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Violent Conflict and Informal Institutions: Evidence from a Civil Conflict in Pakistan

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Conflicts have a variety of economic, social, and institutional consequences. In this study, we analyse the institutional legacies of violent conflicts by providing evidence from a civil conflict which occurred in the district Swat of Khyber-Pakhtunkhwa (KP), Pakistan. We consider three dimensions, i.e. Trust, Participation, and Cooperation, of informal institutions. District Buner—the neighboring district, is taken as the control district. A random sample of 500 households from each district is selected and Ordinary Least Squares (OLS) and Spatial Regression Discontinuity Design (SRDD) are employed for estimation. We find that exposure to violence undermines out-group trust and trust in governmental organisations; however, it promotes within-group trust and trust in Non-Governmental Organisations (NGOs). Likewise, conflicts stimulate participation in social organisations, political activities, and non-government structures but discourage participation in formal government structures. With regard to cooperation, conflicts have beneficial effects on within-group cooperation, collective problem solution, and cooperation with NGOs. However, they retard cooperation with formal government structures. The intensity of these effects is influenced by the location of the individuals as is shown by the results of SRDD. Alternatively, highly exposed areas exhibit comparatively higher changes in trust, participation, and cooperation as compared to the moderately and least affected areas.

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1. INTRODUCTION

Violent conflicts have a variety of adverse implications for the economic, political, and social aspects of life. In an economic sense, it deteriorates infrastructure or properties, creates chaos or uncertainty, deters investment and investors' confidence, and retard economic prosperity (Collier, et al. 2003; Collier, 1999; Besley, et al. 2011; Leon, 2012; Bircan, et al. 2017). In the political sense, conflicts and the associated atrocities lead to forced displacement, refugee crises, wars of secession, and mass political instability (Derouen & Bercovetich, 2008; Czaika & Kis-Katos, 2009; Staub, 2012). In the social sense, conflict creates long-term psychological trauma in the nation's youth, encourages gender discrimination, homicides, and crimes, and results in new forms of violence (Bromberg, 1943; Weidmann & Zurcher, 2013). Contrary to harmful effects, conflicts could drive pro-social transformation in the long run (Voors, et al. 2012; De

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Luca & Verpoorten, 2011).[1] For instance, it is perceived that conflicts affected individuals learn new skills and identities (Balcells, 2012); develop social networks (Parkinson, 2013); take profitable risks (Voors, et al. 2012); and behave more cooperatively and pro-socially (Bauer, et al. 2014; Bauer, et al. 2016). Likewise, individuals who are exposed to conflicts are usually more civic-minded and politically engaged (Blattman, 2009; Bellows & Miguel, 2009; Shewfelt, 2009; De Luca & Verpoorten, 2011; Voors, et al. 2012).

Violent conflicts have ubiquitous phenomenon; however, their burden falls disproportionately on the poorer countries (Jakiela & Ozier, 2015).[2] In particular, conflicts are labelled as symptoms of "Failed" or "Collapsed" States (Milliken & Krause, 2002; Lockhart & Ghani, 2008).[3] With inescapable impacts, the nature, duration, and intensity of conflicts could alter the prevailing structure of institutions. Institutions which are the humanly devised constraints that shape human interactions incorporate both informal rules (sanctions, taboos, customs, traditions, and codes of conduct) and formal rules (constitutions, laws, property rights) (North, 1990).[4] The informal institutions—the unwritten rules, are, self-enforcing, stable, learned through socialisation, and depict agents' best response to each other in a society. The state-formal institutions are the reflection or codification of the societies' informal institutions.[5] The analysis of violent conflicts' outset, duration, and termination have largely neglected institutional outcomes, which underpin the choices of different players in conflicts, such as state actors, non-state-armed groups, and common citizens (Gáfaro, et al. 2014).[6] Alternatively, how these agents (citizens in particular) form choices, i.e., establish a new set of institutions in war-affected zones (Arjona, 2014). In particular, such choices are considered interdependent among groups and determined by the expected payoffs and horizons of agents. The formation of a new set of institutions (informal in particular) resulting from violent conflicts ought not to be surprising at all. Conflicts interrupt the underlying social, political, and economic structure of a society, and impose a new social order. Perhaps, the conventional institutional wisdom believes that institutions are path dependent and are highly persistent over an extended period. Nevertheless, institutions are perceived as endogenous to different shocks (Austin, 2008).[7] Historically, the advent of wars has not only transformed states' formal institutions (Acemoglu & Robinson, 2012), but also created locally-based, socially embodied, and durable informal institutions (Bateson, 2012; 2015).

[1]In this way, conflicts can compensate for the costs and destruction, associated with them (Jennings & Sanchez-Pages, 2017).

[2]About 1.5 billion people suffer from violent conflict. One-third of which resides in the poor countries (Justino, 2012).

[3]However, systemically functional violence is considered important to maintain social order in the society (Olson, 1993).

[4]See also Olsson (1993) for the alternative version of the definition.

[5]For instance, social norms determine rules of participation, representation, methods of economic exchange and the inclusion of different groups in a society (Pateman, 1988).

[6]Usually, violent conflicts are theorised as "off the equilibrium path of political order", rather considering them catalyst to the emergence of a new set of institutions, see also Kalivas, et al. (2008).

[7]Though institutions are self-enforcing in nature, yet they are not purely exogenous. Institutional change in a society occur in response to changes in people expectations.

Institutional change, though a complex process, however, takes place in the war-affected zones when different armed groups (state and non-state) compete with each other to control the territories. This conflicting environment either destroys or transforms the structure of prevailing institutions in the region (Gáfaro, et al. 2014). The non-state armed groups largely influence the underlying institutional structure by imposing their norms, controlling the economic bustles, and presuming the state's power (Arjona, 2010; Gutierrez & Baron, 2005).[8] Usually, to promote their agenda, the non-state armed actors make coalitions with local people based on homogenous ideological preferences, because local structures are considered as important institutions, which can be used for political and economic motives during and after the war (Riley, 2005). Yet, to maintain their control, armed groups resort to violence (not in all cases, especially when they face more equipped state forces) against the local population (Kalyvas, 2006), and particularly against the local leaders to replace them with their own supporters (Kaplan, 2010). In this way, they transform the local informal structure in their favour which is necessary to rule the local population.[9]

Nevertheless, the inhabitants, while confronting the armed groups, have a variety of choices to reduce the risk of victimisation. The local people could either support state organisations against non-state groups,[10] or support and welcome non-state actors to ensure physical and economic protection, particularly, when they are ruled by an illegitimate authority or weak state prior to conflict (Justino, 2009; Kalyvas & Kocher, 2007; Wickham-Crowley, 1992). Among others, some inhabitants of the society might use and transform the local institutions to resist non-state armed groups (Arjona, 2010; Petersen, 2001). While, others could distance themselves from local organisations, avoid civic activities and keep themselves limited to the family networks (Kalyvas, 2006; Korf, 2004), in order to avoid the fear of target violence. The outbreak of warfare, therefore, has a profound impact on the social relations, organisational life, and collective actions of the individuals and societies that are directly exposed to violence. In particular, it results in the transformation of the structure of informal institutions, individual behaviours, and norms in the region (Whitt & Wilson, 2007; Blattman & Miguel, 2010; Blattman, et al. 2014; Voors & Bulte, 2014).

Though institutional legacies of conflicts are the most vital, unfortunately, the least comprehended part of warfare research (Bateson, 2015). We contribute to this strand by analysing the institutional legacy of violent conflict that surged in the District Swat of Khyber Pakhtunkhwa (KP) (formerly the North-West Frontier Province or NWFP), Pakistan. The district Swat witnessed a deadly conflict when non-state actors, under the leadership of 'Mullah Fazalullah' started an Islamic movement in the valley in 2004 (which soon turned into violent conflicts) to impose their so-called Islamic ideology in the region. The persistent hostility and conflict between the militants and state forces in

[8]In fact, when the state institutions are weak and inappropriate, various competing actors in the society try to cover the space by devising own institutions which could support their war objectives and help them in securing their future prospects (Arjona, 2010).

[9]The creation of Specific institutions allows the armed groups to shape the social, economic and political affairs of the area in such a way that benefit their organisation in terms of recruitment and creating rents.

[10]During the outbreak of warfare in the country, majority of the inhabitants tend to rally around the flag and provide strong support to the government and military. For detail discussion see Primoratz (2005).

the region for many years resulted in the destruction of physical infrastructure, civilian casualties, and the breakdown of social and institutional structure in the region. We consider three different forms of informal institutions, i.e. trust, participatory preferences, and cooperation, and see how the structure concerning these aspects changes when the status-quo is exposed to the shock of violent conflict. We contribute on two fronts in this regard. First, we want to see how the outburst of violent conflicts affects the social structure and set a new equilibrium path of the informal rules. Second, the existing literature on war and institutions considers narrow proxies of the informal institutions while we consider trust, participation, and cooperation in a more comprehensive setting as far as post-conflict life is concerned. Trust here incorporates trust in family members, relatives, neighborhoods, local community leaders, government agencies, the judicial system, and NGOs. Likewise, participation includes participation in social and governmental organisations combined with participation in political activities and the functioning of NGOs. Cooperation incorporates within-group cooperation, collective problem solution, cooperation with governmental organisations, and cooperation with NGOs. The rest of the study is organised into four sections. Section 2 gives a brief description of the conflict in Swat. We discuss the sampling technique, data, and identification strategy in Section 3. Section 4 provides the empirical findings while Section 5 concludes the paper.

2. VIOLENT CONFLICTS AND THE SWAT VALLEY

Swat Valley is an administrative district, sprawling on an area of 5337 sq. km in the province of Khyber Pakhtunkhwa (KP), Pakistan. The population of the district is around 2.3 million (Population Census, 2017). Moreover, it shares borders with districts of Malakand and Buner in the south, Upper and Lower Dir to the west, and Gilgit Baltistan and Chitral to the north. The inhabitants of the valley are mainly Pashtun (dominated by the Yousafzai tribe) and their social, political, and economic lives are significantly shaped by the Pashtuns' culture (Pashtunwali code of conduct) and Islamic principles.[11]

The history of conflict in Swat valley can be traced back to the Islamic movement '*Tehrik-e-Nifaz-e-Shariah-Mohammadi*' (TNSM) started by Sufi Mohammad Khan in 1992 (Orakzai, 2011). The TSNM gained national interest when the movement launched an armed movement '*Tor-Patki*' (black turban) and demanded to immediately impose Sharia's laws in the region. To establish a state writ, the government deployed the military (Kronstadt, 2010). However, the operation ended after a short time, and negotiations took place between the government and TNSM. As a consequence, the government established 'Sharia courts' through the '*Nezam-e-Shariat* Regulation'. Nevertheless, the TSNM urged that regulations carried out by the government were insufficient to resolve their grievances (Orakzai, 2011). Hence, their struggle continued even after the implementation of regulation, which often resulted in an irregular war in the region (Rome, 2009). When the US invaded Afghanistan, the Sufi Mohammad Khan, recruited more than 10000 people from the valley to fight NATO forces (Roggio, 2007). However, when Pakistan became a US ally in the war against terror,

[11]Pashtunwali is the traditional lifestyle and is best described as a code of honor of Pashtun people by which they live, including but not limited to social and cultural values, norms, forms of informal order, taboos etc.

the government banned the TNSM and apprehended Sufi Muhammad Khan. After his detention, his son-in-law Mullah Fazalullah led the movement and established a close association with militant groups across the country to suppress the state writ in the valley. To promote his ideas of opposing female education, the judicial system, and other informal social setups, Fazalullah initiated a radio campaign (Siddique, 2010). He operated more than 30 illegal FM radio stations throughout the Swat valley, which made him famous as the 'Radio Mullah'. The Fazalullah changed inhabitants' preferences by exploiting the deteriorated formal structure and providing quick rehabilitation assistance in the 2005 earthquake. However, in response to the 'Lal Masjid' operation of Islamabad in 2007, Fazalullah decided to a full violent struggle in the valley. To limit their power, the government launched a military operation; however, the operation failed to limit the power and presence of the militants (Siddique, 2010), the militants controlled the administration of Swat.

During 2007-09, the violent struggle of militants touched its highest point. They attacked security personnel, local leaders, and civil society, and destroyed hospitals and schools in the valley. Additionally, they formed an informal justice system to solve the indigenous disputes and challenged the local Jirgas system. During this period the militants captured 59 villages and seized nearly 70 percent area of the valley (Orakzai, 2011). Nevertheless, to bring back life to a normal state, the government initiated peace talks with militants. To facilitate negotiation, the government released Sufi Muhammad Khan in 2008 (Kronstadt, 2010). In April 2008, the government reached a 16-points peace agreement. However, the accord lived for a short time, and militants further accelerated their violent activities. The government attempted a new talk of peace in the presence of Sufi Muhammad, which led to the declaration of a short-term ceasefire in the valley. Subsequently, the government decided to implement the Sharia laws in the region. On February 15, 2009, the government implemented the Sharia laws in Swat via the religious courts system under a *Qazi*, which is commonly known as the *Nizam-e-Adl* Regulation 2009 (Hilali, 2009).

The peace process yet again remained an incomplete dream when Sufi Muhammad Khan refused to be part of the negotiation. In mid-2009, the militants escalated their activities. To encounter militancy, the government decided to launch the operation '*Rah-e-Rast*' (The Straight Way) in 2009. The operation removed the militancy and established government writ; however, it caused one of the world's largest internal migrations. About 141,582 families were displaced from the valley, and acquired asylum in the various parts of the country (Bangash, 2012). The conflict and the subsequent internal migration have substantially changed the informal structure and the preferences of society. In this study, we want to focus on this aspect.

3. METHODOLOGY

In this section, we provide a brief description of the sampling technique and data besides giving a glimpse of the identification strategy.

3.1. Sampling Technique, Data, and Construction of Variables

In this study, we collect primary data through questionnaires in two districts of KP, namely Swat, and Buner. Buner is kept as a reference category or the control group in our analysis. Each district is administratively divided into tehsil, and each tehsil is, further,

divided into village councils and neighborhood councils. Therefore, we resort to the approach of cluster sampling. We have seven tehsils in Swat, i.e. *Babozai*, *Bahrain*, *Barikot*, *Charbagh*, *Khwazakhela*, *Kabal*, *Matta*, and four tehsils in Buner, i.e. *Khudukhail*, *Mandnr*, *Gagra*, *Daggar*. Additionally, seven tehsils of Swat and four of Buner are divided into 165 and 105 villages councils, respectively. We treat each of the tehsils as a separate cluster and the village/neighborhood councils as sub-clusters. We perform a random selection among the sub-clusters which serve as the Primary Sampling Units (PSUs). Accordingly, 116 and 83 villages/neighborhood councils from districts Swat and Buner, respectively, are randomly selected. Onwards, we retrieve the identity list of the Secondary Sampling Units (SSUs), i.e., households of selected sub-clusters from the districts' local administration. Further, we randomly choose the desired sample of households from each tehsil on the basis of households' share. According to the population census of 2017, the total number of households in districts Swat and Buner are 274620 and 94095, respectively. Based on a 5 percent confidence level (95 percent confidence interval), the total number of households that we have to select from each district is around 384. However, to increase the accuracy of the sample, we raise the sample size to 500 households from each district. Finally, after conducting all the process, we collect the data on different variables of interest through the questionnaires.

We focus on different forms of informal institutional variables, i.e. trust, participation, and cooperation besides other households' characteristics. We take various forms of trust, i.e., within-group and out-group trust, and trust in governmental and non-governmental organisations. Additionally, we quantify the sub-elements of each trust by a Likert scale of 1 to 4, whereas 1 predicts no trust at all and 4 implies the highest level of trust. Within-group trust is the trust in family members, relatives, neighborhoods, known people from the same area, and local community leaders. This variable is constructed by averaging self-reported trust about its various dimensions. Out-group trust includes trust in strange people from one's own area and other places. It is constructed as the average value of both dimensions. Trust in governmental organisations is the average of the trust in the national government, provincial government, local administration, judicial system, and law enforcement agencies. Likewise, trust in NGOs is the trust in non-governmental organisations that work in the health and education sectors of the districts. Again, it is summed as the average level of trust in both organisations. The summary statistics on these dimensions are given in table A1 in the appendix. In 2010, which is the year right after the conflict, the average within-group trust and trust in NGOs is relatively higher in Swat as compared to Buner; however, the out-group trust and trust in governmental organisations are higher in Buner. The same pattern continues even in 2018.

Participation includes participation in social organisations, governmental organisations, political activities, and NGOs. Again, we measure the sub-elements of each participation by a Likert scale of 1 to 4, where 1 implies no participation at all and 4 implies the highest participation. Participation in social organisations is the sum of inhabitants' participation in community associations, work-related/trade unions, jirgas, and sports groups/youth organisations. It is indexed as the average of its mentioned parts. Similarly, participation is political activities is the average of inhabitants' political discussion, joining political meetings and demonstrations, listening to political debates, working voluntarily for a political party, financially supporting a party, and casting a

vote. Participation in governmental organisations includes inhabitants' participation in local government or local civil administrations and meetings with law enforcement agencies. It is calculated as the average of these dimensions. Participation in NGOs includes participation in the activities of NGOs working in the fields of education and health. Again, as is visible from table A1 in the appendix, the average participation in social organisations, political activities, and NGOs is relatively higher in Swat in both 2010 and 2018; however, participation in governmental organisations is higher in Buner.

Cooperation incorporates within-group cooperation, collective problem solution, cooperation with governmental organisations, and cooperation with NGOs. We measure it by a Likert scale of 1 to 4, where 1 implies no cooperation and 4 implies the highest level of cooperation. Within-group cooperation is the average of economic and social assistance from family, relatives, neighbors, known people, and local community leaders. Collective problem solution is the average of inhabitants' efforts to follow the guidelines of community associations, work-related/trade unions, jirgas, and sports groups/youth organisations to solve the common problems of society. Cooperation with the government is the logistic, and moral support, besides the level of social pressure from the inhabitants to the governmental organisations in the implementation of any social program. Cooperation with NGOs is the logistic, and moral support, besides the level of social pressure from the inhabitants to the non-government organisations in the implementation of any social program. It is calculated as the average of all the mentioned dimensions. Again, the within-group cooperation, the collective problem solution, and cooperation with NGOs is relatively better in Swat as compared to Buner; however, cooperation with the government is better in Buner.

In addition to the main variable of interest, i.e. conflict, we control for economic, demographic, and some other variables. Economic controls include the income and employment status of the head of households. Income is measured as the total monthly earnings of the household. The employment status is assessed by a dummy variable, which assumes 1 for the employed household head and 0 otherwise. The demographic controls include the age (in years), education (in years), marital status (the dummy variable, equal to 1 for married individuals and 0 otherwise) of the head of households, and the total household size. The other covariates include the location of residence, which is the dummy variable and takes the values of 1 for households in the urban zone and zero otherwise. We also control for the religiosity level of the respondents, which includes the recitation of the holy Quran, obeying the hadiths (both the variables measured on a Likert scale of 1 to 4), and offering prayers (1 to 5 times). Moreover, the distance from the border to the conflict zones, measured in kilometers, is also incorporated in order to capture the differences in exposure to conflict. The descriptive statistics show that the average values of education, income, and household size are higher in Swat as compared to Buner; however, the averages of age and religious preferences are higher in Buner. Additionally, on average, more respondents are employed, married, and living in urban areas in Buner as compared to Swat.

3.2. Identification Strategy

As stated earlier, Swat is the treated group while Buner is the corresponding control group. Buner remained part of the crown state of Swat from 1915-1969, where

the inhabitants' social political, and economic life was largely patterned by the state's formal institutions.[12] Even after the merger of Swat state into Pakistan in 1969, Buner remained part of the district Swat till 1991. Despite the shared history, district Buner is largely unaffected by the Swat conflict. Thus, the protracted history on both sides of the border and the unaffected structure of district Buner allow us to identify it as a control group.[13] However, before empirical analysis, it is important to apply the Covariate Balancing test to ensure that both districts are similar in the characteristics of controls. Table A2 in the appendix depicts the results of the Covariate Balancing test. Since the probability of Chi-Square is greater than 0.05, we have to accept the null hypothesis that the covariates are balanced across the two districts. Onwards, we employ the Ordinary Least Square (OLS) to estimate the institutional legacy of violent shock. OLS is flexible enough to capture the treatment effect of any intervention and, thus, is the mostly widely used approach in capturing the legacies of war-related violence (Angrist & Krueger, 1994; Collier, 1999; Hutchison & Johnson, 2011; Sacks & Larizza, 2012; Grosjean, 2014; Werner, 2016; De Juan & Pierskalla, 2016). Our model takes the following form:

$$Y_i = \beta_o + \beta_1 D_i + \theta^{\tau} \sum Z_i + U_i \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (1)$$

Y is the set of informal institutions, which includes different forms of trust, participation, and cooperation. We quantify the perception of households regarding these aspects and develop a composite index for each of the indicators. D_i, in the above equation, is a dummy variable, which takes the value 1 if the households are located in the treated zone, i.e., the households that are exposed to violent conflict, and 0 otherwise. β_1, thus, captures the intensity of change in institutional structure as a result of violent shock. Z_i is the set of control variables, which includes economic controls (employment and income), demographic controls (education, age, marital status, household size, and location of residence), and religious controls (offering prayers, following hadiths, and reciting the Quran)., U_i is the corresponding error term. We estimate equation 1 for the year 2010 (the period right after the conflict), and 2018 (a decade after the conflict). In this way, we want to assess institutional persistency, when the underlined structure of institutions is exposed to a violent shock.[14] However, there might be potential threats to the underlined causal relationship due to omitted variable bias, measurement error, and reverse causality. We attempt to control the omitted variable bias by including all the potential covariates in the model. Similarly, to overcome the measurement error, we ensure randomisation in the data to avoid a specific class of individuals.[15] Additionally, to overcome the problem of reverse causality, as weak institutions might lead to conflict, we resort to the Regression Discontinuity Design (RDD).

RDD is a quasi-experimental strategy that captures the causal effects of any intervention by determining a cutoff, below or above which an intervention is assigned. Unlike the OLS, the RDD allows us to capture the heterogeneity in exposure to violence

[12]For detail discussion see also Rome (2008).

[13]See the figure 1 in the appendix for detail.

[14]The institutional data of the 2010 is collected through recalling. Various surveys follow the same approach, for instance Life in Transition Survey (LITS) adopt the recalling approach for collecting various forms of data in post-war life.

[15]Measurement error might arise due to the reason that certain individuals might not reveal their true preferences.

for the treated group. Different studies have used RDD to capture the diverse effects of incentives on educational outcomes (Thistlethwaite & Campbell, 1960; Lavy, 1999; Van der Klaauw, 2002). A specific form of RDD is Spatial RDD (SRDD) which considers the location of areas, where the threshold is the boundary that demarcates two areas. In this study, we use the SRDD to capture the heterogeneity in terms of the effects on informal institutions due to conflict. A number of studies have used SRDD to assess various issues like quality compensation for teachers on students' performance in various districts of the US (Moor, 2005), labour market dynamics of the wage differential in different zones in Italy (de Blasio & Poy, 2014), and housing prices on both sides of school attendance boundaries (Black, 1999; Bayer, et al. 2007). In our case, the treated and control groups are separated by the formal boundary which is truly random in nature. We divide the treated district into three parts; the moderately affected, the highly exposed, and the least affected.[16] We estimate the following regressions for the treated and control groups respectively.

$$Y_t = \alpha_t + \beta_t (X - b) + \varepsilon_t \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (2)$$

$$Y_c = \alpha_c + \beta_c (X - b) + \varepsilon_c \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (3)$$

Again, Y is the set of informal institutions. Where, α_t and α_c are the intercepts of the regressions in the treated and control districts respectively. b is the border line, while $(X - b)$ is the distance from the border line to the districts' localities where the data is collected. By estimating the above regressions, the impact of violent conflict on informal institutions can be computed through the difference between the intercepts α_t and α_c of the two regression lines. However, to avoid complications, we use the pooled version of Equation (1) and (2), presented by Lee and Lemieux (2010). Let $\tau = \alpha_t - \alpha_c$ and the dummy variable D, which equals 1 for the treated entity and 0 for the control, the pooled equation is of the following form:

$$Y = \alpha_0 + \tau D + (\beta_t - \beta_c)(X - b) + (\beta_t - \beta_c) D (X - b) + \theta^{\tau} \sum Z_i + \varepsilon \quad \ldots (4)$$

Our parameter of interest is τ, which shows the average treatment effect on the treated district and can be interpreted as the jump between the two regression lines on the border. Z_i is the set of control variables in our regression as discussed earlier.

4. ESTIMATION RESULTS

This section provides the empirical findings of our study. First, we provide the impact of the violent shock on various forms of trust in society. Second, we discuss the response of different dimensions of households' participatory behaviour to such a shock. Finally, we explain changes in various forms of inhabitants' cooperation due to conflict.

[16]The division of the areas in the conflict affected district is based on the decision of the civil administration. The moderate affected zone which cover 10 to 44Km from border is the region where the individuals exposed to a modest level of violence. The highly exposed region covers the area from 45 to 60Km. This middle region remains under the strict control of non-state actors, where they established their headquarters and conducted various activities against the state and people who stand against them. The least affected zone includes the area from 61 to 93Km, this part of the district largely remains unaffected due to the negotiation power of the inhabitants with state actors and militants.

4.1. Trust

Tables 1 and 2 report the OLS and SRDD estimates, in the case of within-group trust, respectively. As can be seen, in both tables, the coefficient of conflict is significant in all of the specifications which implies that conflict enhances within group trust. For instance, panel A of Table 1, which controls for all potential covariates, predicts that right after the termination of the conflict, within-group trust among the victims increases on average by 0.531 points as compared to non-victims. The finding is robust across both the rural and urban regions as is shown by the dummy for the region. Similarly, after a decade of turmoil, though the magnitude of within-group trust decreases; however, still, such trust remains high on average by 0.351 points (see panel B of the table). With regard to heterogeneity across locations, Table 2 suggests that the effect on highly exposed locations is higher as compared to the moderately and least affected locations. For instance, the magnitude of within-group trust among the highly exposed individuals is 0.160 and 0.122 in 2010 and 2018, respectively as compared to 0.135 and 0.085 for moderately, and 0.133 and 0.076 for least affected individuals. This suggests that exposure to conflict develops a strong bond within groups which not only serves as a physical defense to the community but also helps in providing psychological support to each other during violent times. The finding is consistent with the evolutionary theories which account for the occurrence of violent events as a main source of within-group bonding (Choi & Bowles, 2007; Bowles, 2008). Likewise, prior empirical studies support the same view (Bellows & Miguel, 2009; Blattman, 2009; Voors, et al. 2012; Rohner, et al. 2013; Becchetti, et al. 2014; Gilligan, et al. 2014).

Table 1

Within Group Trust (OLS)

	(Panel A) Within Group Trust in 2010				(Panel B) Within Group Trust in 2018			
	(Model 1)	(Model 2)	(Model 3)	(Model4)	(Model 1)	(Model 2)	(Model 3)	(Model4)
Variables	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Conflict	0.540***	0.536***	0.531***	0.531***	0.323***	0.322***	0.324***	0.351***
	(0.0229)	(0.0231)	(0.0238)	(0.0245)	(0.0210)	(0.0212)	(0.0215)	(0.0218)
Region Dummy	0.0416**	0.0395**	0.0321	0.0321	0.0158	0.0165	0.0153	0.0114
	(0.0199)	(0.0199)	(0.0205)	(0.0205)	(0.0224)	(0.0224)	(0.0223)	(0.0219)
Constant	2.332***	2.168***	1.897***	1.899***	2.362***	2.267***	1.979***	1.747***
	(0.0258)	(0.137)	(0.174)	(0.191)	(0.0234)	(0.141)	(0.179)	(0.196)
Observations	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
R-squared	0.404	0.405	0.416	0.416	0.195	0.195	0.207	0.217
Economic Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Demographic Controls	No	No	Yes	Yes	No	No	Yes	Yes
Religious Controls	No	No	No	Yes	No	No	No	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 2

Within Group Trust (SRDD)

	(Panel A) Within Group Trust in 2010 Bandwidth			(Panel B) Within Group Trust in 2018 Bandwidth		
	[10-44km]	[45-60km]	[61-93km]	[10-44km]	[45-60km]	[61-93km]
	(Model 1)	(Model 2)	(Model 3)	(Model 1)	(Model 2)	(Model 3)
Variables	SRDD	SRDD	SRDD	SRDD	SRRD	SRRD
Conflict	0.135***	0.160***	0.113***	0.0854***	0.122***	0.0762***
	(0.00875)	(0.0140)	(0.0102)	(0.00875)	(0.0137)	(0.0101)
Constant	2.060***	2.139***	2.112***	1.810***	2.202***	1.744***
	(0.285)	(0.512)	(0.386)	(0.302)	(0.481)	(0.389)
Observations	446	223	331	446	223	331
R-squared	0.395	0.500	0.418	0.191	0.370	0.219
Economic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Religious Controls	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

With regard to out-group trust, Tables 3 and 4 depict the OLS and SRDD estimates, respectively. Unlike the within-group trust, violent shock significantly lowers out-group trust among the war-exposed individuals. For instance, as can be seen from panel A of Table 3, the conflict's coefficient in specification 4 shows a decline of 0.696 points in out-group trust among the war-exposed individuals. The region dummy appears insignificant which suggests that the reduction in out-group trust prevails across both the regions. A decade after the conflict shows improvement in out-group trust; however, still, the out-group trust in the treated district remains lower by 0.408 points. Panel A and B of Table 4 show that the effect on highly exposed locations is higher as compared to the moderately and least affected locations. For instance, as can be seen from the table, the reduction in out-group trust for highly exposed individuals is –0.211and –0.125 in 2010 and 2018, respectively as compared to –0.187 and -0.109 for moderately affected and -0.161 and –0.085 for least affected individuals. In general, individuals in war zones persistently experience shocks and violence which results in the reduction of social networks and a reduced sense of protection. Such an undesired situation leads to a general feeling of resentment and a state of distrust toward strangers which, further, escalates the social divide and induces distrust toward out-group members (Werner, 2016).[17]

Table 3

Out-group Trust (OLS)

	(Panel A) Out-group Trust in 2010				(Panel B) Out-group Trust in 2018			
	(Model 1)	(Model 2)	(Model 3)	(Model4)	(Model 1)	(Model 2)	(Model 3)	(Model4)
Variables	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Conflict	-0.725***	-0.719***	-0.700***	-0.696***	-0.358***	-0.371***	-0.377***	-0.408***
	(0.038)	(0.039)	(0.041)	(0.044)	(0.031)	(0.031)	(0.032)	(0.033)
Region Dummy	-0.003	-0.000	0.009	0.009	-0.016	-0.022	-0.026	-0.021
	(0.039)	(0.039)	(0.040)	(0.040)	(0.033)	(0.033)	(0.034)	(0.033)
Constant	2.817***	3.172***	3.106***	3.075***	2.482***	2.341***	2.058***	2.330***
	(0.046)	(0.239)	(0.307)	(0.331)	(0.038)	(0.204)	(0.273)	(0.286)
Observations	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
R-squared	0.312	0.314	0.322	0.322	0.126	0.136	0.142	0.149
Economic Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Demographic Controls	No	No	Yes	Yes	No	No	Yes	Yes
Religious Controls	No	No	No	Yes	No	No	No	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

[17]See Celebi, et al. (2014); Mironova &Witt (2018) for similar findings.

Table 4

Out-group Trust (SRDD)

	(Panel A) Out-group Trust in2010 Bandwidth			(Panel B) Out-group Trust in 2018 Bandwidth		
	[10-44km] (Model 1)	[45-60km] (Model 2)	[61-93km] (Model 3)	[10-44km] (Model 1)	[45-60km] (Model 2)	[61-93km] (Model 3)
Variables	SRDD	SRDD	SRDD	SRDD	SRRD	SRRD
Conflict	–0.187***	–0.211***	–0.161***	–0.109***	–0.125***	–0.085***
	(0.017)	(0.023)	(0.017)	(0.014)	(0.018)	(0.016)
Constant	3.455***	2.601***	2.903***	2.550***	1.075	1.948***
	(0.497)	(0.837)	(0.737)	(0.426)	(0.764)	(0.558)
Observations	446	223	331	446	223	331
R-squared	0.316	0.431	0.283	0.154	0.243	0.126
Economic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Religious Controls	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Tables 5 and 6 report the OLS and SRDD estimates, in the case of trust in governmental organisations, respectively. Like the out-group trust, trust in government organisations reduces among the war-exposed individuals. The coefficient associated with conflict in specification 4 suggests that, right after the conflict, the trust in governmental organisations reduces on average by 0.727 points. Again, the region dummy appears insignificant which confirms that the reduction in trust is equally prevailed across both the urban and rural regions. After a decade, there has been some improvement in trust in governmental organisations; however, still, the trust in such organisations in the treated district remains lower by 0.450 points. Panel A and B of Table 6 shows that the effect on highly exposed locations is higher as compared to the moderately and least affected locations. For instance, the extent of reduction in trust in governmental organisations for highly exposed individuals is –0.222 and –0.158 points in 2010 and 2018, respectively as compared to –0.196 and –0.113 for moderately affected and –0.162 and –0.097 for least affected individuals. During the war, when inhabitants face high economic and physical costs, they relate it to the inability of government institutions to uphold the monopoly of violence. Alternatively, the state's inability to curb the rebellion is exposed to common individuals. Citizens, therefore, downgrade their assessment of the state institutions. Moreover, in wars, certain state organisations commit massive human rights abuse as a means to enforce local support, extract information or deter support of rebel movements (Kalyvas, 2006). Such happenings significantly lower trust in governmental organisations. The earlier studies report the same impacts of war violence (Newton & Norris, 2000; Grosjean, 2014).

Table 5

Trust in Government Organisations (OLS)

	(Panel A) Trust in Govt: Organisations in 2010				(Panel B) Trust in Govt: Organisations in 2018			
	(Model 1)	(Model 2)	(Model 3)	(Model4)	(Model 1)	(Model 2)	(Model 3)	(Model4)
Variables	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Conflict	–0.774***	–0.785***	–0.778***	–0.727***	–0.489***	–0.495***	–0.482***	–0.450***
	(0.030)	(0.031)	(0.031)	(0.030)	(0.028)	(0.029)	(0.029)	(0.029)
Region Dummy	0.005	–0.000	0.002	–0.005	–0.046	–0.045	–0.037	–0.042
	(0.027)	(0.027)	(0.028)	(0.027)	(0.030)	(0.030)	(0.030)	(0.030)
Constant	3.142***	2.700***	2.300***	1.829***	3.183***	2.806***	2.448***	2.167***
	(0.035)	(0.178)	(0.238)	(0.243)	(0.032)	(0.185)	(0.245)	(0.251)
Observations	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
R-squared	0.453	0.456	0.473	0.489	0.234	0.237	0.261	0.269
Economic Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Demographic Controls	No	No	Yes	Yes	No	No	Yes	Yes
Religious Controls	No	No	No	Yes	No	No	No	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 6

Trust in Government Organisations (SRDD)

	(Panel A) Trust in Govt: Organisations in 2010 Bandwidth			(Panel B) Trust in Govt: Organisations in 2018 Bandwidth		
	[10-44km]	[45-60km]	[61-93km]	[10-44km]	[45-60km]	[61-93km]
	(Model 1)	(Model 2)	(Model 3)	(Model 1)	(Model 2)	(Model 3)
Variables	SRDD	SRDD	SRDD	SRDD	SRRD	SRRD
Conflict	–0.196***	–0.222***	–0.162***	–0.113***	–0.158***	–0.097***
	(0.011)	(0.017)	(0.012)	(0.012)	(0.020)	(0.013)
Constant	1.835***	2.315***	1.307***	2.026***	2.630***	2.033***
	(0.358)	(0.651)	(0.500)	(0.368)	(0.630)	(0.533)
Observations	446	223	331	446	223	331
R-squared	0.488	0.544	0.473	0.247	0.350	0.252
Economic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Religious Controls	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

The transformation of a war-torn society requires a wide range of actors and organisations. In post-conflict societies, the NGOs efficiently extend their support to local groups to strengthen their capacity, empower the key actors, and promote organisational development and training programs (Parver & Wolf, 2008). In the post-conflict Swat, the NGOs remained involved largely in the rehabilitation of the health and education sectors of the district. Our finding suggests that trust in NGOs increases in the treated region.[18] The socio-economic rehabilitation programs develop a positive reputation of NGOs among the victimised individuals. Tables 7 and 8 report the OLS and SRDD estimates, respectively, in this regard. In panel A of table 7, the coefficient associated with conflict in the final model predicts that immediately after the war, trust among the war victims in NGOs increases on average by 0.602 points. Whereas, the

[18]This finding is compatible with the survey analysis of NGOs in Syria (Bosman, 2012).

region dummy appears insignificant which suggests that the trust equally increased among the urban and rural regions. Nevertheless, the positive magnitude of trust reduces over time. The estimates in Panel B of the table suggest that after a decade, the average trust of the war-exposed individuals in NGOs remained higher on average by 0.237 points as compared to the control group. Concerning the heterogeneity across different localities, we find that the effect on highly exposed locations is higher as compared to the moderately and least affected locations (see Panels A and B of Table 8). For instance, individuals who remained highly exposed to conflict exhibited slightly high average trust (0.167) in NGOs as compared to individuals in the moderately affected (0.159), and least affected (0.146) regions in the treated district. A similar trend prevails a decade after the conflict. For instance, in 2018, the individuals in the highly exposed region shows comparatively high trust (0.075) in NGOs as compared to the moderately affected (0.057), and least affected (0.061) individuals in the region.

Table 7

Trust in Non-Government Organisations (OLS)

	(Panel A) Trust in NGO in 2010				(Panel B) Trust in NGO in 2018			
	(Model 1)	(Model 2)	(Model 3)	(Model4)	(Model 1)	(Model 2)	(Model 3)	(Model4)
Variables	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Conflict	0.592***	0.604***	0.612***	0.602***	0.252***	0.260***	0.263***	0.237***
	(0.0392)	(0.0398)	(0.0417)	(0.0410)	(0.0290)	(0.0292)	(0.0307)	(0.0315)
Region Dummy	0.0469	0.0527	0.0556	0.0569	–0.0307	–0.0304	–0.0271	–0.0233
	(0.0379)	(0.0383)	(0.0385)	(0.0386)	(0.0297)	(0.0299)	(0.0305)	(0.0305)
Constant	1.665***	2.058***	1.894***	1.986***	1.737***	2.116***	1.966***	2.192***
	(0.0450)	(0.235)	(0.329)	(0.339)	(0.0332)	(0.197)	(0.285)	(0.290)
Observations	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
R-squared	0.217	0.220	0.224	0.224	0.074	0.078	0.084	0.090
Economic Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Demographic Controls	No	No	Yes	Yes	No	No	Yes	Yes
Religious Controls	No	No	No	Yes	No	No	No	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 8

Trust in Non-Government Organisations (SRDD)

	(Panel A) Trust in NGO in 2010 Bandwidth			(Panel B) Trust in NGO in 2018 Bandwidth		
	[10-44km]	[45-60km]	[61-93km]	[10-44km]	[45-60km]	[61-93km]
	(Model 1)	(Model 2)	(Model 3)	(Model 1)	(Model 2)	(Model 3)
Variables	SRDD	SRDD	SRDD	SRDD	SRRD	SRRD
Conflict	0.159***	0.167***	0.146***	0.0577***	0.0754***	0.0615***
	(0.0150)	(0.0242)	(0.0162)	(0.0134)	(0.0178)	(0.0147)
Constant	1.574***	2.385***	1.135*	2.046***	2.725***	1.229**
	(0.517)	(0.859)	(0.631)	(0.439)	(0.756)	(0.538)
Observations	446	223	331	446	223	331
R-squared	0.205	0.325	0.235	0.085	0.198	0.082
Economic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Religious Controls	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

4.2. Participation

Tables 9 and 10 depict the findings of the participatory behaviour of the individuals in various social organisations in post-conflict life. The first table reports the OLS estimates, while the later depicts the SRDD estimates. The overall findings predict that exposure to violent conflict stimulates participation in social organisations. Panel A of Table 9 shows that, right after the conflict, the participation of war-exposed individuals in social organisations increases on average by 0.532 points. This effect is persistent even after a decade of the conflict, i.e. after a decade of violence, the average participation of the exposed individuals remains high by 0.322 points. Such effect is robust across both the urban and rural areas of the treated district. With regard to heterogeneity across locations, the findings show that the average preferences of individuals for participation in social organisations in the highly exposed locations are relatively higher as compared to those of the moderately exposed and least exposed locations (see Panel A of Table 10). The same trend continues even after a decade of the conflict. For instance, the increase in participatory behaviour in social organisations for highly exposed individuals is 0.167 and 0.115 in 2010 and 2018, respectively as compared to 0.146 and 0.087 for moderately affected and 0.112 and 0.078 for least affected individuals. This is justified by the fact that exposure to violence raises the level of prosocial behaviour towards within-group social organisations, which, in turn, minimise the likelihood of the risk of victimisation in the conflict zone (Gáfaro, 2014). Bellows & Miguel (2009), Blattman (2009), and Cassar, et al. (2013) observe the elevated participation in local groups and associations in the war-exposed case of Sierra Leone, Uganda, and Tajikistan respectively.

Table 9

Participation in Social Organisations (OLS)

	(Panel A) Participation in Social Orgs: in 2010				(Panel B) Participation in Social Orgs: in 2018			
	(Model 1)	(Model 2)	(Model 3)	(Model4)	(Model 1)	(Model 2)	(Model 3)	(Model4)
Variables	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Conflict	0.539***	0.520***	0.526***	0.532***	0.330***	0.312***	0.315***	0.322***
	(0.027)	(0.027)	(0.029)	(0.029)	(0.025)	(0.025)	(0.026)	(0.027)
Region Dummy	0.024	0.015	0.009	0.009	0.026	0.021	0.017	0.016
	(0.024)	(0.024)	(0.024)	(0.025)	(0.026)	(0.026)	(0.026)	(0.026)
Constant	1.888***	1.520***	1.294***	1.241***	1.891***	1.453***	1.165***	1.103***
	(0.031)	(0.167)	(0.215)	(0.228)	(0.029)	(0.171)	(0.224)	(0.238)
Observations	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
R-squared	0.336	0.348	0.350	0.351	0.155	0.173	0.178	0.179
Economic Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Demographic Controls	No	No	Yes	Yes	No	No	Yes	Yes
Religious Controls	No	No	No	Yes	No	No	No	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 10

Participation in Social Organisations (SRDD)

	(Panel A) Participation in Social Orgs: in 2010 Bandwidth			(Panel B) Participation in Social Orgs: in 2018 Bandwidth		
	[10-44km]	[45-60km]	[61-93km]	[10-44km]	[45-60km]	[61-93km]
	(Model 1)	(Model 2)	(Model 3)	(Model 1)	(Model 2)	(Model 3)
Variables	SRDD	SRDD	SRDD	SRDD	SRRD	SRRD
Conflict	0.146***	0.167***	0.122***	0.087***	0.115***	0.078***
	(0.012)	(0.016)	(0.011)	(0.012)	(0.016)	(0.012)
Constant	1.278***	2.653***	1.662***	1.058***	2.941***	1.368***
	(0.348)	(0.613)	(0.457)	(0.372)	(0.610)	(0.450)
Observations	446	223	331	446	223	331
R-squared	0.334	0.492	0.377	0.175	0.374	0.202
Economic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Religious Controls	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Similar to the participation in social organisations, the political participation of individuals also increases in post-conflict life. These findings are shown in Tables 11 and 12 for OLS, and SRDD, respectively. In Panel A of Table 11, the coefficient associated with conflict shows that immediately after the violence, the participation of individuals in political activities increases on average by 0.532 points. Additionally, after a decade of the termination of violence, the positive trend of participation in political activities continues. For instance, as is evident from Panel B of the same table, the political participation of the individuals on average remains high by 0.355 points as compared to the controlled group. Whereas, the regional dummy appears insignificant, which shows that the effect of violence on political behaviour is equally transferred to the urban and rural regions. Similarly, Table 12 shows the findings with respect to the heterogeneity across locations. In this regard, the increase in political participation for highly exposed individuals is 0.179 and 0.142 in 2010 and 2018, respectively as compared to 0.144 and 0.094 for moderately affected and 0.114 and 0.077 for least affected individuals. In general, victimisation during the conflict enhances political participation among conflict-exposed individuals (Carmil & Breznitz, 1991; Bellows & Miguel, 2006, 2009; Blattman, 2009; Gáfaro, 2014). There are three justifications in this regard. First, the extraordinarily unsafe environment enhances the frequency of interactions between individuals to coordinate actions to protect the region and adopt political strategies to solve urgent local needs (De Luca & Verpoorten, 2011). Second, the concentration of the population in Internally Displaced Persons (IDP) camps in the affected areas may have involved in new administrative procedures such as “compulsory” meetings for the organisation of daily life in the camps, etc. Third, the presence of NGOs potentially enhances political participation. For instance, the activities of NGOs encourage individuals to engage in participatory meetings to take advantage of public services.

Table 11

Participation in Political Activities (OLS)

	(Panel A) Participation in Political Activities in 2010				(Panel B) Participation in Political Activities in 2018			
	(Model 1)	(Model 2)	(Model 3)	(Model4)	(Model 1)	(Model 2)	(Model 3)	(Model4)
Variables	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Conflict	0.579***	0.557***	0.531***	0.532***	0.370***	0.354***	0.331***	0.355***
	(0.029)	(0.029)	(0.031)	(0.033)	(0.026)	(0.026)	(0.028)	(0.030)
Region Dummy	0.043	0.032	0.019	0.019	–0.014	–0.015	–0.016	–0.020
	(0.026)	(0.026)	(0.026)	(0.026)	(0.027)	(0.027)	(0.028)	(0.028)
Constant	1.673***	0.936***	0.442*	0.427	1.728***	1.018***	0.530**	0.326
	(0.035)	(0.169)	(0.242)	(0.260)	(0.031)	(0.172)	(0.246)	(0.263)
Observations	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
R-squared	0.332	0.346	0.359	0.359	0.178	0.193	0.212	0.218
Economic Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Demographic Controls	No	No	Yes	Yes	No	No	Yes	Yes
Religious Controls	No	No	No	Yes	No	No	No	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 12

Political Participation (SRDD)

	(Panel A) Participation in Political Activities in 2010 Bandwidth			(Panel B) Participation in Political Activities in 2018 Bandwidth		
	[10-44km]	[45-60km]	[61-93km]	[10-44km]	[45-60km]	[61-93km]
	(Model 1)	(Model 2)	(Model 3)	(Model 1)	(Model 2)	(Model 3)
Variables	SRDD	SRDD	SRDD	SRDD	SRRD	SRRD
Conflict	0.144***	0.179***	0.114***	0.094***	0.142***	0.077***
	(0.012)	(0.015)	(0.013)	(0.012)	(0.016)	(0.013)
Constant	0.383	1.401*	1.065**	0.104	1.762**	0.802*
	(0.368)	(0.782)	(0.429)	(0.368)	(0.804)	(0.410)
Observations	446	223	331	446	223	331
R-squared	0.376	0.503	0.388	0.227	0.412	0.257
Economic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Religious Controls	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

With regard to participation in governmental organisations; Tables 13 and 14 report the OLS and SRDD results, respectively. The findings suggest that the occurrence of violent shock adversely affects individuals' participation in governmental organisations. Panel A in Table 13 shows that exposure to violence reduces participation of individuals in governmental organisations on average by 0.834 points. The result is robust with respect to the rural and urban regions. Moreover, the intensity of the decline in participation reduces over time; however, the preference for non-participation in governmental activities remains persistent. For instance, Panel B in Table 13 shows that the average participation of individuals in governmental activities remains lower on average by 0.584 points. With respect to robustness across different locations, the SRDD results in Table 14 show that right after the cessation of conflict, the highly exposed individuals exhibited lower average

participation in governmental activities (see the coefficient –0.332 as compared to –0.213 for moderately affected, and –0.189 for least affected locations). Panel B of the same table shows similar trends even after a decade of the conflict. Victimisation in war leads to the erosion of expectations in state institutions (Grosjean, 2014). Likewise, the aftermath of violent conflict is marked by a period of volatility, transition, and uncertainty. Alternatively, the warring parties' motives and strategies are unknown, and the reliability of the government's promises is hard to assess. Thus, in post-conflict life, people keep high expectations with regard to improvement in their living conditions; however, they do worry about the potential economic disadvantages and physical security (De Juan & Pierskalla, 2016). These reservations, accordingly, result in less participation in governmental activities.

Table 13

Participation in Government Organisations (OLS)

	(Panel A) Participation in Govt Orgs: in 2010				(Panel B) Participation in Govt Orgs: in 2018			
	(Model 1)	(Model 2)	(Model 3)	(Model4)	(Model 1)	(Model 2)	(Model 3)	(Model4)
Variables	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Conflict	–0.875***	–0.873***	–0.898***	–0.834***	–0.627***	–0.623***	–0.643***	–0.584***
	(0.037)	(0.038)	(0.041)	(0.041)	(0.033)	(0.034)	(0.036)	(0.037)
Region Dummy	0.034	0.035	0.025	0.016	0.036	0.039	0.042	0.033
	(0.032)	(0.032)	(0.034)	(0.033)	(0.034)	(0.034)	(0.034)	(0.033)
Constant	2.676***	2.490***	1.914***	1.328***	2.682***	2.582***	2.038***	1.522***
	(0.044)	(0.226)	(0.293)	(0.305)	(0.040)	(0.220)	(0.286)	(0.300)
Observations	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
R-squared	0.424	0.427	0.437	0.455	0.277	0.279	0.294	0.313
Economic Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Demographic Controls	No	No	Yes	Yes	No	No	Yes	Yes
Religious Controls	No	No	No	Yes	No	No	No	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 14

Participation in Government Organisations (SRDD)

	(Panel A) Participation in Govt Orgs: in 2010 Bandwidth			(Panel B) Participation in Govt Orgs: in 2018 Bandwidth		
	[10-44km]	[45-60km]	[61-93km]	[10-44km]	[45-60km]	[61-93km]
	(Model 1)	(Model 2)	(Model 3)	(Model 1)	(Model 2)	(Model 3)
Variables	SRDD	SRDD	SRDD	SRDD	SRRD	SRRD
Conflict	–0.213***	–0.332***	–0.189***	–0.140***	–0.261***	–0.128***
	(0.0148)	(0.0247)	(0.0151)	(0.015)	(0.024)	(0.015)
Constant	1.161***	1.142	0.972*	1.410***	1.319	0.941*
	(0.429)	(0.969)	(0.545)	(0.423)	(0.946)	(0.521)
Observations	446	223	331	446	223	331
R-squared	0.464	0.595	0.450	0.308	0.480	0.304
Economic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Religious Controls	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

With regard to the participation in NGOs, Tables 15 and 16 depict the OLS and SRDD results, respectively. We find that exposure to violent conflict stimulates participation in the activities of NGOs. For instance, Panel A in Table 15 shows that, immediately after the conflict, participation of the individuals in NGOs increased on average by 0.675 points as compared to the non-victims. Likewise, Panel B of the same table depicts that such an effect remains persistent even a decade after the conflict (see the coefficient of 0.499 in specification 4 in Panel B). With regard to heterogeneity across locations, the SRDD results in Table 16 show that the preference for participation in the activities of NGOs is higher for highly exposed individuals as compared to moderately and least affected individuals. For instance, the increase in participation in NGOs for highly exposed individuals is 0.237 and 0.170 in 2010 and 2018, respectively as compared to 0.184 and 0.135 for moderately affected and 0.150 and 0.113 for least affected individuals. Rebuilding conflict-exposed societies or conflict transformations requires a wide range of organisations. Above all, the NGOs in post-conflict societies efficiently support local groups in their activities with regard to reconstruction. Since, the NGOs' actions in the conflict-affected zone increase in response to the humanitarian crises, the NGOs in the internally displaced camps (IDPs) and later in conflict-affected zones, motivate the individuals to engage in their participatory meetings to take advantage of their services (De Luca & Verpoorten, 2011).

Table 15

Participation in Non-Government Organisations (OLS)

	(Panel A) Participation in NGOs in 2010				(Panel B) Participation in NGOs in 2018			
	(Model 1)	(Model 2)	(Model 3)	(Model4)	(Model 1)	(Model 2)	(Model 3)	(Model4)
Variables	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Conflict	0.693***	0.693***	0.674***	0.675***	0.517***	0.515***	0.512***	0.499***
	(0.025)	(0.025)	(0.026)	(0.027)	(0.020)	(0.020)	(0.022)	(0.023)
Region Dummy	0.012	0.012	0.010	0.010	0.026	0.025	0.025	0.027
	(0.026)	(0.026)	(0.026)	(0.026)	(0.023)	(0.023)	(0.023)	(0.023)
Constant	1.860***	1.900***	1.850***	1.846***	1.852***	1.922***	1.996***	2.106***
	(0.029)	(0.144)	(0.195)	(0.203)	(0.022)	(0.138)	(0.184)	(0.191)
Observations	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
R-squared	0.525	0.525	0.528	0.528	0.397	0.398	0.400	0.402
Economic Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Demographic Controls	No	No	Yes	Yes	No	No	Yes	Yes
Religious Controls	No	No	No	Yes	No	No	No	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 16

Participation in Non-Government Organisations (SRDD)

	(Panel A) Participation in NGOs in 2010 Bandwidth			(Panel B) Participation in NGOs in 2018 Bandwidth		
	[10-44km]	[45-60km]	[61-93km]	[10-44km]	[45-60km]	[61-93km]
	(Model 1)	(Model 2)	(Model 3)	(Model 1)	(Model 2)	(Model 3)
Variables	SRDD	SRDD	SRDD	SRDD	SRRD	SRRD
Conflict	0.184***	0.237***	0.150***	0.135***	0.170***	0.113***
	(0.010)	(0.015)	(0.010)	(0.009)	(0.016)	(0.010)
Constant	1.918***	2.541***	1.442***	1.981***	2.510***	2.143***
	(0.312)	(0.477)	(0.433)	(0.284)	(0.572)	(0.399)
Observations	446	223	331	446	223	331
R-squared	0.505	0.739	0.519	0.390	0.556	0.400
Economic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Religious Controls	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

4.3. Cooperation

Tables 17 and 18 report the OLS and SRDD results of within-group cooperation, respectively. The findings suggest that exposure to violent conflict stimulates within-group cooperation in society. As is visible from Panel A of Table 17, the coefficient associated with conflict in the final specification show that, right after the conflict, the within-group cooperation among the victims increases on average by 0.881 points. Likewise, a decade after the conflict exhibits similar trends. For instance, Panel B of the same table shows that the level of cooperation among the war-exposed individuals remained high on average by 0.653 points as compared to non-exposed. Moreover, such an effect is exhibited in both the rural and urban areas as is shown by the regional dummy. The SRDD results in Table 18 show that highly exposed individuals exhibit higher within-group cooperation (0.287) as compared to the moderately (0.236) and least affected (0.185) individuals. A similar pattern exists even a decade after the conflict (see Panel B of Table 18). This is justified by the fact that the eruption of war results in the destruction of household assets and makes the sufferers more reliant on the existing informal setup of risk sharing and insurance (Bauer, et al. 2016). In particular, the clans and neighbors become important which makes investment in social capital more productive. Alternatively, during the conflict, investment in human and physical capital becomes risky, expensive, and constrained as compared to the investment in social capital. This, in turn, enhances group memberships and other forms of community support. Moreover, the attitude of cooperative behaviour serves as motive for personal safety and protection (Silva & Mace, 2015).

Table 17

Within Group Cooperation (OLS)

	(Panel A) Within Group Cooperation in 2010				(Panel B) Within Group Cooperation in 2018			
	(Model 1)	(Model 2)	(Model 3)	(Model4)	(Model 1)	(Model 2)	(Model 3)	(Model4)
Variables	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Conflict	0.917***	0.898***	0.887***	0.881***	0.697***	0.683***	0.675***	0.653***
	(0.026)	(0.027)	(0.029)	(0.030)	(0.022)	(0.023)	(0.024)	(0.026)
Region Dummy	0.037	0.028	0.021	0.022	0.004	0.001	–0.001	0.002
	(0.027)	(0.027)	(0.028)	(0.028)	(0.023)	(0.023)	(0.023)	(0.023)
Constant	1.653***	1.152***	1.199***	1.259***	1.687***	1.203***	1.224***	1.410***
	(0.033)	(0.162)	(0.213)	(0.234)	(0.026)	(0.155)	(0.208)	(0.228)
Observations	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
R-squared	0.612	0.618	0.621	0.621	0.505	0.513	0.517	0.520
Economic Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Demographic Controls	No	No	Yes	Yes	No	No	Yes	Yes
Religious Controls	No	No	No	Yes	No	No	No	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 18

Within Group Cooperation (SRDD)

	(Panel A) Within Group Cooperation in 2010 Bandwidth			(Panel B) Within Group Cooperation in 2018 Bandwidth		
	[10-44km]	[45-60km]	[61-93km]	[10-44km]	[45-60km]	[61-93km]
	(Model 1)	(Model 2)	(Model 3)	(Model 1)	(Model 2)	(Model 3)
Variables	SRDD	SRDD	SRDD	SRDD	SRRD	SRRD
Conflict	0.236***	0.287***	0.185***	0.179***	0.231***	0.133***
	(0.0114)	(0.0154)	(0.0125)	(0.0110)	(0.0151)	(0.0119)
Constant	1.498***	2.042***	1.774***	1.524***	2.342***	1.815***
	(0.356)	(0.654)	(0.436)	(0.343)	(0.647)	(0.400)
Observations	446	223	331	446	223	331
R-squared	0.586	0.746	0.630	0.492	0.703	0.515
Economic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Religious Controls	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Tables 19 and 20 depict the OLS and SRDD results for the solution of collective problems, respectively. Panel A of Table 19 shows that, right after the conflict, the average efforts of individuals for the collective problem solution increases by 1.001 points. Likewise, even a decade after the conflict, the efforts level remains high by 0.814 points (see Panel B of the same table). Again, the finding is robust across both the urban and rural areas. The SRDD results in Table 20 show that such effects are different across different locations. For instance, the efforts levels of the highly exposed individuals are 0.332 and 0.247 in 2010 and 2018, respectively as compared to 0.256 and 0.221 for moderately affected and 0.245 and 0.187 for least affected individuals. In general, exposure to violence induces changes in the belief structure of the victims which, in turn, makes them more prosocial, especially for within-group individuals (Bauer, et al. 2016). Such prosocial behaviour at the community level motivates individuals for the solution of actual problems in the community (Bellows & Miguel (2006).[19]

[19]In general, voting in elections and joining the social and political groups enhances after the conflict.

Table 19

Collective Problem Solution (OLS)

	(Panel A) Collective Problem Solution in 2010				(Panel B) Collective Problem Solution in 2018			
	(Model 1)	(Model 2)	(Model 3)	(Model4)	(Model 1)	(Model 2)	(Model 3)	(Model4)
Variables	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Conflict	1.004***	0.989***	0.980***	1.001***	0.801***	0.792***	0.800***	0.814***
	(0.030)	(0.030)	(0.032)	(0.033)	(0.024)	(0.024)	(0.025)	(0.026)
Region Dummy	0.039	0.033	0.020	0.017	0.013	0.009	0.001	–0.001
	(0.032)	(0.032)	(0.033)	(0.033)	(0.026)	(0.026)	(0.026)	(0.026)
Constant	1.799***	1.578***	1.412***	1.218***	1.829***	1.752***	1.628***	1.506***
	(0.038)	(0.159)	(0.223)	(0.233)	(0.028)	(0.160)	(0.224)	(0.233)
Observations	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
R-squared	0.620	0.625	0.630	0.633	0.536	0.540	0.547	0.548
Economic Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Demographic Controls	No	No	Yes	Yes	No	No	Yes	Yes
Religious Controls	No	No	No	Yes	No	No	No	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 20

Collective Problem Solution (SRDD)

	(Panel A) Collective Problem Solution in 2010			(Panel B) Collective Problem Solution in 2018		
	Bandwidth			Bandwidth		
	[10-44km]	[45-60km]	[61-93km]	[10-44km]	[45-60km]	[61-93km]
	(Model 1)	(Model 2)	(Model 3)	(Model 1)	(Model 2)	(Model 3)
Variables	SRDD	SRDD	SRDD	SRDD	SRRD	SRRD
Conflict	0.256***	0.332***	0.245***	0.221***	0.247***	0.187***
	(0.012)	(0.014)	(0.012)	(0.012)	(0.014)	(0.012)
Constant	1.180***	0.959*	2.061***	1.473***	1.666***	2.144***
	(0.347)	(0.503)	(0.503)	(0.358)	(0.547)	(0.463)
Observations	446	223	331	446	223	331
R-squared	0.597	0.777	0.659	0.504	0.674	0.553
Economic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Religious Controls	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

As far as the cooperation with governmental organisations is concerned; Tables 21 and 22 depict the OLS and SRDD results, respectively, in this regard. We find that the occurrence of violent shock reduces cooperation with governmental organisations in society. Panel A in Table 21 shows that the level of cooperation with governmental organisations among the victims reduces by 0.892 points as compared to the non-victims. Such effect is persistent even after a decade of the conflict, i.e. the level of cooperation remains lower by on average by 0.633 points in 2018. Moreover, the effect is robust across both the rural and urban areas. The SRDD results in Table 22 confirm that the effect is heterogenous across different locations. For instance, the level of cooperation is lower among the highly exposed individuals by 0.393 and 0.223 points in 2010 and 2018, respectively as compared to 0.222 and 0.166 for moderately affected and 0.163 and 0.120 for least affected individuals. The victimisation in the conflict adversely affects individuals' expectations about the state organisations (Grosjean, 2014). Second, since

post-conflict life is volatile, uncertain, and transitionary, individuals are fearful for physical security in case armed conflict recurs (De Juan & Pierskalla, 2016). Thus, people instead of extending their support to any warring group, avoid civic activities and keep themselves limited to the family networks (Kalyvas, 2006; Korf, 2004). This reduces cooperation with governmental organisations.

Table 21

Cooperation with Government Organisations (OLS)

	(Panel A) Cooperation with Govt Orgs: in 2010				(Panel B) Cooperation with Govt Orgs: in 2018			
	(Model 1)	(Model 2)	(Model 3)	(Model4)	(Model 1)	(Model 2)	(Model 3)	(Model4)
Variables	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Conflict	–0.913***	–0.907***	–0.902***	–0.892***	–0.656***	–0.657***	–0.652***	–0.633***
	(0.0341)	(0.034)	(0.036)	(0.038)	(0.0264)	(0.027)	(0.028)	(0.029)
Region Dummy	-0.0294	–0.026	–0.021	–0.022	–0.0255	–0.027	–0.019	–0.022
	(0.0327)	(0.033)	(0.034)	(0.033)	(0.0277)	(0.028)	(0.028)	(0.028)
Constant	3.217***	3.453***	3.421***	3.328***	3.207***	3.311***	3.297***	3.138***
	(0.0400)	(0.187)	(0.279)	(0.293)	(0.0306)	(0.167)	(0.246)	(0.259)
Observations	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
R-squared	0.474	0.475	0.477	0.477	0.389	0.390	0.398	0.400
Economic Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Demographic Controls	No	No	Yes	Yes	No	No	Yes	Yes
Religious Controls	No	No	No	Yes	No	No	No	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 22

Cooperation with Government Organisations (SRDD)

	(Panel A) Cooperation with Govt Orgs: in 2010 Bandwidth			(Panel B) Cooperation with Govt Orgs: in 2018 Bandwidth		
	[10-44km]	[45-60km]	[61-93km]	[10-44km]	[45-60km]	[61-93km]
	(Model 1)	(Model 2)	(Model 3)	(Model 1)	(Model 2)	(Model 3)
Variables	SRDD	SRDD	SRDD	SRDD	SRRD	SRRD
Conflict	–0.222***	–0.393***	–0.163***	–0.166***	–0.223***	–0.120***
	(0.013)	(0.018)	(0.016)	(0.013)	(0.015)	(0.013)
Constant	3.382***	3.704***	2.721***	2.879***	4.759***	2.943***
	(0.398)	(0.788)	(0.593)	(0.384)	(0.717)	(0.514)
Observations	446	223	331	446	223	331
R-squared	0.464	0.755	0.383	0.382	0.569	0.325
Economic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Religious Controls	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Tables 23 and 24 depict the OLS and SRDD estimates, respectively in the case of cooperation with NGOs. In this respect, we find that, unlike cooperation with governmental organisations, exposure to violent shock increases cooperation with NGOs. Panel A in Table 23 shows that, right after the conflict, individuals' cooperation with NGOs enhances by 0.771 points. This effect is even persistent a decade after the conflict, i.e. still the cooperation with NGOs is higher by 0.586 points. Again, the effect is robust across both the rural and urban areas. Moreover, the SRDD results in Table 24

demonstrate that the effect is different for different locations. For instance, the level of cooperation with the NGOs among the highly exposed individuals is 0.315 and 0.210 in 2010 and 2018, respectively as compared to 0.219 and 0.156 for moderately affected and 0.164 and 0.130 for least affected individuals. NGOs play an important role in rebuilding a war-torn society. For instance, NGOs support local groups by increasing their capacity and endowing key agents with new ideas, and promoting training (Parver & Wolf, 2008). Moreover, they are helpful in organisational development in post-conflict life. Thus, the rising activities of NGOs in response to the humanitarian crises motivate individuals to engage in their meetings to take advantage of their services. Alternatively, projects by NGOs in conflict-exposed zones attract individuals to cooperate more with the NGO sector to have a more inclusive society.

Table 23

Cooperation with Non-Government Organisations (OLS)

	(Panel A) Cooperation with NGOs in 2010				(Panel B) Cooperation with NGOs in 2018			
	(Model 1)	(Model 2)	(Model 3)	(Model4)	(Model 1)	(Model 2)	(Model 3)	(Model 4)
Variables	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Conflict	0.805***	0.795***	0.763***	0.771***	0.586***	0.582***	0.559***	0.586***
	(0.034)	(0.034)	(0.036)	(0.037)	(0.028)	(0.028)	(0.029)	(0.030)
Region Dummy	–0.023	–0.028	–0.024	–0.026	0.020	0.019	0.030	0.026
	(0.032)	(0.032)	(0.033)	(0.033)	(0.029)	(0.029)	(0.029)	(0.029)
Constant	1.906***	1.664***	1.595***	1.523***	1.867***	1.698***	1.591***	1.360***
	(0.040)	(0.197)	(0.264)	(0.270)	(0.031)	(0.186)	(0.252)	(0.261)
Observations	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
R-squared	0.442	0.444	0.457	0.458	0.311	0.312	0.328	0.333
Economic Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Demographic Controls	No	No	Yes	Yes	No	No	Yes	Yes
Religious Controls	No	No	No	Yes	No	No	No	Yes

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 24

Cooperation with Non-Government Organisations (SRDD)

	(Panel A) Cooperation with NGOs in 2010 Bandwidth			(Panel B) Cooperation with NGOs in 2018 Bandwidth		
	[10-44km] (Model 1)	[45-60km] (Model 2)	[61-93km] (Model 3)	[10-44km] (Model 1)	[45-60km] (Model 2)	[61-93km] (Model 3)
Variables	SRDD	SRDD	SRDD	SRDD	SRRD	SRRD
Conflict	0.219***	0.315***	0.164***	0.156***	0.210***	0.130***
	(0.013)	(0.021)	(0.014)	(0.013)	(0.017)	(0.013)
Constant	1.763***	1.584**	1.702***	1.634***	1.574**	1.308**
	(0.410)	(0.790)	(0.515)	(0.419)	(0.757)	(0.517)
Observations	446	223	331	446	223	331
R-squared	0.472	0.651	0.439	0.330	0.497	0.316
Economic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Religious Controls	Yes	Yes	Yes	Yes	Yes	Yes

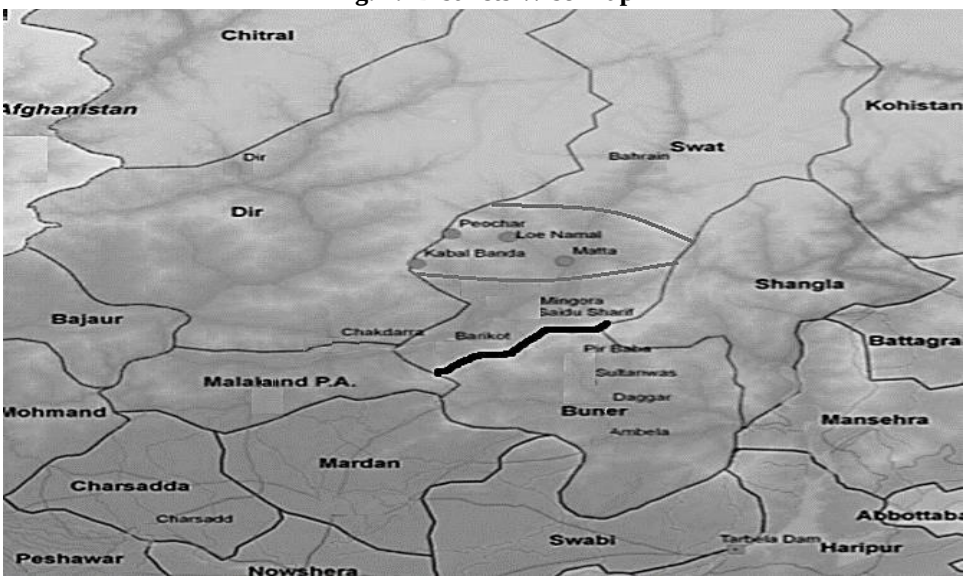
Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

5. CONCLUSION

This study is motivated by the recent literature which is related to the interaction of institutions with conflicts. Here, we want to investigate the institutional legacy of violent conflict that occurred in the district Swat of Khyber Pakhtunkhwa (KP), Pakistan. We focus on three aspects of informal institutions, i.e. trust, participation, and cooperation. To explore the causal links, we identify district Buner- the neighboring district as a control group. We collect the primary data from 500 households on different institutional information in each district and apply the Ordinary Least Square (OLS) and Spatial Regression Discontinuity (SRDD) for estimation. Our findings suggest that institutions are endogenous to exogenous shocks, i.e., when the underlined structure of institutions expose to unexpected shock, institutions in the society adopt a new equilibrium path. The findings related to trust in society suggest that exposure to violence adversely affects the out-group trust, and trust in governmental organisations; however, it enhances within-group trust and trust in NGOs. Likewise, violence victimisation stimulates participation in political activities social organisations, and NGOs; however, it lowers participation in governmental organisations. Additionally, the occurrence of war enhances the within groups cooperation and cooperation with NGOs. Also, the capacity of society to solve collective problems enhances with conflicts. However, again, cooperation with governmental organisations reduces violent shocks. Moreover, these findings are robust across both the rural and urban areas of the war-exposed district. As far as the spatial distribution of these effects is concerned; the effects are more intensive in highly exposed areas as compared to the moderately affected and least affected areas. Overall, these findings suggest that conflicts result in the transformation of the informal structure of the society and have profound effects as far as institutional persistence is concerned.

APPENDIX

Fig. 1. Districts Wise Map



Source: Refugee Review Tribunal (2009).

Table A1

Table A1.

Descriptive Statistics

	Swat (2010)				Buner (2010)			
Variables	Mean	Std. Dev.	Min	Mix	Mean	Std. Dev.	Min	Mix
Within-Group Trust	2.892	0.276	2.4	3.6	2.374	0.351	1.4	3.6
Out-Group Trust	2.091	0.398	1.5	3	2.814	0.648	1	4
Trust in Govt: Orgs:	2.37	0.348	1.833	3	3.147	0.493	1.833	4
Trust in Non-Govt: Orgs:	2.281	0.522	1.5	3.5	1.713	0.559	1	3
Participation in Social Orgs:	2.439	0.306	2	3.5	1.912	0.427	1	3.5
Participation in Political Activities	2.273	0.276	1.714	3	1.716	0.487	0.857	3.571
Participation in Govt: Orgs:	1.817	0.330	1	2.333	2.710	0.658	1	4
Participation in Non-Govt: Orgs:	2.56	0.354	2	3	1.873	0.297	1.5	2.5
Within Group Cooperation	2.666	0.344	2	3.6	2.118	0.463	1	4
Collective Problem Solution	2.823	0.331	2	4	1.839	0.433	1	3
Cooperation With Govt: Org:	2.29	0.466	1.666	4	3.187	0.479	1.666	4
Cooperation With Non-Govt: Org:	2.7	0.422	2	4	1.882	0.494	1	3.333
	Swat (2018)				Buner (2018)			
Within-Group Trust	2.694	0.299	2	3.6	2.4	0. 352	1.4	3.66
Out-Group Trust	2.114	0.342	1.5	3	2.469	0. 567	1	4
Trust in Govt: Orgs:	2.666	0.372	2	3.16	3.15	0.503	1.833	4
Trust in Non-Govt: Orgs:	1.97	0.322	1.5	2.5	1.831	0.559	1.55	3.33
Participation in Social Orgs:	2.237	0.330	1.5	3.25	2.172	0.730	1.66	3.5
Participation in Political Activities	2.089	0.289	1.285	3	1.974	0.913	1.260	3.671
Participation in Govt: Orgs:	2.077	0.302	1.333	2.666	2.93	0.771	2.33	4
Participation in Non-Govt: Orgs:	2.385	0.333	2	3	1.903	0.353	1.5	2.5
Within Group Cooperation	2.4972	0.344	1.8	3.4	2.291	0.463	1	4
Collective Problem Solution	2.638	0.297	2	3.5	2.31	0.627	1	3
Cooperation With Govt: Org:	2.535	0.3246	2	3	3.426	0.479	1.666	4
Cooperation With Non-Govt: Org:	2.465	0.364	1.666	3	2.173	0.693	1	3.333
	Control Variables							
	Swat				Buner			
	Mean	Std. Dev.	Min	Mix	Mean	Std. Dev.	Min	Mix
Education	13.382	3.540	0	18	11.57	4.774	0	18
Age of The Respondents	31.704	7.963	15	55	36.866	9.980	20	65
Income of Household	62018	27828.7	10000	80000	45538	22602.2	10000	67000
Household Size	11.406	5.141	3	23	9.22	4.466	2	25
Religious Preferences	3.373	0..536	1.333	4	3.788	0.521	1	4
Employment (Dummy)	Employed = 307		Unemployed = 193		Employed = 344		Unemployed = 165	
Marital Status (Dummy)	Married = 385		Unmarried = 115		Married = 439		Unmarried = 61	
Residence Location (Dummy)	Urban = 232		Rural = 268		Urban = 284		Rural = 216	

Table A2

Covariates Balancing Test

Treatment-Effects Estimation Estimator: Inverse-probability Weights Outcome Model: Weighted Mean Treatment Model: Logit			Number of Observation = 1,000		
GT	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]
ATE					
Conflict (Swat vs Buner)	–0.0862	0.02022	–4.26	0.000	–0.12586 –0.04659
POmean					
Conflict Buner	2.6120	0.01370	190.59	0.000	2.58519 2.63891
Over-Identification Test for Covariate Balance H0: Covariates are balanced: chi2 (9) = 10.1389 Prob > chi2 = 0.1808					

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