



Can conflicts unite a nation?

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ABSTRACT

Despite the global commitment to fostering peace, the world suffers from violent conflicts. Related literature connects intrastate ethnic conflicts to polarization, but the relationship between the other types of conflicts and polarization is unclear. I build a simple model showing that conflicts initiated by an external aggressor can reduce the political polarization of a country. Furthermore, using regional panel data from Georgia and Ukraine, I assess how violent conflicts in the form of foreign state supported territorial disputes are related to the region-specific political support for the winner in presidential and parliamentary elections. The analysis suggests that differences in political preferences across regions decrease after a conflict. Finally, I confirm a negative association between conflicts and political polarization using country-level data from around the world. A shift in political preferences away from left-wing public policies is an important channel for a decline in political polarization after a violent conflict.

1. Introduction

Despite the global commitment to fostering peace and sustainable development declared in the United Nations 2030 Agenda and accepted in 2015 by all 193 member countries, the world suffers from violent conflicts. The Uppsala Conflict Data Program (UCDP) dataset reports 52, 55, and 56 conflicts in 2018, 2019, and 2020, respectively (Harbom et al., 2008; Pettersson et al., 2021).² The Center for Preventive Action (CPA)'s Global Conflict Tracker reports 27 conflicts that are of particular importance for the U.S. in 2022.³

The conflicts can be categorized as extrasystemic, between a state and a non-state group outside its own territory; interstate; intrastate, between a government and a rebel group; and internationalized intrastate, between a government and a rebel group supported by foreign governments with troops (see Pettersson et al. (2021)). By conflict form, the CPA distinguishes among civil wars, territorial disputes, interstate conflicts, sectarian conflicts, political instability, and transnational terrorism. The most prevalent conflicts are intrastate and internationalized intrastate in the form of civil wars and territorial disputes (Harbom

et al., 2008; Pettersson et al., 2021). These types of conflicts have been linked to social polarization and fractionalization in the country (Esteban and Ray, 2008, 2011a,b; Esteban and Schneider, 2008). In particular, ethnic divisions have resulted in territorial disputes, with one side often being supported by a foreign state. Most of the violent conflicts have devastating consequences for the economy (Le et al., 2022), but they can trigger positive social and economic changes if the result of a conflict is the fall of dictatorship and successful democratic reforms.⁴

The question arises as to whether a violent conflict can reduce social divisions, thus reducing the probability of further conflicts. The answer is ambiguous in general. On the one hand, the violence and economic destruction can further exacerbate social tensions and polarization. On the other hand, the incentive to reduce the shared high economic cost of the conflict can bring different social groups closer to the same political and economic objectives. Given that social polarization plays an important role in economic growth and development (see, for example, Azzimonti (2011), Azzimonti and Talbert (2014), Frye

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² UCDP dataset reports years of conflicts that have crossed the 25 battle-related deaths threshold.

³ The conflicts are reported in the interactive map: <https://www.cfr.org/global-conflict-tracker> See also <https://www.visualcapitalist.com/mapped-where-are-the-worlds-ongoing-conflicts-today/>.

⁴ For example, the "Arab Spring", driven by citizens' desire to improve the political and economic conditions of their countries (see Ansani and Daniele (2012)), caused a significant GDP loss in the years following the conflicts (see Echevarría and García-Enríquez (2019a,b)). Tunisia became the only country in the Middle East and North Africa where the "Arab Spring" resulted in a real transition to democracy (Netterström, 2015).

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(2002)), a better understanding of the relationship between violent conflict and social divisions could facilitate policymaking and pro-growth reforms following a conflict. In particular, if society's preferences align in certain economic and political domains, pursuing goals in those domains could trigger economic development and improve welfare.

This paper evaluates the relationship between violent conflicts and the alignment of political preferences in society. First, I develop a theoretical model that relates a costly conflict to political polarization, based on the standard political economy models of optimal public policies. In the model, there are two types of agents who have different preferences regarding public spending. The agents can change their preferences at a cost, if such a change increases their utility. A conflict reduces the expected utility of both types and makes the change in political preferences less costly, if public policy after such a change increases the probability of successful conflict termination.

Second, I explore the variation in political preferences across different regions in Georgia and Ukraine that experienced similar violent conflicts in the last decade. I distinguish between the regions contiguous and non-contiguous to conflict zones and evaluate how a violent conflict in the form of a territorial dispute supported by a foreign state changes the region-specific political support for the winner in presidential and parliamentary elections. The analysis suggests that the differences in political preferences across regions are negatively associated with conflicts.

Finally, I evaluate the relationship between violent conflicts and the variation in political preferences in society, based on the polarization of attitudes data constructed from the World Values Survey (WVS) combined with the country-level violent conflict data from the UCDP dataset. The analysis suggests that violent conflicts are negatively associated with the divergence of individual political orientations measured as left–right positioning on the political scale. Further exploration of the data suggests that interstate conflicts are the most significant correlates of the reduction in polarization, compared to the other types of conflict, such as intrastate or internationalized intrastate. The WVS data suggests that the share of respondents who position themselves as left-wing is negatively associated with conflicts, in line with the prediction of the theoretical model that political preferences can shift following conflicts.

A well-established literature on the causes of conflict points to economic conditions, such as income inequality and poverty, as the main drivers of violent conflicts (see, for example, Collier and Hoeffler (1998, 2004), Miguel et al. (2004), Justino (2009), Weede (1981)).⁵ Democracy and institutions are other significant determinants of conflicts (Mousseau, 2001; Jha et al., 2022). While better institutions reduce the probability of violent conflicts, the impact of democracy and economic development on conflicts is nonlinear, with the early stages of democratization associated with higher frequency of conflicts (Hegre, 2001). This study considers a sample of relatively homogeneous regions from two countries of the former USSR for the analysis of the relationship between conflicts and political unity within a country, controlling for region and year fixed effects, thus implicitly capturing to some extent the levels of democracy, economic conditions, and institutions. For the analysis based on the country-level data around the world, I include the real gross domestic product (GDP) per capita, public spending, and the index of democracy by Gründler and Krieger (2021) as control variables, in addition to country and time fixed effects.

Ethnic divisions and social polarization have been considered as contributory factors to political violence, though there is some evidence that ethnic heterogeneity is not associated with higher levels of violence within nations (see, for example, Mousseau (2001), Collier and

⁵ Sambanis (2002) provides a detailed review of the literature on economic causes of conflict and Brück et al. (2017) and Ray and Esteban (2017) survey the recent advances on the analysis of violent conflict and its impact on the economy.

Hoeffler (1998, 2004), Brown and Boswell (1997), Fearon and Laitin (2003)). Esteban and Ray (2008, 2011a,b) have conceptualized the theoretical link between social divisions and conflict, while Esteban et al. (2012) have demonstrated empirically that ethnic divisions in the form of social polarization and fractionalization positively influence the probability of conflict occurrence. In this paper, social divisions characterizing a country before the conflict are taken as given. I focus instead on whether society can become less divided following a conflict. To this end, this study aims to trigger a discussion on the nature of social changes after the violent conflicts. Such a discussion could potentially help provide an understanding of the drivers of economic progress or regress following economic destruction.

The remainder of the paper is organized as follows. Section 2 provides a simple model connecting polarization of preferences to costly conflicts, based on the standard political economy models of optimal public policy. Section 3 describes the data and conducts an empirical exploration of the relationship between violent conflict and the alignment of political preferences based on regional data from Georgia and Ukraine. Section 4 provides the robustness check using the country-level data from around the world. Section 5 concludes.

2. The model

Consider a two-period economy model with two types of agents, i and j , in equal measure, with total population normalized to one. The two types of agents have equal endowment normalized to one but different preferences regarding the size of the public sector. The instantaneous utility u of an agent is additively separable, increasing, and concave in private and public consumption, with type-specific weight $\lambda_h > 0$, $h \in \{i, j\}$, on public consumption.

The government collects taxes to provide public goods. Due to the disagreement between the two types of agents over the size of public sector, given by the difference in type-specific weights on public consumption, political parties will endogenously arise in a democratic environment (Azzimonti, 2015). There are two parties, i and j , representing the two types of agents and competing for office every period. They alternate in power with probability $p \in (0, 1)$. Given equal sizes of the groups representing the two different types of agents, $p = 0.5$.

Every period, the party that wins the elections forms the government and decides on fiscal policy to maximize the utility of its electorate. For simplicity, the government is perfectly impatient.⁶ Since tax revenues are used to finance the provision of public goods and private consumption is equal to the endowment net of taxes, public and private consumption are functions of the tax rate chosen by the party in power. Thus, the fiscal policy chosen by the party in power can be summarized by the tax rate. Given that the party in power maximizes the utility of its electorate, that is, of its type, and given the concavity of the utility function, the utility of the type which is not in power is lower than the utility of the type which is in power. Denote by u_{hk} the utility of type h when political party of type k is in power, $h, k \in \{i, j\}$. Then, $u_{ii} > u_{ij}$ and $u_{jj} > u_{ji}$. Moreover, it must be the case that either $u_{ii} \geq u_{jj}$ or $u_{jj} \geq u_{ii}$. Suppose the former inequality holds, without loss of generality.

The agents can decide to adjust their type at a cost (as in Caselli and Coleman (2013)). Specifically, if agents of type h decide to change their type to $\neg h$, $h \in \{i, j\}$, their lifetime utility declines by fraction $1 - \phi$, which reflects the utility loss due to the cultural, emotional, or monetary adjustment necessary for the change of personal political identity reflected in political preferences. The agents can make a choice about a possible adjustment of their political identity each period before the elections. An agent of type h will change to type $\neg h$ if the expected lifetime utility of such a change is greater than the expected utility without such a change. If the change is worthwhile for one agent

⁶ Its discount factor is zero.

of type h , it is also worthwhile for all agents of type h , therefore, after such a change occurs, the economy consists only of type $\neg h$ and the party representing this type wins with probability one.⁷

Consider first the economy that is at peace in both periods, that is, it does not experience any conflicts. In the first period, agents of type j decide to adjust their preferences to those of type i , in other words, change their political identity from j to i , if the following inequality holds:

$$0.5(u_{jj} + u_{ji}) + \beta 0.5(u_{jj} + u_{ji}) < u_{ii}(1 + \beta)(1 - \phi), \tag{1}$$

where $\beta \in (0, 1)$ is the discount factor and the left- and right-hand sides describe the expected lifetime utility if the agent stays in type j and changes to type i , respectively. If an agent remains in type j , the lifetime utility consists of the sum of expected utilities if type j wins the elections and implements policy j , $0.5u_{jj}$, in the first period, and $\beta 0.5u_{jj}$ in the second period, and if type i wins the elections and implements policy i , $0.5u_{ji}$, in the first period, and $\beta 0.5u_{ji}$ in the second period. If the agents of type j change to type i , they lose a fraction ϕ of lifetime utility, but their expected lifetime utility net of this loss is given by $u_{ii} + \beta u_{ii}$, because type i wins the elections in both periods given that the majority of the population becomes type i .⁸

In the second period, the agents of type j decide to change their political identity to that of type i if

$$0.5(u_{jj} + u_{ji}) < u_{ii}(1 - \phi). \tag{2}$$

In both cases, in the first and in the second period, the change occurs only if

$$\phi < 1 - \frac{0.5(u_{jj} + u_{ji})}{u_{ii}} = \phi_p^*, \tag{3}$$

where ϕ_p^* is the minimum value for which the change occurs in peacetime. For the values of cost ϕ higher than ϕ_p^* , the change of political identity does not occur. In particular, for $\phi > \phi_p^*$, the cost of change from j to i is so high that no j -type agent changes to i -type; and given the assumption that $u_{ii} \geq u_{jj}$, the minimum cost of change from i to j must be smaller than ϕ_p^* , so that for $\phi > \phi_p^*$ no i -type agent changes to j -type.

Consider now the economy where an unexpected conflict, initiated by an aggressor from outside the economy, occurs at the end of the first period. The conflict means that if the country loses, most of its resources will be destroyed or appropriated by the conflict initiator, so that both types' utility will drop to zero, unless the country wins the conflict. The country wins the conflict with type-specific probability P_h . The agents of type j will decide to change their political identity if

$$0.5(P_j u_{jj} + P_i u_{ji}) < P_i u_{ii}(1 - \phi). \tag{4}$$

The change occurs if

$$\phi < 1 - \frac{0.5(P_j u_{jj} + P_i u_{ji})}{P_i u_{ii}} = \phi_c^*, \tag{5}$$

where ϕ_c^* is the minimum value of the cost for which the change occurs in the economy in conflict. Consider the difference:

$$\begin{aligned} \phi_c^* - \phi_p^* &= \frac{0.5(u_{jj} + u_{ji})}{u_{ii}} - \frac{0.5(P_j u_{jj} + P_i u_{ji})}{P_i u_{ii}} \\ &> \frac{0.5u_{jj}}{u_{ii}}(1 - P_j/P_i) > 0, \text{ if } P_j < P_i. \end{aligned} \tag{6}$$

That is, in the economy in conflict the change of political preferences occurs for a wider range of costs ϕ compared to peacetime. If the cost

⁷ This is the outcome of the assumption that type h can change directly to type $\neg h$; if the agents who change their type do so by "getting closer" in their preferences to type $\neg h$, the analysis is more computationally cumbersome but the results are similar, as shown numerically at the end of this section.

⁸ The probability of reelection is independent across periods, 0.5, if no type changes occur.

ϕ is such that $\phi_p < \phi < \phi_c$, the peacetime economy is characterized by no changes in agent types, but an initiation of a conflict that threatens the country-wide resources causes all the agents to switch to the type that increases the probability of winning the conflict, reducing (in this case, eliminating) political polarization.

Consider an example of a model economy with a particular functional form imposed on u , so that the impact of conflict on agent decisions and political polarization can be computed quantitatively and illustrated. Suppose that utility depends on private consumption, c , and public consumption, g , as follows:

$$u_h(c, g) = \frac{c^{1-\sigma}}{1-\sigma} + \lambda_h \frac{g^{1-\sigma}}{1-\sigma}, \quad h \in \{i, j\}. \tag{7}$$

Political polarization, a measure of the divergence of individual political attitudes, is then translated into the absolute value of the difference in weights on public consumption, $|\lambda_i - \lambda_j|$; a larger difference corresponds to greater political polarization.

Private consumption is the endowment net of taxes, $c = 1 - \tau$, and tax revenues are used to finance the provision of public goods, so that the government budget constraint is $g = \tau$. The problem of the government is static and can be summarized by an optimal choice of τ in a given period. Specifically, substituting c and g as functions of τ into the utility function, the problem of the party of type h when in power can be written as follows:

$$\max_{\tau} \frac{(1 - \tau)^{1-\sigma}}{1 - \sigma} + \lambda_h \frac{\tau^{1-\sigma}}{1 - \sigma}, \quad h \in \{i, j\}.$$

The solution is the optimal tax rate:

$$\tau_h^* = \lambda_h^{1/\sigma} / (1 + \lambda_h^{1/\sigma}), \tag{8}$$

which is an increasing function of the weight on public spending λ_h . Given that c and g are functions of the tax rate, the utility of an agent of type h can be computed as a function of τ_h^* for the cases when the party in power is of the agent's type, u_{hh} , and of the other type, u_{h-h} , $h \in \{i, j\}$. Further suppose that the probability of winning the conflict, P_h , is a concave function of the public sector size, in particular, $P_h = g(\tau_h)^\gamma$, $\gamma \in (0, 1)$.

The left panel of Fig. 1 reports the values of the cost ϕ for which the change of type occurs in peacetime, in light gray, and the additional ranges for which the change occurs in times of conflict, in dark gray, for different polarization levels and the following parameter values: $\sigma = 0.95$ and $\gamma = 0.7$. In this case, $u_{ii} > u_{jj}$, so that for type i it is not worthwhile to change the type for any level of positive cost, but type j changes to type i if the cost of change is within the corresponding shaded area.

The model economy considered above includes only the extreme version of political identity changes, from h to $\neg h$. The type adjustment where the preferences for public spending change partially from j to $j + \Delta j$, where Δj reflects the degree of adjustment in the direction of type i preferences, can be considered more realistic. In this case, the change occurs, if

$$u_{jj} + u_{ji} < (u_{j'j'} + u_{j'i})(1 - \phi_p), \tag{9}$$

$$P_j u_{jj} + P_i u_{ji} < (P_{j'} u_{j'j'} + P_i u_{j'i})(1 - \phi_c), \tag{10}$$

for the economy in peace and conflict, respectively, where j' is agent j 's new type, after a change.⁹ The change results in polarization declining by Δj .

The right panel of Fig. 1 depicts the values of the cost ϕ for which the change of type occurs in peacetime, in light gray, and the additional ranges for which the change occurs in times of conflict, in dark gray, where j adjusts closer to i , as a function of the magnitude of adjustment, from 0 to 100 percent, for the following set of parameters: $\Delta \lambda = 0.4$,

⁹ In the case of partial adjustment, the probability of reelection for each type remains 0.5, because there are still two different types in equal measure.

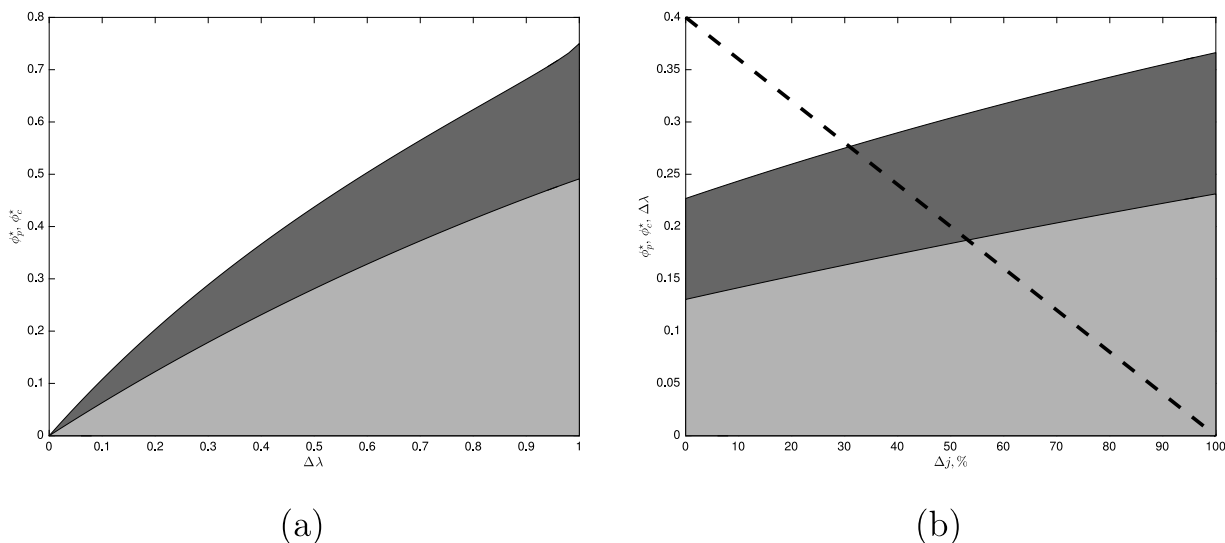


Fig. 1. The permissible costs of political preferences adjustment in peacetime and during conflicts. *Note:*The figure depicts the costs of preferences adjustment for which the adjustment of preferences occurs in peacetime, in light gray, and additional ranges of costs for which the adjustment occurs in times of conflict, in dark gray, as a function of initial polarization, in panel (a), and as a function of the degree of political preferences adjustment, in panel (b); in panel (b), initial polarization is 0.4 and polarization after the adjustment is plotted as a dashed line.

$\sigma = 0.95$ and $\gamma = 0.7$. The right panel of Fig. 1 also shows the political polarization level (dashed line) as a result of the type adjustment for permissible range of costs. That is, if the adjustment from j to i is 100%, the resulting polarization is zero, but if the adjustment from j to i is positive but close to 0%, the resulting polarization is lower than but close to its initial value, 0.4.

As a final remark, note that the probability of winning the conflict P_h can be modeled as a function of total public spending, a fraction of public spending devoted to military services and defense, or any other function of public policy. An in-depth analysis of possible structures of P_h as drivers of political identity changes could provide more insight into the dynamics of political preferences after a conflict at the national level, leading to testable hypotheses that are beyond the scope of this paper.

The focus of this paper is on the testable hypothesis resulting from the model presented above: political polarization can decrease following a country-wide conflict. The data and empirical methodology used to test this hypothesis are presented in the next sections.

3. Conflicts and polarization: Evidence from Georgia and Ukraine

This section analyzes the relationship between violent conflicts and political polarization, measured as the variation in the regional share of votes cast for the winner in the national parliamentary and presidential elections. The analysis is based on regional panel data from Georgia and Ukraine. The similarity of these countries in terms of historical background and economic and democratic stage of development, as well as in terms of the type and form of violent conflicts, allows an exploration of regional differences based on the comparison of the regions that are non-contiguous and contiguous to a conflict zone, in peacetime and during conflicts.

3.1. Historical background

Georgia and Ukraine formed part of the Soviet Union (USSR). Since the collapse of the Soviet Union in 1991, the economic and political development of the 15 newly independent countries has been very diverse. The post-communist transformation complicated by a political struggle between ex-communist and anti-communist factions caused political instability and polarization, which had a detrimental effect on economic growth (Frye, 2002).

Economic and political instability impeded the democratization process in post-Soviet countries (see, for example, Hale (2005), Gel'Man (2003)). Fig. 2 shows the democracy index by Gründler and Krieger (2021) for post-Soviet countries, where values between 0.5 and 1 correspond to democracies and values below 0.5 correspond to autocracies. Except for Estonia, Latvia and Lithuania, all post-Soviet countries have been characterized by a highly volatile democracy index, with only Armenia, Georgia, Moldova and Ukraine approaching democratic regimes over time and the remaining countries trapped in autocracies.

Additionally, a number of violent conflicts fueled by separatist movements and supported by neighboring states for geopolitical reasons (see Sussex (2012)) further destabilized the region. In particular, all four relatively democratic countries, Armenia, Georgia, Moldova and Ukraine, experienced violent conflicts either involving local separatists groups or the neighboring states, with Russia actively supporting the disputes, exacerbating political and economic instability. These conflicts have been characterized by the CPA Global Conflict Tracker as territorial disputes and by the UCDP as internationalized intrastate conflicts.

The other post-Soviet countries, including Azerbaijan, Russia, Tajikistan, and Uzbekistan, also experienced violent conflicts (see UCDP dataset, Harbom et al. (2008), Pettersson et al. (2021)). Nonetheless, the prevalence of non-democratic regimes in these countries implies that their data cannot be used to analyze the relationship between conflict and political preferences, because people's true political preferences are not revealed in autocracies.

Of the four post-Soviet democracies that experienced violent conflicts, Armenia and Moldova are excluded due to insufficient data. In particular, Armenia has been in a territorial dispute with Azerbaijan (with escalations in 1988–1994, 2014, 2016 and 2020), although its own territory has not been affected. Moldova's territorial unit of Transnistria has been under military occupation by Russia since 1990. The persistence of conflicts in Moldova and Armenia (from the 1990s to the present day) does not allow for an exploration of the variation in political preferences as a result of the conflict.

Georgia and Ukraine have been characterized by the switches between peacetime and conflict. In Georgia, disputes raging in two regions of Georgia, Abkhazia and South Ossetia, between local separatists supported by Russia and the Georgian-majority population, started in 1990s and intensified in 2008, resulting in the de facto independence of the disputed regions. In Ukraine, disputes in two regions of

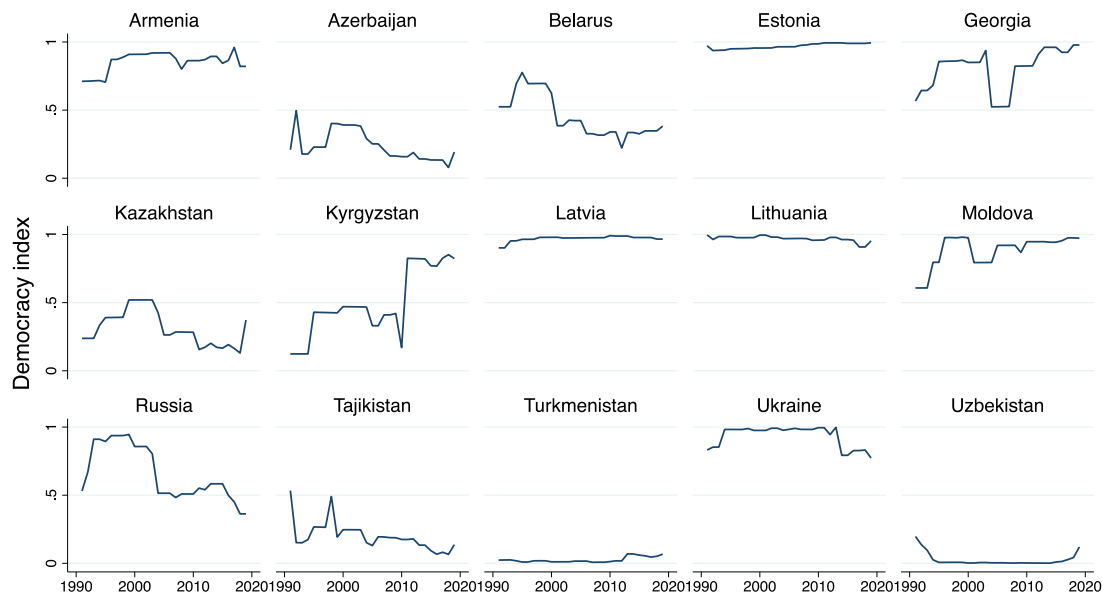


Fig. 2. Democracy in post-Soviet countries.
 Note: The figure depicts the democracy index by Gründler and Krieger (2021) for post-Soviet countries; values between 0.5 and 1 correspond to democracies and values below 0.5 correspond to autocracies.

Ukraine, Donetsk and Lugansk, between local separatists supported by Russia and the Ukraine-majority population, begun in 2014 following the Ukrainian Revolution of Dignity. The first eight years of conflict included the Russian annexation of Crimea (in 2014) and the war in Donbas (2014–present), as well as naval incidents, cyberwarfare, and political tensions. The location of Georgia and Ukraine between Western Europe on one side and Russia and Asia on the other, combined with their Soviet past, contributed to severe polarization of social attitudes, fueled by pro-European and pro-Russian political movements. Even as the majority supported the democratic development path, public corruption and a lack of institutions led to several rigged elections and slow democratic reforms. A number of peaceful revolutions in both Georgia and Ukraine emerged as attempts to move toward more democratic regimes. The violent conflicts, supported by Russia, followed those revolutions, imposing significant economic costs. Difficult transition to democracy has thus been complicated by severe economic burdens and impoverishment. According to theories on ethnic conflicts (see, for example, Esteban and Ray (2011b)), polarization in these countries should have further increased following the conflicts. Nevertheless, as a simple model presented in the previous section suggests, the relationship between conflicts and political polarization can be negative if the whole society views the conflict as a threat, or in other words, if social groups characterized by different political preferences have similar preferences regarding the conflict termination.

The variation in the conflict dates and regions in conflict, combined with the regional data on political elections in Georgia and Ukraine, is used to explore the relationship between conflicts and political alignment across different regions. The data are described in more detail below.

3.2. The data

I collect regional data on the results of political elections, including the presidential and parliamentary elections, for Georgia and Ukraine. The data sources are the official websites of the election commissions, the news, and Constituency-Level Elections Archive (CLEA) dataset (Kollman et al., 2019).¹⁰ Table 4 in the Appendix reports the regions

¹⁰ For Georgia, the data have been collected from www.electoralgeography.com and CLEA dataset; for Ukraine, from <https://www.cvk.gov.ua/>.

and the elections included in the analysis (for those elections for which the regional data are available), the dates of violent conflicts as reported by the UCDP, and the classification of regions as being noncontiguous to a conflict zone, contiguous to a conflict zone, and in a conflict zone.¹¹

For each of the elections, I consider the regional share of votes cast for the country-wide election winner (where the election winner refers to the political party or the candidate for president). For parliamentary elections, the winning party is the party that secures the largest share of votes across the country, and this number can be below 50%. There is significant heterogeneity in the number of competing parties by election year and by country, with around eight parties competing per elections, on average. For presidential elections, the winning candidate must obtain more than 50% of the votes. Unless the leading candidate wins in the first round, I use the data on second rounds, which include only two candidates.

There is a significant variation in the regional share of votes cast for the party that won the elections by country and over time. In particular, the regional support for the winning party in Georgia varies from 16.81% to 94.21% and in Ukraine from 1.94% to 96.0%. Higher variation in the winner’s support across regions reflects greater political polarization across regions.

Formally, I compute regional political polarization as the square of the difference between the regional and the country-average share of votes cast for the election winner, normalized by the country-average share. Specifically, Pol_{jit} , polarization in country j , region i , and year t is given by:

$$Pol_{jit} = \left(\frac{VS_{jit} - \overline{VS}_{jt}}{\overline{VS}_{jt}} \right)^2, \tag{11}$$

where VS_{jit} denotes the vote share obtained by the winner in region i country j at time t and \overline{VS}_{jt} denotes the vote share obtained by the winner throughout country j .

Fig. 3 reports the computed polarization measures, as averages across regions, for the countries under consideration. The computed

¹¹ The classification of regions by contiguity is based on governmental data (<http://shidakartli.gov.ge/ge/pages/index/47> and <https://mfa.gov.ge/Occupied-Territories/Law.aspx> for Georgia).

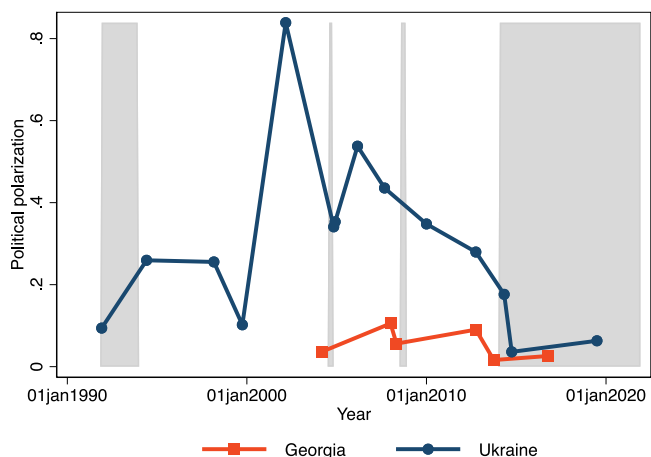


Fig. 3. Political polarization in support for winner, based on elections data from Georgia and Ukraine.

Note: The figure depicts the computed polarization measures based on the averages across regions for Georgia and Ukraine, in square- and circle-marked lines, respectively; gray-shaded areas represent violent conflicts.

polarization varies significantly by country and within country over time, reflecting the political instability that characterized Georgia and Ukraine during the post-communist transition.

Fig. 4 summarizes the average polarization levels for the regions contiguous and non-contiguous to conflict zones, as well as regions in a conflict zone, during peacetime and during times characterized by violent conflict in the last four years.¹² For regions in a conflict zone, data availability is limited and based on parts of regions which are not completely occupied and where elections could be held. The regions contiguous to a conflict zone are more polarized, in the sense that political support for the country-wide supported political parties in these regions is further away from the average compared to the regions non-contiguous to a conflict zone. In Ukraine, the polarization in all types of regions declines during conflicts compared to peacetime, whereas in Georgia it increases. This correlation is further explored below in the empirical model that controls for time and region fixed effects.

¹² Since election years for which the polarization could be computed and the years of conflicts do not coincide in general, times of conflict are considered as election years for which some conflict occurred during the four years prior to elections.

3.3. Empirical analysis and results

I evaluate the relationship between violent conflicts and political polarization in regions of Georgia and Ukraine using the following model:

$$Pol_{jit} = a + \beta C_{jt} + \mu_i + T_t + \epsilon_{jit}, \tag{12}$$

where Pol_{jit} is polarization in country j , region i , and year t ; C_{jt} is a measure of conflict in country j year t ; μ_i is region fixed effect; T_t is time (year and month) fixed effects; and ϵ_{jit} is the error term. Model (12) is estimated by OLS with standard errors clustered by region.

A simple binary indicator for years of conflict is not useful in this setup, because gaps between the election years and between conflict years are unequal. Therefore, as a first measure of conflict I use a binary indicator taking a value of one if the country experienced a violent conflict reported by the UCDP during (any of) the four years prior to elections. The four-year interval is used because elections took place every four years, on average.

A limitation of the binary indicator for conflict is that it does not take into account the duration of the conflict. Therefore, the second measure of conflict, the number of conflict years, is computed as the total number of conflict years since the collapse of the Soviet Union. The summary statistics are reported in Table 3 in Appendix.

Columns (1) and (3) of Table 1 report the baseline estimation results, controlling for time and region fixed effects.¹³ The coefficient on the binary indicator of violent conflict is negative and significant, suggesting that a violent conflict in the four years prior to elections is followed by a decrease of approximately one-quarter of a standard deviation in regional polarization in the election winner's support. Similarly, the coefficient on the number of conflict years is negative and significant, indicating that every four years of conflict are associated with a reduction in regional polarization in the election winner's support of approximately one-third of a standard deviation.

The regions contiguous to a conflict zone are more polarized (see Fig. 4) and can be differently affected by a conflict compared to the other regions. Therefore, I further evaluate the impact of conflict on polarization conditional on the type of regions, distinguishing between the regions contiguous to a conflict zone and regions in a conflict zone,

¹³ Note that the estimation results based on a binary indicator for conflict in the preceding four years (Columns (1)–(2) of Table 1) have almost twice as many observations as the estimation results based on the number of conflict years (Columns (3)–(4) of Table 1). This is because the latter estimation includes only the elections that occurred after a positive number of conflicts while the former estimation includes all the years, before and after the conflicts.

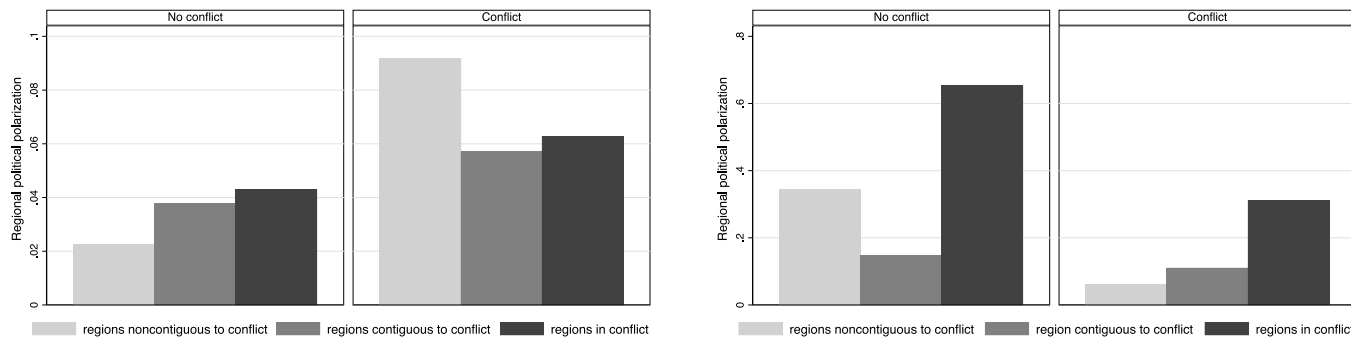


Fig. 4. The average political polarization by contiguity to conflict zone, based on elections data from Georgia and Ukraine. Note: The figure depicts the average polarization levels for the regions non-contiguous to a conflict zone, in light gray, contiguous to a conflict zone, in gray, and regions in a conflict zone, in black, during peacetime and after violent conflicts, for Georgia and Ukraine in the left and right panel, respectively.

Table 1
Conflicts and the divergence of political preferences: Estimates based on regional data for Georgia and Ukraine.

Variables	(1)	(2)	(3)	(4)
Divergence in regional support for election winner				
Conflict in the last four years	-0.0839*** (0.0313)	-0.0557* (0.0294)		
Number of conflict years			-0.0282*** (0.00662)	-0.00987*** (0.00307)
Conflict in the last four years × regions contiguous to conflict zone		0.0809** (0.0350)		
Conflict in the last four years × regions in conflict zone		0.00802 (0.0544)		
Number of conflict years × regions contiguous to conflict zone				-0.00415 (0.00787)
Number of conflict years × regions in conflict zone				-0.0410*** (0.00717)
Regions contiguous to conflict zone		-0.101** (0.0509)		0.0186 (0.0629)
Regions in conflict zone		-0.217 (0.187)		0.595*** (0.0616)
Parliamentary elections	0.0381 (0.0395)	0.0824*** (0.0204)	-0.0935*** (0.0175)	-0.0241*** (0.00727)
Constant	0.0395 (0.0335)	0.158*** (0.00735)	0.214*** (0.0276)	0.0927*** (0.0189)
Observations	791	791	494	494
R-squared	0.292	0.042	0.241	0.119
Number of regions	105	105	104	104

Note: This table reports the OLS estimates of Model (12) controlling for time and region fixed effects; robust standard errors clustered by region.

*Denote significance at 10% significance level.

**Denote significance at 5% significance level.

***Denote significance at 1% significance level.

Table 2
Conflicts and polarization: estimates based on country-level data.

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	Polit. polarization				Pro-left	Pro-right
Conflict	-0.0310** (0.0140)				-0.0293** (0.0128)	0.0158 (0.0302)
Real GDP per capita	-0.0161 (0.0223)	-0.0242 (0.0200)	-0.0140 (0.0213)	-0.0172 (0.0206)	0.0292 (0.0220)	-0.0136 (0.0329)
Public expenditures	0.00194 (0.00199)	0.00240 (0.00204)	0.00209 (0.00202)	0.00213 (0.00206)	0.00328* (0.00192)	0.00223 (0.00257)
Democracy index	0.0208 (0.0231)	0.0292 (0.0227)	0.0219 (0.0239)	0.0245 (0.0232)	0.0154 (0.0153)	0.0456 (0.0587)
Interstate conflict		-0.0949*** (0.0139)				
Intrastate conflict			-0.0215 (0.0249)			
Internationalized intrastate conflict				-0.00577 (0.0226)		
Constant	0.454** (0.193)	0.509*** (0.175)	0.432** (0.185)	0.454** (0.183)	-0.220 (0.192)	0.340 (0.276)
Observations	236	236	236	236	236	236
R-squared	0.243	0.249	0.228	0.220	0.368	0.288
N countries	89	89	89	89	89	89

Note: This table reports the OLS estimates of Model (13) with year and country fixed effects, for the dependent variable polarization, in Columns (1)–(4), and the fraction of pro-left and pro-right individuals, in Columns (5) and (6), respectively; robust standard errors clustered by country.

*Denote significance at 10% significance level.

**Denote significance at 5% significance level.

***Denote significance at 1% significance level.

with the other regions being a baseline category.¹⁴ The estimation of Model (12) with additional binary indicators for regions contiguous to a conflict zone or in a conflict zone, and their interaction with the indicator for conflict, is reported in Columns (2) and (4) of Table 1. The estimation results suggest that polarization in regions that become contiguous to a conflict zone is not statistically different from that in the other regions, but it increases when the conflict takes place. Considering only conflict years, with corresponding estimation results reported in Column (4) of Table 2, regions in a conflict zone are significantly more politically polarized compared to other regions, but as conflict duration increases, polarization in these regions declines. These results should be interpreted with caution because the data on regions in a conflict zone are incomplete, and a significant fraction of the population could be displaced during the period considered in this study.

The findings of this section provide empirical evidence in support of the theoretical argument presented in Section 2. Violent conflicts in the form of territorial disputes supported by foreign states are associated with a reduction in mass polarization.

4. Conflicts and political polarization around the world

This section confirms the results obtained in the previous section in a more general setup, based on a panel of countries around the world and polarization measures computed from individual self-reported political preferences. While such data are much more heterogeneous, exploring them serves as a robustness check and permits some generalization of the results obtained in the previous section.

4.1. The data

I use the country-specific data on violent conflicts from the UCDP dataset (Harbom et al., 2008; Pettersson et al., 2021), the world's main provider of data on organized violence. The UCDP defines conflict years in a given country as years that have crossed the 25 battle-related deaths threshold. For the measure of preferences polarization, I use the individual responses from the different waves of WVS (Inglehart et al., 2020), covering the period 1981–2020. The individual responses contain their self-identified position on the political scale, based on the following statement:

- (S) “Self positioning in political scale” In political matters, people talk of “the left” and “the right”. How would you place your views on this scale, generally speaking (choose a number between 1 and 10)? Left (1) 2 3 4 5 6 7 8 9 Right (10).

For each country-year available in the survey, I compute the coefficient of variation of individual responses to this statement (the standard deviation of individual responses divided by the mean value of responses), following the methodology used to measure preferences polarization by Lindqvist and Östling (2010). The larger the variation, the greater the disagreement in society.

These data, combined with the data on violent conflicts, yield an unbalanced panel of 89 countries over the period 1981–2020. As control factors, I consider the data on the real GDP per capita (in logarithms) and the government expenditures from the World Bank, because those variables are robust determinants of polarization (see Grechyna (2016)), as well as a time-varying index of democracy by Gründler and Krieger (2021). Table 3 provides the summary statistics for all the variables.

¹⁴ The contiguity to a conflict zone is a time-varying indicator for some regions; see Table 4 for dates when a particular region becomes contiguous to a conflict zone or located in a conflict zone.

4.2. Empirical analysis and results

I evaluate the relationship between polarization and conflict using a model similar to the one used in the previous section but based on country-level rather than regional data. It is specified as follows:

$$Pol_{jt} = a + \beta C_{jt} + \gamma X_{jt} + \mu_j + T_t + \epsilon_{jt}, \quad (13)$$

where Pol_{jt} is the polarization in political attitudes in country j year t ; C_{jt} is a binary indicator taking a value of one for the years of conflict in country j year t , and zero otherwise; X_{jt} are the controls, the real GDP per capita (in logarithms), the government spending as a share of GDP, and the democracy index; μ_j denotes country fixed effects and T_t denotes year fixed effects; ϵ_{jt} is the error term. Model (13) is estimated by OLS with standard errors clustered by country.

Columns (1)–(4) of Table 2 report the results. Violent conflicts are negatively associated with political polarization measured as the variation in individual self-positioning on the political scale, controlling for country and time fixed effects. Specifically, a violent conflict is associated with a decrease of approximately 40% of a standard deviation in polarization, all else being equal.

The countries and conflict types included in the sample are very heterogeneous. Therefore, I re-estimate Model (13) including binary indicators for different conflict types, distinguishing among the interstate, intrastate, and internationalized intrastate conflicts.¹⁵ The results indicate that interstate conflicts are significantly negatively correlated with political polarization. An interstate conflict is associated with around a one-standard-deviation decrease in polarization. At the same time, the intrastate conflicts do not exhibit any significant correlation with polarization, controlling for country and time fixed effects. These results are intuitive. The intrastate conflicts are more likely to be driven by ethnic differences and existing social divisions and, therefore, are not likely to result in the reduction of polarization. The interstate conflicts impose a common cost on all social groups in the country and therefore, can “unite” the nation, similar to the results obtained in the previous section based on the regional data.

The WVS data used to construct the dependent variable, political polarization, can give some additional insights into the shifts in political preferences following a conflict. I thus compute the share of individuals who self-position themselves as pro-left (those who answer 1, 2, or 3 to question (S)) or pro-right (those who answer 8, 9, or 10 to question (S)). The results of Model (13) estimated with the share of pro-left or pro-right as the dependent variable are presented in Columns (5) and (6) of Table 2, respectively. The share of pro-left respondents is significantly negatively associated with violent conflict; the coefficient on the share of pro-right is positive but not statistically significant. While a comprehensive analysis of the shifts in political preferences is beyond the scope of this paper, these shifts could be related to public policies during the conflicts and to the impact of public policies on the probability of successful conflict termination, as described by the model presented in Section 2.

5. Conclusions

Violent conflicts have a devastating impact on ordinary people's lives. This paper provides theoretical and empirical arguments supporting the claim that people may “unite” in their political preferences during violent conflicts. First, the model developed in this paper shows that a conflict which is costly to all social groups can reduce social polarization by aligning political preferences in society. Societal preferences shift toward the public policies that increase the probability of successful conflict termination. Second, the empirical analysis of

¹⁵ There are no data for the last type, extrasystemic conflicts, for the period considered in the analysis.

Table 3
Summary statistics.

Variables	(1) N	(2) Mean	(3) SD	(4) Min	(5) Max
<i>Summary statistics for Georgia and Ukraine regional data</i>					
Political winner's support polarization	791	0.170	0.340	2.99e-07	4.689
Winner's regional share of votes	791	50.32	22.62	1.940	96.20
Winner's country-wide share of votes	791	51.06	13.89	22.14	73
Conflict in the last four years	791	0.372	0.484	0	1
Number of conflict years	494	4.032	1.288	1	6
Parliamentary elections	791	0.540	0.499	0	1
Presidential elections	791	0.427	0.495	0	1
Regions not contiguous to conflict zone	791	0.864	0.344	0	1
Regions contiguous to conflict zone	791	0.104	0.305	0	1
Regions in conflict zone	791	0.033	0.178	0	1
<i>Summary statistics for worldwide country-level data</i>					
Political attitudes polarization	236	0.401	0.080	0.159	0.900
Conflict	236	0.195	0.397	0	1
Conflicts intensity	236	0.848	1.525	0	4
Interstate conflict	236	0.013	0.112	0	1
Intrastate conflict	236	0.153	0.360	0	1
Internationalized intrastate conflict	236	0.030	0.170	0	1
Real GDP per capita	236	8.888	1.302	6.130	11.406
Public expenditures	236	15.247	5.092	1.315	27.518
Democracy index	236	0.793	0.286	0.003	1
Pro-left share	236	0.137	0.074	0.004	0.665
Pro-right share	236	0.189	0.109	0.021	0.819

Note: This table reports the summary statistics for regional panel data for Georgia and Ukraine covering years 1991–2019 and 105 regions, 27 in Ukraine and 78 in Georgia, used for the estimations reported in Table 1, in the top panel; and the summary statistics based on the country-level data covering years 1981–2020 and 89 countries, used for the estimations reported in Table 2, in the bottom panel.

Table 4

Georgia and Ukraine: Regions and political elections analyzed.

Data sources: CLEA elections database, government websites (elections and occupied regions); UCDDP database (conflicts).

	Georgia	Ukraine
Elections	Presidential: 5 Jan 2008, 27 Oct 2013 Parliamentary: 28 Mar 2004, 21 May 2008, 1 Oct 2012, 8 Oct 2016	Presidential: 1 Dec 1991, 26 Jun 1994, 31 Oct 1999, 31 Oct 2004, 26 Dec 2004, 17 Jan 2010, 25 May 2014, 31 Mar 2019 Parliamentary: 29 Mar 1998, 31 Mar 2002, 26 Mar 2006, 30 Sep 2007, 28 Oct 2012, 26 Oct 2014
Conflicts	Dec 1991–Nov 1993 Aug 2004–Oct 2004 Aug 2008–Nov 2008	since Feb 2014

(continued on next page)

regional data from Georgia and Ukraine, countries that recently experienced several violent conflicts, suggests that the differences in political preferences across regions are negatively associated with violent conflicts supported by a foreign state. Finally, the negative association between violent conflicts and political polarization is confirmed using a panel of countries around the world and polarization measures computed from individual self-reported political preferences.

The results presented in this paper open up several questions for further research. First, the empirical estimates presented provide descriptive rather than causal evidence on the relationship between violent conflict and political polarization. Therefore, the analysis of the causal impact, if any, of conflicts on political polarization is an avenue for further research. The theoretical model developed in this paper can be extended to analyze the nature of political changes following a conflict and the impact of various types of public policies on conflict duration and political polarization. In particular, the model suggests that individual political preferences shift toward more defense-oriented, or right-wing public policies, following a violent conflict. The empirical analysis of worldwide data on polarization of political attitudes confirms that the political preferences of the majority shift

away from left-wing public policies following a violent conflict. Further research is needed to evaluate the conditions under which the decline in polarization of preferences is persistent and leads to positive economic changes.

Previous literature has widely discussed how violent conflicts can lead to social divides and political instability. The findings of this paper suggest that a public policy agenda aimed at strengthening the country's resilience to foreign threats can reverse the impacts of violent conflicts from dividing to uniting the society.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

Table 4 (continued).

	Georgia	Ukraine
Regions not in conflict noncontiguous to conflict zone	Mtatsminda, Gldani, Sagaredjo, Gurdjaani, Signagi, Dedoplistskaro, Lagodekhi, Kvareli, Telavi, Akhmeta, Tianeti, Vake, Rustavi, Gardabani, Marneuli, Bolnisi, Dmanisi, Tetrtskaro, Mtskheta, Saburtalo, Akhaltsikhe, Adigeni, Aspindza, Krtsanisi, Akhalkalaki, Ninotsminda, Tsageri, Terdjola, Isani, Zestaponi, Bagdadi, Vani, Samtredia, Khoni, Tkibuli, Tskhaltubo, Kutaisi, Samgori, Ozurgeti, Lanchkhuti, Chokhatauri, Abasha, Senaki, Martvili, Tbilisi, Khobi, Chkhorotsku, Chugureti, Poti, Batumi, Didube, Keda, Kobuleti, Shuakhevi, Khelvachauri, Khulo, Liakhvi, Zemo Apkhazeti, Nadzaladevi.	Cherkasy, Chernihiv, Chernivtsi, Ivano-Frankivsk, Khmelnytskyi, Kyiv, Kyiv Region, Kyrovohrad, Lviv, Mykolaiv, Odesa, Poltava, Rivne, Sumy, Ternopil, Vinnytsia, Volyn, Zakarpattia, Zhytomyr
Regions not in conflict contiguous to conflict zone	Tsalka, Dusheti (since 2008), Kazbegi, Kaspi, Khashuri, Borjomi, Ambrolauri, Lentekhi, Mestia, Kharagauli (since 2008), Chiatura (since 2008), Zugdidi, Tsalendjikha, Satchkhare (1992–2008), Akhagori(1992–2008)	Dnipropetrovsk, Kharkiv, Kherson, Zaporizhia
Regions in conflict zone	Akhalgori (since 2008), Gori (part, since 1992), Kareli (since 1992), Oni (part, since 1992), Satchkhare (part, since 2008)	Crimea, Donetsk, Luhansk, Sevastopol

Note: This table reports the regions and years of presidential and parliamentary elections included in the analysis of conflicts in Georgia and Ukraine.

Appendix

See Tables 3 and 4.

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