



# Trauma and stigma: The long-term effects of wartime violence on political attitudes

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## Abstract

How does wartime violence affect public attitudes toward the government in the long run? In this paper, we examine whether violence against civilians during the Korean War continues to influence people's attitudes toward the South Korean government more than half a century later. We find that wartime violence has clear long-term attitudinal effects. Using a difference-in-differences analysis that compares the cohorts born before and after the war, the findings indicate that people who experienced violence in their childhood (0–5 years) are less supportive of the South Korean government, especially the administration and the military, compared with those born in the same areas during the 5 years after the war. We argue that the gap between pre- and post-war cohorts is generated by the long-lasting trauma of wartime violence and the social stigma imposed on violence victims after the war.

## Keywords

Civil conflict, political attitude, social stigma, the Korean War, war trauma

## Introduction

War involves violence by definition. Not only armed combatants but also unarmed civilians are frequently injured or killed in war. In many cases, civilians are even explicitly targeted (Kalyvas, 2006). In the Korean War (1950–1953), more civilian lives were lost than those of soldiers.<sup>1</sup> Many of the deaths, in fact, resulted from massacres targeting civilian males. Employing novel data of violence against civilians during the Korean War, along with recent survey data on political attitudes, we examine the long-term effects of wartime violence targeting civilians on people's views toward government.

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During the Korean War, systematic and widespread killing of male civilians was not a rare event.<sup>2</sup> Moreover, many of those killings were carried out by the South Korean military or related military forces (police and paramilitary groups of the South Korean government, as well as the US military). These facts create a unique context: the same regime responsible for the majority of the killings stayed in office until 1960. Subsequently, two consecutive authoritarian regimes that inherited the anticommunist platform ruled the country until 1987. It was only in the late 1990s that the stories of victims spread publicly in South Korea.<sup>3</sup>

In consideration of the political circumstances during and after the war, we suggest two major and related effects of the violence perpetrated against civilians: *trauma* and *stigma*. The destructive nature of violence causes long-lasting traumatization. The fact that allies and extensions of the South Korean government often attacked civilians would have intensified the traumatic effect. We claim that the traumatic experience of wartime violence led wartime generations to trust the South Korean government less.

In turn, stigma's effect relies on the idiosyncratic political circumstances in South Korea after the end of the war. Following the armistice in 1953, the South Korean government engaged in an intensive anticommunist campaign, which lasted until 1987. At the same time, surviving victims along with family members, relatives, close friends and neighbors of violence victims suffered from various forms of institutional and social discrimination, including disadvantages in education and employment, constant surveillance by legal forces or often colleagues and neighbors, and social contempt. We call this discrimination "institutional and social stigmatization." Such strong and repressive stigmatization led residents in violence-affected areas to take pains to avoid being stigmatized. As a result, residents of areas affected by violence became more supportive of the incumbent regime, which functioned as an active protection mechanism distinguishing them from the victims of violence. While both wartime and post-war generations were exposed to stigmatization, we argue that the stigma effect would be larger and more apparent among post-war generations as they did not experience traumatic wartime violence at all.

Although qualitative and anecdotal evidence exists, to the best of our knowledge, this study represents a pioneering attempt to systemically estimate the effects of post-war stigmatization. Our study also contributes to the understanding of the long-term effects of the trauma of wartime violence, by analyzing whether the trauma effect lasts despite dynamic political and economic changes in the 60 years since the occurrence of violence.

To empirically test our theory, we employ the differences-in-differences (DID) analysis using cohorts born during the 5 years before and after the end of the Korean War. We compare the difference in various political attitudes between the wartime generation (born from 1949 to 1953) and the post-war generation (born from 1954 to 1958) in areas that experienced violence targeting civilians with the difference observed in the same age cohorts in areas that did not experience wartime violence. Our theory predicts that wartime generations in areas of violence will reveal greater distrust of the South Korean government ("trauma effect"). In turn, post-war generations in areas of violence, who need to proactively support the government in order to differentiate themselves from stigmatized violence victims, show greater trust in the government ("stigma effect"). We predict that these effects will be more evident when the tested government branch was directly responsible for the violence. We also anticipate that the effects will be clearer in the areas where the South Korean forces or allied US forces committed the violence.

We find strong support for both trauma and stigma effects. Wartime generations living in areas of violence show strong distrust of the South Korean government, especially the

executive branch and the military. On the contrary, post-war generations in areas of violence show strong trust in the government, not only compared with the wartime generation in areas of violence but also in comparison to the post-war generation in areas where such violence did not occur. We argue that this contrast between wartime and post-war cohorts in areas of violence results from strong stigmatization in the post-war period. Consistent with our argument, we find the effects to be conditional on the type of perpetrator; distrust in the South Korean government among the wartime cohort and trust among the post-war cohort are only clear in areas where violence was committed by South Korean allies. We find no such evidence in areas where North Korean forces attacked civilians.

The remainder of the paper is organized as follows. Section 2 presents our theory along with a discussion of the literature related to wartime violence and its effects. Section 3 describes the data sources used for empirical analysis and provides descriptive statistics. Section 4 discusses the empirical strategy and presents the empirical results, their implications, and robustness checks. Section 5 presents the conclusion.

## Long-term effects of wartime violence

### *Pertinent research*

Since violence caused by conflict has negative ancillary consequences, many scholars of conflict have focused on finding the determinants (Downes, 2008; Humphreys and Weinstein, 2006; Kalyvas, 2006; Valentino et al., 2004) and consequences of violence during war (Brakman et al., 2004; Davis and Weinstein, 2002; Kocher et al., 2008; Miguel and Roland, 2011; Organski and Kugler, 1980). Owing to the lack of accurate data on both war damages and long-term post-conflict conditions, however, few studies have investigated the long-lasting effects of violence during conflict, particularly at the sub-national level.

The long-term effects of war remain inconclusive, as studies present competing evidence and conclusions. Miguel and Roland (2011), incorporating district-level data on US bombing during the Vietnam War from declassified US military documents, find that local economic measures recovered rapidly after the War. Nonetheless, a larger body of microeconomic literature finds empirical evidence for potentially long-lasting negative effects of war on human capital. Bundervoet et al. (2009) find that children living in areas of violence in Burundi have a substantially lower height-for-age score than those living elsewhere. Verwimp et al. (2010) further investigate the channels through which violence during conflict affects child health. Akresh et al. (2010) find the same negative impacts of conflict on children's growth. Shemyakina (2011) shows that adolescent Tajik girls whose homes were destroyed during the civil war are less likely to obtain secondary education.

Several scholars have explored the effects of war on political attitudes. Some have demonstrated through case studies that the experience of conflict leads citizens to participate in politics more actively (Carmil and Breznitz, 1991; Punamaki et al., 1997). Recent micro-studies also find that experience with war increases the probability of post-war political participation. Studies by Bellows and Miguel reveal that exposure to conflict increases subsequent individual-level political mobilization and participation in local collective action in Sierra Leone (Bellows and Miguel, 2006, 2009). Blattman (2009) finds that former combatants in Uganda are more likely to vote in local elections and become local leaders.

This study focuses not only on the general effects of conflict but also on violence committed by armed forces against civilians. Rather than considering such violence as collateral

damage of the conflict, we distinguish and examine violence against civilians as incidents where civilians are deliberately and directly targeted by armed forces.<sup>4</sup> So far, scholars of violence against civilians have focused on understanding the determinants of such violence. Rummel (1994, 1995), Harff (2003) and Valentino et al. (2004), for example, evaluate the causes of violence against civilians using historical cases of genocide and political mass killings, many of which go beyond the scope of conflict. Eck and Hultman (2007) further attempt to collect all instances of violence against civilians that occurred between 1989 and 2004. A few scholars also study the determinants of massive civilian victimization in war. In both interstate wars (Downes, 2008) and civil conflicts (Azam and Hoeffler, 2002; Humphreys and Weinstein, 2006; Kalyvas, 2006), combatants have targeted non-combatants under various conditions. Recent studies on war rapes add further evidence that soldiers not only target their enemies but also victimize civilians during conflict (Cohen, 2013; Leiby, 2009; Wood, 2009). Nonetheless, insufficient attention has been paid to the long-term effects of such violence. By analyzing micro-level data collected in South Korea, this paper seeks to reveal the effects of violence against civilians during a civil conflict on political attitudes more than 50 years later.

This paper also pertains to the broader literature on the long-term effects of historical shock on people's attitudes and communal culture. Scholars have presented evidence that historical events deeply affect the public's political attitudes, and such effects persist in the long term. For example, Grosfeld et al. (2013) show that the existence of the Pale of Settlement before the Second World War and the Holocaust explains current idiosyncratic voting patterns in the Pale areas. Similarly, Grosfeld and Zhuravskaya (2013) argue that the historical partition of Poland between Russia, Austria–Hungary, and Prussia in the nineteenth century affects current voting behaviors in Poland. Voigtlander and Voth (2012) find that the Black Death in the medieval era explains variation in anti-Semitism during the Nazi period in Germany over 600 years later. In line with the growing body of literature on the persistent effects of historical events on political attitudes, we argue that the Korean War and war-related violence, which killed the largest population in Korean history, have persistent impacts on the political attitudes of directly or indirectly affected citizens despite the economic development and the political changes that have occurred in South Korea over the last 65 years.

Lastly, there are important substantive reasons to study the Korean War. Although numerous scholars have studied the causes, effects and implications of the Korean War in various dimensions (Cumings, 1981, 2010; Park ML, 1996, 2002; Park TG, 2005), there has been little systematic study of the local impacts of the war, particularly using systematic sub-national data.<sup>5</sup> For political reasons, violence targeting civilians has been an open secret in South Korea until recently. During the last few years, however, several studies have begun to consider violence against civilians and its aftereffects on bereaved families (Kim G, 2005; Kim D-C, 2006, 2010; Korean Oral History Association, 2011; Park, 2010). The literature on civilian victimization during the Korean War is thus growing rapidly, yet most of those studies rely only on a few cases and interviews. This paper will be among the first academic attempts to offer a systematic discussion of the long-term effects of civilian victimization during the Korean War.

### *Trauma and stigma*

Our study examines the *long-term* psychological impacts of wartime violence. We focus on the effects of violence on political attitudes more than 50 years after the conclusion of the

**Table 1.** War and violence experience by group

		Experience of wartime violence (spatial variation)	
		Violence area (treatment group)	Non-violence area (baseline group)
Experience of war (time variation)	Wartime cohort	experience war, <b>violence</b> and <b>post-war stigmatization</b>	experience war
	Post-war cohort	experience <b>post-war stigmatization</b>	experience none

war. In the context of the Korean War and the political situation within and around the Korean peninsula after the war,<sup>6</sup> we suggest two different but related long-term psychological effects of violence against civilians: *trauma* and *stigma*.

In our research, trauma refers to the *direct* effect of exposure to violence. This indicates that one must at least be born when violence occurs within one’s neighborhood. In other words, only wartime generations—the generations born before the end of war in 1953—could suffer from trauma related to the Korean War. The trauma can be attributed to various experiences of war violence at a young age, in the form of injury, death of a relative (most often fathers, as male adult civilians were often targeted) or witnessing a violent event. We claim that trauma from war violence leads to a lower level of trust in the South Korean government compared with subsequent generations and with the same cohort in areas where violence did not occur. The major source of distrust is that a large number of civilian killings were committed by the South Korean armed forces.

Stigma is defined as “a phenomenon whereby an individual with an attribute which is deeply discredited by his/her society is rejected as a result of the attribute” (Goffman, 1963). In the context of our study of South Korea, stigma refers to formal and informal discrimination brought about by the law, institutions, society and culture that affected family members, relatives and even neighbors of victims of wartime violence. Survivors and observers of violence thus had to exert special effort to prove their conformity to the South Korean government in order to differentiate themselves from the victims of violence.<sup>7</sup> We argue that, as a result, strong stigmatization in post-war South Korea transformed post-war generations in victimized areas into government supporters. The following subsections provide deeper discussions of trauma and stigma in the context of South Korea. Table 1 displays the four groups compared in this study in order to show trauma and stigma effects.

**Trauma.** A vast volume of literature on the trauma of war and collective violence is pertinent to our study. In particular, we focus on three claims made in the extant literature. First, studies find that the effects of PTSD impact not just the individual but are also shared by the community to some extent. De Jong et al. (2001) find in a large-scale survey analysis from Algeria, Cambodia, Ethiopia and Gaza that each country suffers from distinct trauma effects. Cardozo and his colleagues also find culture-specific symptoms of mental illness and coping mechanisms regarding exposure to violence in Afghanistan (Cardozo et al., 2000). They note, furthermore, that indirect exposure to violence (no victims among family members) also creates severe traumatic symptoms among communities (Cardozo et al., 2003).

Scholte et al. (2004) finds that exposure to violent events leads to various psychological symptoms including anxiety, depression and PTSD in eastern Afghanistan.

Previous studies have found that trauma from massive violence can last for long periods. Bramsen and Van Der Ploeg (1999) show that the traumatic effects of the Second World War were still found in Germany 50 years after the end of the war. Kuwert et al. (2007) finds similar results after more than 60 years. Both studies also report that the traumatic impact of indirect damages from war violence, such as witnessing war crimes or the death of a mate, can be severe and long-lasting. Amir and Lev-Wiesel (2003) study the effects of the same war from a different perspective, showing that child survivors of the Holocaust suffered from greater depression, anxiety, somatization disorder and anger/hostility 55 years after the traumatic event.

Scholars have found that traumatic experience at a young age, even during infancy, has particularly significant effects. Osofsky (1995) claims that it is wrong to assume that very young children are not affected simply because they lack clear memories of the traumatic event. They may in fact suffer to a greater degree because they lack coping skills (Lieberman and Knorr, 2007). Garbarino et al. (1991) find that war affects children's worldview, social map and moral development in the long run. This literature supports our empirical specification, in which the wartime cohort aged 0–5 years during the Korean War was substantially affected by the war and wartime violence, while the post-war generation avoided those experiences with Korean War violence.

In short, we predict that experience with violence during the war affects the current political attitudes of the wartime generation living in violence-affected areas. We argue that affected individuals will demonstrate strong distrust of the government, especially the administration and the military, compared with the post-war cohort in the same areas and with people in areas unaffected by wartime violence. The fact that the South Korean armed forces that were supposed to protect South Korean civilians in war committed the violence is likely to have amplified the trauma effect. We assume that post-war cohorts do not suffer from trauma effects because they were not “directly” exposed to the traumatic events. This indicates not only that the post-war cohorts themselves did not experience the violence, but also that their parents were not victims of the violence; otherwise the post-war cohort could not have been born in the post-war period.

**Hypothesis 1 (Trauma effect):** Wartime generations in areas that experienced violence show greater distrust of the South Korean government compared with post-war generations in the same areas and wartime generations in areas unaffected by violence.

*Stigma.* Although few studies directly address the issue of post-war stigmatization related to wartime violence, there is a wide range of literature that provides relevant theories and evidence for our argument. Scholars show that political discrimination and repression by the state against particular groups of citizens is not rare in the contemporary era, particularly in autocracies with an experience of civil conflict (Davenport, 2007; Ellingsen, 2000; Harff and Gurr, 1988, 1989; Kaufmann, 1996; Warren and Troy, 2015). Although ethnic, religious or economic cleavages have been the major grounds for such discrimination, there have been a number of instances of stigmatization and repression for political reasons.<sup>8</sup> Hartzell et al. (2001) claim that discrimination against minority groups following war may benefit the majority and the government in the short term by forming a unified identity among

themselves, but often creates polarization and harms social stability in the long run. Violence and stigmatization also contract the choices of moderate citizens by forcing them to choose between extreme stances (Kaufmann, 1996). We claim that the fierce anticommunist campaign by the authoritarian South Korean government and the stigma around wartime violence victims, coupled with accusations of collaboration with North Korea, led South Korean people in areas of wartime violence to exert themselves to show their political integrity by supporting the South Korean government.

In South Korea, until recently, the state strictly banned any political and social activities related to communism or North Korea, employing legal measures such as the Anti-Communism Law, the National Security Law and the Emergency Measures (Jeon, 2010). The South Korean government has also undertaken significant efforts to indoctrinate citizens, notably the younger generations, with anticommunist propaganda, particularly before democratization in 1987. Students, for example, were instructed to draw anticommunist posters, participate in anticommunist speech contests and take basic military training courses at school.

In addition to the strong pressure by the state-led anticommunist movement, victims and family members of civilians killed in the war also suffered from systematic discrimination based on “guilt-by-association” during the post-war period (Kim, 2006, 2010; Korean Oral History Association, 2011; Park, 2010). Guilt-by-association in the Korean context means that family members of a criminal are also considered a criminal by society. The institution was a long-standing tradition in the Korean legal system but was abolished in 1894, owing to its disconnection with modern legal principles such as the prohibition against double jeopardy. However, for security purposes, it was considered socially legitimate for the targets of civilian violence in the Korean War, along with their families, to be discriminated against under an accusation of (potential) collaboration with North Korea. This institution lasted until 1980 when the government officially banned any rules and laws involving guilt-by-association.

Although many of the allegations did not prove to have a basis in fact, some family members of victims hold records in their family register indicating that a family member was executed for collaborating with North Korea. This record prevented the family members and descendants of victims from benefiting from various basic social activities, either officially or unofficially, such as education, financial loans, employment and affiliation with a political party (Kim, 2006, 2010; Korean Oral History Association, 2011; Park, 2010). Aside from legal stigmatization, anecdotal evidence highlights the pervasiveness of social stigmatization. Family members of victims experienced discrimination in employment and job promotion (Hanley et al., 2001: 252). Police often visited when those family members moved into a new jurisdiction and asked questions without grounds, and surveillance and even violence orchestrated by neighbors often followed (Korean Oral History Association, 2011: 96–102, 250–260).

The stigmatization of targeted civilians has led victims and residents of victimized areas to demonstrate stronger loyalty to the government as active proof of their suitability for South Korean society. Qualitative evidence shows that the pro-government attitudes of victims were a consequence of fear and indoctrination (Korean Oral History Association, 2011: 96–102, 250–260). Those generations who experienced violence during the war feared payback if they did not show strong support for the government. Post-war generations show stronger pro-government sentiment resulting from excessive propaganda efforts undertaken not only by the government but also within families. Families had a strong incentive to indoctrinate

descendants to be supportive of the government, as government loyalty was the best survival strategy given the stigma placed on victimized families and communities.

We predict, as a result, that unlike the generation directly exposed to wartime violence, the post-war generation in violence-affected areas should not show strong distrust of the South Korean government. Having not yet been born during the war period, they were not directly traumatized by the violence against civilians. Rather, the post-war residents of violence-affected areas are likely to show stronger support for the government than the average post-war individual, as they were stigmatized and more severely indoctrinated.

**Hypothesis 2 (Stigma effect):** Post-war generations in violence-affected areas will show greater trust in the South Korean government compared with pre-war generations in violence-affected areas and with post-war generations in areas not affected by violence.

## Empirical analysis

### *Violence data*

To identify exposure to violence among the civilian population, we rely on two sources of information: the *Report on Civilian Massacres in the Korean War* published by a civil activist group, the Truth Commission on Civilian Massacre in the Korean War, in 2005 (hereafter, the *Report* and the Truth Commission) and the *Complete Report of the Truth and Reconciliation Commission* produced by the Truth and Reconciliation Commission of the Republic of Korea in 2010 (hereafter, the *Complete Report* and the Truth and Reconciliation Commission). The two reports are closely related in that the *Report* served as a preliminary investigation before the operation of the Truth and Reconciliation Commission. Both reports contain detailed information on each case of violence, including the precise location of each incident, the number of casualties, alleged reasons for the killing, the perpetrators of the violence and the sources of the information. Nevertheless, there are several differences between the *Report* and the *Complete Report*.

First, the Truth and Reconciliation Commission was a temporary body working for 5 years from 2005 to 2010. During this short operation period, the Commission launched investigations only in cases where a related person submitted a formal application within the first year after its launch. If no family member appealed for an investigation or remained alive, the Truth and Reconciliation Commission did not have authority to launch an investigation, except in a few selected cases. Therefore, the numbers of cases and involved people were much smaller in the *Complete Report*, while the description of each case is much more detailed in the *Complete Report*. Second, it is likely that the scope of the Truth and Reconciliation Commission was limited for political reasons, as the new president from the Conservative Party took office in February 2008. Finally, as an agency representing the South Korean government, the Commission's central concern was ostensibly precision, which may have led the Commission to take a rather conservative attitude in estimating the damage. Given the strengths and weaknesses of both data sources, we find the data sets to be complementary. For example, the *Complete Report* contains many cases in which the North Korean military forces were the perpetrating party. To maximize the complementarity, we sum the number of casualties in the two data sets by EMD.<sup>9</sup>

After merging the two original data sets, we exclude the cases that occurred before the outbreak of the Korean War, although they are closely related to the Korean War.<sup>10</sup> We also

exclude those cases that took place across a wider range of area than an EMD.<sup>11</sup> Finally, we aggregate the cases of violence at the EMD level. We then create a dummy variable, which denotes 1 for EMDs where more than 20 people were killed owing to civilian-directed violence.<sup>12</sup>

## Survey data

To explore the long-term effects of violence against civilians during the Korean War, we examine a series of Korean General Social Survey (KGSS) results conducted annually between 2003 and 2011. This survey has two advantages for studying the effects of violence. Most nationwide surveys in South Korea provide the geographic location of respondents at the 16-province level, which makes it difficult to examine the effects of violence that was limited to a small area. Conversely, the KGSS discloses the geographic information of respondents at the survey district level, which enables us to identify respondents' location at the EMD level.<sup>13</sup> Another advantage is the large sample size of the pooled data set from nine surveys. A pooled data set of nine surveys generates 13,493 observations, and we are able to identify the geographic location for 13,148 respondents in 737 EMDs.<sup>14</sup>

The KGSS asks how much confidence respondents have in 16 different political institutions. We focus on four political institutions that voters are likely to hold responsible for wartime violence: the central government, the Blue House, Congress and the military.<sup>15</sup> Each question allows three categories of response, from (1) barely any trust at all to (3) very much trust.

We also control for various individual-level covariates such as gender, employment status, marital status, religious attendance, subjective perceptions about respondents' social rank and level of education. The variables Gender, Unemployed and Married are binary, denoting 1 for being female, unemployed and married, respectively. Religious Attendance is a categorical variable ranging from (1) several times a week to (8) never. Social Rank is also a categorical variable ranging from (1) lowest to (10) highest. Education spans five categories from (1) no education to (5) post-graduate.

In the main analysis, we focus on respondents who were born between 1949 and 1958, which represents a 10 year window before and after the Armistice in 1953. The final sample includes about 1600 people from approximately 580 EMDs. Among these, 161 respondents live in 46 EMDs where more than 20 civilian deaths occurred. Table 2 provides summary statistics of these variables. We also present Figure 1 to display the geographic dispersion of samples and EMDs selected in the analysis. Summary statistics for each cohort group are also available in Table A and in Table B in our Online Appendix.

## Empirical results

### Identification strategy

We are interested in examining how violence against civilians during the Korean War has affected political attitudes toward government. The regressor of interest in this paper is whether an EMD was exposed to violence during the war, and we rely on the survey data from the 2000s to measure political attitudes of the public. This setup raises two concerns regarding the empirical estimation of the causal effects of violence. First, a common challenge in developing a causal estimate for the effects of violence is endogeneity: unobserved

**Table 2.** Summary statistics

Variable	Mean	Standard deviation	Minimum	Maximum	N
Trust in Blue House	1.656	0.627	1	3	1555
Trust in Central Government	1.583	0.591	1	3	1583
Trust in Army	2.1	0.653	1	3	1566
Trust in Congress	1.296	0.507	1	3	1571
Trust in Supreme Court	1.936	0.642	1	3	1552
Trust in Local Government	1.652	0.598	1	3	1574
Trust in Big Enterprise	1.837	0.588	1	3	1560
Trust in Civil Organization	1.877	0.682	1	3	1541
Trust in TV	1.929	0.594	1	3	1573
Pre-war (-5)	0.396	0.489	0	1	1583
Total Killed	100.384	924.718	0	20,004	1583
Log of Total Killed	3.564	2.48	0	9.904	284
Violence	0.102	0.302	0	1	1583
Gender (female = 1)	0.503	0.5	0	1	1583
Employment (employed = 1)	0.315	0.465	0	1	1583
Marital status (married = 1)	0.851	0.356	0	1	1583
Religious Attendance	4.765	2.631	1	8	1583
Self-evaluated social status	4.458	1.715	1	10	1583
Education	3.112	0.792	1	5	1583

Notes: Based on the sample used in model 1 in Table 3.

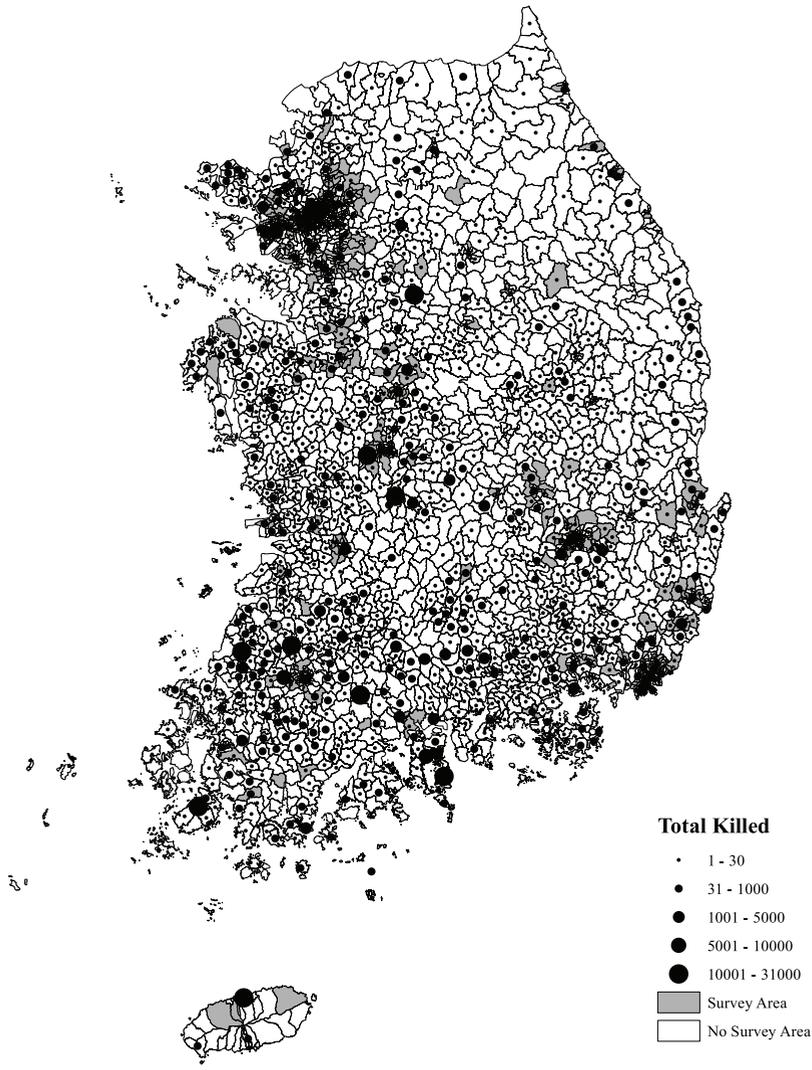
characteristics of EMDs may affect the probability that an EMD was exposed to violence during the war and have lingering effects on residents' political attitudes. Moreover, we cannot rule out the possibility of reverse causality, that the EMD was targeted because its residents have lower levels of trust. Second, the survey was administered in the 2000s, so the measure of attitudes reflects not only the immediate effects of violence (trauma effects) but also the secondary effects of violence (stigma effects). In this paper, we exploit a DID identification strategy to address these empirical challenges. DID is a version of a fixed effects estimation, which is often used to control for observable and unobservable time-invariant covariates. By controlling for group-level fixed effects, the DID not only helps us capture omitted variables at the EMD level but also separates trauma effects from stigma effects.

Let  $Y_{1ist}$  be the level of trust of a respondent  $i$  from a cohort  $t$  in EMD  $s$  if he lives in an EMD that was exposed to violence against civilians during the Korean War, and let  $Y_{0ist}$  be the level of trust of a respondent  $i$  from a cohort  $t$  in EMD  $s$  if he lives in an EMD that was not exposed to such violence during the war. First, we assume that

$$E[Y_{0ist}|s, t] = \gamma_s + \lambda_t, \quad (1)$$

where  $s$  denotes EMD and  $t$  denotes a cohort. Thus, this equation states that, in the absence of violence, survey respondents' trust in government is determined by the sum of a time-invariant EMD effect and a cohort effect that is common across all respondents in the same cohort across different EMDs.

Note that exposure to violence during the war affects residents' political attitudes in two ways, trauma effects ( $\delta_{Trauma}$ ) and stigma effects ( $\delta_{Stigma}$ ). The Armistice in 1953 ended the possibility of violence against civilians so that residents' experience would have been



**Figure 1.** Map – violence against civilians in the Korean War and EMDs of selected survey respondents (grey areas are EMDs where selected survey respondents live).

systematically different depending on whether they were born before or after the Armistice. While stigma affects all residents in exposed EMDs regardless of whether they were born before or after the Armistice, effects of trauma would be confined to those who were born before the Armistice. Therefore, a respondent’s observed level of trust,  $Y_{ist}$ , can be written as follows:

$$Y_{ist} = \gamma_s + \lambda_t + \delta_{Stigma}D_s + \delta_{Trauma}D_{st} + \varepsilon_{ist} \tag{2}$$

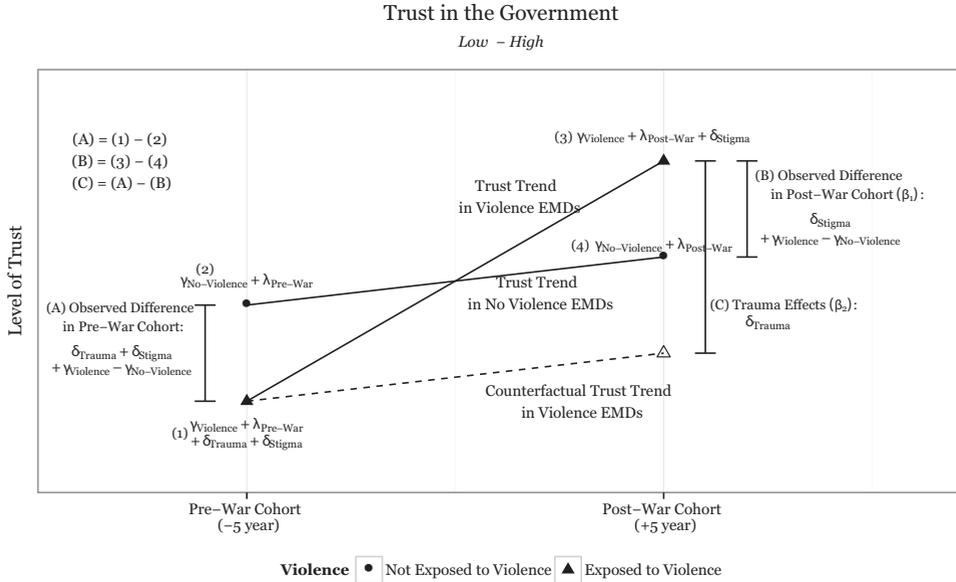


Figure 2. Summary plot—difference in differences estimates.

where  $D_s$  is a dummy variable for those who live in the EMDs exposed to violence and  $D_{st}$  is a dummy variable for those who reside in EMDs exposed to violence and were born before the Armistice. We also assume that  $E(\varepsilon_{ist}|s, t) = 0$ .

To demonstrate how the DID strategy enables us to identify the causal effects of violence, we draw Figure 2, which illustrates the attitudes of respondents in different contexts. In the figure, (1) indicates the expected level of trust among the pre-war cohort in the exposed EMDs and (2) indicates the expected level of trust among the pre-war cohort in the non-exposed EMDs. Then, among the pre-war cohort, the observed difference in the level of trust associated with violence status—labeled as (A) in the figure—can be defined as:

$$E[Y_{ist}|s = \text{Violence}, t = \text{Pre-War}] - E[Y_{ist}|s = \text{NoViolence}, t = \text{Pre-War}] = \delta_{Stigma} + \delta_{Trauma} + \gamma_{Violence} - \gamma_{NoViolence} \tag{3}$$

Similarly, (3) indicates the expected level of trust among the post-war cohort in the exposed EMDs and (4) indicates the expected level of trust among the post-war cohort in the non-exposed EMDs. Then, among the post-war cohort, the observed difference associated with violence status—labeled as (B) in the figure—can be defined as:

$$E[Y_{ist}|s = \text{Violence}, t = \text{Post-War}] - E[Y_{ist}|s = \text{NoViolence}, t = \text{Post-War}] = \delta_{Stigma} + \gamma_{Violence} - \gamma_{NoViolence} \tag{4}$$

Therefore, equations (3) and (4) demonstrate that the observed differences associated with violence status within each cohort does not provide unbiased estimates of  $\delta_{Trauma}$  or  $\delta_{Stigma}$ . On the other hand, the difference (C) in the two difference estimates (A) and (B) is

$$\begin{aligned} & \{E[Y_{ist}|s = \text{Violence}, t = \text{Pre-War}] - E[Y_{ist}|s = \text{NoViolence}, t = \text{Pre-War}]\} \\ & - \{E[Y_{ist}|s = \text{Violence}, t = \text{Post-War}] - E[Y_{ist}|s = \text{NoViolence}, t = \text{Post-War}]\} \quad (5) \\ & = \delta_{\text{Trauma}}. \end{aligned}$$

Thus, the DID framework enables us to identify the trauma effects of violence  $\delta_{\text{Trauma}}$ . The stigma effect  $\delta_{\text{Stigma}}$  remains unidentified empirically, although we can make inferences about its theoretical bounds, which we discuss in detail below.

We use regression to estimate equation (2). The regression formulation of the DID model simplifies the construction of DID estimates and standard errors. It is also easy to add additional covariates.<sup>16</sup> In particular, let  $\text{Violence}_s$  be a dummy for EMDs that were exposed to violence during the war and  $\text{Pre-war}_t$  be a dummy variable for the cohort born before the war. Then,

$$\text{Trust}_{ist} = \beta_0 + \beta_1 \text{Violence}_s + \beta_2 \text{Violence}_s \cdot \text{Pre-war}_t + \beta_3 \text{Pre-War}_t + \mathbf{X}'_{ist} \mathbf{B} + \varepsilon_{ist}, \quad (6)$$

In this equation,  $\beta_2$ , a coefficient of the interaction term between Violence and Pre-War, provides estimates of  $\text{Pre-War}_t$  in equation (2). On the other hand,  $\beta_1$  in equation (6) is equal to  $\gamma_{\text{Violence}} - \gamma_{\text{NoViolence}} + \delta_{\text{Stigma}}$ . Therefore,  $\beta_1 + \beta_2$  would capture the observed difference in attitudes among the cohort born prior to the end of the war. We also include various individual-level covariates as well as EMD fixed effects, survey fixed effects and age fixed effects. Robust standard errors are clustered at the EMD level to account for spatial correlation in patterns of violence as well as the problem of serial correlation.<sup>17</sup>

In general, causal inference using the DID strategy stands upon the parallel path assumption that the underlying trends of outcome variables would be the same in the treatment and control groups in the absence of the treatment. In the current setting, this assumption implies two things. First, the pre-war cohort and the post-war cohort in exposed EMDs and non-exposed EMDs are comparable. A DID framework generally relies on repeated observations of the same individuals before and after treatment assignment. We compare two different cohorts that consist of different people, but we assume that the two cohorts are similar except that the pre-war cohort in exposed EMDs experienced trauma but the post-war cohort did not. Second, we also assume that stigma effects are homogeneous across the wartime cohort and the post-war cohort, which helps us to separate trauma effects from overall effects of violence. It is not possible to determine whether these assumptions are satisfied empirically, particularly in view of the long time horizon. South Korea went through dynamic social, economic and political changes in the half-century following the war. In other words, individuals would have distinctive social experiences depending on when they were born. Similarly, the impact of social stigma toward victims of civilian violence during the war, if any, would be different as well. Therefore, the parallel path assumption is likely to be violated when we compare those who were born right after the war, who were in their 50s in the 2000s, and those who were born in the 1980s, who were in their 20s in the 2000s. Thus, we focus on the contrast between those who were born right before the Armistice in 1953 (1949–1953) and those who were born right after the Armistice (1954–1958).

### Main analysis

Table 3 presents the analysis of trust in the central government, the Blue House, the military and the legislative body. Our main estimate of interest is trauma effects,  $\beta_2$  in equation (6),

**Table 3.** Trauma and stigma effects on trust in government and society

	(1) Government	(2) Blue House	(3) Military	(4) Legislature
$\beta_2$ : Violence $\times$ Pre-war (-5)	-0.36*** (0.13)	-0.29** (0.15)	-0.20* (0.15)	-0.21** (0.12)
$\beta_1$ : Violence	0.83*** (0.24)	0.51*** (0.21)	-0.49 (0.24)	-0.62 (0.25)
Pre-war (-5)	0.16 (0.10)	-0.05 (0.10)	-0.00 (0.11)	0.05 (0.09)
Constant	1.09 (0.32)	2.14 (0.33)	3.00 (0.39)	1.62 (0.23)
Observations	1583	1597	1616	1618
Adjusted $R^2$	0.07	0.03	0.04	-0.01

Notes: All models are estimated using ordinary least squares (OLS). Robust standard errors clustered by EMD are in parentheses. Variables not shown include EMD, age and survey fixed effects along with individual covariates such as gender, employment status, marital status, religious attendance, subjective social rank and education level. \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < -0.01$ . One-tailed  $p$ -values are reported for the hypotheses associated with trauma effects and stigma effects given their directional nature.

shown in the first row of each model. Given that four dependent variables are coded from less trust to more trust, we expect that the coefficient will be negative. In all models, the term is negative and significant at the 5% level (one-sided tests) in models 1, 2 and 4. Thus, these coefficients indicate that exposure to violence during the war causes respondents to distrust the central government, the Blue House and the legislature. Given that the values of the dependent variables range between 1 (barely) and 3 (very much), the coefficients on the interaction terms indicate that exposure to violence reduces trust in the central government by 18%, in the Blue House by 15% and in the legislature by 11%.<sup>18</sup>

The coefficient of violence term,  $\beta_1$ , captures the observed difference in trust in political institutions within the post-war cohort. Its positive sign indicates that residents born after the Armistice in the exposed EMDs tend to have greater trust in the central government compared with residents in the non-exposed EMDs. As suggested previously, this observed difference, however, includes not only the stigma effects  $\delta_{Stigma}$  but also unobserved time-invariant heterogeneity between the exposed EMDs ( $\gamma_{Violence}$ ) and the non-exposed EMDs ( $\gamma_{NoViolence}$ ). It is difficult to separate the stigma effect,  $\delta_{Stigma}$ , from  $\beta_1$  empirically. However, we can construct its theoretical bound depending on how we determine that unobserved heterogeneity among EMDs affects the probability that an EMD was exposed to violence.

If violence was completely random from trust level, it implies that there is no systematic difference between EMDs that were exposed to violence and EMDs that were not exposed to violence. On the other hand, if the difference is negative or  $\gamma_{Violence} - \gamma_{NoViolence} < 0$ , it indicates that EMDs with greater trust in government were less likely to be targets of violence. Finally, if the difference is positive or  $\gamma_{Violence} - \gamma_{NoViolence} > 0$ , EMDs with greater trust were more exposed to violence. Given that violence against civilians was allegedly done to punish those who were likely to support the North Korean military, it seems reasonable to consider that  $\gamma_{Violence} - \gamma_{NoViolence} < 0$ . In this circumstance, a true estimate of stigma effects,  $\delta_{Stigma}$  would be greater than  $\beta_1$ . Thus, the coefficient of violence,  $\beta_1$  in Table 3, marks the minimal bound for stigma effects. Stigma effects can therefore improve trust in the central government at least by 42% and trust in the Blue House by at least 26%.<sup>19</sup> Both are significant at the 5% level.<sup>20</sup> As long as wartime violence effectively punished EMDs that were less supportive of the South Korean government during the War, the result indicates that residents in these EMDs would have experienced greater pressure and social stigma.

**Table 4.** Conditional effects—other political institutions

	(1) Supreme courts	(2) Local government	(3) Business	(4) Civil organization	(5) Media
$\beta_2$ : Violence $\times$ Pre-war (-5)	-0.16 (0.19)	-0.10 (0.16)	-0.06 (0.16)	0.06 (0.14)	-0.09 (0.16)
$\beta_1$ : Violence	0.01 (0.27)	0.73*** (0.26)	-0.45 (0.31)	-1.23 (0.26)	-0.09 (0.19)
Pre-war (-5)	0.02 (0.11)	0.09 (0.11)	0.10 (0.10)	-0.05 (0.11)	0.02 (0.10)
Constant	2.04 (0.47)	1.92 (0.35)	1.34 (0.35)	3.29 (0.39)	1.85 (0.39)
Observations	1591	1603	1613	1587	1631
Adjusted $R^2$	0.06	-0.01	0.04	0.06	0.08

Notes: All models are estimated using OLS. Robust standard errors clustered by EMD are in parentheses. Variables not shown include EMD, age and survey fixed effects along with individual covariates such as gender, employment status, marital status, religious attendance, subjective social rank and education level. \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ . One-tailed  $p$ -values are reported for the hypotheses associated with trauma effects and stigma effects given their directional nature.

### Conditional attribution

The connection between the experience of violence and distrust of government institutions may not be automatic. Rather, it is likely to depend on whether respondents consider an institution to be responsible for the violence. Thus, the effects of wartime violence on distrust should be conditional on the type of institution. If voters view an institution as not having responsibility for war violence, trauma does not lead to loss of trust in that institution. In this context, we estimate the level of trust in other institutions: the Supreme Court, local governments, big enterprise, civil organizations and the mass media (TV). The results in Table 4 show that respondents do not have significantly different attitudes toward these institutions regardless of whether they were born before or after the war and whether they reside in EMDs with or without violence.

In a similar vein, we also examine whether the effects of violence on respondents' attitudes vary with the perpetrators of that violence. While the majority of violence against civilians was committed by parties related to South Korean military forces or police, a substantial number of killings were committed by US military forces or the North Korean army. In particular, the North Korean army committed killings targeting non-sympathizers, anticommunist civilians and South Korean elites who were not cooperative with the North Korean regime. We predict that those killings by non-South Korean forces carry somewhat different implications for our study. First, killings by the South Korean army and police would be more traumatic insofar as those actors were responsible for protecting civilians. Furthermore, as emphasized, we argue that post-war political and social stigmatization in South Korea play a key role in shaping the long-term psychological effects of wartime violence. Hence, our theory predicts that areas exposed to violence by South Korean military forces or the allies (i.e. US forces) have different political attitudes from those areas attacked by North Korea.

Given that our main dependent variables reflect attitudes toward the South Korean government, we anticipate that the effects of violence would have a stronger impact among residents in EMDs where the violence was committed by the South Korean army. Thus, we categorize records of violence into three categories: South Korea, the US and North Korea. Table 5 shows that the negative effects of wartime violence on trust 50 years later are

**Table 5.** Conditional effects—who killed matters?

	(1) US	(2) North Korea	(3) South Korea
$\beta_2$ : Violence $\times$ Pre-war (-5)	-0.32*** (0.12)	-0.20 (0.27)	-0.28* (0.19)
$\beta_1$ : Violence	0.61*** (0.18)	0.35* (0.24)	0.84*** (0.24)
Pre-war (-5)	0.12 (0.10)	0.12 (0.10)	0.13 (0.10)
Constant	1.11 (0.31)	1.11 (0.31)	1.13 (0.31)
Observations	1583	1583	1583
Adjusted $R_2$	0.06	0.06	0.07

Notes: The dependent variable is confidence in central government. This analysis is limited to violence observations from GKW data only. All models are estimated using OLS. Robust standard errors clustered by EMD are in parentheses. Variables not shown include EMD, age, and survey fixed effects along with individual covariates such as gender, employment status, marital status, religious attendance, subjective social rank and education level. \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ . One-tailed  $p$ -values are reported for the hypotheses associated with trauma effects and stigma effects given their directional nature.

significant in EMDs where violence was committed by the US military at the 5% level.<sup>21</sup> On the other hand, the coefficients of violence show that stigma effects, if any, would appear in EMDs where the South Korean military or the US military committed violence, but not in EMDs where the North Korean military committed violence. This pattern is consistent with the idea that victims of violence during the war were under social pressure after the war. Victims of violence committed by the North Korean military were likely to be free from such pressure so that violence would not lead to greater trust in those EMDs.<sup>22</sup>

### Robustness checks

We also conduct other robustness checks of the results in Table 3. The results for robustness checks are available in our Online Appendix. First, we examine the extent of violence as it impacts trust. In the main analysis, we consider that an EMD is exposed to violence when the number of deaths exceeds about 20 (or when the logged value of deaths is larger than 3). In the robustness check, we apply different cut-off points to the number of deaths when creating the violence dummy; we use 0, 10 and 100. We also create an ordered categorical variable with four categories such as 0 (no death), 1 (less than about 20 deaths), 2 (less than about 150 deaths), 3 (greater than 150 deaths). Table C shows that the DID estimates of trauma effects on trust in the central government are robust to varying cut-off points. In models 1–3,  $\beta_1$ , estimates of trauma effects are negative and significant, and the size of the coefficients increases as we apply higher cut-off points. In model 4, the coefficient in the first row suggests that one unit increase in the ordered categorical variable results in a 6% decrease in trust in the central government.

A similar trend also appears in the estimates of stigma effects. As discussed above, we cannot determine precise estimates of stigma effects because we do not know the impact of the unobserved difference between exposed EMDs and unexposed EMDs. However, assuming that the extent of violence was likely to be inversely related to the difference in levels of trust, the larger negative coefficients in EMDs with greater violence indicate that stigma effects appear larger in EMDs exposed to more violence.

Second, we check how the choice of a 5 year window to determine wartime vs post-war cohorts affects our results. In Table D, we define the wartime cohort as those who were born

between 1944 and 1953 and the post-war cohort as those who were born between 1954 and 1963. The DID estimates of trauma effects are still significant with respect to trust in the central government, although not for the other key institutions. On the other hand, the stigma effects are still significant with respect to trust in the central government and the Blue House.

Third, in order to examine whether the results are sensitive to observations from certain provinces, we re-estimate model 1 in Table 3 with different subsets of the sample. In particular, we focus on the effects of five provinces: Seoul, Gyeonggi, Chungnam, Gyeongnam and Jeonnam. As shown in Table E, respondents from Seoul and Gyeonggi make up about 40% of the observations used in the estimation. We examine the influence of Chungnam, Gyeongnam and Jeonnam because the proportion of victims from these provinces makes up a relatively larger share than their share of overall population distribution. For instance, about 4% of respondents in the sample are in Chungnam, while the proportion of victims of violence there is about 14%. In Table F, each estimate comes from a model that leaves out one province. Thus, model 1 presents estimates using a sample without observations from Seoul. The estimates for trauma and stigma effects stay significant across the models.

Fourth, we also compute standard errors clustered at the Si-Gun-Gu level—a higher administrative unit than the EMD—to address the possibility that errors at the individual level are correlated. Failure to control for within-cluster error correlation may lead to small standard error and low  $p$ -values. There is no general principle to select an appropriate level of clustering. The consensus is to be conservative and to avoid bias through using bigger and more aggregate clusters when possible (Cameron and Miller, 2015). Table G shows that standard errors increase slightly but do not affect the findings substantively.

Fifth, we run two placebo tests to support the claim that trauma effects appear in the comparison between the pre-war cohort and the post-war cohort but not in the comparison of other cohorts. In particular, we compare the cohorts who were born 5 years before and after 1945 and the cohort who were born 5 years before and after 1958. Statistically significant placebo estimates could imply that the results described in Table 3 can be spurious. Results for this test in Tables H and I show that none of the estimates for trauma effects are statistically significant.

- Table C: Varying extent of violence.
- Table D: Ten year window for pre- and post-war cohorts.
- Table E: Sample distribution across provinces.
- Table F: Analysis of subset by provinces.
- Table G: Si-Gun-Gu clustered standard error.
- Table H: Placebo test I, cohorts before and after 1945.
- Table I: Placebo test II, cohorts before and after 1958.

## Conclusion

Despite scholarly interest in the long-term effects of wartime violence, existing research often suffers from a lack of accurate data on both war damages and long-term post-conflict conditions. This study aims to contribute to existing studies by employing accurate data on both wartime violence and post-war attitudes. We construct a micro-level data set that connects the location of violence with social surveys of residents at the lowest administrative boundary level in South Korea. Furthermore, the paper expands the scope of analysis by examining how violence committed by armed forces against civilians, and not just general conflict,

affects people's political attitudes. Moreover, the fact that most killing was committed by the South Korean military and its affiliated militia, combined with the fact that after the war victims of violence were ruled by the same government that committed these atrocities, creates a situation in which the effects of violence are more nuanced than previously discussed.

In this paper, we present two mechanisms for how exposure to violence during the war has affected people's political attitudes in the victimized regions: *trauma* and *stigma*. We argue that trauma encouraged those who were exposed to violence during the Korean War to distrust the principal perpetrator, the South Korean government. Stigma, in contrast, has cultivated pro-government attitudes in these areas, because family members, relatives and neighbors of victims were discriminated against in a number of ways and had to prove their loyalty to the same government that had damaged their families and communities during the war. To identify the causal effects of each mechanism, we exploit the discontinuity created by the Armistice in 1953, which minimized the immediate threats of violence by ending hostilities. Those who were born after the Armistice avoided the traumatic experience of violence and have instead been influenced only by the stigmatization.

Consistent with the literature, we find that trauma from wartime violence affected people's attitudes even 60 years later. Our analysis shows that the traumatic effect of violence increased distrust of the South Korean government by 10–18% among the cohort born prior to the end of the war (from 1949 to 1953) compared with the cohort after the war (born from 1954 to 1958). On the other hand, our analysis also reveals the effect of post-war stigmatization implemented by the South Korean government. Such stigma effects have contributed to fostering trust in the central government by about 40% among the residents in areas where violence was committed against civilians. This shows that long-term effects of wartime violence are not simply determined by violence *per se*, but also by the dynamics of post-war politics and government policy.

This study is not without limitations. Our identification strategy of estimating trauma effects relies on the assumption that the wartime cohort and the post-war cohort are comparable except that only the first group was exposed to wartime violence. While this assumption provides us with an opportunity to obtain rigorous estimates of trauma effects, it also limits our capacity to address other interesting questions in the current paper. For instance, our analysis does not directly address the trauma effect on older generations, who would have a more accurate memory of war. Moreover, our analysis of civilian massacres is limited to those committed in the South Korean territory. Although civilian killings that occurred in what is now North Korean territory may have been equally or more severe,<sup>23</sup> studying the effects of those killings is substantially limited owing to the lack of systematic data on war violence and the North Korean population after the war.

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## Notes

1. According to the statistics published by the South Korean government, 137,899 soldiers and 244,663 civilians died. Among the civilian casualties, more than half (128,936) were victims of civilian massacre (Ministry of Internal Affairs, 1955: 212–213). Other sources report larger numbers of casualties: Gregory Henderson, a former cultural and political officer based at the US Embassy in Seoul at the time, estimated the number of civilians killed by South Korean troops and US forces to be over 100,000 (Henderson, 1968:167). Cumings (2010) states that the war resulted in 1 million military deaths and 2 million civilian deaths. The Truth Commission estimated the total number of civilian victims to be more than 1 million (Truth Commission on Civilian Massacre in the Korean War, 2005). Although numbers vary, all sources indicate that more civilians than soldiers died in South Korea during the war.
2. The Eup-Myeon-Dong (EMDs, hereafter) is the third tier unit in the South Korean administrative system. As of 2010, there are 3472 EMDs in South Korea. According to our war data set, 1021 EMDs were exposed to violence based on the criteria that at least one person was killed there during the Korean War. When we apply the criteria that the number of victims should be greater than 20,414 EMDs are considered to have been exposed to violence.
3. South Korean media reported wartime violence against civilians after an Associated Press article reverberated among the public. The AP story, entitled “The Bridge at No Gun Ri” by Charles J. Hanley, Sang-Hun Choe and Martha Mendoza, revealed the tragic massacre of civilians by US military forces. The authors won the Pulitzer Prize for investigative reporting in 2000 as a result of this story, which was later published as a book under the same title (Hanley et al., 2001).
4. Eck and Hultman (2007) define such violence as “one-sided violence”. Intentionality is also emphasized by Downes (2008) in defining “civilian victimization.”
5. An exception is a recent paper by Kim and Lee (2013) that examines the long-term effects of Korean War damage on risk aversion. They find that the damage left by the war, measured in terms of injuries and casualties, affects risk-aversity nearly 60 years later, as residents in provinces with heavier damages during the Korean War are more risk averse in 2007.
6. The post-war political circumstances within South Korea are of particular importance in understanding the effects of war in the long run. In particular, the political attitude of victims of violence cannot be properly estimated without considering the context of post-war politics, including who assumes power after the conflict. As the descriptive analysis in the following section illustrates, the perpetrators in most cases of violence during the Korean War were the military and police forces of South Korea, who took orders from the incumbent president, Syngman Rhee. President Rhee stayed in office after the war, until the Revolution of April in 1960 extracted him from office. The conservative political party, although the party name changed, remained in power until 1997.
7. Korean Oral History Association (2011: 250–260) provides anecdotal evidence for such efforts.
8. The Cultural Revolution in China is an example of political stigmatization and victimization.
9. A concern with this method is double counting. Although there might be double-counted casualties, it is not likely to induce any bias in our estimation because our main violence variable is a binary variable.
10. Massive killings before the Korean War include those carried out by the South Korean armies and police forces in order to prevent the political activity of pro-communist politicians and activists. As with other massacres during the war, these preventive measures led to the widespread victimization of civilians who had no connection to ideology or politics. The *Jeju* Uprising and the *Yeosu-Sunchen* Rebellion in 1948 are the largest of these incidents, with hundreds of thousands of casualties.
11. For example, the National Defense Force Case (*Gukmin Bangwigun Sageon*) is excluded for this reason.

12. We use the log of casualties to determine the cut-off point. For the main analysis, we use a cut-off point at which the log of casualties is greater than 3. In other words, EMDs with more than 20 deaths are coded as EMDs that experienced wartime violence against civilians. We also examine other cut-off points in the robustness checks section.
13. KGSS adopts the first birthday method to correct possible imbalances in the sample. An interviewer visits a selected household and creates a list of household members 18 years and older. Then, he or she surveys the one with the birthday that falls earliest in the year.
14. The mismatch results from the fact that some responses report limited information about their geographic location.
15. The full list includes major companies, organized religion, education, organized labor, newspapers, TV, medicine, local government, the Supreme Court, the scientific community, banks and financial institutions, and civil service organizations.
16. While the source of omitted variable bias comes at the EMD level, adding individual-level covariates can increase precision (Angrist and Pischke, 2009).
17. Bertrand et al. (2004) find that most studies using DID estimation have a serial correlation problem. They argue that it is critical to correct for serial correlation in DID regression; otherwise the DID method tends to overestimate the effect of treatment. Taking their concerns about serial correlation into account, we use EMD-clustered standard errors in all estimations, which allows for an arbitrary correlation of the error terms within an EMD.
18. For example, the occurrence of violence reduces levels of trust in central government by 0.36 out of 2, which is 18%  $[-(0.36/2) \times 100]$ .
19. In the empirical model,  $\beta_1$  captures the observed difference in trust within the post-war cohort. Our identification strategy relies on the assumption that the pre-war cohort is affected by the stigma effects to the same extent.
20. We expect that the stigma effects only improve trust in government institutions. Therefore we apply one-sided hypothesis tests.
21. Note that this analysis relies on violence records in the GWK data only because the reports on violence committed by the North Korean military are rather limited in MKW data, which reduces the number of respondents with violence to 77 from 18 EMDs. Thus, 84 respondents who are considered victims of violence in the main analysis are treated as control, which may affect estimates in this table.
22. In many civilian massacre cases, US and South Korean forces cooperated. Often South Korean forces operated on land while the US military supported with air strikes. Since the data structure allows only one perpetrator per each observation of violence, we coded the party that was documented as having caused more casualties as the perpetrator. We interpret the similar findings for the US forces and South Korean forces in Table 5 to reflect this factor. In a similar vein, the larger coefficient of  $\beta_2$  in column (1) compared with that in column (3) is likely to reflect the size effect. US attacks on civilians were likely to cause larger damage as air strikes were often involved.
23. For example, the famous painting by Pablo Picasso, *Massacre in Korea* (1951), was motivated by mass killings that occurred in Sinchon-gun, Hwanghae province, located in North Korean territory.

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