Evidence from Africa on the dynamics of civil conflicts and beliefs

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Abstract

This paper explores the dynamics of beliefs in the aftermath of social protests and riots. Using individual level data and geo-localized conflicts in Africa, we investigate the effect of social conflicts on trust toward institutions and beliefs in state coordination at a very disaggregated level. We find that both trust in institutions and the feeling of being part of a nation evolve strongly after violent social conflicts. In addition to its well-known persistence, trust embeds a strong volatile component, which explains unexpected overthrows - the monthly turnaround brings a first quartile district in terms of trust toward the last quartile. Finally, as formulated by Acemoglu and Jackson (2011), signals are interpreted differently depending on the context in which individuals evolve. The volatility of beliefs is essentially driven by the large ethnic groups in which coordination is more likely to lead to large turnarounds.

Keywords: Conflicts, norms of cooperation, trust, beliefs.
JEL codes: D74, D83, H41, O17.

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1 Introduction

In environments with strong externalities between agents and very imperfect access to information, an apparently minor signal may drive beliefs very far from their previous levels. The Jasmine Revolution in Tunisia, and more generally the Arab spring illustrates this intuition. A small riot might allegedly act as a spark and deeply modify beliefs of an entire population in the viability and stability of current institutions. Once a signal is sent that a fraction of the population does not believe anymore in social coordination, other agents may revise their priors and infer that (i) rioters will not participate in the state coordination, (ii) other agents will accordingly revise their beliefs as well. This rational update might lead to very unstable dynamics where an entire country switches in few days. This paper captures this dynamics of beliefs in the aftermath of conflicting events using surveys and geo-localized conflicts in Africa.

Trust in the government and beliefs in social coordination are both central in the performance of an economy, as the ability of the state to provide public goods relies in its credibility. Under the authority of a corrupted government or in a fragmented nation, a large fraction of the population may refuse to invest in the state and dampen for quite a while the provision of public goods. In fact, the government does not need to be corrupted or the nation fragmented for investment to freeze. The mere belief that institutions will be failing might allegedly generate the same outcome.

In this paper, we investigate the evolution of trust toward institutions immediately after violent protests and riots using the Afrobarometer survey and a database on local conflicts in Africa (ACLED: An Armed Conflict Location and Event Dataset). Our findings indicate very large movements in beliefs in institutions. The occurrence of a riot in a certain district reduces the probability for its residents to declare themselevs as being part of a nation (as opposed to being part of a local group) by a third of a standard deviation. The same amplitude is recorded for trust in the central government, the ruling party and the parliament. These changes are at least of the same magnitude as long-term differences between regions. Interestingly, the results are the same whether they rely on a geographic identification using the proximity of agents to the riots or a timing identification where the date of interviews are the sources of heterogeneity of treatment. Overall, this result points out that trust is not only a capital which slowly accumulates over decades. Beliefs in institutions also reflect forward expectations.

The evolution of beliefs is not independent of initial conditions and norms. In line with Acemoglu and Jackson (2011), individuals interpret signals (of cooperation) in

the light of the prevailing social norm. In this framework, we consider civil conflicts as signals revealing non-cooperative action taken by some agents with the current institutions. Different agents react differently to the same signal depending on their individual situation. Being part of the dominant group in the country tends to accelerate the revision of beliefs. While the dominant ethnic group tends to be more trustful in general, their trust decreases very strongly after a conflicting event and ends up far below the trust of their non-dominant peers affected by the same conflict. This overresponse is also captured by the size of your ethnic group. The larger your group the more negatively you react to a signal of distrust; and the amplitude of the turnaround is such that large ethnic group usually more trustful than the others end up less willing to believe in current institutions. Environments with the mildest conditions for externalities to exist should indeed be prone to the largest turnarounds.

Africa is plagued by conflicts since 1960 and the latest wave of Independence. Once engaged into civil conflicts, countries hardly escape this situation. Historically divided into a Muslim northern region close to Egypt and a Christian (and Animist) southern region, Sudan has experienced 26 years[1] of civil war since 1960. The British Administration exacerbated the historical partition[2]. Consequently, the protected South anticipated that the North would try to take over the country following the Independence. The civil war then started even before the British left the country. This example illustrates how beliefs in nationwide coordination might trigger non-cooperative behaviors. After years of civil conflicts, the threats of expropriation have eventually deterred the different groups from investing in state technology. In February 2011, the split between the North and the South was decided and implemented in July 2011.

Besides, even countries that have been stable over decades might fall into this conflict trap. From Independence to 1993, Félix Houphouet-Boigny managed to alleviate ethnic differences and opened Ivory Coast to trade and migration. After he died, his successor created the concept of "ivoirité" to define a superior ethnic group among residents. The threat of being excluded from the reallocation of public goods led to protests and a coup in December 1999. Following this coup, the country underwent severe conflicts between the government in the South and rebels in the North. The New Forces of Ivory Coast occupied more than half of the country. Along with fights, both groups were ensuring the authority in each area and acted as different states. In 2007, trust between the two parties went up and the rebel

[1]Source : Correlates of War. Only years with more than 1000 deaths are taken into account.

[2]To avoid the propagation of infectious diseases and prevent Muslims from moving to the South, a law established a frontier between the 8th and 10th parallel.

leader entered the government putting an end to the open conflict. Nonetheless, the presidential election of 2010 highlighted the persistence of severe tensions between the two main political groups, raising fears of a resurgence of the civil war.

We attribute these situations to cohesion failures triggered by pessimistic beliefs regarding state coordination. Another explanation behind these situations would be the persistence of weak states. A low capacity to raise taxes keeps the state under the threat of internal conflicts (see Besley and Coate (2001), Besley and Persson (2010)).

Trust is the mechanism that we privilege through which fractionalization persists. Beliefs in others shape the attitudes of agents toward trade as in Rohner, Thoenig and Zilibotti (2010) or demand for regulation (see Aghion, Algan, Cahuc and Shleifer (2010)). Distrust reflects the forward-looking expectation in the fairness of the government leader in power. When agents anticipate polarization, they are tempted to provide support for their group and try to establish their leaders as the country government. As in Alesina, Devleeschauwer and Easterly (2003), this mechanism highlights the existence of self-fulfilled expectations. In line with this reasoning, a low level of trust would persist over time and affect durably economic performance (see Nunn (2008), Nunn and Wanchekton (2010) using slave trade intensity in Africa).

To our knowledge, this project is the first empirical paper focusing on the link between conflicts and the perception of institutions by individuals. An important contribution of our paper is to construct very disaggregated data on conflicts and provision of public goods. Each conflict is precisely located and interacted with the local population density to extract how each violent event could contribute to explaining the local sentiment toward institutions. In addition, this geographic analysis allows us to precisely assess the environment of each individual at district level. Using roads and railways, we provide detailed information on the degree of seclusion within each region. A last contribution is to fully exploit the timing of the Afrobarometer survey for the empirical identification. One of our specification builds upon the exact time of the interview and allows us to capture instantaneous changes in reported beliefs. Overall, we argue that this highlights the very volatile nature of beliefs.

We discuss the strategies to construct a consistent dataset and document the exposure to civil conflicts and inclinations toward the state institutions in section 2. In section 3, we present the empirical specifications and the main results.

2 Data and methodology

The following section describes the data and the construction of local measures of exposure to conflicts. In a second part, we give descriptive statistics on the average respondent of the Afrobarometer survey, the nature, frequency of conflicts and finally the ethnic fractionalization of districts and the relation with the feeling of being part of a national group.

2.1 Data construction

The Afrobarometer is a qualitative survey conducted in 20 African countries[3]. In this paper, we use the most recent rounds of this survey, i.e. rounds 3 and 4 conducted between 2005 and 2009, for which we can identify the date of interview and its precise location. All countries pooled together, we observe about 40,000 individuals in 1,100 districts and 190 regions. The Afrobarometer gives a very detailed picture of the opinions these individuals regarding politics, religion and social issues. In particular, the survey documents (i) the distrust of individuals regarding leaders in power, the parliament, institutions such as the court and the police, (ii) the way the individual/group is treated relatively to his peers and (iii) the sentiment to belong to a community. As is frequent with those surveys, education, income and households characteristics are very poorly documented. On a more positive note, households can be located in each district, which allows us to reconstitute the environment of households, either in terms of exposure to conflicts, degree of seclusion or ethnic fractionalization.

The Armed Conflict Location and Event Data set (ACLED) provides detailed information about conflicts in almost all African countries from 1997 onwards. Available information include the precise geographical coordinates, involved actors, the type of event (battles, riots, violences against civilians), the outcome of the conflict and whether the conflict was covered by dominant media such as the BBC. More than 30,000 of these events are documented and classified along rough categories, i.e. riots, battles, lobbying, protests, peace agreements. From the precise geographical coordinates, we attribute each conflict to an African district[4], and derive the monthly exposure to conflicts for each district. A huge shortcoming of ACLED is that the number of actors is unknown, massive protests are given the same weight

[3]Benin, Botswana, Burkina Faso, Cape Verde, Ghana, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mozambique, Namibia, Nigeria, Senegal, South Africa, Tanzania, Uganda, Zambia, and Zimbabwe.

[4]which corresponds to the sub-division following regions and will be called 'district' to follow international standards.

as small crowd movements. We interpolate each conflict with the local density of population[5] in order to account for the fact that conflicts arising in high-density area are more likely to affect a random agent living in this zone, i.e. the respondent of the Afrobarometer survey.

The construction of exposure to conflicts, riots and other violent events implying the governments relies on a constraint. The intensity of exposure can only be computed in terms of probability of access to information for the population in a certain district; no other measures of conflict intensity can be extracted from ACLED (number of killed people, intensity of discontentment). Nonetheless, the geographic coordinates of conflicting events may help constitute a measure of intensity once coupled with the local density of population. The proportion of a district directly exposed to riots should influence the propagation of the information in the entire district. The only issue with this construction concerns potential overlapping conflicts. We might want to attenuate the weight given to 5 conflicts occurring in the same region during the same month (or amplify it, as it might be given more importance once the first strike has captured the public attention).

The following framework illustrates this idea. Imagine that a conflict is just a signal on the state of nature - or the quality of coordination at district level. There are two types of agents in the economy, self-informed agents and indirectly informed agents. The second type of agent is randomly matched to an informed agent who gives him her private information (or the absence of information). As access to information is costly, agents of a same district can only extract one signal form one agent in the mass of informed agents. These informed agents receive two potential news streams, (i) randomly an event E which has nothing to do with riots, (ii) riots R if some happened in their close neighborhood. They communicate the most important event to the uninformed they have been matched to, i.e. the occurrence of riots if $R > E$. In other words, informed agents can bypass a riot for two reasons, (i) they might not know its existence, (ii) they might consider it irrelevant.

Overall, the probability for non-directly informed but surveyed household to be informed of the occurrence of a riot is either to be matched with an informed agent stunned by the riot more than by the last football game:

$$P(\text{Informed} = 1 | \text{Riot} = 1) = \frac{I}{I + \bar{I}},$$

where I is local density of population determined thanks to the precise geographic

[5]For each conflict, we draw from the Global Rural-Urban Mapping Project (GRUMP, Center for International Earth Science Information Network) the average population density within 20 kilometers radius from the conflict.

coordinates of conflicts and $\bar{I}$ the intensity for which the probability to be advertized is one half. In this framework, the measure of exposure to a conflict is comprised between 0 and 1.

In addition to the district exposure to conflicts, we construct (i) the degree of seclusion of each district by assessing the distance to roads (as of 2005) and waterways normalized by the local density of population, (ii) the historical ethnic fractionalization in each district from the Murdock dataset and the current one using Afrobarometer reports.

2.2 Descriptive statistics

Table 1 gives the average profile of Afrobarometer respondents and compares these characteristics along and exposure to conflicts. We distinguish between places where some conflicts have taken place over the past 6 months and places where this is not the case. In the right part of the table, we distinguish between individuals living in districts without any conflict since 1997 and individuals living in district with at least on conflict since the same date. The Afrobarometer survey draws a representative sample of adults in Christian countries mainly. A large fraction (two third) of the sample is unemployed or inactive and a about one half of respondets has no education or has only attained primary school. In zones where a conflict has been reported since 1997, surveyed individuals are relatively more educated. The bottom part of the table gives a flavor of the main point of this paper: trust in the president or in the ruling party is higher in place without conflicts or in places with no conflicts in the past 6 months.

Conflicts at the core of this study may be divided into battles (27.7%), riots (20.2%) or violence against/between civilians (51.1%). Kenya, Nigeria, Uganda and Zimbabwe concentrate almost 85% of those events among the surveyed countries. As regards battles specifically, Uganda represents almost half of the entries, Kenya and Nigeria accounting roughly for the other half. Riots are much more equally shared, despite Zimbabwe being particularly prone to those events. The maps 1 and 2 illustrate the number of entries of conflicts or riots as reported in the ACLED dataset. Note that the occurrences of conflicts are severely autocorrelated but this pattern is essentially driven by the fact that half of the districts did not experience any conflict of any kind. Figure 3 illustrates the evolution of the number of entries in Northern Uganda, Nord-Kivu (Democratic Republic of Congo) and Harare (Zimbabwe), showing important persistence over time but also peaks of violence, i.e. the height of the conflict in Uganda in 2002-2005 for instance.

Figure 4 documents a positive correlation between the group size and perceived

political power. In appendix, we present individual level regressions investigating the relationship between perceived or objective political power (measured using the size of respondent's ethnic group in the country or the region) and the support for riots or the actual participation to riots. We show that individual support for protests is strongly affected by political power. Simple regressions reveal a non-trivial relationship between perceived situation and willingness to oppose to the current state of the society: Worse-off and better-off individuals are more likely to protest than others. Two mechanisms may explain these results. On the one hand, improving economic situation decreases the need of complain and protests. On the other hand, investment in social conflicts necessitates both to face a cost and to be granted relative immunity from repression. This later condition may be fulfilled by individuals entitled with more power, and thus more resources, than others. We find evidence of this interpretation by investigating the relationship between participation to protests and membership of the dominant ethnic group in the region or in the country. Individuals belonging to the dominant ethnic group in country but not in the region where they live are more prone to protests.

3 Empirical evidence

This section reviews empirical evidence of the evolution of beliefs in cooperation at the national level in the aftermath of violent civil conflicts. We first focus on the direct effect of conflicts on beliefs using two different identification strategies that furnish consistent estimates. Then, we investigate how this reaction may differ depending in the "type" of each agent. We focus particularly on the respondent's political power induced by the size of its ethnic group.

3.1 Direct effect of civil conflicts on beliefs in national cooperation

Using information about recent local riots and conflicts, this sub-section show that respondents heavily revise their beliefs regarding trust or their subjective membership of the national community following violent events.

In table 2 to 5, the dependent variables are declared level of trust on a four points ascending scale or subjective membership of the national community. The dependent variables of interest are different indicators of recent local occurrence of conflicts. To alleviate the bias of unobserved variables that could determine both trust levels and the occurrence of conflicts in a specific area, we aspire to introduce

geographical fixed effects as well as specific control variables that may capture such effects. To that purpose, we develop two different identification strategies.

First, we define conflicts at the district level and match associated measures with Afrobarometer's districts. This allow us to introduce region fixed effects in empirical specifications, as well as district-specific co-variates. In this framework, the identification of the relationship between riots or conflicts, and beliefs, relies on difference in the geographical distribution of conflicts within each region. The second strategy developed here uses the precise timing of interview in the Afrobarometer. In this survey, some individuals living in the same region are interviewed different months. Accordingly, we define conflicts at the region level and match associated measures with Afrobaromter's regions, taking into account the month of interview. This strategy also relax the implicit hypothesis of the first strategy that events have only an influence in the district where they take place. In what follow, we refer to this strategy has the "within region *temporal* identification", whereas the first one will be called the "within region *spatial* identification".

Table 2 presents coefficients estimated using the within region spatial identification strategy. In all regressions, we include local population density and exposure to conflicts at the district level. In even-numbered columns, we include individual characteristics[6] and region $\times$ round fixed effects. In column 1 and 2, the dependent variable is the answer to the following question of the Afrobarometer: "*How much do you trust each of the following, or haven't you heard enough about them to say: The President?*". Answers are given on a four points ascending scale with 0 for "*Not at all*", 1 for "*A little bit*", 2 for "*A lot*", and 3 for "*A very great deal*". The estimated coefficient of recent violent conflicts is negative: trust in the president is lower in districts where they were more conflicts in the recent past. However, the estimated coefficient is not statistically significant. In the four next columns, we run the same exercise using trust in "*relatives*" and in "*the ruling party*" as dependent variable. The effect of conflicts on trust in the ruling party is of similar order of magnitude as the effect on trust in the president. On the opposite, the effect on trust in the relatives is much weaker. In columns 7 and 8 of table 2, the dependent variable is the subjective membership of national community. It is measured on a five points scale using answers to the following question of the Afrobaromter: "*Let us suppose that you had to choose between being a [respondent's nationality] and being a [respondent's ethnic group]. Which of the following best expresses your feelings?*".[7] Answers are given on a five points scale. The lowest item is "*I feel*

[6]Individual co-variates include age, gender, household head status, rural or urban housing, race, religion, edcation and employment status.

[7]This phrasing is the phrasing of the fourth round of Afrobarometer. In the third round of the

only [respondent's ethnic group]", the third item is "*I feel equally [respondent's nationality] and [respondent's ethnic group]*", whereas the highest highest item is "*I feel only [respondent's nationality]*". A lowest answer indicates weaker subjective membership of the national community. Although still not significant when adding individual characteristics and fixed effects as co-variates, the estimated coefficient of conflicts is negative. This suggests that individuals tend to turn themselves toward their ethnic group following violent conflicts.

Table 3 differs from table 2 in the extent that we only look at the relationship between riots and beliefs. Accordingly, the independent variable of interest is the local recent exposure to riots. We reproduce exactly the same exercises as in the previous table. We do not find any effect of riots on trust in relatives. On the contrary, the estimated coefficient of recent riots is negative and precisely estimated when using the three other dependent variables in specifications with individuals characteristics and fixed effects. Trust in the president and in the ruling party substantially decreases following riots. Similarly, individuals are more likely to feel closer to their ethnic group than to the national identity in the aftermath of local riots.

In tables 4 and 5, we apply the within region temporal identification strategy to estimate the effect of civil conflicts on beliefs. In this estimation framework, conflicts are matched at the region level and estimation is made by the comparison of individuals interviewed different months within the same region. This makes impossible to include region-specific explanatory variables on to of region fixed effects. We use all local conflicts in table 4, whereas we focus only on riots in table 5. We find a negative and precisely estimated effect of civil conflicts and riots on trust in the president or in the ruling party, and on the subjective membership of national community. Still, there is no effect of civil conflicts on trust in relatives, which reinforce our interpretation that conflicts affect beliefs in the state of cooperation at the national level and not inter-personal relations at the individual level.

The set of results presented in tables 2 to 5 highlights the high volatility of trust toward nationwide institutions, as well as the quick evolution of the sentiment to be part of one nation rather than one group. Contrary to the popular opinion that beliefs, and trust in particular, are heavily rooted in culture, this emphasizes that national cohesion is frequently updated and strongly affected by violent events. In other words, such beliefs are dynamic and not static.

survey, the second part of the question is "*Which of these two groups do you feel most strongly attached to?*"

3.2 Effect of conflicts on national cooperation depending on the individual situation

In this subsection, we propose parsimonious tests of the hypothesis formulated by Acemoglu and Jackson (2011). These authors present a dynamic framework for the evolution of norms of cooperation. A central feature of this theory is that different individuals interpret differently the same signal following the context in which they live.

We consider civil conflicts as signals regarding non-cooperative actions undertaken by some others individuals in the society. We still measure beliefs in cooperation at the national level using trust in the president and the subjective membership of national community. In order to investigate how different individuals react to the same signal depending on one of their characteristic, we interact this characteristic and the the exposure to recent riots.

In table 6, we use the within region spatial identification strategy. In odd-numbered columns, the dependent variable is trust in the president, whereas it is the subjective membership of national community in even-numbered columns. All regressions include local population density, local riots propensity, region $\times$ round fixed effects as well as individual co-variates. In columns 1 and 2, the variable we interact with recent riots is equal to 1 if the respondent belongs to the dominant ethnic group in country.[8]. The interaction term presented in the second line of the table is statistically significant and negative. This means that the reaction of respondents belonging to the dominant ethnic group is larger than the reaction of others. In columns 3 and 4, we define a variable that is equal to 1 if the respondent belongs to the dominant ethnic group in region. After riots, trust in the president decreases more for such individuals than for others. In columns 5 to 8, we replace the dummy variables by the share of respondent's ethnic group in country or in region. This finer measure of respondent's potential political power shows that the change in trust in president following a riot is stronger when the share of ethnic group in country is larger.

4 Conclusion

In this paper, we used geo-localized civil conflicts in Africa and the Afrobarometer, an individual survey conducted in African countries, to investigate the dynamic reaction of belief in cooperation at the national level in the aftermath of violent events.

[8]Regression presented in table 6 also include an interaction for the specific variable and the local riots propensity

We found that individuals heavily revise beliefs. This suggest that trust in cooperative attitudes has also a extremely volatile component. The capital represented by such beliefs can be strongly affected. If we consider the role of such a capital in economic systems, our results suggest that expectations on collective coordination can change very quickly. This may in turn radically change the path on which a society evolves.

Figure 1: Conflicts according to ACLED (1997-2009)

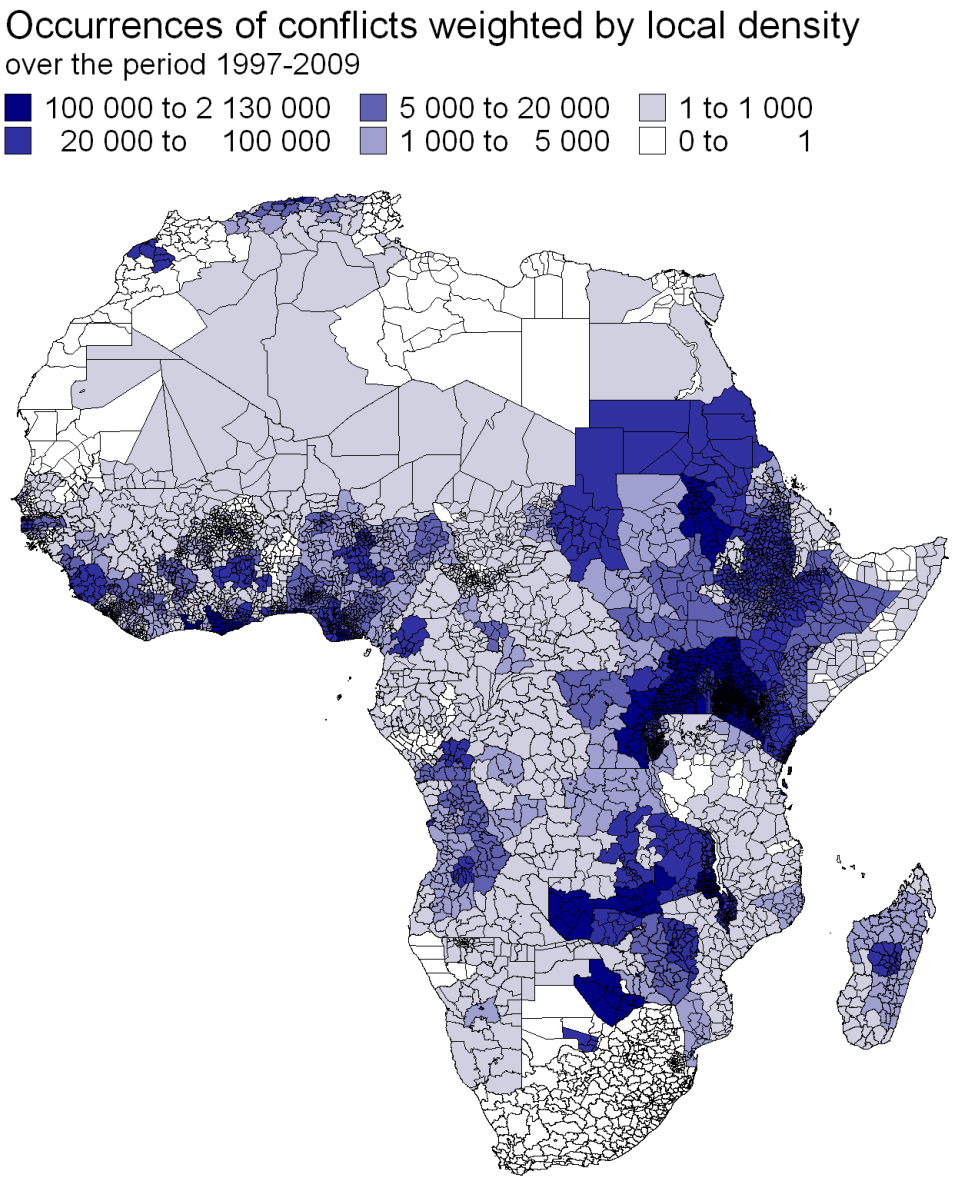

Figure 2: Riots according to ACLED (1997-2009)

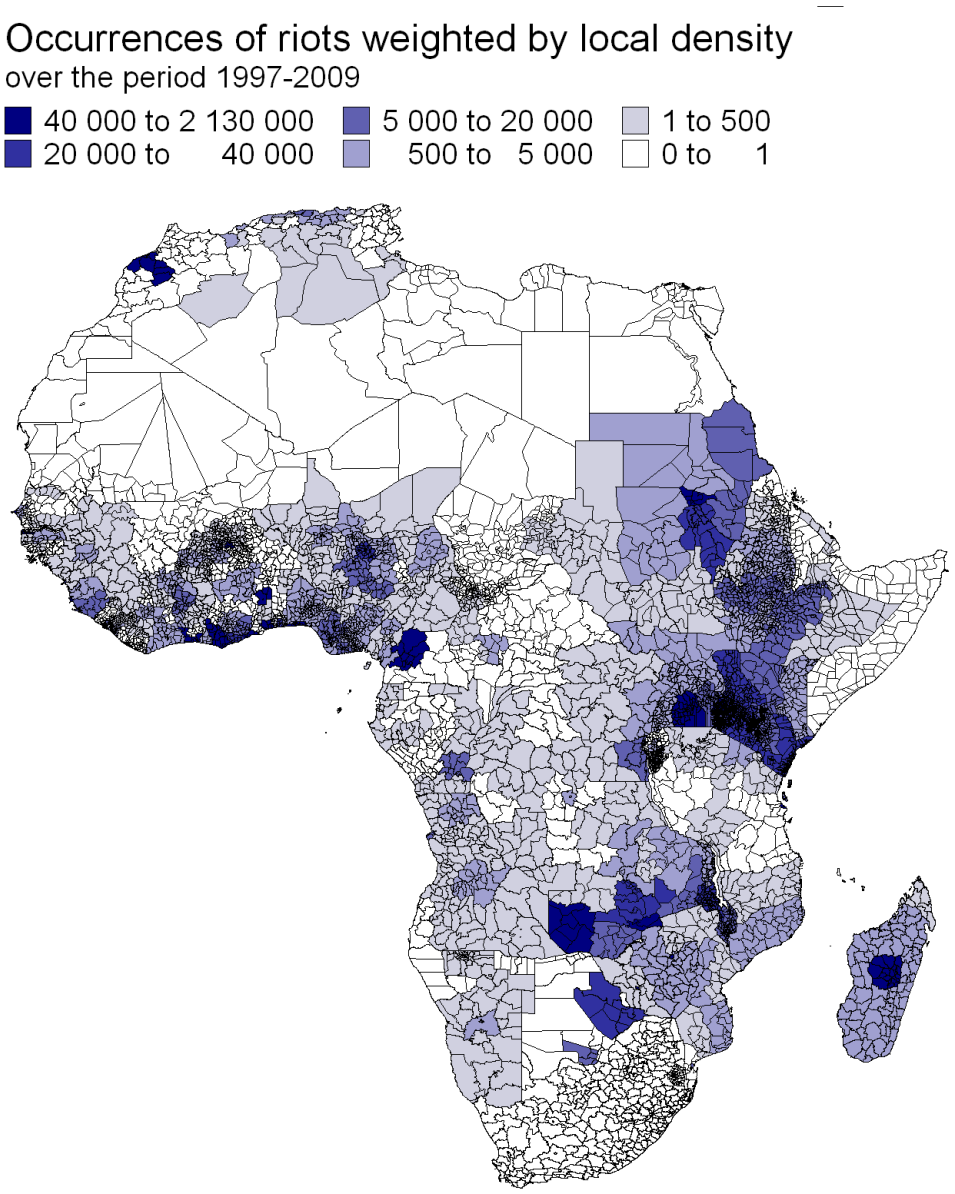

Figure 3: Occurrences of conflicts weighted by local density in Northern Uganda, Harare (Zimbabwe) and Nord-Kivu (Democratic Republic of Congo)

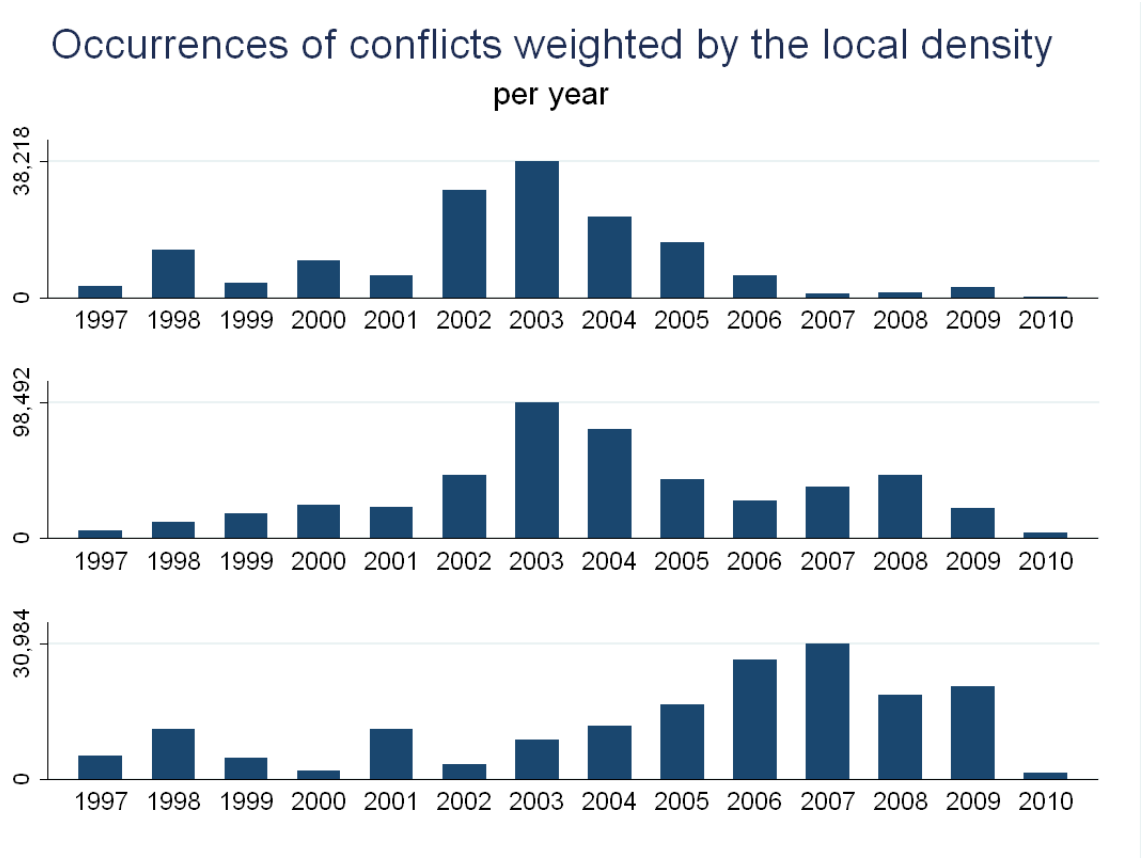

Figure 4: Political power as a function of share of own ethnic group

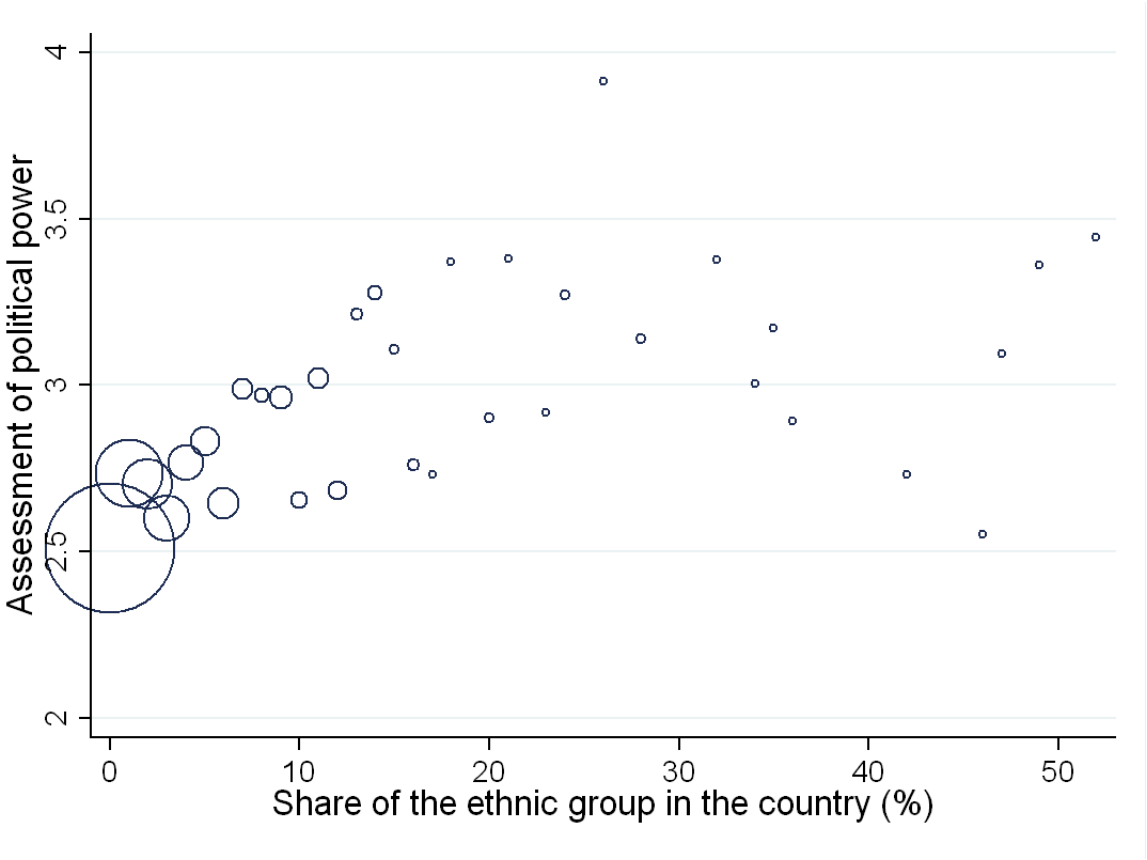

Table 1: Descriptive statistics.

	Full sample	Recent conflicts = 0	Recent conflicts > 0	Conflicts propensity = 0	Conflicts propensity > 0
Age	35.97	36.43	33.61	37.73	34.53
Male	0.51	0.51	0.51	0.51	0.51
Household head	0.48	0.48	0.48	0.48	0.49
Rural housing	0.64	0.69	0.41	0.7	0.59
Black/African	0.986	0.986	0.986	0.987	0.986
White/European	0.004	0.004	0.003	0.004	0.004
Coloured/Mixed	0.007	0.006	0.008	0.007	0.006
Other	0.003	0.003	0.003	0.002	0.004
None	0.04	0.04	0.02	0.06	0.02
Islam	0.24	0.25	0.18	0.26	0.22
Catholic/Protestant	0.69	0.67	0.78	0.64	0.73
Traditional religion	0.02	0.02	0.01	0.03	0.01
Other	0.01	0.01	0.01	0.01	0.01
No formal education	0.21	0.23	0.1	0.27	0.16
Primary school	0.35	0.37	0.28	0.37	0.34
Secondary school	0.34	0.32	0.44	0.29	0.38
Post-secondary education	0.1	0.09	0.18	0.07	0.13
Inactive	0.33	0.33	0.29	0.33	0.33
Unemployed	0.32	0.32	0.33	0.35	0.31
Part time	0.15	0.15	0.16	0.13	0.16
Full time	0.2	0.2	0.21	0.2	0.21
Trust president	1.96	2.04	1.54	2.13	1.82
Trust relatives	2.33	2.34	2.26	2.32	2.34
Trust ruling party	1.7	1.78	1.3	1.86	1.57
National feeling	3.48	3.51	3.34	3.52	3.45
Observations	37,302	31,162	6,140	16,748	20,554

These descriptive statistics are computed using individuals for which all variables presented here are available. Except age, all variables are categorical variables equal to 0 or 1. Out of the $37,302$ observations, $16,861$ are from the thrid round 3 of the Afrobaromter sruvey. The remaining $20,441$ are from round 4.

Table 2: The effect of recent conflicts on trust and subjective membership of the national community; within region spatial identification.

Dependent variables: different trust measures and subjective membership of national community								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Trust president		Trust relatives		Trust ruling party		National feeling	
Conflicts	-0.953***	-0.241	-0.379***	-0.086	-0.973***	-0.182	-0.329**	-0.085
	(0.188)	(0.147)	(0.134)	(0.122)	(0.176)	(0.149)	(0.152)	(0.124)
Conflicts propensity	-0.030	-0.162	0.145	-0.161	-0.063	-0.331	0.102	-0.218
	(0.153)	(0.415)	(0.123)	(0.282)	(0.129)	(0.421)	(0.138)	(0.369)
Local population density	-0.021*	-0.019**	0.004	-0.009	-0.018**	-0.018*	0.021***	-0.003
	(0.012)	(0.009)	(0.011)	(0.007)	(0.008)	(0.009)	(0.007)	(0.008)
Region × round fixed effects		Yes		Yes		Yes		Yes
Individual co-variates		Yes		Yes		Yes		Yes
Observations	43,022	40,520	43,353	40,684	42,269	39,921	42,233	39,666
Adjusted R-squared	0.029	0.249	0.002	0.179	0.029	0.234	0.002	0.164

*** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses, clustered by region × round. OLS regressions. Individual co-variates include age, gender, household head status, rural or urban housing, race, religion, edcation and employment status. See the text for a presentation of dependent variables and explanatory variables used in this table.

Table 3: The effect of recent riots on trust and subjective membership of the national community; within region spatial identification.

Dependent variables: different trust measures and subjective membership of national community								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Trust president		Trust relatives		Trust ruling party		National feeling	
Riots	-1.317***	-0.696***	-0.202	-0.284	-1.233***	-0.511**	-0.106	-0.371**
	(0.274)	(0.238)	(0.285)	(0.192)	(0.252)	(0.224)	(0.233)	(0.179)
Riots propensity	0.299	1.416**	-0.146	0.526	-0.103	0.588	0.008	0.987*
	(0.482)	(0.607)	(0.430)	(0.476)	(0.419)	(0.586)	(0.358)	(0.562)
Local population density	-0.023*	-0.019**	0.002	-0.009	-0.019**	-0.018**	0.017**	-0.004
	(0.013)	(0.009)	(0.011)	(0.007)	(0.009)	(0.009)	(0.007)	(0.008)
Region × round fixed effects		Yes		Yes		Yes		Yes
Individual co-variates		Yes		Yes		Yes		Yes
Observations	43,022	40,520	43,353	40,684	42,269	39,921	42,233	39,666
Adjusted R-squared	0.024	0.249	0.001	0.179	0.023	0.234	0.001	0.164

*** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses, clustered by region × round. OLS regressions. Individual co-variates include age, gender, household head status, rural or urban housing, race, religion, edcation and employment status. See the text for a presentation of dependent variables and explanatory variables used in this table.

Table 4: The effect of recent conflicts on trust and subjective membership of the national community; within region temporal identification.

Dependent variables: different trust measures and subjective membership of national community								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Trust president		Trust relatives		Trust ruling party		National feeling	
Conflicts	-0.945***	-0.367***	-0.136	-0.083	-0.939***	-0.131**	-0.251**	-0.446***
	(0.112)	(0.064)	(0.102)	(0.112)	(0.101)	(0.065)	(0.121)	(0.166)
Region × round fixed effects		Yes		Yes		Yes		Yes
Individual co-variates		Yes		Yes		Yes		Yes
Observations	42,718	40,238	43,028	40,383	41,983	39,657	41,917	39,373
Adjusted R-squared	0.047	0.249	0.001	0.177	0.044	0.233	0.003	0.163

*** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses, clustered by region × round. OLS regressions. Individual co-variates include age, gender, household head status, rural or urban housing, race, religion, edcation and employment status. See the text for a presentation of dependent variables and explanatory variables used in this table.

Table 5: The effect of recent riots on trust and subjective membership of the national community; within region temporal identification.

Dependent variables: different trust measures and subjective membership of national community								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Trust president		Trust relatives		Trust ruling party		National feeling	
Riots	-1.066***	-0.387***	-0.140	-0.144	-1.070***	-0.160**	0.003	-0.481***
	(0.158)	(0.072)	(0.156)	(0.187)	(0.126)	(0.073)	(0.146)	(0.175)
Region × round fixed effects		Yes		Yes		Yes		Yes
Individual co-variates		Yes		Yes		Yes		Yes
Observations	42,718	40,238	43,028	40,383	41,983	39,657	41,917	39,373
Adjusted R-squared	0.033	0.249	0.001	0.177	0.031	0.233	-0.000	0.163

*** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses, clustered by region × round. OLS regressions. Individual co-variates include age, gender, household head status, rural or urban housing, race, religion, edcation and employment status. See the text for a presentation of dependent variables and explanatory variables used in this table.

Table 6: The effect of recent riots on trust in the president and subjective membership of the national community, depending on individual situation; within region spatial identification.

Dependent variables: trust in the president or subjective membership of national community

	(1) Trust president	(2) National feeling	(3) Trust president	(4) National feeling	(5) Trust president	(6) National feeling	(7) Trust president	(8) National feeling
Riots (A)	-0.545**	-0.232	-0.512**	-0.251	-0.440*	-0.206	-0.553***	-0.301
	(0.214)	(0.164)	(0.231)	(0.188)	(0.251)	(0.180)	(0.209)	(0.187)
Interaction term ($A \times B_i$)	-0.349**	-0.278**	-0.350**	-0.220	-1.438*	-0.840*	-0.427	-0.194
	(0.166)	(0.136)	(0.150)	(0.159)	(0.757)	(0.484)	(0.322)	(0.342)
Dominant group in country (B_1)	0.008	0.050*						
	(0.026)	(0.028)						
Dominant group in region (B_2)			-0.007	-0.021				
			(0.023)	(0.028)				
Share of group in country (B_3)					-0.001	0.189*		
					(0.092)	(0.098)		
Share of group in region (B_4)							-0.043	-0.086
							(0.047)	(0.052)
Riots propensity (C)	1.074*	0.835	0.966*	0.766	0.823	0.853*	0.917*	0.842*
	(0.549)	(0.523)	(0.558)	(0.523)	(0.579)	(0.517)	(0.523)	(0.486)
Interaction term ($C \times B_i$)	0.896*	0.330	0.896**	0.365	3.605*	1.027	1.632*	0.321
	(0.470)	(0.212)	(0.454)	(0.223)	(1.891)	(1.215)	(0.949)	(0.846)
Observations	40,520	39,666	40,520	39,666	38,941	39,647	38,941	39,647
Adjusted R-squared	0.249	0.164	0.249	0.164	0.243	0.164	0.243	0.164

*** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses, clustered by region × round. OLS regressions. All regressions include local population density, individual characteristics and region × round fixed effects as control variables. Individual co-variates include age, gender, household head status, rural or urban housing, race, religion, edcation and employment status. See the text for a presentation of dependent variables and explanatory variables used in this table.

Appendix

Individual participation to protest demomsntrations

The decision to create or to support social tensions is driven by individual's positioning in the society. In this sub-section we document the relationship between the decision to demonstrate and political power at the individual level.

The Afrobarometer survey offers a question that reflects the willingness or the respondent's likelihood to participate a demonstration or a protest march. The question is following: "*Here is a list of actions that people sometimes take as citizens. For each of these, please tell me whether you, personally, have done any of these things during the past year. If not, would you do this if you had the chance: Attended a demonstration or protest march?*" Possible answers are following: "*No, would never do this*", "*No, but would do if had the chance*, "*Yes, once or twice*", "*Yes, several times*", and "*Yes, often*". We create two variables using these answers. First, we separate the first answer from the four others. This variable is equal to 0 if the respondent chose the first answer, and 1 otherwise. This variable captures the willingness to demonstrate. Second, we distinguish between the first two and the three last answers. This variable is equal to 1 if the respondent chose answers including the word "*yes*", and 0 otherwise. It reflects the actual participation to demonstrations.

Since we are interested in the relation between the individual's decision to demonstrate and its political power, we use several questions reflections individual's subjective perception of its situation as independent variables. The independent variable used in table 7 denotes the subjective situation of members of respondent's ethnic group relative to members of others ethnic groups. The Afrobarometer's question used reads as follows: "*Are [respondent's identity group]'s economic conditions worse, the same as, or better than other groups in this country?*" We create a dummy variable for each different answer. Table 7 present estimated marginal effects of probit regressions. In columns 1 to 3, the dependent variable is the willingness to demonstrate. In subsequent columns, the dependent variable is the actual participation to demonstrations. We alternatively introduce only the independent variable of interest, but also control for individual characteristics[9] and include region $\times$ year fixed effects as additional covariates.

It comes out that individuals that declare that the situation of their own ethnic group is better than the situation of other groups are more likely both to be willing

[9]Individual covariates included are age, gender, household head status, rural/urban housing, race, religion, education and employment status.

to demonstrate and to demonstrate actually. Individual belonging to this group are 3 to 5 percentage points more likely to report an answer favorable to demonstrations. The second group which has the higher probability to choose such an answer is the group of respondents that judge themselves as belonging to a group with a "*much worse* situation. Groups in between are significantly less likely to declare that their are willing to protest or that they actually do so. Looking at effective participation to demonstrations (columns 4 to 6), we can make very similar comments. Respondents declaring that their group's situation is much better than the situation of other groups are 4 to 6 percentage points more likely to attend a protest march. Once again, the other extreme group seems slightly more likely to answer positively than groups in intermediary situations.

Another question of the survey ask how the respondent judge the political power of its group relatively to the political power of other groups in the country. We decompose answers to this question and use associated dummy variables as explanatory variables in table 8. Estimated coefficients have the same structure as above. Individuals belonging to a group with much more political power than other groups are 2 to 5 percentage points more likely to support demonstrations and 2 to 3 percentage points more likely to demonstrate. Respondents positioning their own group in intermediary situation are less likely than extreme groups to answer than they wish to demonstrate or that they already attended a demonstration.

Table 9 has the same structure as tables 7 and 8. It illustrate the basic idea that individuals are more likely to protest when they think that their ethnic group is frequently unfairly treated by the government. However, as the wish to demonstrate is clearly increasing with the frequency of unfair treatment by authorities, individuals belong to the most often mistreated group are not significantly more likely to attend demonstrations than individuals belonging to groups that are less often unfairly treated. All in all, groups that are never treated unfairly by the government are roughly 5 percentage points less likely to favor demonstrations and 3 percentage points less likely to participate.

The general picture emerging from tables 7 to 8 is that groups with better economic situation and more political power are more likely to favor or to exert actions hostile to the authorities. On the other hand, unfair treatment by the government is also a key determinant of such actions.

In table 10, we investigate whether objective membership of important ethnic group determines individuals support of or participation to demonstration. We create two variables equal to 1 if the respondent belong to the main ethnic group in region or in country. The interaction of both terms is also included as covariate

in the probit regressions presented in table 10. Considering coefficients presented in columns 1 to 3, when the dependent variable indicates whether the respondent support demonstration, only members of the dominant in country appear to be more likely to answer positively. In the right-hand part of the table, none of the group membership variables is significant when region × year fixed effects are taken into account. None of these variables has any significant effect on the dependent variable. However, if we focus on columns 5 and 6 another result appears. Individuals belonging to the dominant ethnic group in country but not in region are more likely than others to attend a demonstration. This suggest that, if anything, demonstrations against authorities are action taken by individuals locally isolated but belonging to a group that is dominant in the country.

In table 11, the explanatory variables of interest are the respondent's ethnic group share in region and country. An interaction term between these two variables is also included. Estimated coefficients confirm the previous intuition. The support for demonstrations and the actual participation to demonstration is increasing with the share of respondent's group in country. But the effect is lowered down by the size of respondent' group in region. Group size matters more for isolated individuals.

Table 7: Relation between willingness to participate or actual participation to demonstrations and respondent's ethnic group situation relative to other ethnic groups.

Dependent variables: Willingness to participate or actual participation to demonstrations

	(1)	(2)	(3)	(4)	(5)	(6)
		Willingness			Participation	
Much better situation	*Reference*	*Reference*	*Reference*	*Reference*	*Reference*	*Reference*
Better situation	-0.06***	-0.06***	-0.05***	-0.04***	-0.04***	-0.04***
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)
About the same situation	-0.05***	-0.04***	-0.06***	-0.06***	-0.06***	-0.06***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Worse situation	-0.04***	-0.04***	-0.05***	-0.05***	-0.05***	-0.05***
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)
Much worse situation	-0.00	-0.00	-0.03*	-0.05***	-0.04***	-0.04***
	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)
Individual characteristics		Yes	Yes		Yes	Yes
Region × year fixed effects			Yes			Yes
Observations	40,653	38,269	38,250	40,653	38,269	38,046
Pseudo R2	0.00	0.02	0.11	0.00	0.02	0.08

*** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses. Marginal effects of probit regressions. Individual characteristics included are age, gender, household head status, rural/urban housing, race, religion, education and employment status.

Table 8: Relation between willingness to participate or actual participation to demonstrations and respondent's ethnic group political power relative to other ethnic groups.

Dependent variables: Willingness to participate or actual participation to demonstrations						
	(1)	(2)	(3)	(4)	(5)	(6)
	Willingness			Participation		
Much more political power	*Reference*	*Reference*	*Reference*	*Reference*	*Reference*	*Reference*
More political power	-0.05***	-0.05***	-0.02**	-0.01*	-0.01*	-0.02**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
About the same political power	-0.07***	-0.06***	-0.05***	-0.03***	-0.03***	-0.03***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Less political power	-0.06***	-0.06***	-0.05***	-0.03***	-0.03***	-0.03***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Much less political power	-0.04***	-0.04***	-0.03**	-0.02***	-0.02**	-0.02**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Individual characteristics		Yes	Yes		Yes	Yes
Region × year fixed effects			Yes			Yes
Observations	39,546	37,296	37,276	39,546	37,296	37,075
Pseudo R2	0.00	0.02	0.11	0.00	0.02	0.08

*** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses. Marginal effects of probit regressions. Individual characteristics included are age, gender, household head status, rural/urban housing, race, religion, education and employment status.

Table 9: Relation between willingness to participate or actual participation to demonstrations and respondent's ethnic group frequency of unfair treatment by the government.

Dependent variables: Willingness to participate or actual participation to demonstrations						
	(1)	(2)	(3)	(4)	(5)	(6)
	Willingness			Participation		
Never treated unfairly	*Reference*	*Reference*	*Reference*	*Reference*	*Reference*	*Reference*
Sometimes treated unfairly	0.02***	-0.00	0.03***	0.03***	0.02***	0.02***
	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)
Often treated unfarily	0.05***	0.03***	0.05***	0.04***	0.04***	0.04***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Always treated unfairly	0.04***	0.02**	0.06***	0.04***	0.03***	0.03***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Individual characteristics		Yes	Yes		Yes	Yes
Region × year fixed effects			Yes			Yes
Observations	38,805	36,558	36,542	38,805	36,558	36,346
Pseudo R2	0.00	0.02	0.11	0.00	0.02	0.08

*** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses. Marginal effects of probit regressions. Individual characteristics included are age, gender, household head status, rural/urban housing, race, religion, education and employment status.

Table 10: Relation between willingness to participate or actual participation to demonstrations and respondent's membership of dominant ethnic groups.

Dependent variables: Willingness to participate or actual participation to demonstrations						
	(1)	(2)	(3)	(4)	(5)	(6)
	Willingness			Participation		
None	*Reference*	*Reference*	*Reference*	*Reference*	*Reference*	*Reference*
Dominant group in region	-0.02***	-0.02***	-0.00	0.01**	0.01***	-0.00
	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)
Dominant group in country	0.03*	0.03**	0.04***	0.04***	0.04***	0.01
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)
Both	-0.01	-0.01	-0.02	-0.04***	-0.04***	-0.02
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)
Individual characteristics		Yes	Yes		Yes	Yes
Region × year fixed effects			Yes			Yes
Observations	39,127	39,127	39,127	39,127	39,127	38,922
Pseudo R2	0.00	0.02	0.11	0.00	0.02	0.08

*** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses. Marginal effects of probit regressions. Individual characteristics included are age, gender, household head status, rural/urban housing, race, religion, education and employment status.

Table 11: Relation between willingness to participate or actual participation to demonstrations and respondent's ethnic group share in region and country.

Dependent variables: Willingness to participate or actual participation to demonstrations						
	(1)	(2)	(3)	(4)	(5)	(6)
	Willingness			Participation		
Share of respondent group in region (A)	-0.02	-0.04**	0.01	0.05***	0.04***	0.01
	(0.02)	(0.02)	(0.03)	(0.01)	(0.01)	(0.02)
Share of respondent group in country (B)	0.34***	0.35***	0.06	0.09***	0.09***	0.05
	(0.04)	(0.05)	(0.06)	(0.03)	(0.03)	(0.03)
$A \times B$	-0.27***	-0.24***	-0.11	-0.18***	-0.16***	-0.11
	(0.08)	(0.08)	(0.13)	(0.05)	(0.05)	(0.08)
Individual characteristics		Yes	Yes		Yes	Yes
Region× year fixed effects			Yes			Yes
Observations	38,500	38,500	38,500	38,500	38,500	38,295
Pseudo R2	0.00	0.02	0.11	0.00	0.02	0.08

*** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses. Marginal effects of probit regressions. Individual characteristics included are age, gender, household head status, rural/urban housing, race, religion, education and employment status.