the relevant concepts and presents its hypotheses. Finally, it critically examines the empirical evidence and draws some conclusions.

### **1. Social Science Research on Victims of Violence During Armed Conflicts**

#### *The Existing Works on Violence and its Victims*

Most studies on violent armed conflicts have focused on the nature of state

institutions or the socio-economic preconditions that provoke genocide, massacres, or massive deportation.<sup>2</sup> Most studies on individual victims of violence have taken the methods of small -N case studies. Very few of these use quantitative methods to account for a large number of the respondents. This may be due to the difficulty of collecting empirical data in war-torn societies.

A number of criticisms have been levied against these case studies. The limited accessibility of the research staff to the conflict zones because of safety concerns creates a certain subjectivity in selecting the cases or the interviewees. Consequently, the acquired data reflect only partial or subjective collections of victims' testimonies. Despite the insight acquired from these small-N case studies, the conclusions have remained valid only under the limited circumstances.

Several social surveys have been conducted through scientific multi-stage sampling methods in post-conflict societies during the past ten years. These surveys have produced relevant foundations for further research on violent experiences. These micro-level studies include two approaches: studies on perpetrators and studies on the victims of violence.<sup>3</sup>

The latter approach has tended to focus on the demographic properties of victims killed during the crisis. For instance, Aldo A. Benini and Lawrence H. Moulton examine the estimated death tolls and their locations occurring during Operation Enduring Freedom in Afghanistan. According to them, the highest number of deaths occurred in the areas where the Taliban forces and the Northern Alliance ferociously competed for hegemony.<sup>4</sup> Tom Bundervoet also discusses the demographic characteristics of the victims of Burundi's 1993 massacres and found that older, wealthier males who had invested in the education of their offspring were most likely

to be killed during conflicts. He also argues that death tolls were influenced by the scarcity of cultivated lands and by the pre-war rates of support for the Burundi Democratic Front (FRONDEBU) within the communities.<sup>5</sup> In his survey of the post-genocide communities in Rwanda, Philip Verwimp found that violent death patterns during genocide varied by age, gender, ethnicity, and the acres of the possessed lands. The interaction between arrival dates of the Rwandan Patriotic Front (RPF) composed of Tutsi returnees and the death tolls of Hutu citizens in certain communities have shown statistically significant results, and revealed the questionable role of the RPF in post-genocide violence.<sup>6</sup>

Several questions remain unanswered by the above works. First, they have examined the demographic characteristics of the victims and the political situations of the locations of the murders. Presumably, it is not certain how much precise information the researchers could collect through the interviews of the victims' neighbors. More detailed testimonies can be acquired from the survivors, including the types of violence to which they were subjected, such as forced deportation, torture, injuries, looting, or sexual assault. For instance, small-N case studies suggest that sexual violence was used as a tactic to forcibly deport Muslim citizens in Bosnia-Herzegovina.<sup>7</sup> However, because most studies of violence during armed conflicts have relied on surveys of dead victims, systematic attention has not been given to survivors' memories during armed conflicts. Their detailed testimonies will shed new light on the organized violence used by the armed groups.

Furthermore, while these studies have made every effort to scientifically collect data under the difficult circumstances of their survey areas, their cases only include one country and often do not sufficiently consider the issue of external validity,

extrapolating their conclusions to other conflict areas. In addition, the number of variables collected has often been limited in these studies due to security or political considerations. For instance, the ethnicity or political positions of the victims have been the most difficult variables to collect, and several studies could not properly assess them.

As a result, many existing studies have not properly tested one of the most interesting hypotheses on the patterns of civil war violence. For instance, recent studies have asserted that political cleavages within a community increase the number of deaths during civil war violence.<sup>8</sup> In fact, several of the aforementioned studies have partially proven this assertion. However, Bundervoet's study on the genocide in Burundi omitted the variables of the victim's ethnicity and their zone of residence (whether the victims lived in zones of hostility).<sup>9</sup> While cautiously testing whether wealth and ethnicity correlate, he did not investigate whether the local political situations or the support for FRODEBU are related to ethnicity.<sup>10</sup> Therefore, the significant effects of the coefficients of the variables for the support for FRODEBU should be further examined to determine whether they are spurious effects of ethnicity.

In contrast, Benini's study on death tolls relating to US Operation Enduring Freedom in Afghanistan has included detailed information on the distance from the surveyed communities to areas of hostility. However, because his study is on the death tolls in specific communities, it does not include overall demographic variables for dead victims.<sup>11</sup> As such, the claims that political cleavages within the communities increased death tolls have remained inconclusive because each study has lacked some key variable that might relevantly co-vary with the political cleavages..

This study pays particular attention to the effects of the respondents'

demographic traits and the political cleavages of their communities upon the severity of violence they suffered. It uses eleven cases: Afghanistan, Bosnia-Herzegovina, Cambodia, El Salvador, Georgia, Israel, Lebanon, Nigeria, the Philippines, Somalia, and South Africa.<sup>1 2</sup> The data include the variables of ethnicity and those regarding the respondents' places of residence. This, this study better controls for the confounding effects discussed above.

### *Definitions of Relevant Concepts and the Presentation of Hypotheses*

Almost all of the reports and documents of the ICRC refer not to "civil war" but "armed conflicts."<sup>1 3</sup> In addition, Common Article 3 of the Geneva Convention, the mandates of the ICRC, defines armed conflicts. The ICRC avoids narrowly defined civil wars, as its missions also include other domestic and international conflicts in which the belligerents' purposes of war remain obscure.

Civil wars are defined as "large-scale conflicts occur[red] within the boundaries of sovereign states and [which] pit[ted] the government against one or more groups challenging the government's sovereignty."<sup>1 4</sup> The case studies of this paper include South Africa, where the opposition groups had not challenged the government's sovereignty, so it also transcends the concept of civil war.<sup>1 5</sup>

This paper defines an "armed conflict" as "a substantial use of violence for political purposes by the government or non-state actors." Contemporary armed conflicts have included unconventional types of violence, such as genocide or massacres by the state or by non-state actors targeting a specific group of people. These instances of unilateral violence should also be considered in this definition.

This definition does not require that one party asserts sovereignty over some part of the state.<sup>1 6</sup> Any political purpose can be included in the definition of this

paper. It does not assume that the actors are pursuing self-determination. The broad definition includes such conflicts as genocide defined as the “systematic destruction of communities or political groups by state actors,”<sup>17</sup> or as systematic political suppressions against minority groups by the government, as in the case of South Africa.

“Violence” includes not only physical acts, such as massacres, imprisonment, tortures, forced deportation, or sexual assaults, but also actions against individuals’ fortunes because both governmental and the non-governmental forces use lootings or destruction of the individuals’ agricultural lands, houses, or other property to affect their forced removal.<sup>18</sup> Violence also includes psychological damage. For instance, killing parents in front of their children or leaving neighbors’ dead bodies in front of their houses is enough to coerce people to obey the armed groups. Together with other physical destruction or violence, this psychological abuse can cause victims to migrate or even to die.

### *Patterns of Violence*

This paper analyzes the voices of the survivors of armed conflicts. Some of them experienced every form of violence, while others did not experience any of them, even during the worst armed conflicts. One feature of the survivors is that they had enough money or sufficient physical strength to flee from the most dangerous areas. Even the persons who had not experienced the worst levels of violence were forced to depart. This paper thus classifies the respondents into three or four categories of propensity for violence during armed conflicts and systematically analyzes what demographic factors have influenced their placement in these categories.

### *Hypotheses*

The existing theories identify four categories of demographic factors that influence the probability of individuals becoming victims of violence during armed conflicts. They include physical vulnerability; wealth; educational level; political factors such as ethnicity, religion, and political affiliation; and place of residence.<sup>19</sup>

First, age and gender are the primary factors denoting physical vulnerability. Women or older persons are often not robust enough to protect themselves from the enemy's attacks or flee from the conflict zones. Thus, they are more likely to become victims of violence. In addition, older men who have combat capabilities are more likely to be targeted by enemies. Consequently, this paper examines the non-linearity of age effects. Furthermore, combatants face an increased risk of violence during armed conflicts because of their duties.

Hypothesis 1: Elderly respondents are more likely to experience violence during armed conflicts. The age effects are not linear because those who have the capability for combat are most likely to be targeted or suspected by the enemies.

Hypothesis 2: Women are more likely to experience violence because of their physical vulnerability.

Hypothesis 3: Combatants are more likely experience violence because of their inherent duties.

Almost all the existing studies of civil war violence suggest that wealthier persons are more likely to be targeted by perpetrators.<sup>20</sup> Their social status or fortune accumulated under the old regime can become the subject of jealousy and anger, so they are thought to deserve punishment.<sup>21</sup> In addition, education level is often associated with an individual's wealth and social status within the community. Communist revolutionaries and ethnic nationalists have attacked the intelligentsias of

old regimes and community leaders in countries such as Peru and Columbia.<sup>2 2</sup> Thus, richer people certainly seem to have experienced more violence. Those who had higher educational levels or better jobs might recognize the real situations of the conflicts because of better access to information and move to safer places. The wealthiest people tend to avoid the worst misfortune of armed conflicts, so the non-linear effects of wealth should be examined.

Hypothesis 4: Individuals with higher levels of education are likely to be targeted due to their wealth or social status. However, those with the highest level of education tend to experience less violence because their education or wealth allows them to migrate to safer places at earlier stages of the conflict.

Furthermore, studies of ethnic conflicts suggest that minority ethnic or religious groups are more likely to experience serious violence than are majorities. In addition, taking sides during armed conflicts increases the risk of violence. When the ruling groups change, perpetrators become the targets of revenge. Even when the members of armed groups only feel suspicious about the loyalty of their peers, these suspicions lead to unimaginable brutality aimed at deterring betrayal.<sup>2 3</sup>

Hypothesis 5: Individuals of minority ethnic or religious groups are more likely to experience violence by the majority groups.

Hypothesis 6: People who take sides during armed conflicts are more likely to experience violence than those who remain neutral.

Finally, the location of residence is also relevant in determining an individual's probability of falling victim to violence during armed conflicts. Unsurprisingly, those living in areas of hostilities tend to experience more violence than those who residing outside those areas. If the patterns of violence significantly

vary after controlling for area of residence, then local political situations might influence those variations.

In fact, most existing studies indicate that death tolls or numbers of victims of violence vary greatly by area. For instance, Benini and Moulton find that struggles among warring parties for local hegemony have influenced the death tolls during US Operation Enduring Freedom in Afghanistan.<sup>24</sup> Bundervoet also suggests that the levels of support for the Burundi Democratic Front among local residents as well as the land shortages of the communities were major factors in shaping death tolls.<sup>25</sup> Verwimp suggests that the Rwanda Patriotic Front sought revenge in several Rwandan communities after the genocide.<sup>26</sup> Considering these findings, the patterns or levels of violence cannot be fully explained by demographic variables. Rather, the political situations in the communities influenced varying patterns of victimization during armed conflicts.

Hypothesis 7: Individuals who live in the zones of hostility experience more violence.

Hypothesis 8: People living in communities with deep political cleavages are more likely to become victims of violence.

## **2. Models and Data**

### *Model*

People exposed to the same risk of violence tend to respond in similar ways to the questions. This paper uses latent class analysis to classify the respondents into several sub-groups depending on their experience of violence during armed conflicts. It also analyzes the independent variables that predict the membership of each sub-group.<sup>27</sup> Latent class analysis is a statistical method that analyzes the relationship of the manifest (observed) dependent variables when they are

categorical.<sup>28</sup> The model assumes that co-variations among manifest variables depend on the relationships with latent (unobserved) ones.<sup>29</sup> Its purpose is to define latent classes in which manifest variables are locally independent.<sup>30</sup> In other words, this model identifies the natural typology of data and predicts to which sub-group each respondent belongs. This paper uses nominal rather than ordered latent classes.

Unlike factor analysis or structural equations, latent classes can be assumed as the categorical variables in the models. This model is more useful than traditional factor analysis when the main concern is the typology of datasets. For instance, the PoW project asks thirteen questions to each respondent regarding his or her wartime experiences of violence. If only one answer is analyzed, the assessment of the entire risk of violence associated with a respondent is not possible. On the other hand, if thirteen regressions are run for each question, the analysis turns out to be too tedious and redundant and cannot reach concise and clear conclusions. In contrast, latent class analysis can find the natural typology and predict their memberships through the analyses of co-variations between the responses of thirteen questions simultaneously.

This paper decides the number of latent classes in a theoretically meaningful manner using the Bayesian information criteria (BIC). The BIC are defined as  $-2\log\text{-likelihood} + r\log(n)$ , where  $r$  is the number of free parameters and  $n$  is the number of samples. It is a likelihood ratio test where lower values indicate better results. The analyses here take into consideration the weighed effects that adjust the selection probabilities.

#### *Coding of Data*

Dependent variables: The main manifest dependent variables of this study

are the respondents' experiences of violence during armed conflicts. The PoW project asks them 12-13 questions about their experiences of violence, such as forced migration, imprisonment, torture, humiliation, loss of contact with their relatives, murder of their family members, destruction of their fortunes, injuries during combat, forced starvation by combatants, looting, sexual assaults, and rape. The questionnaires inquire about particular incidents rather than the number of experiences related to each type of violence. In addition, only eight cases inquire about sexual assault, while another ten cases refer to rape. For this reason, this study uses the latter question when available. For the one Israeli to whom this question is not asked, the question of sexual assault is included. All of the variables are coded as 0 for "no" answer and 1 for "yes."

Independent variables: The variables related to education level and age are continuous. The PoW project does not include the variables that show the fortunes of the respondents. Thus, this study includes measures of education levels as proxies for wealth. In addition, squared variables are included in the model to test for the effects of non-linearity.<sup>3 1</sup> The variable of being a combatant or not during armed conflicts is dichotomous.

The PoW project includes variables of ethnicity for the cases of Bosnia, Cambodia, the Philippines, Nigeria, and South Africa and religious data for the Philippines, Lebanon, and Nigeria. This study only includes those ethnic groups that have been politicized during armed conflicts.

The project also includes the dichotomous variables of whether the respondents took sides during armed conflicts. This question includes explicit or implicit support for particular armed groups, political factions, and leaders. The

broad meanings of this question may cast doubt over whether the political stances of an individual and, consequently, the political cleavages of communities can be captured. However, in Afghanistan, for instance, its weighted average in Kabul and its surroundings is 0.20, while that of the northern regions, where the Northern Alliance and Taliban had intensively struggled, is 0.47.<sup>3 2</sup> When averaged regionally, their results have conformed to conventional wisdom. This suggests that these variables can correctly capture the individuals' political inclinations.

Data also include the variable of place of residence. They ask the respondents where wars took place. The answers include "our regions," "somewhere else," and "both." The study recodes 0 for "somewhere else," and 1 for other responses. All the cases except for Bosnia include regional variables that identify from four to eighteen prefecture-level administrative units.<sup>3 3</sup> This study includes these variables to examine the regional effects in the first part of analysis.

One of the main purposes of this study is to analyze how the levels of political cleavage in communities influenced the intensity of political violence. This study lacks the exogenous variables of community political cleavages that conform to the classification of the regional variables of the PoW project, so it scales the level of political cleavage in the following manner. First, the study calculates the weighted averages of those who took sides and then assigns these values to each respondent.<sup>3 4</sup> Thus, all of the respondents of the same community have the same value for the level of the community political cleavages. In the communities where more respondents took sides, the levels of political cleavages of the community are assumed to be higher.

### **3. Results**

**Table 1 Exposed Risk of Violence during Armed Conflicts and Demographic Factors (With Regional Variables )**

	Afghanistan			Bosnia-Herzegovina			Cambodia			El Salvador			Georgia		
	less	middle	worst	Less	middle	worst	Killing	physical	worst	Less	property	worst	Less	killings	worst
ages	-.01 (-.70)	-.004 (-.63)	.01 (1.46)	-.05* (-1.81)	-.01 (-.18)	.05 (1.33)	-.06*** (-3.17)	.02 (1.56)	.04*** (3.73)	.04* (1.65)	-.12*** (-2.62)	.08** (2.06)	-.01 (-1.26)	.01 (1.54)	-.002 (-.19)
( ages ) <sup>2</sup>				.0007** (2.06)	.00 (.01)	.02 (-1.42)				-.0004 (-1.49)	.001*** (2.66)	-.0008** (-2.18)			
education	-.004 (1.38)	-.004 (-.27)	-.02 (-1.07)	.06*** (2.71)	-.03 (-.81)	-.04 (-.83)	.08** (1.97)	-.13*** (-3.22)	.05* (1.77)	.01 (.82)	-.02 (-.55)	.003 (.12)	-.12** (-2.40)	.01 (.39)	.11*** (2.87)
men	-.40*** (-2.64)	-.47*** (-2.91)	.86*** (3.57)	-.01 (-.05)	.004 (.03)	.002 (.01)	.18 (1.059)	-.08 (-.57)	-.10 (-1.01)	-.05 (-.66)	-.08 (-.76)	.12 (1.43)	-.37 (-1.62)	.03 (.18)	.34** (2.02)
combatant	-.06 (-.39)	.11 (-.93)	-.05 (-.43)	-.15 (-1.38)	-.05 (-.35)	.20 (1.06)	.09 (.44)	-.30 (-1.35)	.21 (1.64)	-.13 (-.76)	-.12 (-.50)	.25 (1.44)	.99 (1.08)	-.59 (-1.22)	-.40 (-.80)
taking side	-.43*** (-3.00)	.20* (.166)	.23** (.198)	.32*** (3.13)	-.19 (1.57)	-.14 (-.89)	-.10 (-.57)	-.15 (-.90)	.25* (2.30)	-.40*** (-3.05)	.24 (1.22)	.16 (1.18)	-.11 (-.32)	.06 (.34)	.05 (.19)
War zones	-.46*** (-3.82)	.38*** (2.57)	-.08 (.55)	-.92*** (-9.28)	.62*** (4.97)	.29 (1.59)	-.75*** (-4.19)	.41* (1.80)	.34** (2.02)	-.63*** (-6.84)	.59*** (3.85)	.05 (.41)	-.69* (-1.91)	-.16 (-.64)	.84*** (3.27)
ethnicity				Serb .15 (.68)	.04 (.21)	-.18 (-.66)	Khmer -.94** (-2.53)	-1.34*** (-3.48)	2.28*** (8.41)				Georgian .04 (.119)	-.23 (-.88)	.20 (.85)
				Bosniaak -.47*** (-4.71)	.13 (1.03)	1.03* (1.94)	Sino-Khmer -1.20** (-2.49)	-1.29*** (-2.68)	2.49*** (8.67)				Abkhaz-Russian -.21 (-.68)	.20 (.90)	.02 (.06)

Region	Kabul & its surroundings	Respublika Srpuska	Pnonh Peng urban	Ahuachapan	Georgia-Central										
	.06 (.21)	.76*** (3.11)	-.82 (-2.44)	-.70*** (-3.30)	.50** (2.50)	.19 (.68)	.55* (1.71)	-.55 (-1.59)	.00 (-.001)	.38 (.85)	.83 (1.57)	-1.22** (-2.07)	1.32 (1.25)	.34 (.56)	-1.64* (-1.85)
	East		Pnonh Peng rural	Cabadas	Tkvartchelli/Gali 1										
	-.31 (-1.26)	(-.13)	.45** (2.15)	.15 (.37)	-.03 (-.07)	-.12 (-.55)	-.71 (-1.59)	-.16 (-.30)	.87** (2.39)	-1.18 (-1.61)	.96 (1.28)	.22 (.44)			
	South		Battabang urban	Chalatenango	Georgia-East 1										
	.27* (1.65)	-.36* (-2.38)	.09 (.48)	1.10*** (2.59)	-.04 (-.10)	-1.06*** (-2.93)	-.42 (-1.05)	.41 (.74)	.01 (.03)	-.11 (-.13)	.78 (1.18)	-.67 (-.98)			
	North		Battabang rural	Cuscatlan	Tkvartchelli/Gali 2										
	-.002 (-.11)	-.27 (1.57)	.29 (1.64)*	-.24 (-.39)	.79* (1.79)	-.55* (-1.87)	1.06*** (3.96)	-3.37*** (-9.93)	2.31*** (7.93)	-3.85 (-1.05)	-.01 (-.004)	3.86** (2.59)			
			Pursat	La Libertad	Gerogia-East 2										
			.16 (.29)	.03 (.07)	-.19 (.62)	.03 (.12)	.54 (1.34)	-.57* (-1.85)	2.90 (1.19)	-.72 (-.16)	-2.17 (-.97)				
			Kampon Chom	La Paz	Ochamchra 1										
			.43 (1.36)	-.44 (1.46)	.02 (.05)	-.31 (-.93)	.50 (1.08)	-.19 (-.55)	-6.03*** (-7.69)	1.98*** (2.95)	4.05*** (6.78)				
			Kandal	La Union	Georgia-East 3										
			-.42 (-.77)	.17 (.39)	.26 (.96)	1.79*** (6.09)	-3.42*** (-9.73)	1.72*** (5.66)	3.88*** (5.37)	-2.32*** (-4.06)	-1.56*** (-2.35)				
			Kampon Speu	Morazan	Ochamchra 2										
			-.07	.17	-.10	-.68	1.32* (1.32)	-.64	-3.63	1.08	-2.55				

			(-.19) (.47) (-.38)	(-1.24) 82.26 (-1.61)	(-1.16) (.66) (1.58)
			Kampon Som urban -1.02 .32 .71* (-.95) (.34) (1.78)	San Miguel -.59* .96*** -.37 (-2.69) (3.58) (-1.49)	Ajaria 2.32 .96 -3.29*** (1.59) (.53) (-4.71)
			Campon Som rural -.63 -.41 1.04*** (-1.29) (-.67) (2.59)	San Salvador -.41** 1.16*** -.75*** (-2.45) (5.59) (-4.27)	Sukhuni -2.73 .96 1.77 (-.60) (.40) (.81)
				San Vincente -.38 .27 .11 (-.76) (.31) (.20)	Georgia-West 1 -.87 1.51*** -.64 (-1.09) (2.63) (-1.32)
				Santa Anna .82** -.79 -.04 (2.15) (-1.32) (-.12)	Gagra/Gudauta 1 -2.22 1.92** .30 (-1.50) (2.20) (.33)
				Sonsonate -.12 1.13*** -1.02** (-.44) (3.09) (-2.43)	Georgia-West 2 2.77*** -2.76*** -.01 (2.42) (-3.27) (-.01)
				Usultan -.38 .61 -.23 (-1.27) (1.48) (-.81)	Gagra/Gudauta 2 -.31 -.22 .53 (-.40) (-.31) (.83)
					Georgia-West 3 3.39*** -2.12*** -1.27** (4.81) (-3.49) (-2.27)
					Georgia-East 4



		(-3.22) (1.70) (.59)	(-4.98) (.39) (5.79)	(-6.16) (2.01) (1.94)	(-4.82) (2.94) (.07)	(-4.96) (1.39) (4.83)
ethnicity	-----	Christian .04 -.03 -.01 (.27) (-.23) (-.05)	Ibo -.67*** .50** .17 (-2.82) (2.41) (.48)	Catholic .18 .05 -.23 (1.61) (.46) (-1.41)		whiles 1.36*** -.36 -1.00** (3.67) (-1.98) (-1.96)
		Moslem .05 .01 -.06 (.21) (.07) (-.17)	Hausa -.31 -.19 .50 (-.81) (-.13) (.31)	Moslem -.07 -.13 .20 (-.43) (-.55) (.66)		Blacks .06 .04 -.47 (.22) (1.32) (-1.19)
						Colored -1.92*** -.65 2.58*** (-4.62) (-1.35) (5.52)
						Indians .50 .59 -1.20* (1.32) (1.20) (-1.71)
region	Jerusalem ( I ) 1.88*** 0.32 1.56*** (5.84) (-.70) (-4.29)	Beirut -.55** .07 .48 (-2.51) (.31) (1.59)	Southwest .78*** -.29 -.49 (2.89) (-.60) (-.73)	Manila: N C R 1.16*** .68*** -1.84*** (5.57) (2.73) (-5.47)	Bay -.45 -1.24*** 1.69*** (-1.27) (-2.93) (5.86)	Gauteng -.83*** .19 .64*** (-2.65) (.76) (2.28)
	Jerusalem ( O T ) -4.33*** 1.02*** 3.31*** (-8.68) (2.85) (6.80)	Mountain Lebanon .17 .03 -.21 (.85) (.16) (-.61)	Central-West .08 .36 -.44 (.29) (1.38) (-1.41)	Luzon urban .98*** .61*** -1.59*** (5.12) (2.62) (-5.27)	Gedo 1.68** 2.27*** -3.95*** (4.78) (7.81) (-12.79)	Kwa Zulu Natal -.74*** -.88*** 1.62*** (-3.69) (-4.11) (7.24)
	Tel Aviv ( I ) 1.60*** .65** -2.24*** (6.92) (2.56) (-9.02)	North .18 -.24 .06 (.76) (-1.06) (.16)	South-East -1.37*** -.18 1.56*** (-4.66) (-.34) (3.41)	Luzon rural -.03 -.68*** .72 (-.13) (-2.66) (1.53)	Lower Jubba -1.24** .11 1.13*** (-2.45) (.25) (2.59)	Mpumalanga -.31 .47* -.16 (-.92) (1.66) (-.39)
	Tel Aviv ( O T )	South	North	Visayas urban	M. Shabelle	North Province

	-7.45*** 2.29*** 5.16*** (-11.37) (6.59) (10.54)	-.13 .29 -.16 (-.47) (1.15) (-.39)	.51* .12 -.63 (1.75) (.12) (-.63)	.80*** .85*** -1.65*** (4.38) (3.32) (-4.85)	-.02 -1.37*** 1.40*** (-.08) (-3.54) (4.81)	-.74*** .48* .27 (-2.59) (1.64) (.60)
	Haifa ( I ) 1.50*** .99** -2.49*** (4.93) (2.49) (-8.25)	Bekka .23 -.64 .40 (.63) (-1.62) (.57)		Visayas rural -.79*** -.57** 1.36*** (-3.11) (-1.96) (2.94)	Galguduud -.83 .72 .11 (-1.20) (1.58) (.23)	North-West Province .60* -.51 -.09 (1.71) (-1.57) (-.18)
	Haifa ( O T ) -4.47*** .36 4.11*** (-10.14) (1.07) (9.08)	Nabatyee .09 .49 -.58 (.26) (1.51) (-1.06)		Mindanao urban -.97*** -.61 1.58*** (-3.86) (-1.44) (2.78)	M. Jubba -.62 .21 .42 (-.95) (.49) (.75)	Free State -.34 .16 .18 (-1.42) (.63) (.54)
	North 4.06*** -3.01*** -1.05*** (10.98) (-10.00) (-2.65)			Mindanao rural -1.15*** -.29** 1.43*** (-7.84) (-1.98) (7.28)	Banadir -.33 -.42 .75 (-1.04) (-1.22) (2.05)	East Cape .80*** -.91** -.12 (2.96) (-2.54) (.28)
	South 1.36*** .95** -2.31** (3.56) (2.21) (-6.51)				Lower Shabelle 2.98*** 1.01** -4.00*** (7.81) (2.00) (-11.73)	West Cape 1.57*** 1.01* -2.58*** (4.00) (1.92) (-5.56)
	Shfela 1.68*** .07 -1.75*** (4.62) (.17) (-4.90)				West Galbeed -.43 .18 .25 (-1.34) (.58) (.83)	
	Hasharon 4.19*** -3.00*** -1.19*** (11.20) (-9.88) (-.01)				Hiraan 2.08*** -1.70* -.38 (4.88) (-1.95) (-.42)	
					Bakool .50 -1.64*** 1.14*** (1.41) (-2.72) (2.77)	

					Togdeer -4.52*** 1.50** 3.01*** (-7.69) (2.38) (5.34)	
					Bari .44 -.72 .28 (1.29) (-1.20) (.42)	
					Awdal 1.33** 2.30*** -3.63*** (2.28) (4.61) (-10.42)	
					Nugal -.97 .46 .51 (-1.41) (.64) (.97)	
					Mudug -1.01*** 1.17*** -.16 (-2.64) (3.04) (-.31)	
					Sanaag 1.43** -2.19*** .87 (2.39) (-2.44) (1.13)	
					Sool -.03 -.66 .68 (-.06) (-1.54) (1.27)	

(\* means statistical significance at 10 % level, \*\* at 5 % level, and \*\*\* at 1 % level, respectively. Parentheses are z statistics. In Israel, "I" represents Israel proper, while "OT" refers to the occupied territories.)

This paper has analyzed the PoW data through latent class models. The first task was to decide the number of latent classes. When three latent classes are included in the model, the lowest BIC statistics are produced in eight cases out of eleven. Because of these results, three latent classes are regarded as the best model.

The other three instances in which three latent classes have not produced the best statistics are Bosnia-Herzegovina, Nigeria, and Somalia. In the Bosnian case, the more the latent classes are increased, the smaller the BIC statistics become. An optimum appropriate cut-off point was not obtained. No theoretical justification is found for more numerous latent classes; three latent classes are included in the model for comparison with other cases.

On the other hand, when four latent cases are included, the lowest BIC statistics are produced in Nigeria and Somalia. However, the difference of the BIC statistics between three and four latent classes remains small.<sup>3 5</sup> In addition, any independent variable produces interesting results upon the newly added latent classes, even when four latent class models are analyzed. This study also displays the results of the three-class model for all of the cases for comparison with other cases.<sup>3 6</sup>

The ratio of three classes in each case is shown in the first column of Table 2 in the Appendix. The values total 1 in each case. The second column shows the weighted averages within each latent class. For instance, in Afghanistan, the weighted average of forced migration for those who had been exposed to less violence turned out to be 0.52. In other words, 52 percent of the respondents belonging to this latent class were forced to migrate. In the same manner, 0.2 percent of the respondents belonging to the same latent class were imprisoned. The values of each question show wide disparities because the ratio of those who experienced violence

depends upon the type of violence.

The members of the first latent class experienced the least violence, while the other extreme includes those who experienced every type of violence. Between the two exists a latent class in which many members experienced forced migration in combination with either the murder of family members or the destruction of their fortunes. For instance, in Afghanistan, 93 percent of the respondents belonging to the latent class of the middle-level of violence experienced forced migration. Those who belonged to this class also experienced high levels of destruction of their wealth, except in South Africa. They have also tended to experience the loss of contact with relatives and the murder of their family members.

Table 1 above is the result of the latent class regression where the independent variables predict the class memberships of each respondent. The models are run in each case separately without pooling all of the datasets. The positive coefficients indicate that the respondents with those demographic properties are more likely to belong to that latent class. In contrast, the negative ones indicate that they are less likely to belong to it.

The coefficient of age turns out to be significant only in Cambodia and El Salvador. In Cambodia, the coefficient of age variable for the latent class of the worst case is 0.04. This suggests that the older respondents tended to belong to the latent class of people who had experienced the worst violence. However, this result relates to the fact that the Cambodian civil wars were most intensively fought in the late 1970s and the early 1980s. The PoW project was conducted in 1999, and the Cambodian victims of violence during armed conflicts had grown older, so the older respondents have naturally experienced more violence.

In contrast, in El Salvador, the truce was broken in 1992 through UN mediation.<sup>37</sup> The age effect of this case is logically related to the conflict patterns. The coefficient of age variables for the latent class of the worst violence is 0.08. This suggests that older persons tend to belong to this latent class. In addition, the coefficient of the squared age variable is -0.0008, suggesting that the age effects are non-linear and that the probability of violence for individuals of this latent class decline after a certain age. This means that individuals of combat age are more likely to be targeted, and after a certain age, people are less exposed to violence.

The coefficients of educational variables are significant in Bosnia-Herzegovina, Cambodia, Georgia, Israel, and Lebanon. More highly educated respondents in Bosnia-Herzegovina, Georgian, Israel, and Lebanon are more likely to belong to the latent class of lower risk of violence. This runs contrary to our original assumption. Those who had better educations have information, and they can use their wealth to move to safer places early enough to avoid violence.

In contrast, in Cambodia, more educated respondents are more likely to belong to the latent class of the worst violence. They are less likely to belong to that of the middle-level violence, as the coefficient of education variable is -0.13. This means that more educated persons are less likely to belong to this latent class. As Table 2 of the Appendix shows, an individual of the latent class of the middle-level violence has a lower risk of being kidnapped, tortured, humiliated, starved, or sexually assaulted and is also less likely to experience the destruction of wealth when compared to people in the worst one class. The results of this study suggest that the respondents with lower education levels have lower risks of humiliating violence in Cambodia.

The coefficients of the variable denoting men are significant in Afghanistan,

Israel, Lebanon, and South Africa, even after controlling for the variables of combatants. In these cases, men tend to belong to the latent class of the worst violence and are less likely to belong to those of the middle level or the lesser level violence as compared to women. Contrary to the hypothesis of this study, physically robust men tend to be targeted by the armed groups. The coefficients of gender variables are significant, especially in Afghanistan, Israel (Palestine), and Lebanon, because the spheres of activities for women are extremely limited under the Islamic culture. While women are not supposed to walk around, simply being a man arouses the armed group's suspicions.

The coefficients of the combatant variable are significant in Israel, Lebanon, the Philippines, Somalia, and South Africa. In all of the cases, being a combatant increases the probability of belonging to the latent classes of the worst violence, compared to non-combatants, even after controlling for the gender variables.

Furthermore, the coefficients of the variable of taking sides during armed conflicts are significant in nine out of eleven cases. In addition, except in Bosnia-Herzegovina, those who had taken sides during armed conflicts tend to belong to the latent classes of the worst violence and are less likely to belong to those of the least violence. This suggests that an explicit or implicit support for armed groups or political factions leads to increased suspicions and jealousies. When the political situations changed, those who had taken sides were punished by the new dominant group.<sup>3 8</sup>

Not surprisingly, the coefficients of the variables relating to the areas of hostilities are significant in all the cases. Their directions suggest that people living in war zones tend to belong to the latent classes of the worst violence or the

middle-level class and are less likely to belong to those of the least violence.

This study also includes the variables of ethnic and religious groups in seven cases. Among them, their coefficients are significant in four cases. In Bosnia-Herzegovina, Bosnians tend to belong to the latent class of the worst violence. In Cambodia, both Khmers and Sino-Khmers tend to belong to the latent classes of the worst violence. In Nigeria, the coefficient of the variable of the Christian minority, Ibo, for belonging to the latent class of the least violence is -0.67, indicating that they are less likely to belong to this latent class.

The above discussions only refer to the cases in which the coefficients of ethnic or religious variables are significant. The others are significant after controlling for the respondents' locations of residence. For instance, in Lebanon, Georgia, and the Philippines, the relevant ethnic or the religious variables are insignificant. In addition, both the coefficient of the Serb variable in Bosnia and that of Hausa in Nigeria are insignificant. In these conflicts, the friend-enemy relations are not divided along with the lines of ethnicity and religions.

Finally, many coefficients of regional variables have turned out to be significant even after having controlled the variables of war zones. In fact, only the Lebanese case does not include any significant coefficient of regional variables. In Afghanistan, the respondents from the east and north tended to belong to the latent classes of the worst violence, whereas those of Kabul and its surrounding areas tended to belong to the latent classes of the middle-level violence with large numbers of forced deportation. In Respublika Srpska of Bosnia-Herzegovina, many respondents belonged to the latent classes of middle-level violence with large numbers of forced deportation and physical violence. This fact suggests that many respondents in

Republika Srpska fled from Bosnia and Herzegovina, the Croat and Muslim region, because of the enemy's attacks or NATO's air bombardments.<sup>39</sup> In Cambodia, the respondents of the Battambang urban areas had a decreased risk of violence, whereas those of the Kampon Som rural had a higher risk of violence.

In El Salvador, the respondents in Cuscatlan and La Union belonged to the latent classes of both the worst violence and the least one, respectively. This is because guerrilla warfare had been fought in certain areas in Cuscatlan, where many were deported or had family members killed. While the situation of La Union is unknown, Cuscatlan is located near Volcano Guazapa, a strategic location from which guerrilla forces of the Farabundo Marti Front for National Liberation (FMLN) attacked the capital of San Salvador. Both the government's forces and the FMLN armed units intensively struggled for control of this area. In contrast, the government's army and the citizens' detachments had better controlled the southern areas of Cuscatlan. In addition, one of the fiercest battles was fought at Tenancingo in Cuscatlan.<sup>40</sup> As a result, the considerable variations of the levels of violence registered in this prefecture.

In Georgia, the areas yielding the highest propensity for violence include Gali, Ochamchra, Gagra, and Gudauta, all of which are the parts of the separatist zone, Abkhazia. These results remain after controlling the variables of the zones of hostility. The Georgian civilian defense forces, the Abkhaz guerrillas, and even the Russian army fought over Gali. Not even the Abkhaz separatists seemed to fully control it. The Georgian and the Abkhaz sides struggled for the control of Gudauta and Gagra, where the Soviet military bases had been located during civil war.

In Israel, the residents of the occupied territories belonged to the latent class

of the worst violence, whereas those of Israel proper did not. This is partially because the Israeli data do not include the variables denoting the areas of hostilities.

In Nigeria, many respondents belonged to the latent classes of the worst violence in the southeastern region, former separatist Biafra. The same is true for those who lived in the rural Visayas and in Mindanao of the Philippines, at lower Jubba, middle Shabelle, Bakool, and Togdeer of Somalia, and in Kwa Zulu Natal of South Africa. At Mindanao, the Islamist guerrillas had fought the government's army, while the government had resorted to ferocious and coercive means at Kwa Zulu Natal, a hotbed of minority activists.<sup>4 1</sup> In Somalia, except for Togdeer, the most violent zones were located in the southern areas, where the transition government and the Islamist fundamentalists struggled for local dominance.<sup>4 2</sup>

The place of residence was significant, but existing studies have often lacked the relevant variables necessary in controlling for ethnicity, religions, or the war zones. This study, in contrast, has demonstrated regional variations for the propensity of violence while controlling for ethnicity, religion, and regional variables. Next, it examines whether these variations have been caused by political cleavages in the communities.

**Table 2 Risk of Violence during Armed Conflicts and Demographic Factors ( % Having Taken Sides within the Community )**

	Afghanistan	Cambodia	El Salvador	Georgia	Israel	Lebanon
	Less physical worst	Less physical worst	Less property worst	Less killing worst	Less physical worst	Less physical worst
ages	-.01    -.002    .01 (-1.03) (-.35) (1.56)	-.05***    .02**    .03*** (-4.49) (2.22) (4.69)	.07*    .10***    -.17*** (1.82) (2.88) (-2.80)	-.002    .003    -.001 (-.17) (.35) (-.20)	.02**    -.002    -.02** (2.33) (-.16) (-1.25)	-.10***    .03    -.8 (-2.79) (.73) (1.33)
( ages ) <sup>2</sup>			-.001*    -.001***    -.001*** (-1.72) (-2.80) (2.73)			.001***^    .0002    -.001 (2.64) (-.37) (-1.45)
education	-.02    -.01    -.01 (1.52) (-.61) (-.88)	.09***    -.14***    .05** (2.91) (-.4.04) (2.19)	.01    .03    -.04 (.80) (1.43) (-1.60)	..01    -.06    .05 (.14) (-.78) (1.44)	.12***    -.07**    -.06 (6.24) (-2.25) (-1.31)	.15**    .10    -.24*** (2.32) (1.54) (-3.61)
( educ ) <sup>2</sup>						-.005*    -.003    .008*** (-1.83) (-.99) (2.57)
men	-.39***    -.44***    .83*** (-2.82) (-2.82) (3.66)	-.05    .07    -.03 (-.40) (.68) (-.36)	.01    .19**    .20 (.11) (1.96) (-1.31)	-.24    -.06    .30*** (-1.15) (-.30) (2.51)	-.44**    -.08    .52*** (-3.37) (-.60) (2.87)	-.02    -.22**    .24 (-.23) (-2.17) (1.48)
combatant	-.06    .12    -.06 (-.38) (.92) (-.44)	.26*    -.43***    .17** (1.79) (-2.78) (1.71)	.13    .43    -.56 (.23) (.69) (-.49)	-.66    .61.**    06 (-1.43) (2.27) (.21)	-.16    -.20    .36 (-1.24) (-1.53) (2.08)	-.32**    -.32**    .63*** (-2.04) (-2.15) (3.83)
Taking sides	-.44***    .13    .32*** (-3.25) (1.05) (2.58)	-.20    .02*    .18** (-1.44) (.18) (2.14)	-.31*    .23*    .08 (-1.83) (1.67) (.31)	.45    -.35    -.10 (1.42) (-1.31) (-.71)	-.64**    -.55**    1.19** (-2.17) (-2.47) (2.50)	-.35***    -.08    .43** (-2.87) (-.66) (2.10)
War zones	-.46***    .41***    .04 (-3.87) (2.58) (.25)	-.79***    .61***    .17 (-6.91) (3.91) (1.63)	-.81***    -.01    .81*** (-5.54) (-.03) (2.86)	-1.93***    .81    1.12*** (-3.73) (1.42) (6.00)	-----	-.75***    .52**    .23 (-3.98) (2.16) (.61)
ethnicity		Khmer -1.09    -1.00    2.09 (-.42) (-.38) (.39)		Georgian .67    -.43    -.25 (1.27) (-.90) (-1.59)	-----	Christian -.01    .02    -.02 (-.04) (.17) (-.10)
		Sino-Khmer		Abkhaz-Russian		Moslem

		-1.30 -1.07 2.37 (-.49) (-.40) (.45)		-1.00 .68 .32 (-1.66) (1.49) (1.59)		-0.04 .10 -.06 (-.26) (.69) (.27)
Political cleavages	-0.93 -2.65 3.58* (-.46) (-1.56) (1.88)	.62 -2.41* 1.79** (.45) (-1.82) (2.00)	2.19 11.86*** -14.04*** (.75) (3.76) (-2.70)	23.96***-14.40**-9.55*** (2.95) (-2.28) (-3.05)	-539***77.27 461.76*** (-7.19) (1.00) (6.35)	-1.04 4.86** -3.82 (-.50) (2.31) (-1.22)
(division) <sup>2</sup>	1.23 2.32 -3.45** (.53) (1.419) (-1.99)			-22.83***16.42***6.41** (-3.04) (2.74) (2.30)	390.5***-56.51 -333.96*** (7.20) (-1.01) (-6.37)	

	Nigeria	Philippines	Somalia	South Africa
	Less physical worst	Less property worst	Less physical worst	Less humiliation worst
ages	-0.01 .01 -.003 (-.82) (1.09) (-.31)	-.01** .02***-.01 (-2.30) (3.50) (-.94)	.004 -.003 -.001 (.45) (-.42) (-.02)	.002 -.01 .01 (.20) (-.82) (.49)
education	-.03 .02 .01 (-1.22) (.78) (.49)	.04 .01 -.05 (1.55) (.43) (-1.16)	-.02 .04 -.02 (-.87) (1.60) (-.72)	.04 -.02 -.01 (1.00) (-.60) (-.36)
men	-.15 .03 .12 (-1.22) (.36) (.98)	.10 .01 -.11 (1.02) (.06) (-.61)	-.02 .03 -.02 (-.14) (.25) (-.10)	-.09 .01 .08 (-.81) (.09) (.47)
combatant	-.45** .24* .21 (-2.13) (1.65) (1.31)	-.57*** .27 .30 (-2.87) (1.59) (1.30)	-.20* -.15 .35*** (-1.71) (-1.36) (3.06)	-.87*** .24 .63** (-4.15) (1.46) (2.75)
taking sides	-.30** .22** .52*** (-2.19) (-2.10) (3.53)	-.40*** -.08 .48** (-3.02) (-.61) (2.55)	.003 -.04 .04 (.03) (-.38) (.35)	-.41*** -.17 .58*** (-2.98) (-1.31) (3.02)
war zones	-.98*** .06 .91*** (-6.72) (.48) (6.46)	-.99*** .32*** .66*** (-10.43) (3.45) (4.48)	-.82*** .74*** .08 (3.05) (-5.03) (.33)	-.97*** .19 .79*** (-8.09) (1.39) (4.71)
ethnicity	Ibo -1.01*** .28* .94***	Catholic .18 .06 -.24		whites .98** -.06 -.91

	(-6.77) (1.67) (4.22)	(1.53) (.48) (-1.22)		(2.42) (-.06) (-1.31)
	Hausa -.19 .13 .06 (-.78) (.39) (.13)	Moslem -.23 -.07 .31 (-1.38) (-.38) (1.39)		Blacks -.65*** .08 .57 (-2.68) (.30) (1.61)
				Colored -.68* -.01 .69 (-1.92) (-.01) (1.24)
				Indians .36 -.01 .35 (.79) (-.02) (-.48)
Political cleavages	-1.68 .05 1.63** (-1.63) (-.06) (2.13)	-14.19*** 2.74 11.46* (-3.32) (.65) (1.64)	-2.30*** 3.09*** -.79 (-3.90) (3.55) (-1.31)	23.50***14.26 -37.76*** (3.05) (1.91) (-3.54)
(division) <sup>2</sup>				-29.39***-17.57 46.97*** (-2.65) (-1.62) (3.11)

(\* means significant at 10 %, \*\* at 5 %, and \*\*\* at 1 % levels, respectively. Parentheses are z statistics.)

**Appendix**

**Table 2 Ratio of Latent Classes and Weighted Averages in Each Latent Class**

	Afghanistan			Bosnia			Cambodia			El Salvador			Georgia			Israel		
	Less	physical	worst	Less	physical	worst	Killing	physical	worst	Less	property	worst	Less	killing	worst	Less	physical	worst
total	0.22	0.57	0.20	0.57	0.36	0.07	0.24	0.35	0.40	0.63	0.19	0.19	0.51	0.24	0.25	0.55	0.29	0.15
depart	0.52	0.93	0.98	0.05	0.93	0.81	0.03	0.72	0.89	0.05	0.47	0.52	0.005	0.09	0.61	0.02	0.20	0.54
imprison	0.002	0.16	0.76	0.004	0.01	0.75	0.00	0.004	0.07	0.01	0.03	0.10	0.00	0.01	0.33	0.01	0.10	0.62
kidnap	0.05	0.04	0.51	0.00	0.02	0.39	0.004	0.01	0.13	0.00	0.09	0.08	0.00	0.01	0.09	0.00	0.01	0.13
torture	0.16	0.40	0.97	0.02	0.02	0.63	0.02	0.10	0.41	0.002	0.05	0.07	0.01	0.01	0.13	0.00	0.17	0.91
humil.	0.34	0.57	0.90	0.23	0.77	0.96	0.59	0.32	0.94	0.14	0.45	0.68	0.28	0.42	0.84	0.02	0.87	0.94
relative	0.38	0.74	0.93	0.37	0.70	0.90	0.53	0.63	0.97	0.14	0.35	0.74	0.04	0.74	0.80	0.07	0.64	0.93
family	0.36	0.59	0.77	0.18	0.41	0.61	0.56	0.74	0.99	0.23	0.04	0.94	0.01	0.21	0.20	0.15	0.19	0.31
property	0.36	0.89	0.99	0.11	0.95	0.80	0.20	0.52	0.92	0.03	0.46	0.48	0.00	0.11	0.85	0.02	0.33	0.57
injury	0.13	0.34	0.60	0.09	0.16	0.22	0.05	0.07	0.20	0.005	0.05	0.17	0.00	0.04	0.11	0.05	0.15	0.49
Food	0.28	0.53	0.78	0.00	0.10	0.32	0.03	0.05	0.24	0.02	0.30	0.36	0.00	0.00	0.32	0.01	0.15	0.23
loot	0.11	0.69	0.89	0.01	0.87	0.76	0.13	0.38	0.54	0.01	0.29	0.40	0.00	0.03	0.80	0.00	0.09	0.23
rapes	0.06	0.19	0.41	0.01	0.08	0.28	0.03	0.00	0.12	0.06	0.11	0.37	0.01	0.05	0.12	0.02	0.16	0.11

	Lebanon			Nigeria			Philippines			Somalia			South Africa		
	Less	physical	worst	Less	physical	worst	Less	property	worst	Less	physical	worst	Less	humil.	worst
total	0.43	0.47	0.09	0.34	0.21	0.44	0.83	0.16	0.02	0.34	0.41	0.25	0.56	0.33	0.11
Forced deportation	0.11	0.72	0.50	0.01	0.50	0.88	0.01	0.56	0.63	0.36	0.86	0.91	0.00	0.09	0.52
imprisonment	0.01	0.002	0.69	0.00	0.03	0.06	0.00	0.05	0.44	0.09	0.05	0.68	0.003	0.00	0.26

kidnap	0.00	0.02	0.62	0.00	0.07	0.15	0.00	0.003	0.73	0.03	0.02	0.42	0.002	0.00	0.06
torture	0.03	0.05	0.86	0.00	0.08	0.24	0.002	0.02	0.78	0.03	0.04	0.45	0.00	0.04	0.43
humiliation	0.35	0.82	0.94	0.05	0.51	0.76	0.02	0.35	0.82	0.13	0.22	0.93	0.01	0.49	0.78
Loss of relatives	0.35	0.80	0.87	0.11	0.64	0.92	0.01	0.31	0.48	0.49	0.92	0.93	0.00	0.29	0.56
Killings of family	0.13	0.42	0.54	0.13	0.41	0.76	0.02	0.16	0.75	0.51	0.76	0.90	0.01	0.17	0.45
Damages property	0.10	0.78	0.68	0.01	0.24	0.93	0.00	0.31	0.64	0.23	0.88	0.93	0.01	0.02	0.51
Injury in combat	0.04	0.14	0.60	0.003	0.05	0.21	0.00	0.08	0.56	0.13	0.22	0.47	0.00	0.03	0.30
Food taken	0.01	0.10	0.18	0.002	0.15	0.82	0.00	0.19	0.76	0.09	0.87	0.82	0.00	0.00	0.14
Destruction of houses	0.05	0.53	0.39	0.00	0.17	0.89	0.00	0.21	0.60	0.24	0.92	0.88	0.01	0.00	0.32
rapes	0.02	0.05	0.14	0.00	0.24	0.70	0.002	0.06	0.39	0.18	0.52	0.76	0.01	0.06	0.16

(The first column of total denotes the percentages of each latent class in a country, while other columns are weighted averages of each question within each latent class.)

Table 2 demonstrates how the political cleavages of a community can influence the risk of violence for each respondent. Here, the dichotomous regional variables of Table 1 were replaced with the ones pertaining to political cleavages, denoting the percentage of the respondents who took sides during armed conflicts. The other independent variables remained the same as in the models of Table 1. The primary interest here is the effect of political cleavage variables, so the discussion here will focus upon these points.

Table 2 demonstrates that the coefficients of the community's political cleavage variables are significant in predicting at least one latent class in all the cases. Only the coefficients of area of hostility variables show statistical significance of comparable magnitude to political cleavages.

The directions of these coefficients were as expected in many cases. In Afghanistan, the coefficient of the community cleavage variable in predicting the latent class of the worst violence is 3.58. This suggests that the more respondents of their community took sides during armed conflict, the more likely they belonged to the latent class of the worst violence. In addition, as the squared variable is negative, their effects are non-linear.

In Cambodia, Israel, Nigeria, the Philippines, and Somalia, the directions of their coefficients are positive in predicting the respondents' placement in the latent classes of the worst violence, becoming negative in predicting their memberships in those of the least violence. The latent classes of the middle-level violence vary case by case. The Israeli case produces unexpected values, although their directions were as expected. This case lacks the variable on whether the respondents had lived in zones of hostility.

In these six cases, the more the respondents of a community took sides, the more they were exposed to intense violence. Aside from the individuals' political stance, the level of the division in a community influenced the insecurity of people who lived there during armed conflict. This study had already controlled for the zones of hostility (except for the Israeli case). The significant results of community divisions suggest that the intensity of political struggles was greater than the level of armed conflict. The deep and complicated divisions and confrontations among the community members forced partisan and neutral citizens into more dangerous situations.

In Georgia, the coefficient of the variable denoting community cleavages is -9.55 in predicting the memberships for the latent class of the worst violence, while that of predicting the memberships for the one of the least violence is 23.96. The more the respondents took sides during armed conflicts, the more likely they belonged to the latent class of the least violence. This tendency appeared in South Africa and El Salvador.

The results that run counter to our original intuition can be explained as follows. The Georgian civil war had been fought within the territories of separatist Abkhazia that had produced a large number of deaths and internally-displaced persons (IDPs). However, the respondents who had taken sides were not concentrated in Abkhazia. For instance, the PoW project divides the Tkvertacheli Gali region into two parts. In one of them, only 11 percent of the 63 respondents in this community say that they took sides during armed conflicts. In contrast, at Sukhumi, the capital of the separatist Abkhazia, 75 percent of the 137 respondents claim to have taken sides.

However, in Georgia proper, more than 90 percent of the respondents in many communities confirm taking sides during the armed conflict. These figures are higher than those of the Abkhaz respondents. This suggests that the Georgian citizens had been more politically active than their Abkhaz counterparts during armed conflicts.<sup>4 3</sup>

These results also relate to the fact that the Georgian war was fought on two levels, that is, the separatist wars in Abkhazia and South Ossetia and the ousting of the first president Zviad Gamsakhurdia. The first aspect of the armed conflicts produced a large number of deaths, partially due to the Russian military interventions, while the latter putsch ended shortly without significant casualties. However, the intense political, physiological, or emotional struggles were fought between the Georgian citizens in the western part, the native land of Gamsakhurdia, and those of the rest of Georgia.<sup>4 4</sup> In addition, approximately 230,000 Georgian IDPs who were forced to flee from Abkhazia were scattered around Georgia, especially in the western part.<sup>4 5</sup> They also contribute to increased rates of partisanship in the communities of the Georgia proper.

In South Africa, the regions with the highest propensity for violence were Kwa Zulu Natal and Gauteng. However, only 18 percent of the respondents in the former region said “yes”, the lowest turnout out of the all the administrative units in South Africa, while 53 percent answer the same in the latter region. In contrast, 52 percent of the respondents claim to have taken sides in the North-West Province, while 48 percent assert this in West Cape. Both of these areas registered low levels of political violence. The precise political situations were not clear here, but perhaps many respondents in Kwa Zulu Natal made their living through traditional means, such as agriculture, or remained unemployed. Consequently, they seemed to be disinterested

in politics and instead focused on their livelihoods.<sup>4 6</sup>

#### **4. Conclusions**

This study analyzes the demographic factors of the victims of violence during armed conflicts in eleven conflict zones across the world. One purpose of this study is to extend the results drawn from existing studies into more comparative frameworks by analyzing several cases as well as by including relevant independent variables. These items had been lacking in the previous studies. The independent variables of primary interest are the ones denoting the respondents' physical vulnerability, education level, political stance, and place of residence, including the zones of hostility and the political cleavages of a community. Among them, the variables relating to physical vulnerability, such as age, gender, and combatant status, were significant in only a few cases.

While significant in five cases, including Bosnia-Herzegovina, Cambodia, Georgia, Israel, and Lebanon, the variable of education level is not significant in the other six cases. In countries such as Afghanistan, Nigeria, or Somalia, where the social infrastructure remains extremely poor, education does not necessarily seem to reflect the distributions of wealth.

Partisanship (whether a person took sides) has certainly influenced the propensity for violence during armed conflicts. However, the most interesting and relevant finding of this study is the consistent significance of the coefficients of the variables denoting the percentages of partisanship, even after controlling for the variables of zones of hostility. Some of their directions of influence were unexpected, as in the cases of Georgia or South Africa, which were certainly influenced by other factors, such as foreign interventions and the socio-economic situation. However, in other cases,

such as Afghanistan, Cambodia, Israel, Nigeria, the Philippines, and Somalia, the political cleavages of a community influenced the individuals' propensity for violence, even after controlling for the variables of ethnicity or zones of hostility. While the existing study shows similar results only for one case, this study examines several comparative cases.

Most existing studies of civil war victims analyze the demographic factors of dead persons. In contrast, this study has examined those of the survivors. This difference produces different results. For instance, the results of this study do not show many significant coefficients relating to physical vulnerability, such as age or gender, because it does not examine the most vulnerable persons. Consequently, this study does not intend to criticize previous works on this subject. Rather, it complements them and provides a first step for a further comparative study.

The results of this study propose several policies. First, it shows the significance of collecting data and conducting social surveys in several countries using comparative perspectives. These projects of collecting data in several conflict zones go beyond the capacity of an individual researcher, both in terms of logistics and funding. The follow-up research is therefore truly desirable for the international organizations.

Furthermore, when international organizations conduct surveys, they are often interested in the current needs and the situations of a respondent because their purposes include finding out the needs of victims. However, from the perspectives of political scientists, their pre-war political, economic, and social situations have turned out to be as interesting as their post-war ones in examining the causes or the motivations of war-time violence. Therefore, the variables relating to pre-war wealth or pre-war levels of support for nationalist parties should be included in future

surveys.

Finally and most importantly, the profundity of political cleavages may be the most important factor in determining the level of violence within a community. Inherent variables, such as gender, ethnicity, or religion, do not automatically cause violence. Rather, when the political movements that have taken advantage of these inherent factors gained momentum, community violence was accelerated. Thus, the confidence-building among the community members or even the prohibition of nationalist parties would be useful in post-conflict societies.

---

<sup>1</sup> Mahmood Mamdani, *When victims become killers: colonialism, nativism, and the genocide in Rwanda* (Princeton: Princeton University Press, 2001). A large number of works on ethnic conflicts have relied upon the rhetoric that distinguishes “good sides” and “bad ones.” Robert J. Donia and John V. A. Fine, Jr., *Bosnia and Herzegovina: a tradition betrayed* (London: Hurst and Company, 1994).

<sup>2</sup> Barbara Harff, “No lessons learned from the holocaust? Assessing risks of genocide and political mass murder since 1955,” *American Political Science Review* Vol. 97, No. 1 (February 2003), pp. 57-73. Matthew Krain, “State-sponsored mass murder: the onset and severity of genocides and politicides,” *Journal of Conflict Resolution* Vol. 41, No. 3 (June 1997), pp. 331-360. R. J. Rummel, “Democracy, power, genocide, and mass murder,” *Journal of Conflict Resolution* Vol. 39, No. 1 (March 1995), pp. 3-26. Will H. Moore and Stephen M. Shellman, “Fear of persecution: forced migration, 1952-1995,” *Journal of Conflict Resolution* Vol. 48, No. 5 (October 2004), pp. 723-745.

<sup>3</sup> Philip Verwimp, “Machets and firearms: the organization of massacres in Rwanda,” *Journal of Peace Research* Vol. 43, No. 1 (January 2006), pp. 5-22. “An economic profile of peasant perpetrators of genocide micro-level evidence from Rwanda,” *Journal of Development Economics* 77 (2005), pp. 297-323. “Testing the double-genocide thesis for Central and Southern Rwanda,” *Journal of Conflict Resolution* Vol. 47, No. 4 (October 2003), pp. 423-442. Aderoju Oyefusi, “Oil and the probability of rebel participation among youths in the Niger Delta of Nigeria,” *Journal of Peace Research* Vol. 45, No. 4 (October 2008), pp. 539-555. Aldo A. Benin and Lawrence H. Moulton, “Civilian victims in an asymmetrical conflict: Operation Enduring Freedom, Afghanistan,” *Journal of Peace Research* Vol. 41, No. 4 (October 2004), pp. 403-422. Tom Bundervoet, “Livestock, land and political power: the 1993 killings in Burundi,” *Journal of Peace Research* Vol. 46, No. 3 (July 2009), pp. 357-376. Ana Maria Ibanez and Andrea Velasquez, “Identifying victims of civil conflicts: an evaluation of forced displaced households in Columbia,” *Journal of Peace Research* Vol. 46, No. 3 (July 2009), pp. 431-451.

<sup>4</sup> Benin and Moulton, “Civilian victims in an asymmetrical conflict,” *op. cit.*

<sup>5</sup> Bundervoet, “Livestock, land and political power,” *op. cit.*

<sup>6</sup> Verwimp, “An economic profile of peasant perpetrators of genocide,” *op. cit.*

<sup>7</sup> Elizabeth Jean Wood, “Variations in sexual violence during war,” *Politics & Society*

---

Vol. 34, No. 3 (September 2006), pp. 311-312.

<sup>8</sup> Stathis N. Kalyvas, *The logic of violence in civil war* (Cambridge: Cambridge University Press, 2006). Stathis N. Kalyvas and Matthew Adam Kocher, "The dynamics of violence in Vietnam: an analysis of the Hamlet evaluation System (HES)," *Journal of Peace Research* Vol. 46, No. 3 (June 2009), pp. 335-355.

<sup>9</sup> Bundervoet, "Livestock, land and political power," *op. cit.*, pp. 367-368.

<sup>10</sup> *Ibid.*, pp. 369-370.

<sup>11</sup> Benin and Moulton, "Civilian victims in an asymmetrical conflict," *op. cit.*, p. 416.

<sup>12</sup> Among the cases of the PoW project, the Columbian case has not been included, because its questionnaires differ from those of other cases.

<sup>13</sup> Greenberg Research Inc., *People on War report: ICRC worldwide consultation on the rules of war* (Geneva: International Committee of the red Cross, 1999). Greenberg Research Inc. is a US private research company which commissioned the PoW project from the ICRC. Other reports are found in the following webpages.

[http://www.icrc.org/web/eng/siteeng0.nsf/htmlall/greenberg\\_reports?opendocument](http://www.icrc.org/web/eng/siteeng0.nsf/htmlall/greenberg_reports?opendocument)

Accessed on June 20, 2010.

<sup>14</sup> Paul Collier, Anke Hoeffler, and Nicholas Sambanis, "The Collier-Hoeffler model of civil war onset and the case study project research design," Paul Collier and Nicholas Sambanis eds., *Understanding civil war: evidence and analysis*, Volume 1: Africa (Washington D.C.: The World Bank, 2005), pp. 2, 26, footnote 6.

<sup>15</sup> Evan R. Gottesman, *Cambodia after the Khmer Rouge: inside the politics of nation building* (New Haven: Yale University Press, 2003). Timothy D. Sisk, *Democratization in South Africa: the elusive social contract* (Princeton: Princeton University Press, 1994).

<sup>16</sup> Paul Collier, Anke Hoeffler, and Nicholas Sambanis, "The Collier-Hoeffler model of civil war onset and the case study project research design," Paul Collier and Nicholas Sambanis eds., *Understanding civil war: evidence and analysis*, Volume 1: Africa (Washington D.C.: The World Bank, 2005), pp. 2-3, 26, footnote 26.

<sup>17</sup> Barbara Harff, "No lessons learned from the holocaust? assessing risks of genocide and political mass murder since 1955," *American Political Science Review* Vol. 97, No. 1 (February 2000), p. 58.

<sup>18</sup> This definition is broader than that of other conventional studies. Kalyvas, *The logic of violence in civil war*, *op. cit.*, pp. 19-20.

<sup>19</sup> Verwimp, "Testing the double-genocide thesis for Central and Southern Rwanda," *op. cit.*. Bundervoet, "Livestock, land and political power," *op. cit.*.

<sup>20</sup> Verwimp, "Testing the double-genocide thesis for Central and Southern Rwanda," *op. cit.*. Bundervoet, "Livestock, land and political power," *op. cit.*.

<sup>21</sup> Bundervoet, "livestock, land and political power," *op. cit.*, p.369, Table IV.

<sup>22</sup> Craig Etcheson, *After the killing fields: lessons from the Cambodian genocide* (Texas: Texas Tech University Press, 2005). Cynthia McClintock, "Why peasants rebel: the case of Peru's Sendero Luminoso," *World Politics* Vol. 37, No. 1 (October 1984) p. 81.

<sup>23</sup> Stathis Kalyvas, "Wanton and senseless? logic of massacres in Algeria," *Rationality and Society* Vol. 11, No. 3 (July 1999), pp. 243-285.

<sup>24</sup> Benini and Moulton, "Civilian victims in an asymmetrical conflict," *op. cit.*, pp. 414-420.

<sup>25</sup> Bundervoet, "Livestock, land and political power," *op. cit.*, pp. 357, 371-373.

<sup>26</sup> Verwimp, "Testing the double-genocide thesis for Central and Southern Rwanda," *op. cit.*, pp. 440-441.

<sup>27</sup> Analyses of this paper is conducted by Latent Gold 4.5.

<sup>28</sup> These manifest variables are also called as items or indicators. See, Jeroen K.

---

Vermunt and Jay Magidson, "Technical guide for Latent GOLD 4.0: basic and advanced," <http://www.statisticalinnovations.com/products/LGtechnical.pdf> Accessed on July 4, 2010.

<sup>2 9</sup> Allan McCutcheon, *Latent class analysis* (Newbury Park: Sage, 1987), pp. 6, 11. Allan McCutcheon and Colin Mills, "Categorical data analysis: log-linear and latent class models," in Elinear Scarbrough and Eric Tanenbaum. eds., *Research strategies in the social sciences: a guide to new approaches* (New York: Oxford University Press, 1998), pp. 71-94. Bengt Muthen, "Latent variable analysis: growth mixture modeling and related techniques for longitudinal data," in David Kaplan, ed., *The sage handbook of quantitative methodology for the social sciences* (Thousand Oaks: Sage, 2004), pp. 345-370. There are numerous article that use latent class analysis in psychology, sociology, or even biostatistics. However, as long as the author's knowledge concerns, there is only one article in international relations that analyzes data through latent class analysis. Lisa Blaydes and Drew A. Linzer, "The political economy of women's support for fundamentalist Islam," *World Politics* Vol. 60, No. 1 (July 2008), pp. 576-609.

<sup>3 0</sup> *Ibid.*, p. 17. Latent classes are also called as latent clusters.

<sup>3 1</sup> For the Afghan case, the codes of 99, 97, and 96 are recoded as missing values, as each of them includes only 1 case. Yet, the code of 98 includes 275 cases. Also, education variable of the Afghan data do not include 0 year level of education. Considering the retarded modernization under the civil war in Afghanistan, naturally these cases are recoded as 0 year of education.

<sup>3 2</sup> Those of the eastern region are 0.42, while those of the southern one 0.40.

<sup>3 3</sup> Bosnia-Herzegovina is divided into Bosnia and Herzegovina, a Croat and Muslim region, and Republika Srpska, a Serb one. On the other hand, Somalia has the regional variable that divides the entire country into 28, while Afghanistan into 39. But if these raw variables are included into the models, they are not parsimonious enough. So, this study divide Afghanistan into four regions, while Somalia into administrative prefectures.

<sup>3 4</sup> Here, when calculated the weighted averages of political cleavages, the finest administrative units available are used.

<sup>3 5</sup> Log likelihood BIC statistics of the Nigerian case is 5150.53 for three classes, while 5128.88 for four classes. Those of Somalia are 7892.80 for three classes, while 7824.13 for four classes.

<sup>3 6</sup> The results of four latent classes are provided upon request.

<sup>3 7</sup> Elisabeth Jean Wood, *Insurgent collective action and civil war in El Salvador* (Cambridge: Cambridge University Press, 2003).

<sup>3 8</sup> Kalyvas, "Wanton and senseless?" *op. cit.*, pp. 259-265.

<sup>3 9</sup> McQueen, *Humanitarian intervention and safety zones, op. cit.*..

<sup>4 0</sup> Elisabeth Jean Wood, *Insurgent collective action and civil war in El Salvador* (Cambridge: Cambridge University Press, 2003), pp. 55-56.

<sup>4 1</sup> Human Rights Watch, *Philippines: killings and a disappearance in Mindanao* (New York: Norman Ross Publisher, 2000). Sisk, *Democratization in South Africa, op. cit.*, pp. 233-234

<sup>4 2</sup> "Somali Islamic stronghold falls," <http://news.bbc.co.uk/2/hi/6222211.stm>. Accessed on July 10, 2010.

<sup>4 3</sup> Although the samples of Abkhazia are over-sampled, the results here are all adjusted by having taken effects of the weighting variables.

<sup>4 4</sup> Stephen Smith, "Georgia: the trauma of statehood," Ian Bremmer and Ray Taras, eds., *New states new politics* (Cambridge: Cambridge University Press, 1997), pp. 505-545. Gueorgui Otyrba, "War in Abkhazia: the regional significance of the

---

Georgian-Abkhazian conflict,” Roman Szporluk, ed., *National identity and ethnicity in Russia and the new states of Eurasia*, volume 2 (New York: E.G. Sharpe, 1994), pp. 281-310.

<sup>4 5</sup> UNHCR, “Global needs assessment: Georgia,”

<http://www.unhcr.org/cgi-bin/teXis/vtx/page?page=49e48d2e6>. Accessed on July 25, 2010.

<sup>4 6</sup> In fact, the percentage of unemployment is highest in Kwa Zulu Natal’s respondents.