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Addressing and Mitigating Violence

Civil Unrest and Government Transfers in India

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Acknowledgements

Abbreviations

CEDE	Centro de Estudios sobre Desarrollo Económico
CRISE	Centre for Research on Inequality, Human Security and Ethnicity
DFID	Department for International Development
GMM	generalised method of moments
GNP	gross national product
IDS	Institute of Development Studies
IMF	International Monetary Fund
IZA	Institute for the Study of Labor
MNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
NCRB	National Crime Records Bureau
SOAS	School of Oriental and African Studies, University of London
UNU-WIDER	United Nations University World Institute for Development Economics Research

1 Introduction

Many countries across the globe have experienced in the last few years instances of civil unrest, ranging from food riots in many countries in Asia, Africa and Latin America, to the 'Arab Spring' events and the 'Occupy' movement in the USA and other European countries. These forms of civil unrest have been driven by social discontent with rising inequalities and exclusion. These processes are not new. A large literature has shown how rises in economic and social disparities between different population groups, systematic social exclusion, deprivation and other forms of perceived social differences may result in the accumulation of discontent to a sufficiently high level to upset social and political order (Bates 1983; Eisinger 1973; Grossman 1991, 1999; Gurr 1970, 1972; Horowitz 1985; Midlarsky 1988; Muller 1985; Muller and Seligson 1987; Schock 1996; Sigelman and Simpson 1977). These forms of civil unrest may result in improvements in social justice (Gurr 1970). At the same time, the private and social costs of civil unrest can be high, particularly if the unrest is violent and lasts over a long period of time. In those circumstances, violence and instability may lead to the destruction of livelihoods and markets, increase the risk of investment, lead to loss of trust between economic agents and waste of significant human and economic resources (Barron, Kaiser and Pradhan 2004; Collins and Margo 2004a, 2004b).

Social conflicts over the distribution of resources and power exist in all societies. But civil protests and social movements do not necessarily need to escalate into violence and destruction. A recent body of research has argued that the emergence of inclusive and democratic societies is largely explained by how institutions manage social diversity and different interests at historical transition points in order to avoid violent conflict (Acemoglu and Robinson 2006; Boix 2003; Engerman and Sokoloff 2002; North, Wallis and Weingast 2009). Many governments have attempted to resolve distributive conflicts and maintain order through social policy, an idea that goes back several centuries. For instance, Acemoglu and Robinson (2000) show how Western societies extended voting rights during the nineteenth century in order to prevent civil unrest and potential revolutions. This in turn led to a large expansion in redistributive programmes. Notably, Chancellor Otto von Bismarck planted the seeds of the first social insurance programmes in Europe in the late nineteenth century as a response to social demands derived from increasingly stronger workers unions' movements after the Industrial Revolution. Chancellor Bismarck saw the *Sozialstaat* – the origins of the European Welfare State – as a means to win the new German proletariat's loyalties and keep class struggle under control (Esping-Andersen 1990). The idea of resorting to social policies to keep stability quickly extended from Bismarck's Germany in 1880 to the rest of Europe.

Despite this large body of literature on the relationship between democracy, peace and the welfare state, there is limited empirical evidence on whether social policies prevent or reduce civil unrest, or about the type of policies that may be used to mitigate civil unrest or prevent its escalation into widespread violence. This paper investigates empirically the role of government expenditure on social services in mitigating and preventing civil unrest (riots) in India. The empirical analysis makes use of a unique longitudinal dataset compiled across the 16 largest Indian states for the period 1960–2011. The dataset contains disaggregated information on government expenditure on a variety of social services, levels of rioting, measures of inequality and poverty, and other relevant social, economic and political variables.

India was chosen as a case study because it is a particularly good example of a society characterised by a high propensity for civil unrest, and where demand for government provision of public goods and services is high. Civil unrest is very common and persistent in India: almost 40,000 people have been killed or injured in riots in India since Independence (Wilkinson 2004). But despite being extremely violent at times, civil unrest has not resulted in

full scale civil wars, as in other parts of the world. One reason may be related to how India's democratic system responds to demands from various social groups, a hypothesis that we will attempt to test in this paper. At a practical level, the division of India across several states – each being quite large – allows us to analyse data that is collected and compiled fairly homogenously across all states. This avoids the pitfalls of cross-country analysis where comparability between datasets can be dubious at times. The use of panel data allows us, in addition, to capture the large heterogeneity of Indian states in terms of social, cultural, religious, economic and political characteristics over more than 50 years.

The results show that, in the medium term, government expenditure on social services is associated with significant reductions in riots across India. The immediate effect of social expenditure is negligible. This result is likely to be driven by the impact of social expenditure on levels of poverty and inequality, which take time to affect social discontent and hence rioting. Future versions of this paper will attempt to test these mechanisms further. The main results are robust to different model specifications.

The paper entails three important contributions. The first is on the role of the state in managing political and social order. As argued in a recent paper by Lacina (2014: 720), 'governments are absent from empirical studies of civil violence, except as static sources of grievance'. However, government policy may affect social and political stability because governments have at their disposal a myriad of fiscal and judicial instruments that can be used as carrots and sticks in maintaining order. This paper analyses in detail the role of government expenditure on social services as a mechanism to manage civil unrest. We analyse also repressive mechanisms such as the use of police but find no evidence for their effectiveness.

The second contribution is on the relationship between state capacity and political violence (see, for instance, Fearon and Laitin 2003). This literature has largely focused on the ability of the state to impose the rule of law and establish the monopoly of violence. This paper suggests that fiscal capacity may also be important because it will determine how governments may be able to provide public goods to their citizens. This is in line with the theoretical arguments outlined in Besley and Persson (2009, 2010).

Finally, the paper contributes also to emerging literature on the relationship between democracy, redistribution and political violence (Acemoglu and Robinson 2006; Boix 2003). This literature is based on an underlying assumption that inequality is the main mechanism explaining the positive effect of democracy on political violence. Democracy is seen as the political regime most likely to lead to the consolidation of peace because it leads to lower levels of inequality (Acemoglu and Robinson 2000, 2001). This premise is, however, rarely tested empirically and in fact most literature shows that inequality does not cause violent conflict. This paper contributes in a modest way to this wider literature by showing how a specific element of democracies – the implementation of redistributive social policies – may affect civil unrest through its effects on inequality.

The paper is organised as follows. Section 2 proposes a theoretical framework to understand the relationship between inequality, redistributive social policies and civil unrest. Section 3 introduces the case study of India. Section 4 discusses the empirical model, while Section 5 presents and analyses in detail the main results and robustness tests. Section 6 concludes the paper.

2   Theoretical framework

Several studies have highlighted the importance of social policies and redistributive programmes in reducing and preventing violence and large-scale conflict. Grossman (1994) argued that land reforms can result in less extralegal appropriation of land rents, whereas Grossman (1995) demonstrated how the redistribution of property income to the working classes (through wage subsidies or lump-sum transfers) may decrease the probability of workers engaging in extralegal appropriative activities. Azam (2001) illustrated how systems of redistribution (in particular expenditure on health and education) within and amongst groups may create solidarity links between them, which prevent the outbreak of political violence. Azam and Mesnard (2003) built a contract–theoretical model where promises of government transfers can be used as a pay-off to rebel groups not to engage in civil war. This literature is largely theoretical. At the policy level, there have been interesting experiments with the use of cash transfers to reduce violence (and hopefully the likelihood to civil war re-ignition) in post-conflict countries. An interesting example and one of the few available studies that has rigorously evaluated the effect of cash transfers on violence is Blattman, Fiala and Martinez (2014). Taydas and Peksen (2012) attempted to advance empirical knowledge on the effects of government social policies on conflict but lack of direct data on social expenditure limited their analysis considerably. So far, little is known empirically about the impact of transfers and redistributive policies on political and social order and civil unrest.

Several studies have, however, shown that government transfers may be associated with reductions in crime. Chioda, De Mello and Soares (2012) found that the Bolsa Família in Brazil, a conditional cash transfer programme, had a strong negative effect on urban crime in São Paulo due to increases in household income and changes in peer group membership. Similar results are shown in De Franzo (1996, 1997) and Zhang (1997), for other cases. This is in line with a number of studies that have documented a correlation between inequality and crime (see, for example, Becker 1968; and Ehrlich 1973).

Another related literature has shown that government transfers can be effectively used to gain political support. Governments may decide to provide income transfers and implement redistributive policies because that earns them support and votes from the population. In democratic settings, citizens use their voting rights to respond to government policy, thereby creating a mechanism for political accountability. Government choices regarding social transfers may therefore be used to ensure voters' support. A number of papers have examined the effect of cash transfer programmes on political support, finding a positive effect (Baez *et al.* 2012; Manacorda, Miguel and Vigorito 2011; Zucco 2013).

Taken together, these bodies of literature suggest that governments may resort to social policies and transfers to either gain support among some population groups and/or implement social contracts – which may result in increases in the opportunity cost of crime and may perhaps avoid civil unrest. The empirical link between government social policies and civil unrest remains, however, under-researched. This is *a priori* ambiguous. The theoretical models discussed above consider the options of governments in game–theoretical frames that take into consideration the opportunity costs of social policies in terms of violent or peaceful outcomes. However, redistributive policies may result in economic distortions and in the distribution of resources in ways that may generate further social conflict (see Lindert and Williamson 1985; Persson and Tabellini 1994). Income transfer policies and tax reforms are also often constrained by budgetary and administrative limitations and the opposition of political and social elites (Newbery and Stern 1987; Radian 1980), and hence disliked by governments involved in the pursuit of electoral advantages and the support of elite coalitions. On the other hand, social policies can be used to buy out citizens' support or signal commitment of the government to supporting the needs of its

citizens, thereby strengthening the social contract. These are likely to increase the potential costs of engaging in social conflict (Boix 2004), and may also raise the welfare of higher income groups that get negatively affected by civil unrest (but that may nonetheless oppose redistribution) since less instability may promote more attractive economic environments (see Grossman 1994; Sala-i-Martin 1996). This paper assesses the effectiveness of government expenditure on social services in mitigating the outbreak of civil unrest. The paper does not intend to offer a full causal theory of civil unrest, but rather to uncover important mechanisms that may prevent the onset of and/or reduce civil unrest that have been thus far neglected in the economics literature on civil conflict.

Our argument begins with an unequal or polarised society formed by two groups. The first group is formed by the elite found amongst the better-off strata of society and in the state apparatus. The second group is the remaining population characterised by limited (or sometimes excluded from) access to social, economic and political opportunities.[1] Inequalities between the two social groups that result from differences in access to economic, social and political opportunities by the elite or even rent-seeking activities that benefit the members of that group to the detriment of the rest of the population, may lead to social discontent amongst the non-elite and, consequently, to social conflict.[2] In a situation of civil unrest, the elite faces a 'stick or carrot' dilemma: either they attempt to buy out those that threaten to rebel, or they resort to other repressive means to offset the threat of unrest, such as the use of police or military force. Redistributive strategies may work well because they address social discontent directly. However, these have important costs associated with them. Notably, the ability to redistribute requires taxing different population groups, which may not be a popular option or feasible in poorer countries. Redistribution may also result in economic distortions that may not be easy to accommodate. In addition, commitment to redistribution may imply a loss of status quo among the elite (Acemoglu and Robinson 2006). Repression may be used when elites are not willing to relent some of their power and control. However, repression is also costly. In societies with a low repression threshold, the use of force may cause further discontent amongst the population, leading to an escalation of the conflict (Boix 2004; Carter 1987; Gurr 1970; Hirschman 1981; Lichbach and Gurr 1981; Lichbach 1987; Morgan and Clark 1973). Repression may then work against incumbent elites depending on the bargaining power of different voting groups. Repression is also associated with substantial financial commitments in order to pay for large armies and police.

We can then think about three different scenarios where redistribution and repression interact in different ways. The first type is a society where neither transfers nor repression are very costly. In this scenario, it may not matter much how new episodes of civil unrest are tackled. This is a situation likely to take place in either a well-functioning democracy or an 'enlightened' oligarchy. In a democracy, everyone votes over the optimal level of taxation. Therefore, the higher the level of inequality, the higher the preference of the median voter for taxation, which puts redistribution always at its optimal level (Persson and Tabellini 1994; Alesina and Rodrik 1994). In less democratic but 'enlightened' settings, those at the top will be powerful enough to exclude other groups from any decision-making process, but may be aware of the dangers of excessive exclusion and repression. Consequently, a certain level of transfers will take place (see Buchanan and Tullock 1962; Buchanan 1967) and initial police interventions may be sufficient to control any potential unrest (see Carter 1987).

The situation may be very different in societies where the cost of repression is high. These may be societies with low repression thresholds, where aversion to inequality is high or where elites and the military and police apparatus may not have strong alliances. Because repression is costly, elites must take into consideration the fact that the rest of the population

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[1] This theoretical framework is based on Justino (2007), where the relations discussed are modelled formally.
[2] This characterisation is close to oligarchic societies described in Acemoglu (2007), Acemoglu and Robinson (2006), Brockett (1990), Grossman (1991) and Wood (2003).

will have the capacity to engage in episodes of unrest, thereby increasing its bargaining power in the decision-making process. This leads to an interdependency between the welfare functions of the two groups, resulting from the fact that by instigating unrest, non-elites are able to affect the welfare of the elite group (because property is destroyed, the risk of investment increases or conflict affects the lives of elites). This interdependency will result in redistribution, as demonstrated in Zeckhauser (1971), Sala-i-Martin (1994) and Sen (1997). If the cost of redistribution is low – for instance, tax systems are well established and efficient, the median voter supports redistribution or the elite does not face immediate threats to power or are willing to relent some power now in exchange for future stability – government transfers will be used to counteract the threat of unrest. Whether this will work depends on the marginal effect of redistribution on underlying social discontent.

But elites may decide not to redistribute. In the absence of systems of redistribution, the immediate use of repression or policing has to be either very large or very efficient. If not, conflicts between the two population groups may continue to escalate. This will depend in turn on how much repression elites can afford. If elites have a lot to lose, they may vote for a little redistribution and perhaps move society into the first scenario discussed above. If this group does not have a lot to lose and can sustain indefinitely high levels of repression, then repression will always trump redistribution. Sustainable increases in policing will depend on several factors such as the ability of the elite to increase the overall economy's capacity to attract national and international investment, its endowment in natural resources, or how mobile capital is (thus allowing elites to send capital abroad and avoid costs of conflict) (see Boix 2004; Collier and Hoeffler 2004; Ghate, Le and Zak 2003). If sustainable increases in the level of policing are not affordable, conflict may escalate indefinitely.

This framework allows us to derive a number of testable hypotheses. The first hypothesis is that government transfers reduce civil unrest. The second hypothesis is that government transfers will reduce civil unrest when they are able to reduce social discontent (and its underlying causes). The third hypothesis is that government transfers will reduce civil unrest more when repression is ineffective. These hypotheses will be tested in detail in Sections 4 and 5. First, the case study of India is discussed.

3   India

India is a good testing ground for the theoretical framework outlined above. Forms of social mobilisation and collective action that result in episodes of civil unrest are relatively common in India, and a large body of literature has analysed in detail the causes of riots in India (Brass 2003; Varshney 2002; Wilkinson 2004). Some have been triggered by separatist movements, though most have been caused by clashes between different castes, and between opposite ethnic and religious interests (largely between Hindu and Muslim communities). Although the motivations for riots in India are varied and complex (Brass 2003; Wilkinson 2004), common patterns include disparities in the distribution of employment conditions, access to land and other assets, use of and access to social services and access to institutional power and legal institutions (Hardgrave 1993; Varshney 2002; Brass 2003; Wilkinson, 2004, 2005). This view is corroborated by new micro-level data on patterns of riot victimisation in India (Gupte, Justino and Tranchant 2014), which show that households are more likely to report having been the victims of riots when they own a shop or report higher levels of income per capita. The importance of these economic factors in determining household riot victimisation is noteworthy because they suggest that riots may be used as opportunities to target those that are better off. This may be a result of mindless looting and opportunism, but may also be used deliberately to redress unequal distribution of resources.

Despite its violence at times, civil unrest in India has not resulted in full scale civil wars, as in other parts of the world. India has a strong police force but also a well-functioning democratic system that responds fairly effectively to demands from various social groups. The introduction of public employment quotas for scheduled castes and scheduled tribes, the recent Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA) and the various welfare programmes implemented by the Government of India are examples of this. Figure 3.1 shows the level of government expenditure on social services (SSDC) across 16 major Indian states between 1960 and 2011.

Figure 3.2 illustrates the evolution of civil unrest in 16 major states in India, measured by the number of riots recorded by the various state police bureaus, between 1960 and 2011. The states are Andhra Pradesh, Assam, Bihar, Delhi, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. The figure shows a steady increase in riots between 1960 and the mid-1970s. This was followed by sharp reductions in rioting, most likely resulting from the state of emergency imposed by the Congress-led government in 1975. Riots increased again, and reached very high levels, from the late 1970s through most of the 1980s triggered by the Aligarh riots in 1978 and unrest in the Punjab in the same period, which eventually resulted in the assassination of Prime Minister Indira Gandhi in 1984. Very violent anti-Sikh riots took place in Delhi in the same year. The early 1990s saw a further increase in rioting, particularly pronounced after the destruction of the Ayodhya mosque in 1992 (see Varshney 2002). These events were followed by a period of relative stability, and the number of riots decreased across India during the 1990s. The 2000s saw another increase in riots across India, triggered by the wave of violence in Gujarat in 2002. Violent riots have since then taken place in rural and urban areas across most states (Human Rights Watch 1999, 2000, 2001; Wilkinson 2005). Riots, however, are not uniform across India and vary considerably across states. Figure 3.3 shows this variation (RT) for the same period of analysis.

Figure 3.1   Government expenditure on social services in 16 major Indian states, 1960–2011

Figure 3.2   Incidence of riots in India, 1960–2011

Figure 3.3   Incidence of riots in 16 major Indian states, 1960–2011
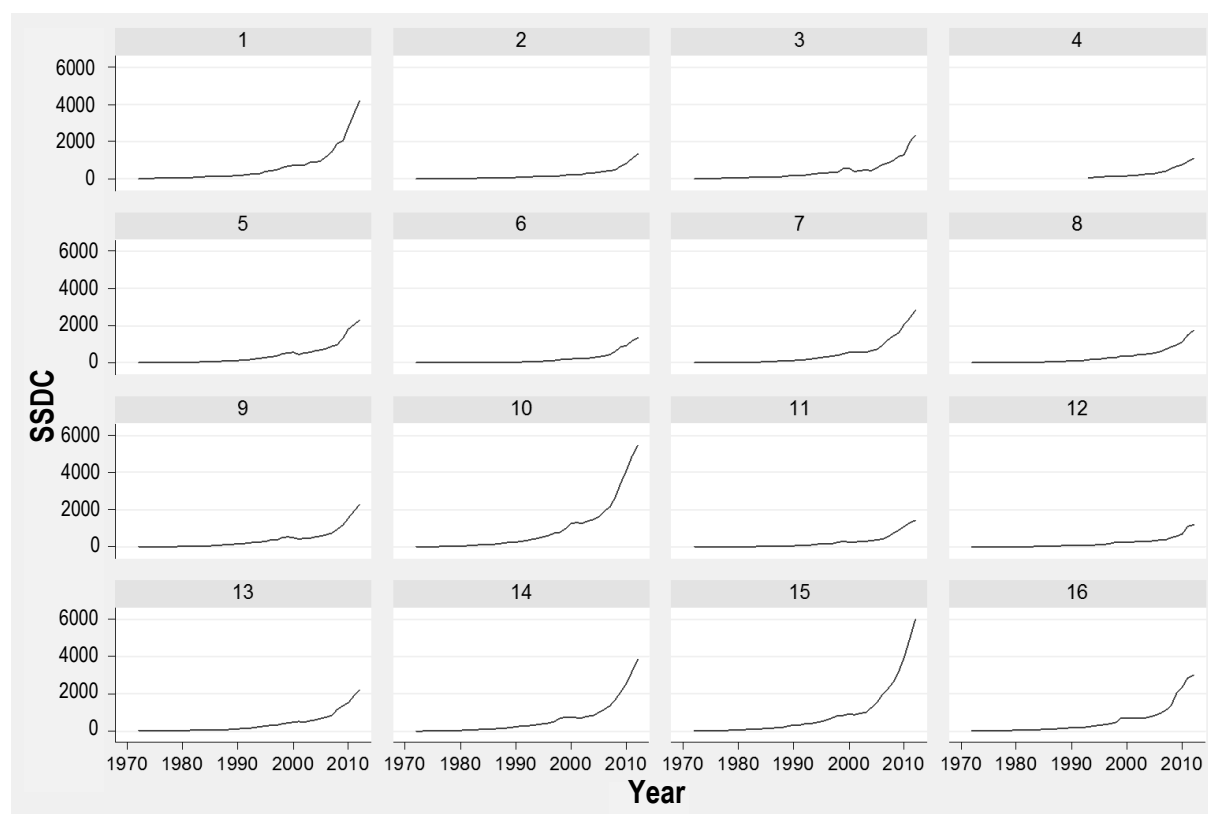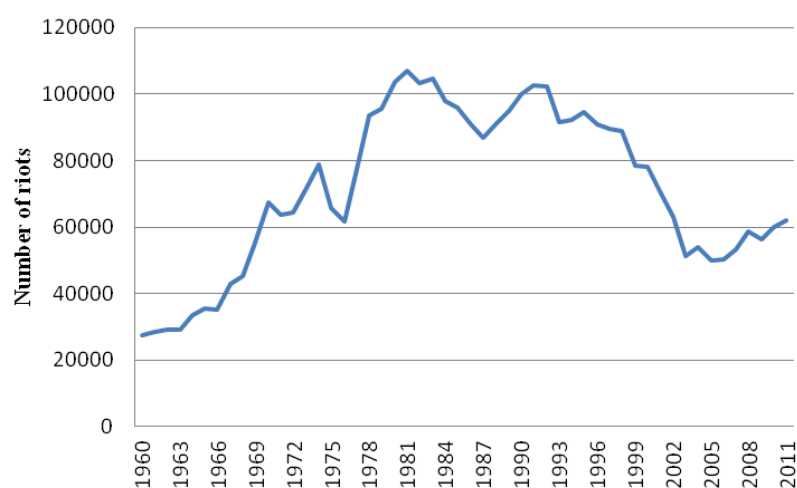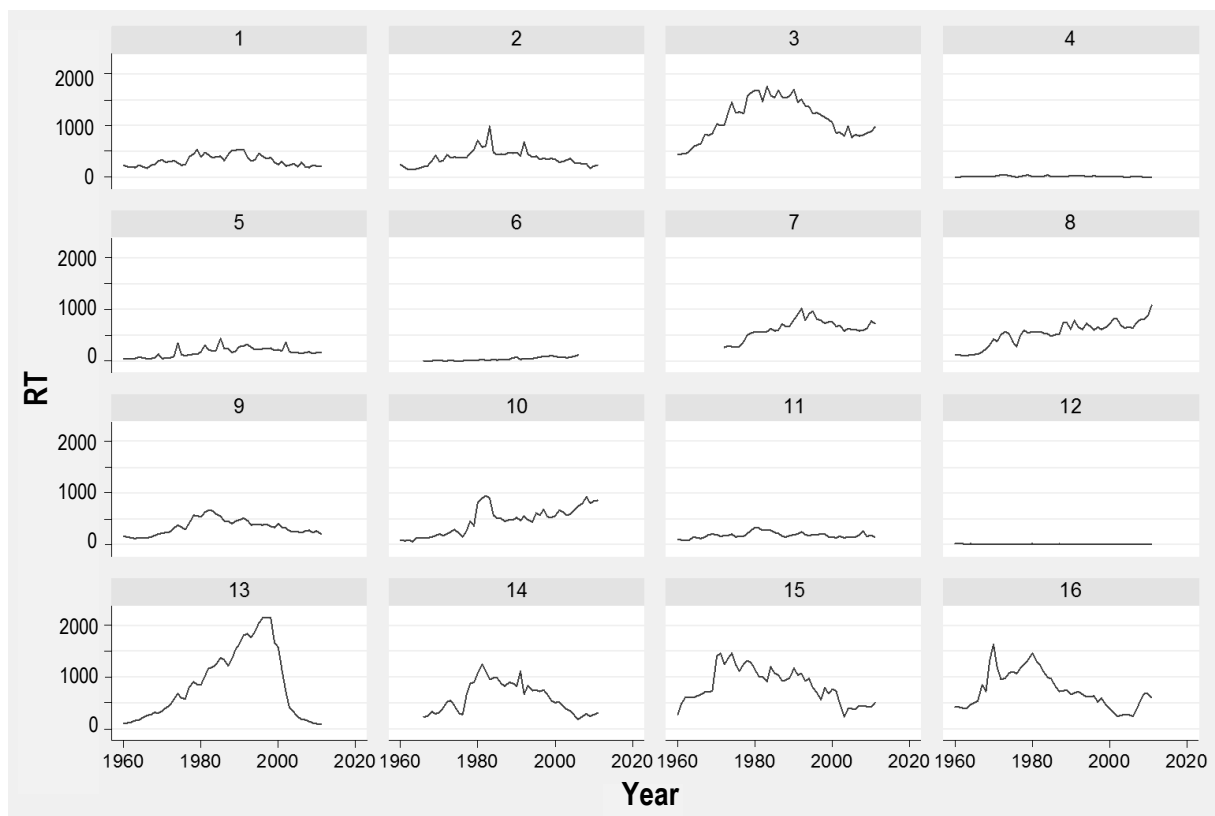
Source: Based on data from Government of India, *Crime in India* (New Delhi: National Crime Records Bureau, Ministry of Home Affairs, various years).
Note: Graphs by State. 1 Andhra Pradesh; 2 Assam; 3 Bihar; 4 Delhi; 5 Gujarat; 6 Haryana; 7 Karnataka; 8 Kerala; 9 Madhya Pradesh; 10 Maharashtra; 11 Orissa; 12 Punjab; 13 Rajasthan; 14 Tamil Nadu; 15 Uttar Pradesh and 16 West Bengal.

4 Empirical model

The framework discussed in Section 2 allows us to write the following reduced-form equation:

$$C_{it} = \alpha_i + \beta_t + \gamma X_{it-1} + \delta Z_{it} + \eta V_{it} + \varepsilon_{it},$$

where α_i represents state-specific effects, with $i = 1, \ldots, 16$. β_t are the year effects, with $i = 1960, \ldots, 2011$. X_{it-1} is the vector of lagged regressors with $X = f(C_{t-1}, T_{t-1})$, where C_{t-1} represents levels of civil unrest lagged one period and T_{t-1} is the lagged level of redistributive transfers. Z_{it} represents the same variables in the current period, in order to incorporate both long- and short-term responses to civil unrest as discussed in Section 2. V_{it} is a vector of independent variables that vary across state and time. ε_{it} is the panel error term.

Civil unrest is represented by the number of riots reported in police reports across the different Indian states and compiled by the National Crime Records Bureau (NCRB), part of the Ministry of Home Affairs. The NCRB defines riots as collective acts of spontaneous violence that include five or more people (see also Gurr 1970). Riots are classified as violent crimes by the Indian Penal Code, under the category of cognisable crime. It should be noted that the figures for riots presented in this paper may underestimate the extent of riots in India since the police (who record the occurrence of riots) have not intervened in recent years in riots of very small scale and duration. We include the lagged variable of civil unrest, which assumes that in the absence of factors that either contain or encourage rioting, the level of civil unrest in period t will be the same as in the previous period. This is in line with theories of 'conflict traps' in situations of civil war (Azam, Collier and Hoeffler 2001).

Government expenditure on social services is measured by a composite variable which includes the annual real expenditure per capita at 1980–1 prices (in rupees) in education, health, family, welfare, labour and other social services.

The regression includes also traditional correlates of civil unrest such as population density, average education levels, the quality of law enforcement and overall economic capacity. Population density is measured by the number of people in each state. The level of education in each state is measured by the per capita number of individuals enrolled in primary and secondary education. Civil unrest may also be affected by how social and political institutions operate (Alesina *et al.* 1996; Barro 2000; Acemoglu and Robinson 2006). In order to capture these potential effects, we have included the result of national elections and the use of police into the regression. A growing body of literature has examined the proximity between political elections and the outbreak of riots in India, as well as the role of the police in instances of rioting (Brass 2003; Wilkinson 2005). In order to test these relationships at the state level, we have used a binary variable that takes the value 1 if the Indian National Congress party obtained the majority of the votes in each given year. The use of police is represented by the number of civil plus armed police, as both types are called in a situation of civil unrest. In order to control for the level of economic capacity of each state, we have modelled the impact of the level of state income (logarithmic function of per capita net state domestic product at 1980–1 constant prices) on the probability of rioting in India.

The model above was estimated using panel fixed effects.[3] However, the model above contains at least one lagged endogenous variable – the lagged volume of riots. Even if this variable is not correlated with ε_{it}, fixed effects estimators may not be consistent because t is

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[3] Results from the Breusch–Pagan test (Breusch and Pagan 1980) suggest that we should reject the presence of random effects. The Breusch–Pagan method tests the null hypothesis that Var(ε)=0.

finite (Wooldridge 2002). Hence, the standard fixed effects estimator may be inconsistent as the right-hand side regressors are likely to be correlated with the disturbance term. We have used the generalised method of moments (GMM) developed in Arellano and Bond (1991). The GMM procedure has become quite popular as a method to correct for biases introduced in the panel models by the presence of the lagged endogenous variable. This method allows also for undetermined endogeneity in the other regressors by using the first differences of all variables and lags of all variables as instruments. This estimator is consistent and efficient as long as the X_{it} variables are predetermined by at least one period, and there is no second-order autocorrelation in the first-difference of the residuals. The GMM procedure is thus quite useful to estimate a dynamic panel of the type represented in the equation above, where the regressors may be correlated with the error term due to the inclusion of lagged endogenous regressors, or due to unknown endogeneity in the other regressors.[4]

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[4] The GMM estimator is the efficient Arellano–Bond two-step estimator given the presence of heteroskedasticity we found in the model. We have estimated Sargan tests for over-identification of restrictions in the GMM model. These confirm the validity of our results. We also rejected the hypotheses of first- and second-order autocorrelation in all models at less than 5 per cent level of significance.

5   Empirical results

5.1   The effect of inequality and social expenditure on riots in India

The main results of the paper are displayed in Table 5.1. The table shows the effect of government expenditure on social services on rioting. The first column shows the estimates of the fixed effects (FE) model without year effects. Year effects are included in columns 2 and 3. Column 3 presents the GMM estimates of the model. The results are striking: past levels of expenditure are associated with statistically significant reductions in rioting in India. The effect of current expenditure has no statistically significant effects on rioting across India states. This indicates a time lag in the effect of government expenditure on civil unrest, a result that will be explored further in Section 5.2. The results are consistent across different models, with little variation in the size and significance of the coefficients.

Table 5.1   Effect of social services expenditure on riots in India

	(1)	(2)	(3)	(4)	(5)	(6)
	FE	FE	GMM	GMM	GMM	GMM
Lagged riots/strikes	0.884***	0.881***	0.840***	0.783***	0.537***	0.562***
	(35.36)	35.16)	(29.83)			
Exp. social services	-197.40	153.83	-25.83	-149.44	524.21	416.24
	(-0.63)	(0.35)	(-0.06)			
Lag expenditure	-0.001**	-0.001*	-0.002**	-0.004*	-0.008***	-0.010*
	(-1.99)	(-1.77)	(-2.08)			
State income	665.46**	955.88**	1,249.70***	1,665.93***	2,653.11***	2,438.16***
	(1.94)	(2.28)	(2.77)			
Police	-0.007	-0.007	-0.011	-0.016	-0.039	-0.053
	(-0.95)	(-0.86)	(-1.23)			
School enrolment	-0.000	-0.000	0.000	0.0001	-0.00005	0.0003
	(-1.40)	(-1.22)	(0.29)			
Population	0.000	0.000	-0.000	-0.00001	0.0002*	0.0001
	(0.62)	(0.79)	(-0.04)			
Congress majority	-214.51*	-231.28*	-304.70**	-339.27**	-438.57**	-293.38
	(-1.65)	(-1.77)	(-2.25)			
Unions					-0.0002	-0.0004
Poverty				44.10**		56.97**
Constant	-5,725.31	59,148.8	24,190.97	-157,749.1*	168,542.1	-26,072.8
	(-1.02)	(1.08)	(0.38)			
Year effects	No	Yes	Yes	Yes	Yes	Yes
Observations	388	388	361	283	148	118
R-squared	0.94	0.94				
Wald test			1,163.4***	682.97***	108.77***	111.63***

Note: Absolute values of *t*-statistics in parenthesis. ***, ** and * indicate, respectively, statistical significance at the 1%, 5% and 10% level.

Civil unrest in India is affected by additional variables. The most significant are past levels of civil unrest, state income and Congress majority. Other control variables – police, school enrolments and population – have no statistically significant effect on rioting.

Current levels of rioting are positively affected by the extent of rioting in the previous period, and the coefficient is quite stable across all model specifications in Table 5.1. This is in line with the presence of 'conflict traps' found in other studies (Azam *et al.* 2001; Collier 2000). However, provided adequate controls are present, the danger of this trap may disappear in the long term: the coefficient for lagged conflict is in all equations statistically significantly different from (and less than) one, indicating that past levels of conflict will affect current levels of conflict at a progressively lower rate. However, this rate is fairly high (close to 1) suggesting that past civil unrest is a strong predictor of future unrest in India.

We also find that levels of state income have a positive and statistically significant impact on rioting in India. Richer states may therefore expect to experience larger amounts of civil unrest. This result is inconsistent with cross-sectional results on the impact of low per-capita income on the outbreak of civil wars (Collier and Hoeffler 1998; Fearon and Laitin 2003; Miguel, Satyanath and Sergenti 2004), and with recent results on ethnic violence (e.g. Sergenti and Thomas 2005). However, it is possible that richer states may have a higher probability of riots because people living in these states may have more to gain from them. This may be because the tax base in these states is higher and demanding more government expenditure may therefore be more feasible. People in these states may also be more educated and better organised. In addition, these states may be characterised by high levels of social differentiation and exclusion. Some studies have emphasised the role of deprivation as an incentive for collective mobilisation during riots (e.g. Gurr 1970, 1972), while others find little support for the impact of poverty in the outbreak of riots (e.g. DiPasquale and Glaeser 1998). In order to consider the impact of poverty and deprivation on civil unrest in India, we have added an additional control to the model in the form of the number of people below the consumption poverty line across Indian states (column 4, Table 5.1). The results show that poverty levels are positively correlated with civil unrest across India. Interestingly, the inclusion of this control is associated with an even stronger positive effect of state income on riots. These combined results seem to suggest that it is not low income *per se* that leads to the outbreak of conflicts but rather the extent of poverty. Once we control for poverty explicitly both variables are positively associated with civil unrest. In richer states, poor rioters may therefore have more to gain from civil unrest than in poorer states.[5]

The results show a negative impact of Congress majority on rioting. This provides no support for the hypothesis that elections drive riots in India (Wilkinson 2005). Note, however, that in column 6 – which includes unions and poverty as additional controls – the result becomes statistically insignificant, indicating that the negative effect of Congress majority may work through other indirect mechanisms such as poverty and unions.

The equations above include two measures of state capacity (state income and police) that may influence the outbreak of riots in India. But it is possible that workers' strength may also affect the probability of riots. This was not included in the main regressions due to data limitations that reduce the sample size substantially; it is now included in columns 5 and 6 of Table 5.1. Trade unions in India have been traditionally important in organising social demands. Studies have suggested that party activists and union workers have used discourses about the socioeconomic status of peasants, landless workers and the working class as ways to mobilise supporters (see Booth 1991). The coefficient for this variable is not

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[5] In previous versions of the model we tested whether this effect is in fact capturing the impact of ethnic heterogeneity (measured by share of Muslim population in the overall state population) but found no support for this hypothesis in contrast to other findings reported in Spilerman (1976, 1971) and DiPasquale and Glaeser (1998).

statistically significant. However, the variable seems to interact with other variables. Notably, the effect of past riots on current riots is reduced and the poverty and state income coefficients increase considerably. The effect of government expenditure also increases, indicating that unions may shape the probability of riot outbreaks (or escalation) through these indirect channels.

One interesting question is whether some particular expenditures may be driving the results discussed above. In order to test this possibility further, we have disaggregated the variable into its individual components. The results, shown in Table 5.2, suggest that the effects above are being driven by two specific types of expenditure: medical and social. This result will be explored further in future work.

Table 5.2   Disaggregated effects

	(1) Education	(2) Medical	(3) Family	(4) Welfare	(5) Labour	(6) Social
	GMM	GMM	GMM	GMM	GMM	GMM
Lagged riots	0.880***	0.890***	0.960***	0.895***	0.892***	0.883***
Expenditure	0.168	-29.03	-179.75	6.164	208.21*	63.60
Lag expenditure	0.228	-0.010*	-0.027	0.006	0.012	-0.014**
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	400	400	117	243	395	400

Note: ***, ** and * indicate, respectively, statistical significance at the 1%, 5% and 10% level. State and year effects present in all columns.

5.2   Additional hypotheses

The above results show that government expenditure on social services in India is associated with reductions in riots. The results hold in the presence of other controls and other determinants of rioting. This provides support for the first hypothesis outlined in Section 2. The two additional hypotheses introduced in Section 2 are discussed in this section: (i) government transfers will reduce civil unrest when they are able to reduce social discontent (and its underlying causes), and (ii) government transfers will reduce civil unrest more when repression is ineffective.

A large body of literature has argued that social conflict is largely determined by the level of inequality between population groups and levels of deprivation (Esteban and Ray 1994; Gurr 1970; Stewart 2002; Mancini 2005; Østby 2006). We test for the effect of inequality and poverty on rioting in India in columns 1, 2 and 3 in Table 5.3, where poverty is measured as in Section 5.1. Inequality is measured by the Gini coefficient of consumption expenditure across Indian states. The results show a large effect of past levels of inequality and poverty on riots, but no statistically significant impact of current levels of inequality and poverty on rioting. The lagged effect of both variables is large, and indicates that social discontent may take some time before it is translated into civil unrest. This may also explain why we observe in Table 5.1 only a lagged effect of government expenditure on rioting. This result strongly suggests that government expenditure on social services reduces the outbreak or escalation of riots in India through its effects on poverty *and* inequality.

Repression is also a very effective way of dealing with civil unrest.[6] But it can also be a counterproductive measure since it may not necessarily address the causes of unrest, particularly when this is rooted in forms of social injustice, socioeconomic competition between groups or when population mobilisation takes place along those lines. Moreover, most populations living in democratic or semi-democratic regimes may be subject to a repression threshold beyond which the continued use of coercive force may result in resentment (Boix 2004; Carter 1987; Gurr 1970; Hirschman 1981; Lichbach and Gurr 1981; Lichbach 1987; Morgan and Clark 1973). This may trigger collective mobilisation, which may in turn increase the risk of outbreak or escalation of civil unrest.[7] We find no statistical effect of police on riots in India. This finding may indicate that the police in situations of rioting in India are ineffectual. However, the relationship between the Indian police and riots is highly complex, and in several situations the state has been unwilling to deploy the police or take preventative action (Wilkinson 2004). Gupte *et al.* (2014) find in addition a positive association between household victimisation and distance of the household from the police station. These findings partly support the hypothesis that government transfers will reduce civil unrest more when repression is ineffective.

Table 5.3   Additional hypotheses

	(1)	(2)	(3)	(4)	(5)
	GMM	GMM	GMM	GMM	GMM
Lagged riots/strikes	0.826***	0.799***	0.780***	0.091***	0.840***
Inequality	-38.91		-42.79		
Lag inequality	89.57**		86.53**		
Poverty		19.93	15.99		
Lag poverty		38.47**	44.89**		
Expenditure					-28.23
Lag exp.					-0.002**
Police				0.008	-0.008
Lag police				-0.013	-0.005
Controls	Yes	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes	Yes
Observations	319	345		464	361
Wald	1,074.71	1,167.52		2,089.24	1,160.20

Note: ***, ** and * indicate, respectively, statistical significance at the 1%, 5% and 10% level. State and year effects present in all columns.

Taken together, the results in Tables 5.1 and 5.3 indicate that rioting in India can be mitigated through government transfers, most likely due to its effects on poverty and inequality – two underlying causes of social discontent. In Table 5.4, we test whether this result can be replicated in other situations of social conflict in India: strikes and lockouts, the Naxal conflict (a guerrilla insurgency that currently affects almost half of all Indian states) and crime.

We find no effect of government expenditure on crime (column 3, Table 5.4). The other results are very interesting. Column 1 of Table 5.4 shows that government expenditure on social services has an immediate negative (and large) effect on strikes, but no longer term

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[6] See, for instance, Carter (1987) for evidence on US riots and Brockett (1990) for evidence in Central America.
[7] State brutality and heavy-handness is often reported as a powerful motivation for participation in violent forms of collective action (see Brockett 1990; Goodwin 2001; Wood 2003).

effect. This suggests that in situations of industrial dispute government commitment to social policy may have immediate stability gains. Interestingly, the use of police increases the probability of strikes, indicating a low threshold for police use in situations of industrial dispute in India. The effect of government transfers and police use on the Naxal conflict works in opposite ways. The police seem to be very effective at curtailing the insurgency. Government transfers have a positive effect on the Naxal violence. This could be explained by the fact that Naxal rebels often try to appropriate government funds in areas they attempt to control for their own gain (Chakravarti 2008). Further research will explore these mechanisms in more detail.

Another interesting question is whether the propensity to rioting in each state or in each year may affect the effectiveness of government transfers in reducing or mitigating civil unrest in India. Columns 4 and 5 in Table 5.4 test this hypothesis by splitting the sample into contexts of low rioting (i.e. below the mean) and high rioting. The results are striking as they show that the effects discussed above are particularly relevant in states where levels of rioting are lower. In these contexts, government expenditure on social services has a strong negative effect on riots and may arguably prevent their escalation. In states with very high levels of rioting, government transfers still have a negative coefficient but this is not statistically significant. Once riots escalate, government transfers seem to be ineffectual in reducing them. Interestingly, the use of police reduces rioting in high-riot contexts but results in further rioting in contexts less prone to rioting.

Table 5.4   Robustness tests

	(1)	(2)	(3)	(4)	(5)
	Strikes and lockouts	Naxal insurgency	Crime	Low rioting	High rioting
	GMM	GMM	GMM	GMM	GMM
Lagged conflict	0.033***	-0.987***	0.006	0.128**	0.862***
Expenditure	-546.63***	3.301	25,333.2	-49.41	-445.50
Lag exp	0.001	0.0003***	-0.018	-0.003***	-0.002
Police	0.004**	-0.001**	0.009	0.011**	-0.029*
Controls	Yes	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes	Yes
Observations	206	361	361	134	186
Wald	1,163.4	196.98	59.98	35.54	620.94

Note: ***, ** and * indicate, respectively, statistical significance at the 1%, 5% and 10% level. State and year effects present in all columns.

6 Conclusion

Civil unrest is often the result of social discontent. As famously argued by Ted Gurr, civil unrest 'is most likely to occur in societies that rely on coercion to maintain order in lieu of providing adequate patterns of value-satisfying action […] if discontented people have or get constructive means to attain their social and material goals, few will resort to violence' (1970: 317). Civil unrest is then seen as a way of redressing social justice. But civil unrest also entails important social and private costs, and can represent the prelude to more violent conflicts, including civil wars. Yet, at present, we have little understanding of what generates civil unrest and what can be done to prevent or reduce it. This paper takes a significant step towards the systematic understanding of the role of government social policy in the reduction and prevention of civil unrest, by analysing the relative short- and long-term impacts of government expenditure on social services on rioting in India between 1960 and 2011. The results show that in the medium term, redistributive transfers are a successful tool for reducing social conflict. This is due to their preventive nature: redistributive transfers address directly distributional concerns that may cause social discontent, and contribute towards the socioeconomic protection of the most vulnerable groups of the population and the reduction of poverty.

This result is particularly noteworthy in view of the fact that public expenditure on social services in India is very small in comparison to other developing countries. The *World Development Report 2000–01* shows that, in 1997, India spent 3.2 per cent of its GNP on education, against an average of 4.1 per cent in other low- and middle-income countries (World Bank 2001). Between 1990 and 1998, India's public expenditure on health services represented, on average, 0.6 per cent of its GNP, whereas the same percentage for other low- and middle-income countries was 1.9 per cent. Remarkably, such small outlay has proved to have a very significant positive impact on India's economic growth in the same period of time (Justino 2007).

These empirical results suggest that the level of redistributive transfers across Indian states may have been sufficient to avoid the escalation of civil unrest in India. Whether intentional or not, and despite its small outlay, redistributive transfers have had a significant impact on the reduction of civil unrest in India, particularly in the medium term. This may be due to two competing mechanisms. On the one hand, government transfers can shape the preferences of citizens in ways that prevent them from resorting to violence in order to resolve social conflicts over distribution. On the other hand, government transfers may increase the opportunity costs of fighting – people do not resort to violence because they have more to lose. Investigating these mechanisms in detail requires micro-level data on people's preferences and motivations for violence in India that is currently unavailable. The analysis conducted in this paper suggests, however, that the former mechanisms may be of great importance given the effect of poverty and inequality on riots in India. The result complements other findings in the political literature on riots in India. In one of the few analyses on civil unrest prevention, Varshney (2002) argues that civic engagement and strong communal ties between Hindus and Muslims are key mechanisms to avoid communal riots in India (see also Jha 2007). While the analysis in this paper does not test this hypothesis directly, redistributive transfers can be interpreted as a proxy for reciprocity ties between state governments and their populations: states that agree to and implement larger redistributive programmes are likely to experience less civil unrest due to stronger inclusivity demonstrated by their political system and society.

The results in this paper yield important lessons for other countries where social cohesion tends to break frequently but large-scale wars may be avoidable. The 'Arab Spring' events demonstrated how rising inequalities and social discontent may lead to the end of regimes or enduring civil war. The 'Occupy' movements show increasing dissatisfaction across the world

with rising inequalities, a fact documented extensively in the seminal work by Thomas Piketty (2013). Similar to Europe at the turn of the twentieth century, the implementation of adequate programmes of redistributive transfers may have an important role to play in the establishment and maintenance of stable sociopolitical environments across the world. Further empirical analyses of these relationships should remain on the agenda of future research on political violence and social justice.

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