Decentralization and Ethnic Conflict: The Role of Empowerment

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Abstract

Decentralization is increasing in all parts of the world. Assessing the efficiency of decentralization as a means to mitigate ethnic conflict is then of primarily importance. This paper builds a simple model of decentralization as an empowerment mechanism. It suggests that decentralization could promote peace conditional on a set of countries and groups characteristics. Typically, decentralization should empower minorities which are small at the national level, while representing a critical mass of the population in the regions they live in. Empirical results confirm that decentralization impacts ethnic conflict only when those conditioning factors are controlled for. Furthermore, decentralization dampens all forms of ethnic violence for groups spatially concentrated enough and/or for groups having a local majority. In contrast, it fuels protest and even rebellion for groups lacking one. The paper then highlights the crucial need to build checks and balances mechanisms at the regional level for local minorities not being harmed by the decentralization process.

JEL Codes: C33, H77

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1 Introduction

Internal wars became a major concern of political scientists since the end of World War II as the number of interstate conflicts were decreasing and as the human cost of civil strifes appeared to be so horrific. Within the field of civil wars, particular attention has been paid to ethnic conflict, in the extent that most of recent wars seemed to have been driven by ethnic hatred (see Sambanis, 2001 for example).

Federalism, or political decentralization, is one of the most used mechanism to prevent ethnic conflicts in the developing world (see, e.g. Brazil, India, Indonesia, Bosnia-Herzegovina, Nigeria) but also in western countries (Belgium, Switzerland, Canada, Spain among others). Currently, the reorganization of Iraq and Afghanistan entails political decentralization as a crux point (Brancati, 2006). The rationale is that giving groups more control over their own affairs in their regions protect them against predatory politics from the center (Lijphart, 1977, 1996; Lustick, Miodownik, and Eidelson, 2004). Thus, federal organization is supposed to have contained separatist movements from minorities notably in Canada (Simeon, 2004) and Spain (Beramendi and Maiz, 2004; Gurr, 1994). However, failures of federalism in former Yugoslavia, Czechoslovakia and Soviet Union casted doubt about the effectiveness of decentralization at preventing conflicts (Roeder, 1991, Cornell, 2002). According to Cornell (p. 252), "The institution of autonomous regions is conducive to secessionism because institutionalizing and promoting the separate identity of a titular group increases that group's cohesion and *willingness* to act, and establishing political institutions increases the *capacity* of that group to act". The weakening of central power and centrifugal politics pursued by institutionalized subnational leaders were at the roots of the collapse of former Yugoslavia, Czechoslovakia and Soviet Union according to Roeder.

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Beside numerous case studies, few large-N studies have been done to assess the causal impact of federalism. Relying upon the Minorities At Risk database, several authors have estimated the role of federalism on ethnopolitical rebellion and protest (Cohen, 1997; Saideman, Lanoue, Campenni, and Stanton, 2002; Brancati, 2006; Bermeo, 2002 or Bakke and Wibbels, 2006). Most of these studies suggest that federalism is an effective peace-building mechanism while this effect tends to be conditional. Saideman, Lanoue, Campenni, and Stanton (2002) find that federalism is more efficient in autocracies than in democracies, Bermeo (2002) brings evidence that federalism works better in wealthy countries whereas Brancati (2006) shows that the combination of federalism and existing regional parties is conflict-producing. Nonetheless, those studies, at the notable exception of Brancati (2006), fail to control for all factors that can influence both federalism and ethnic conflict.

This paper focus on decentralization as it is increasingly implemented since the past decade, notably in the developing world, and even for reasons totally disconnected from the issue of ethnic conflict management. A simple model of decentralization as empowerment is built in order to reveal conditional on which factors (if any) decentralization could increase the welfare of political minorities. It highlights that small groups, concentrated in one region in which they represent a significant share of the population are good candidates for benefiting from decentralization. The model underlines also the role of other factors like the presence of a low local social heterogeneity combined with a high national one or spatial concentration patterns of groups others than the considered one. It appears that such factors are likely to influence in the same sense both decentralization and conflict. Thus, failing to control for them biases OLS estimations. In that case, the estimated effect of decentralization should tend toward zero.

In a second time, predictions of the theoretical model are tested while emphasizing the issue of omitted variable bias. Two kinds of estimations are led: OLS with the maximum number of conditioning factors suggested by the model and fixed effects. After that, two tests of explicit conditional effects of decentralization are provided. The first one ascertains if, as expected, groups spatially concentrated benefit more from decentralization than dispersed ones. The second one focus on a broader variable, i.e. presence of local majority. The overall picture is that predictions of the model tend to be confirmed. After controlling for the appropriate controls, decentralization appears as an effective mean to mitigate ethnic conflict while failing to do so gives the impression that decentralization is unrelated to conflict. Furthermore, results suggest that decentralization is desirable for groups spatially concentrated and/or for groups having a local majority whereas it may be harmful for others.

The outline of the paper is as follows. Section 2 reviews quickly the main arguments advanced for decentralization. Section 3 presents a model where decentralization works as an empowerment mechanism. Section 4 is devoted to the exposition of the empirical strategy. Section 5 presents the results while section 6 concludes.

2 Decentralization and Conflict: An Overview

Federalism is supposed to prevent conflicts by "giving groups control over their own political, social and economic affairs" (Brancati, 2006). Disposing of prerogatives in schooling, language or taxation policies at the local level should protect groups from threats posed by central power and makes possible for them to implement policies closer to their wishes. Federalism is one the five types of power-sharing arrangements that Lijphart (1977) calls for divided societies. Stepan (2004) argues that subnational governments may be veto players in the sense of Tsebelis (2002), i.e. their agreement if not their compliance is needed in order that a law passes. In the same vein that the mutual veto of Lijphart (1977), the constitutional veto power of subnational governments implies that the political system is more inclusive, and then, is less likely to hurt some segments of the society. Federalism, as a check and balance mechanism, may then help to mitigate the ethnic security dilemma (Posen, 1993). The ethnic security dilemma refers to a situation in which an ethnic group fears that another one seizes power and uses it against him. A federal structure may insulate ethnic groups from central authority and dampen or impede predatory politics.

All the above refers to effects of federal system *per se*, as the definition of Riker (1964) states it. How-

ever, this study focuses on fiscal decentralization without regard to the constitutional design of countries. Yet, fiscal decentralization is supposed to influence conflict by diminishing the distance between the government and the people. Devolving power to subunits permits to design and provide local public goods which correspond to the preferences of local constituents. When preferences are widely heterogeneous across jurisdictions, decentralization tends to be preferable to uniform policy (Oates, 1972; Seabright, 1996; Bardhan and Mookherjee, 2005). Regarding ethnic conflict, decentralization may be desirable if different ethnic groups are characterized by different preferences over public policies. Alesina and La Ferrara (2000) find that individual participation in different types of organizations is lower when communities are more racially and ethnically heterogeneous. Alesina, Baqir, and Easterly (1999) present evidence that the shares of spending in productive public goods are reduced when ethnic fragmentation of the city is higher. In both cases, the rationale is that different ethnic groups have different preferences over the nature and the size of public goods which have to be provided.

Then, decentralization is supposed to increase the well-being of minority groups if it empowers them enough so that they can design and implement public policies close to their preferences. The empowerment of minorities is more easily reached if they are concentrated in one region in which they represent the majority or a significant minority of the population. On the contrary, if the demographic weight of the minority is the same at the local level than at the country one, decentralization is less likely to give to minority control over its own affairs. It is even possible that things are worst at the local level because elite capture is supposed to be higher at low levels of government (Bardhan, 2002; Bardhan and Mookherjee, 2000; Platteau and Abraham, 2002).

Another component of empowerment should be democracy, above all if the minority is dominant in terms of population in some regions. First, the power of central state to override local laws and decisions is constitutionally reduced in democracies. Second, in a context of patronage, central state could rely upon marginal loyal groups at the local level at the expense of political minorities more important in terms of population. Roeder (1991) shows that the central state in USSR supported the dominant group in the republics at the expense of local minorities. In any cases, democracy is supposed to be a pre-requisite for local empowerment of minorities.

To insight those conditions necessary to make effective decentralization, we will now turn to the outline of a model where decentralization is potentially able to reduce ethnic conflict through the empowerment of minorities.

3 A Simple Model of Decentralization as Empowerment Mechanism

Assume that a society is composed of K groups indexed by $i = 1, \dots K$ and G districts indexed by $j = 1, \dots G$. The population mass is normalized to one. n_i represents the numeric weight of group i in the country while $\sum_{K=1}^{K} n_k = 1$. Likewise, n_j is the share of the overall population living in district j and $\sum_{j=1}^{G} n_j = 1$. Each district is populated by an equal number of groups [1], H with the assumption that $H < K$ reflecting a greater social homogeneity at the local level. Finally, n_{ij} is the share of population from group i residing in district j such as $\sum_{j=1}^{G} n_{ij} = n_i$ and $\sum_{j=1}^{G} \sum_{k=1}^{K} n_{kj} = 1$.

Political outcome is summarized by a vector of public policy q which is designed centrally and locally. The parameter $\gamma \in [0, 1]$ represents the relative weight of decentralized policies in the country. When $\gamma = 0$, all decisions are taken at the central level whereas when $\gamma = 1$ all political decisions are designed locally. Groups may differ in their preferences over q. Following the pure contest form of the model of conflict developed by Esteban and Ray (1999), we assume that $U(q_{ik}) = 0, \forall k \neq i$, i.e. each group in the society values only its most preferred policy $U(q_{ii}), \forall i$. $U(q_{ii})$ is normalized to 1. Then, the utility of group i, w_i with respect to public policy is as follows

[1] This assumption is only made to simplify the form of the subsequent propositions. It could be relaxed without changing the nature of the results.

$$W_i(q) = p_i(1-\gamma) + \gamma \left[\sum_{j=1}^{G} \frac{n_{ij}}{n_i} s_{ij} \right], \tag{1}$$

where $\gamma \in [0,1]$, $\frac{n_{ij}}{n_i} \in [0,1]$ and $\sum_{j=1}^{G} \frac{n_{ij}}{n_i} = 1$. p_i is the probability that group i gets its most preferred policy implemented at the statewide level while s_{ij} stands for the corresponding probability in region j.

Group i weights utility he derives from each district by the share of its population therein. This implies that groups care only about policies directly affecting them. In particular, group i is totally indifferent to policies implemented in regions where it is absent. [2] It involves also that there are no spillovers across districts.

Furthermore, it should be clear from (1) that there are no central or local policies *per se*. Rather, the model is concerned with central or local implementation of policies. To put it differently, satisfaction derived from a given public policy is independent on whatever level of government provides it. Decentralization plays a role in the model only through the differentiated degree of openness of the decision-making process at each layer of government.

Groups have the possibility to engage costly efforts in order to increase the probability that their preferred policy is implemented. Here we suppose that groups are perfectly homogeneous so that issues of free-riding and within groups distributional conflicts are ruled out. The functions mapping efforts of lobbying onto political outcome (*Contest Success Function, CSF*) take generally a logit ratio-form . However, to keeps things simple, the CSF in the model will take the following simplified probit-form (Kräkel, 2006)

$$p_i(x_i, x_{-i}) = \frac{n_i x_i - \sum_{k \neq i} n_k x_k + \overline{e}}{K\overline{e}}, \tag{2}$$

where p_i is the probability of winning in national politics for group i, x_i the lobbying efforts of group i and e a luck factor uniformously distributed over the interval $[-\frac{1}{\overline{e}}, \frac{1}{\overline{e}}]$. Likewise,

$$s_{ij}(r_{ij}, r_{-ij}) = \frac{n_{ij} r_{ij} - \sum_{h \neq i} \sum_j n_{hj} r_{hj} + \overline{e}}{H\overline{e}} \tag{3}$$

defines the probability that the most preferred policy of group i is implemented in district j. r_{ij} is the lobbying effort of group i in region j. The first derivative of p_i with respect to x_i is equal to $\frac{\partial p_i}{\partial x_i} = \frac{n_i}{K\overline{e}}$. Similarly, $\frac{\partial s_{ij}}{\partial r_{ij}} = \frac{n_{ij}}{H\overline{e}}$. The marginal return of lobbying is then constant and does not depend on expenditures of other groups. It is increasing with the size of the group and decreasing with the number of contestants and the luck factor. Hence, the marginal efficacy of lobbying depends on the absolute size of the considered group and not on its relative size. It implies that a potential benefit of decentralization consisting in a greater numeric (then political) weight of minorities at the local level is not accounted by this *CSF*-form. On the contrary, greater social homogeneity, another alleged advantage of decentralization, is considered by the assumption $H < K$. In spite of that, it will be shown below that regional concentration of groups plays a crucial role in the model. This very specific contest function has the advantage to ignore strategic interactions in conflict[3]. It allows then to derive the principal results much more easily.

Finally, lobbying has a cost c, identical whatever national or local, taking the iso-elastic following form

[2] On this ground, the model belongs more to the field of redistributive politics than the one of distributive politics in the sense of Dixit and Londregan (1996). Politics is reduced to redistribution of individual benefits and groups have no ethical positions about how a society should be ruled.

[3] Strategic interactions are considered as in Bulow, Geanakoplos, and Klemperer (1985), i.e. the profitability of a given strategy for player i depends on the strategic choices of other players.

$c_i(x_i, r_{ij}) = \frac{1}{\alpha}x_i^\alpha + \frac{1}{\alpha}\sum_j r_{ij}^\alpha$, with $\alpha > 1$. Cost of lobbying is then increasing and convex with efforts, as in Esteban and Ray (1999).

Then, $\sum_{j=1}^{G} s_{ij}\frac{n_{ij}}{n_i}$ is the aggregate utility that group i derives from decentralized policies. This winner-take-all description of politics could indifferently been interpreted as a contest for an exogenous rent. It is worth noting that in this model the chance of influencing the policy is proportional to size of groups but that the political process is a winner-take-all one. Secondly, lobbying is viewed here as a form of political participation rather than as mere social conflict. In other words, conflict is assumed to be driven by insufficient political participation (lobbying) departing in that from the vision of Esteban and Ray (1999) who assimilate conflict to lobbying.

We are now able to write down the objective function of group i

$$W_i = (1-\gamma)\left(\frac{n_i x_i - \sum_{k\neq i} n_k x_k + \overline{e}}{K\overline{e}}\right) + \gamma\sum_j \frac{n_{ij}}{n_i}\left(\frac{n_{ij}r_{ij} - \sum_j\sum_{h\neq i} n_{hj}r_{hj} + \overline{e}}{H\overline{e}}\right) - \frac{1}{\alpha}\left(x_i^\alpha + \sum_j r_{ij}^\alpha\right) \tag{4}$$

Group i chooses the optimal level of x_i and $r_{ij}, \forall j$ to maximize its welfare. FOCs are

$$\frac{\partial W_i}{\partial x_i} = (1-\gamma)\frac{n_i}{K\overline{e}} - x_i^{\alpha-1} = 0 \tag{5}$$

$$\frac{\partial W_i}{\partial r_{ij}} = \gamma\frac{n_{ij}}{n_i}\frac{n_{ij}}{H\overline{e}} - r_{ij}^{\alpha-1} = 0, \forall j \tag{6}$$

Given the functional forms, SOCs are always satisfied. FOCs define the equilibrium efforts for each player given those of the others.

$$x_i^* = \left((1-\gamma)\frac{n_i}{K\overline{e}}\right)^{\frac{1}{(\alpha-1)}} \tag{7}$$

$$r_{ij}^* = \left(\gamma\frac{n_{ij}}{n_i}\frac{n_i j}{H\overline{e}}\right)^{\frac{1}{(\alpha-1)}} \tag{8}$$

As there are no strategic interactions among groups, (7) and (8) are not simply reaction functions but define also the expenditures at the Nash equilibrium. Derivation of comparative statics is then straightforward and give

$$\frac{\partial x_i^*}{\partial \gamma} = -\frac{\left(\frac{n_i}{K\overline{e}}(1-\gamma)\right)^{1/(\alpha-1)}}{(1-\gamma)(\alpha-1)} \tag{9}$$

$$\frac{\partial r_{ij}^*}{\partial \gamma} = \frac{\left(\frac{n_{ij}}{n_i}\frac{n_{ij}}{H\overline{e}}\gamma\right)^{1/(\alpha-1)}}{\gamma(\alpha-1)} \tag{10}$$

It is easy to check that the augmentation of local lobbying outweights the decrease of national one if

$$(1-\gamma)\sum_j\left(\frac{n_{ij}}{n_i}\frac{n_{ij}}{H\overline{e}}\gamma\right)^{(1/(\alpha-1))} > \gamma\left(\frac{n_i}{K\overline{e}}(1-\gamma)\right)^{(1/(\alpha-1))} \tag{11}$$

Taking the special case where $\alpha = 2$ and rearranging give

$$\sum_j \left(\frac{n_{ij}}{n_i}\right)^2 > \frac{H}{K} \tag{12}$$

Increase of aggregate lobbying for player i following decentralization arises when social heterogeneity at the local level is clearly lower than at national level. This relationship is conditional on the degree of group regional concentration. The higher the group concentration, the less stringent the condition about social heterogeneity. It follows that decentralization is expected to increase local lobbying from ethnic minorities in ethnofederations where administrative boundaries overlap almost perfectly cultural boundaries [4].

To uncover the effect of decentralization on welfare (and then on conflict as it is assumed that the two variables are inversely related), it is necessary to write down the total differentiation of $W_i(x_i^*, x_{-i^*}, r_{ij^*}, r_{-ij^*})$ with respect to decentralization

$$\begin{aligned}\frac{dW(x_i(\gamma), x_{-i}(\gamma), r_{ij}(\gamma), r_{-ij}(\gamma))}{d\gamma} &= \left(\sum_{j=1}^{G} \frac{n_{ij}}{n_i} s_{ij} - p_i\right) + \\ \left((1-\gamma)\left(\frac{\partial p_i}{\partial x_i^*}\frac{\partial x_i^*}{\partial \gamma} + \sum_{k=1}^{K}\frac{\partial p_i}{\partial x_k^*}\frac{\partial x_k^*}{\partial \gamma}\right) + \gamma\left(\sum_{j=1}^{G}\frac{n_{ij}}{n_i}\left(\left(\frac{\partial s_{ij}}{\partial r_{ij}^*}\frac{\partial r_{ij}^*}{\partial \gamma}\right) + \sum_h \frac{\partial s_{hj}}{\partial r_{hj}^*}\frac{\partial r_{hj}^*}{\partial \gamma})\right)\right)\right)\end{aligned} \tag{13}$$

The first term corresponds to the direct effect of decentralization consisting in shifting decision-making toward local tier of government. This effect is positive if the probability of influencing the political decisions is higher at the local level. The second term is the strategic effect accounting for changes in optimal levels of lobbying from all players. Writing the above equation with our special functional and simplifying lead to

$$\frac{dW_i}{d\gamma} = \frac{K}{H}\gamma\left(\sum_j \frac{n_{ij}}{n_i}\left(\frac{n_{ij}^3}{n_i} - \sum_{h\neq i}\frac{n_{hj}^3}{n_h} + \overline{e}\right)\right)(\gamma+1) - \gamma\left(\frac{H}{K}(1-\gamma)\left(n_i^2 - \sum_{k\neq i} n_k^2 + \overline{e}\right)\right) \tag{14}$$

The first term of (14) corresponds to the change in local empowerment in response to an increase in decentralization while the second term refers to the variation of empowerment in national politics. If group i does not represent an absolute majority of the population, which fits our focus on minorities, the second term is positive. It comes from the fact that national politics are unfavorable to a little group. Reducing the salience of centralized politics is then valued by minorities. This positive effect is weighted by the ratio H/K which tends to be low in ethnofederation and close to one in other kind of countries. The first term reveals a more complicated picture. There appears the same differences in population but also patterns of group concentration. The most favorable situation for group i is when he is concentrated in one region where other groups are virtually absent. Thus, there are two sources of empowerment for group i: i) a greater numeric weight in the regions where he is concentrated than at the national level and ii) a low interest in this district by other groups which are essentially present elsewhere. In addition, the gap between the population of the minority and the one of other groups counts more than above since each population share is raised at the power three rather than two [5]. Finally, this first term is more decisive when decentralization is important and $\frac{K}{H}$ high, i.e. in ethnofederations. Summing up, decentralization empowers minorities representing less than fifty percent of the population when the following condition

[4] One could argue that a spatially concentrated group faces always a lower local heterogeneity than a dispersed one. But, even if the two notions are closely related they are not identical. A group may well be concentrated in a highly diverse region while a dispersed group may well face a homogeneous context.

[5] It is due to the fact that the share of group population living in a given region enters in the expression of optimal lobbying efforts for each region.

is fulfilled

$$-\frac{K^2}{H^2}\frac{1+\gamma}{1-\gamma}\left(\frac{\sum_j \frac{n_{ij}}{n_i}\left(\frac{n_{ij}^3}{n_i}-\sum_{h\neq i}\frac{n_{hj}^3}{n_h}\right)+\overline{e}}{n_i^2-\sum_{k\neq i}n_k^2+\overline{e}}\right)>1 \tag{15}$$

Decentralization is an efficient way to empower political minorities and then reducing ethnic conflict when these ones are small relative to the whole population, concentrated in a few districts where they represent a greater numeric weight and are relatively neglected by other groups focusing on other regions. In addition, and it reinforces the above, it is particularly effective when the social heterogeneity is low at the local level and high at the national one. Finally, the initial level of decentralization is a positive input in the 'empowerment function'. Conversely, political minorities which are significant in the national arena, and which have not any stronghold in the country, are worse off with decentralization and may engage more in conflict.

This simple model has numerous limits which are acceptable only because it is aimed at helping the design of the empirical strategy rather than developing a deep and general modeling of the decentralization-conflict nexus. In particular, decentralization is supposed to influence conflict only through the notion of empowerment, leaving aside its fiscal roles (fiscal appeasement), or its veto-player function. In addition, several drawbacks of decentralization are not accounted by the model as the 'Cornell effect' and the freezing of ethnoregional cleavages in time. Within the framework of the model, the linearity assumption on appropriation functions and weighted social one are also very strong. However, this simple model is able to provide clear-cut predictions on the effect of decentralization on lobbying, empowerment and conflict, conditional on a number of well-defined factors. It appears that some of the factor appearing on previous results cannot be measured precisely with existing data, like social heterogeneity at the local level and group concentration patterns for *every* groups in a country.

In particular, and it is the main concern of the paper, equation (15) can be assimilated to the "potential gain" of political violence. Indeed, decentralization does not "fall from the sky" but is the result of a political process. National leaders are often reluctant to decentralize as it means a reduction of their power and represents a mythicized or real risk of national dismantlement (O'Neill, 2003; Brancati, 2006). Presence of ethnopolitical conflicts in the country exerts probably a powerful force on the rulers and favors in the long run a delegation of authority [6]. This is particularly true for democratic countries which cannot easily use repression and whose leaders are more exposed to the political costs of an enduring conflict. In the same time, those characteristics which make decentralization profitable for a group facilitate also the ignition of political violence. Typically, we can consider that ethnic groups may want to seize power at the national level if it is possible, otherwise a higher degree of autonomy. As most minorities are small, the former tends to be unreachable and it is likely that groups rather desire a control over their own affairs at the regional level. Groups which have the characteristics to benefit from decentralization are then arguably more likely to engage in conflict. Presence of this double relationship impedes any causal interpretation of empirical estimations if these factors are not properly controlled for.

4 Data and Method

4.1 Empirical Strategy

The previous section has highlighted the need for controlling for a set of crucial conditioning factors. Otherwise, the effect of decentralization is expected to be insignificant. To see this more clearly, check the model to estimate

[6] Brancati (2006) rightly argues that it is rather difficult to predict the reaction of the state facing ethnic movements. According to the author, the repression and the reinforcement of state authority should be as frequent as the opposite. Nevertheless, in the long run the repression way becomes unbearably costly and a devolution of authority an obvious answer.

$$y_{ijt} = \beta_0 + \beta_1 Decentralization_{jt} + \beta_2 X_{jt} + \beta_3 Z_{ijt} + \beta_4 K_{ijt} + u_{ijt} \tag{16}$$

y is the measure of political violence, decentralization is the interest variable, X a set of country-level variables, Z a set of measurable group-level controls and K represents all variables which are unobservable for the researcher. Pooling estimations are biased if some elements of K explaining ethnic violence are correlated with decentralization. The theoretical model of the previous section suggests that factors like group concentration, size of the group at the national and the local level fall in this category. Failing to control for them should cause OLS estimates of decentralization to be indistinguishable from zero. The Minorities At Risk Database (MAR) provides informations on those factors which are then included in the regressions (as elements of Z) in order to test properly the efficacy of decentralization, with respect to theoretical predictions.

However, some other characteristics appearing in (15) remain unobservable for the researcher and are then comprised in K. Particularly, the ethnic heterogeneity at the local level (for regions the considered minority lives in) and informations on the spatial distribution of other groups cannot be measured. Recall that variation of local empowerment following an increase in the level of decentralization is proportional to $\sum_j \frac{n_{ij}}{n_i}\left(\frac{n_{ij}^3}{n_i} - \sum_{h\neq i}\frac{n_{hj}^3}{n_h}\right)$. So it is not enough to know n_i, n_{ij} and $\sum_{h\neq i} n_h$, elements MAR makes available, as the expression stresses the role of n_{hj}/n_h which is unknown. Concretely, it is a very different perspective for a group concentrated in a region in which it represents 80% of the population to face only one other group or three other groups. Furthermore, if these other groups present in this region are concentrated therein or are mainly represented elsewhere, implications of those groups in the politics of this given region will be markedly different. That is why pooling estimations may be still insufficient. Nonetheless, as all those elements (included also those which can be known through MAR) are very structural characteristics, they can be viewed as broadly fixed through time. This opens the way for estimating (16) by fixed effects (FE) estimator. By considering deviations from the mean for all variables of the model, time-invariant factors are ruled out with FE. The model to estimate is thus

$$(y_{ijt} - \overline{y}_{ij}) = \beta_1(Dec._j - \overline{Dec.}_j) + \beta_2(X_{jt} - \overline{X}_j) + \beta_3(Z_{ijt} - \overline{Z}_{ij}) + (u_{ijt} - \overline{u}_{ij}) \tag{17}$$

Besides, there may exist also some country unobservable heterogeneity which calls for using country FE. Furthermore, the model highlights that what matters for a group is the geographic distribution of all other groups. The repartition of ethnic groups throughout a country is better captured by country FE. In addition, country characteristics should exert a stronger influence on decentralization than group ones, as long as groups are small. That is why the following model is also estimated

$$y_{ijt} = \beta_0 + \beta_1 Decentralization_{jt} + \beta_2 X_{jt} + \beta_3 Z_{ijt} + \beta_4 K_{ijt} + \alpha_i + u_{ijt} \tag{18}$$

where α_i is a vector of country dummies and the remaining is the same than in (16).

4.2 Data and Measurement

All group-level variables stem from MAR. In particular, ethnic conflict will be approximated by Protest, Rebellion and Communal Violence. Rebellion is on scale from 0 to 7 and refers to armed contestation against the state, entailing campaigns of terrorism or guerrilla. It is the most organized and violent form of contest. Communal violence measures the intensity of inter-groups conflict. On the contrary of rebellion and protest, communal violence gauges conflict arising between groups, horizontally. It goes from 0 to 6 and captures acts of harassment, anti-group demonstrations or communal warfare. Finally, protest is closer to rebellion is spirit in that it measures anti-regime activities. The difference is that

protest entails more spontaneous and/or less violent forms of actions. It ranges from 0 to 5 and refers to demonstrations, strikes or riots. As a robustness check, all those three variables will also be considered as binary ones. Specifically, rather than measuring the *intensity* of ethnic conflict, binary variables account for the *presence* of ethnic conflict. They take the value one if the intensity is positive and zero otherwise.

Our variable of interest, decentralization, is approximated by the share of subnational expenditures on overall state spending. Data come from Government Financial Statistics compiled by the International Monetary Fund (IMF). This is the most widely used variable in the literature on fiscal federalism.

Following the prescriptions of the theoretical model, a large set of group-level controls have to be included. Group's proportion of the total population (*gpro*) and group spatial concentration index (*groupcon*) are directly obtained from MAR. Starting from the set of variables *reg1p,reg2p...reg5p* giving the group's proportion of the population at several levels of regional aggregation, a variable called *localprop* is constructed by picking up the one corresponding to each group. This score is also multiplied by group concentration index to create an interactive term between the relevant group's local proportion of the population and its concentration score (*localprop*groupcon*). In addition, group coherence index *catness* is included as it may explain both violence (better organizational capacity) and decentralization (in that it is correlated with group concentration index).

The model suggests also to include some country-level controls as the democracy score (measured by Polity IV) and the national ethnic heterogeneity. To capture this latter variable, the inverse of the ethnic concentration index from Alesina, Devleeschauwer, Easterly, Kurlat, and Wacziarg (2003) is computed [7]. It gives the number of effective ethnic groups (*NEEG*).

Finally, two variables not directly inspired by the model are included, namely the logarithms of GDP per capita and population from the World Development Indicators . Indeed, it is likely that those variables are related to conflict and decentralization.

Summing up, the estimation sample is constituted at best by 111 groups spread in 58 countries and covering the period 1985-2001[8]. Inclusion of all group-level controls severely reduces the number of observations which falls at 708. For sake of comparability, all estimations are led on this subsample even though 1165 points are available with FE. Nevertheless, the overall picture is similar when FE are ran on the largest possible sample[9].

Four final observations to close the section. Firstly, FE can contribute to reduce the issue of selection sample (Hug, 2003). Indeed, those structural characteristics that preside to the eligibility of the group in the MAR database and which are not excludable in the conflict equation are controlled for with FE. Secondly, the dependent variables are measured at the group-level while decentralization is only known for the country as a whole. This involves that observations within a country are not independent. This point is tackled by systematically correcting standard errors for clustering [10]. Thirdly, the nature of the dependent variables calls for the use of non linear estimators like logit or ordered logit ones. However, the results are fundamentally unchanged when using instead OLS and FE which have the advantage to preserve more informations and to provide conditional effects easier to compute and interpret. Finally, the panel used for estimations is not balanced. The decentralization score is much more available for certain countries than for others. Likewise, some countries have numerous minorities while others count just one. As a result, very diverse countries which are enough developed and democratic to have data on decentralization are over-represented in the sample, as Kenya for example. Characteristics which explain the degree of over- (under) representation may explain the level of conflict and decentralization. To correct for this, regressions in which each observation is weighted by the inverse of the frequency by which its corresponding country appears in the estimation sample are done.

[7] Actually the database gives the fractionalization index. The concentration index is obtained by taking the complement to one.

[8] There are initially 284 groups in the MAR dataset but the variable of decentralization is not available for most of african countries.

[9] Results not shown but available upon request, as all other results mentioned in the paper and not presented.

[10] This tends to increase the magnitude of standard errors

5 Results

5.1 Decentralization and Ethnic Conflict

Table 1 and 2 present the results of estimations of (16) and (17) for the three measures of political violence. For each of these variables, the first column refers to OLS estimations, the second one to group fixed effects and the third one to country fixed effects. This set of estimations is based on (15) which predicts that decentralization should be effective for groups small enough at the national level, controlling for different characteristics. Firstly, it appears that decentralization fails to significantly reduce ethnic conflict with the first set of OLS estimations. It is true for each of the three variables of ethnic conflict, whatever in continuous or binary form, and for weighted and unweighted regressions. That echoes the result of Brancati (2006). The only significant effect of decentralization is the increase of protest (column(2), table 1). Secondly, turning to group FE estimations changes things substantively. Decentralization appears to prevent significantly the intensity and the presence of communal violence (for weighted and unweighted regressions, column(9), table 1, 2). Furthermore, results suggest also that decentralization is associated with lower risk of protest (column (6), table 2, weighted regressions) and lower likelihood of rebellion (column 5, table 2, unweighted regression). This is confirmed by country fixed effects which give very similar results with the exception that decentralization is always unrelated to rebellion.

Those results tend to confirm that decentralization may be an effective means to dampen ethnic strifes. It is nonetheless necessary to control for all elements appearing in the theory to uncover it, and group-level variables stemming from MAR are seemingly not enough to do so. It is also worth noting that decentralization appears to be effective to dampen volatile forms of ethnic conflict (Protest and Communal Violence) but not rebellion. Similarly, decentralization is generally more often significantly associated with lower presence of violence than with lower intensity of violence. This suggests that decentralization is best suited to tackle low or moderate ethnic conflicts than large-scale ones.

Controls have generally the expected sign. Group concentrated or majoritary in one region are more likely to rebel and less likely to engage in communal violence. Protest is essentially used by urban groups. Interestingly, GDP per capita reduces significantly rebellion and communal violence with OLS whereas it produces the opposite effect with FE. Likewise, population size tends to increase ethnic violence with OLS and lowers it with FE.

At this point, recall that theory predicts that decentralization should exert a differentiated impact on ethnic violence conditional on some group characteristics, like regional concentration, and on some country ones, like democracy. It is the goal of the next part to test for presence of such conditional effects.

5.2 Decentralization and Ethnic Conflict: a Conditional Relationship ?

It has been shown that decentralization tends to reduce ethnic conflict once a crucial set of characteristics have been controlled for. Hence, it remains to show that decentralization exerts a differentiated impact on violence with respect to those characteristics. Tables 3 and 4 present the results with group concentration as the conditioning variable. [11] The empowerment argument suggests that decentralization is particularly suited for groups regionally concentrated enough, but may be detrimental to dispersed groups, other things being equal. Empirical results tend to confirm this point. For instance, decentralization increases significantly protest for dispersed groups (whatever the estimator) and urban ones (OLS only). The protest-conducive effect of decentralization for dispersed groups is robust to the use of weighted regressions and binary dependent variable. On the other hand, group FE and above all country FE reveal that urban groups reduce their level and frequency of protest with decentralization. Groups majoritary in

[11] It is worth noting that in the case of conditional effects, the marginal effect of decentralization is the sum of the coefficient associated with decentralization plus the coefficient associated with the corresponding interaction variable . Likewise, standard errors have also to be computed following the formula $\sqrt{varb1 + varb3 + 2covb1b3}$, where $b1$ is the variance of the standalone coefficient and $b3$ the one associated with the interaction term. In the case of a continuous conditioning variable, $2covb1b3$ has to be multiplied by its value.

one region seem to significantly reduce their resort to protest with OLS estimations (column (1), table 1, unweighted regression), country FE (column (3), table 2, all regressions) and above all with group FE (column (2), table 1, 2, all regressions). On the contrary, the coefficient associated with decentralization for concentrated groups is significantly negative just once, with country FE (column (3), table 2, weighted regression). The overall picture is then that decentralization is associated with an increase in the intensity of protest (but not in the likelihood of protest) for widely dispersed groups and with a reduction of intensity and above all of frequency of protest for groups majoritary in one region. The effect of decentralization for urban groups is unclear as each estimator gives its own result (an increase of protest for OLS, no significant effect for group FE, a decrease for country FE) whereas groups concentrated in one region seem unaffected by decentralization.

Turning to the rebellion variable, it appears with OLS estimations that decentralization significantly increases rebellion (intensity as well as frequency) for groups primarily urban and significantly reduces presence of rebellion for groups concentrated in one region. This last point is confirmed by country FE while group FE suggest that decentralization is associated with less episodes of rebellion for groups majoritary in one region. Furthermore, group FE estimations show that decentralization is also associated with less frequent rebellion episodes. This result is not confirmed by country FE, but both contradict the positive effect suggested by OLS for urban groups. Finally, and surprisingly, decentralization may also dampen intensity and frequency of rebellion for widely dispersed groups, but only for country FE. The bottom line is then that decentralization is actually effective at reducing the presence of rebellion and, in a lesser extent, the intensity of rebellion for groups spatially concentrated enough while no harmful effects seem present for urban or dispersed groups , when controlling for unobserved heterogeneity. Furthermore, country FE even suggest that widely dispersed groups are less likely to rebel.

As previously, results regarding the effect of decentralization on communal violence differ between OLS and FE estimations, suggesting that it remains in the OLS specification some unobserved heterogeneity. With OLS, the point estimate of decentralization is negative and statistically significant for groups widely dispersed (except for unweighted regression in table 3) and positive and statistically significant for groups primarily urban (all specifications). On the contrary, with both group and country FE, the coefficient associated with decentralization is negative for all groups, though the magnitude of the coefficient tends to be lower with country FE. It reaches usual levels of confidence for groups widely dispersed, majoritary in one region and concentrated in one region. This result is robust to all specifications. The only difference between both FE estimations is that the effect of decentralization on widely dispersed groups is significant in only one of four specifications with group FE.

As the previous results tend to confirm the role group concentration played in the model, it is just a variable among the several of the model. In order to both trying to control for unobserved heterogeneity and providing an additional test of the model, the next set of estimations focus on a new variable, supposed to capture the essence of the theoretical conditioning variables. The model highlights the ability for a group to bear upon politics at the local level. The characteristics which make a group well suited to achieve that outcome is a combination of regional concentration, high group's proportion of the population and low interest from other groups for this region. The MAR project provides a variable called *gc2* which accounts for the presence of a rural base, defined as "A spatially contiguous region larger than an urban area that is part of the country, in which 25% or more of the minority resides and in which the minority constitutes the predominant proportion of the population." (MAR codebook). In this paper, this variable is slightly transformed in order to account for the existence of local majority. Hence, *gc6b* gauges the group's proportion of the whole population in the rural base. If the group represents less than 50 % of the population, *gc2* is modified from one to zero. Then, this new variable takes in account both local majority and group concentration, in a spirit close to the model. With a slight abuse of language, this variable is called "Local majority" and the following empirical estimations ascertain whether decentralization exerts an impact on ethnic violence conditional on it or not.

There are several results worth noting. Firstly, there are less differences between OLS and FE estimations with local majority than with group concentration as a conditioning variable. This suggests than

the former captures better the underlying characteristics explaining in the long run decentralization and conflict. Secondly, the effect of decentralization is dramatically different depending upon groups have a local majority or not. Regarding protest, all estimators show that decentralization exerts a fueling impact for groups lacking a local majority, and a preventive one for groups having a local majority. The former effect is statistically significant with OLS and group FE when focusing on intensity of protest. Turning to presence of protest, the effect is much lesser, significant only for OLS in unweighted regression and group FE in weighted regression. The preventive effect for groups having a local majority is always significant for group FE and almost always significant for country FE. The same kind of results emerge for rebellion. Once again, decentralization increases rebellion for groups without local majority and tends to decrease it for the others. As for protest, this effect is essentially true for intensity of rebellion and almost absent for presence of rebellion. Only group FE estimations do not suggest such a result. On the other hand, decentralization appears to significantly reduce presence of rebellion according to all estimators (except group FE for unweighted regression). This effect vanishes when considering intensity of rebellion, except for OLS estimations. About communal violence, every estimators lead to the result that decentralization is unrelated to this form of conflict for groups without local majority. This finding is robust to weighted regressions and the use of both forms of dependent variable, i.e. continuous and binary. Only in one case, the effect of decentralization is significantly negative (country FE, intensity of protest, weighted regression). This is still true for groups disposing of a local majority if OLS are considered. However, turning to FE estimations, both strongly suggest that decentralization lowers intensity and presence of communal violence coming from local majorities. This is true whatever weighted or unweighted regressions are considered. Moreover, the effect is markedly larger in magnitude than with protest or rebellion.

All the above brings evidence that decentralization exerts an significant impact on ethnic conflict but conditional on the nature of ethnic groups. Groups majoritary or concentrated in one region, as well as those having a local majority, are efficiently deterred from using violence, probably because they can fully exploit the benefits of decentralization. On the contrary, groups lacking a local majority are more likely to increase their initial levels of protest and rebellion. These results strongly support the theoretical propositions enunciated in the paper, stating that decentralization could be useful, useless or threatening for groups interests, with respect to groups characteristics.

6 Concluding Remarks

Decentralization is an institutional device increasingly implemented since the last decade. On the field of ethnic conflict, it is supposed to dampen strifes by giving groups control over their own affairs and by insulating minorities from predatory politics from the center. However, federalism or decentralization did not give uniform results leading scholars to seek why countries benefited from this and some others not. This paper proposes a simple theoretical modeling of how decentralization works. Focusing on the empowerment mechanism, it shows that decentralization is effective conditional on a number of factors, both at group-level and country-level. Then, an empirical analysis based on these findings is led by including all those variables in OLS estimations which are critical for decentralization be effective. Likewise, fixed effects estimations are used as they control for all fixed through time unobserved heterogeneity.

Results tend to confirm theoretical predictions. By properly controlling for the conditioning factors, decentralization appears as an effective peace-building mechanism, at least for low and moderate conflicts. Then the effect of decentralization has been allowed to change with group concentration score and presence of a local majority. Once again, results are consistent with theoretical predictions to the extent that groups spatially concentrated enough and/or having a local majority benefit from decentralization while the others are unaffected or harmed by the process. This calls for caution when recommending decentralization as a peace-building mechanism. In particular, it requires to build a "'functional"' autonomy alongside the territorial one in order to protect the interests of widely dispersed groups, as well as efficient checks and balances, notably at the regional level.

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Dependent variable	Protest			Rebellion			Communal Violence		
Estimator	OLS	Group FE	Country FE	OLS	Group FE	Country FE	OLS	Group FE	Country FE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Unweighted regressions								
Country-level Variables									
Decentralization	0.004	−0.008	−0.005	0.008	0.001	0.003	−0.013	−0.077	−0.062
	(0.007)	(0.015)	(0.013)	(0.008)	(0.010)	(0.010)	(0.014)	(0.016)	(0.016)
Log of GDP p.c.	−0.050	−0.627	−0.572	−0.383	1.091	1.196	−0.369	2.521	2.717
	(0.079)	(0.523)	(0.508)	(0.091)	(0.523)	(0.559)	(0.127)	(1.550)	(1.472)
Democracy	0.079	0.077	0.078	0.030	0.025	0.027	0.037	0.049	0.056
	(0.013)	(0.027)	(0.027)	(0.023)	(0.019)	(0.019)	(0.034)	(0.056)	(0.059)
Log of Pop.	0.155	2.329	2.442	0.073	−1.400	−1.235	0.255	−1.041	−0.830
	(0.096)	(1.504)	(1.377)	(0.099)	(−1.040)	(0.996)	(0.140)	(3.910)	(4.081)
Nb. of EEG	−0.031			−0.137			−0.009		
	(0.119)			(0.108)			(0.238)		
Group-level Variables									
Group Coherence	0.110		0.026	0.016		−0.038	0.128		−0.033
	(0.038)		(0.083)	(0.051)		(0.100)	(0.058)		(0.040)
Primarily Urban	0.572		1.161	−0.777		−2.660	−11.578		−2.818
	(0.603)		(0.533)	(1.358)		(2.181)	(1.245)		(1.173)
Maj. in one region	−1.098		−0.221	−0.462		−0.618	−2.618		−2.954
	(0.541)		(1.283)	(1.060)		(0.949)	(1.486)		(1.998)
Conc. in one region	0.034		0.673	0.415		0.620	−0.278		−1.028
	(0.324)		(0.481)	(0.433)		(0.485)	(0.686)		(0.762)
R^2	0.175	0.277	0.441	0.262	0.028	0.416	0.302	0.089	0.589
	Weighted regressions								
Country-level Variables									
Decentralization	0.013	−0.023	−0.008	−0.005	0.006	0.014	−0.021	−0.091	−0.056
	(0.007)	(0.019)	(0.011)	(0.011)	(0.013)	(0.012)	(0.017)	(0.018)	(0.022)
Log of GDP p.c.	−0.200	−0.806	−0.593	−0.410	1.257	1.410	−0.212	2.654	3.382
	(0.062)	(0.625)	(0.529)	(0.142)	(0.524)	(0.525)	(0.137)	(1.787)	(1.679)
Democracy	0.085	0.087	0.090	0.039	0.042	0.045	0.031	0.036	0.043
	(0.011)	(0.029)	(0.029)	(0.031)	(0.016)	(0.015)	(0.028)	(0.070)	(0.077)
Log of pop.	0.101	2.951	3.009	0.286	−1.267	−1.115	0.584	−1.182	−1.878
	(0.103)	(1.797)	(1.312)	(0.151)	(0.912)	(0.850)	(0.169)	(3.993)	(4.818)
Nb. of EEG	−0.117			−0.310			−0.064		
	(0.126)			(0.221)			(0.231)		
Group-level Variables									
Group coherence	0.108		0.051	−0.011		−0.023	0.071		−0.029
	(0.038)		(0.112)	(0.070)		(0.145)	(0.049)		(0.041)
Primarily urban	0.078		1.026	−0.831		−5.142	−11.985		−0.533
	(0.488)		(0.556)	(1.077)		(2.374)	(1.352)		(1.544)
Maj. in one region	−0.362		0.370	−1.126		−0.913	−4.659		−4.264
	(0.752)		(1.141)	(1.318)		(1.003)	(1.955)		(3.090)
Conc. in one region	−0.294		1.006	0.931		1.251	−1.228		−2.170
	(0.345)		(0.634)	(0.965)		(0.729)	(0.637)		(0.920)
Observations	708	708	708	708	708	708	459	459	459

Note: standard errors are in parentheses and corrected for clustering. Weighted regressions weight each observation by the inverse of the frequency the corresponding country appears in the estimation sample. R^2 refers to *pseudo-*R^2 for OLS estimations and *within* R^2 for FE ones. Excluded category for *Group concentration*: widely dispersed. All regressions control for time effects. OLS^a include the following additional controls: *gprop*, *localprop* and *localprop*groupcon*.

Table 1: Decentralization and intensity of ethnic conflict

Dependent variable	Presence of Protest			Presence of Rebellion			Presence of Communal Violence		
Estimator	OLS	Group FE	Country FE	OLS	Group FE	Country FE	OLS	Group FE	Country FE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Unweighted regressions								
Country-level Variables									
Decentralization	0.000	−0.009	−0.008	−0.002	−0.006	−0.004	−0.003	−0.012	−0.009
	(0.003)	(0.008)	(0.007)	(0.003)	(0.003)	(0.004)	(0.003)	(0.004)	(0.004)
Log of GDP p.c.	−0.033	−0.179	−0.167	−0.058	0.462	0.483	−0.078	0.670	0.685
	(0.031)	(0.184)	(0.180)	(0.029)	(0.197)	(0.192)	(0.034)	(0.485)	(0.457)
Democracy	0.023	0.035	0.036	0.015	0.015	0.015	0.012	0.023	0.024
	(0.007)	(0.013)	(0.012)	(0.008)	(0.005)	(0.005)	(0.009)	(0.014)	(0.014)
Log of Pop.	0.000	0.236	0.258	0.038	−0.292	−0.228	0.070	−0.739	−0.710
	(0.040)	(0.641)	(0.622)	(0.033)	(0.357)	(0.329)	(0.031)	(0.940)	(0.874)
Nb. of EEG	0.028			−0.042			−0.036		
	(0.035)			(0.037)			(0.062)		
Group-level variables									
Group Coherence	0.023		0.022	0.000		−0.024	0.025		−0.010
	(0.012)		(0.031)	(0.016)		(0.024)	(0.015)		(0.012)
Primarily Urban	−0.398		−0.400	−0.300		−0.514	−2.224		−0.902
	(0.207)		(0.193)	(0.609)		(0.322)	(0.294)		(0.331)
Maj. in one region	−0.220		0.535	−0.183		−0.369	−1.168		−1.097
	(0.200)		(0.281)	(0.276)		(0.484)	(0.395)		(0.532)
Conc. in one region	0.024		0.267	0.186		0.158	−0.166		−0.264
	(0.131)		(0.195)	(0.143)		(0.165)	(0.168)		(0.190)
R^2	0.162	0.116	0.401	0.306	0.099	0.582	0.281	0.050	0.578
	Weighted regressions								
Country-level variables									
Decentralization	0.000	−0.016	−0.014	−0.005	−0.003	0.001	−0.004	−0.015	−0.008
	(0.004)	(0.008)	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)
Log of GDP p.c.	−0.100	−0.197	−0.168	−0.032	0.532	0.596	−0.061	0.616	0.748
	(0.024)	(0.147)	(0.151)	(0.039)	(0.242)	(0.233)	(0.039)	(0.507)	(0.459)
Democracy	0.029	0.043	0.043	0.012	0.013	0.014	0.007	0.020	0.021
	(0.007)	(0.014)	(0.014)	(0.010)	(0.008)	(0.008)	(0.007)	(0.021)	(0.022)
Log of pop.	−0.035	0.693	0.699	0.117	−0.426	−0.412	0.107	−0.662	−0.796
	(0.039)	(0.671)	(0.624)	(0.051)	(0.377)	(0.363)	(0.037)	(0.964)	(0.911)
Nb. of EEG	0.005			−0.065			−0.036		
	(0.035)			(0.066)			(0.063)		
Group-level variables									
Group coherence	0.029		0.043	−0.011		−0.021	0.019		−0.003
	(0.018)		(0.037)	(0.019)		(0.036)	(0.011)		(0.011)
Primarily urban	−0.454		−0.119	−0.225		−0.947	−2.425		−0.203
	(0.203)		(0.216)	(0.354)		(0.330)	(0.356)		(0.367)
Maj. in one region	0.039		0.480	−0.323		−0.128	−1.275		−1.029
	(0.193)		(0.272)	(0.412)		(0.451)	(0.489)		(0.727)
Conc. in one region	−0.093		0.504	0.220		0.305	−0.383		−0.527
	(0.151)		(0.245)	(0.244)		(0.202)	(0.163)		(0.223)
Observations	708	708	708	708	708	708	459	459	459

Note: standard errors are in parentheses and corrected for clustering. Weighted regressions weight each observation by the inverse of the frequency the corresponding country appears in the estimation sample. R^2 refers to *pseudo-*R^2 for OLS estimations and *within* R^2 for FE ones. Excluded category for *Group concentration*: widely dispersed. All regressions control for time effects. OLS^a include the following additional controls: *gprop*, *localprop* and *localprop*groupcon*.

Table 2: Decentralization and presence of ethnic conflict

Dependent variable	Protest			Rebellion			Communal Violence		
Estimator	OLS	Group FE	Country FE	OLS	Group FE	Country FE	OLS	Group FE	Country FE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Unweighted regressions								
Decentralization	0.021	0.059	0.027	0.015	0.013	−0.076	−0.011	−0.038	−0.100
	(0.009)	(0.021)	(0.015)	(0.013)	(0.011)	(0.041)	(0.019)	(0.056)	(0.037)
Primarily urban	0.546		1.252	−1.736		−8.106	−10.789		−4.026
	(0.544)		(0.932)	(0.545)		(4.081)	(1.154)		(1.356)
Maj. in one region	−0.136		1.130	−0.708		−4.068	−3.516		−4.243
	(0.690)		(1.187)	(0.778)		(1.594)	(1.827)		(2.245)
Conc. in one region	0.782		1.958	0.909		0.857	0.096		−0.046
	(0.475)		(0.845)	(0.451)		(1.091)	(1.163)		(1.245)
Dec.*Primarily urban	0.020	−0.072	−0.083	0.102	0.013	0.397	0.048	0.040	0.086
	(0.013)	(0.033)	(0.051)	(0.015)	(0.042)	(0.233)	(0.028)	(0.088)	(0.062)
Dec.*Maj. in one reg.	−0.039	−0.086	−0.034	0.005	−0.023	0.096	0.031	−0.051	0.050
	(0.011)	(0.021)	(0.012)	(0.027)	(0.014)	(0.039)	(0.033)	(0.054)	(0.042)
Dec.*Conc. in one reg.	−0.023	−0.061	−0.040	−0.002	−0.005	0.037	−0.011	−0.018	−0.019
	(0.009)	(0.022)	(0.014)	(0.036)	(0.032)	(0.045)	(0.023)	(0.060)	(0.031)
Marginal Effect of decentralization for groups:									
Widely dispersed	0.021	0.059	0.027	0.015	0.013	−0.076	−0.011	−0.038	−0.100
	(0.009)	(0.021)	(0.015)	(0.013)	(0.011)	(0.041)	(0.019)	(0.056)	(0.037)
Primarily urban	0.040	−0.013	−0.056	0.117	0.026	0.321	0.037	0.002	−0.013
	(0.011)	(0.024)	(0.047)	(0.015)	(0.044)	(0.216)	(0.024)	(0.048)	(0.053)
Maj. in one region	−0.018	−0.027	−0.007	0.020	−0.010	0.020	0.020	−0.090	−0.049
	(0.012)	(0.010)	(0.011)	(0.020)	(0.010)	(0.018)	(0.040)	(0.012)	(0.025)
Conc. in one region	−0.002	−0.002	−0.012	0.000	0.011	−0.039	−0.022	−0.057	−0.119
	(0.007)	(0.015)	(0.018)	(0.010)	(0.037)	(0.025)	(0.017)	(0.036)	(0.038)
R^2	0.079	0.458	0.494	0.298	0.316	0.031	0.315	0.093	0.606
	Weighted regressions								
Decentralization	0.032	0.075	0.022	−0.011	0.004	−0.039	−0.028	−0.057	−0.130
	(0.008)	(0.021)	(0.015)	(0.020)	(0.010)	(0.031)	(0.016)	(0.062)	(0.042)
Primarily urban	0.099		1.634	−2.342		−5.701	−11.462		−3.083
	(0.556)		(1.184)	(0.932)		(3.716)	(1.332)		(2.020)
Maj. in one region	0.847		1.495	−1.849		−2.255	−5.986		−6.502
	(0.750)		(1.193)	(1.241)		(1.131)	(2.190)		(2.533)
Conc. in one region	0.453		1.948	0.879		0.997	−1.271		−0.409
	(0.445)		(0.898)	(0.835)		(0.604)	(0.906)		(1.576)
Dec.*Primarily urban	0.022	−0.077	−0.112	0.113	0.002	0.259	0.057	0.047	0.091
	(0.013)	(0.027)	(0.066)	(0.025)	(0.025)	(0.182)	(0.024)	(0.088)	(0.056)
Dec.*Maj. in one reg.	−0.040	−0.118	−0.033	0.025	−0.015	0.057	0.043	−0.037	0.076
	(0.011)	(0.021)	(0.014)	(0.032)	(0.015)	(0.032)	(0.040)	(0.064)	(0.041)
Dec.*Conc. in one reg.	−0.025	−0.079	−0.037	0.001	0.059	−0.002	0.002	−0.052	−0.031
	(0.008)	(0.030)	(0.019)	(0.022)	(0.049)	(0.023)	(0.024)	(0.097)	(0.035)
Marginal Effect of decentralization for groups:									
Widely dispersed	0.032	0.075	0.022	−0.011	0.004	−0.039	−0.028	−0.057	−0.130
	(0.008)	(0.021)	(0.015)	(0.020)	(0.010)	(0.031)	(0.016)	(0.062)	(0.042)
Primarily urban	0.054	−0.002	−0.089	0.102	0.006	0.219	0.029	−0.010	−0.039
	(0.010)	(0.016)	(0.061)	(0.019)	(0.025)	(0.177)	(0.022)	(0.051)	(0.045)
Maj. in one region	−0.008	−0.043	−0.011	0.014	−0.012	0.017	0.014	−0.094	−0.054
	(0.009)	(0.014)	(0.011)	(0.021)	(0.013)	(0.017)	(0.046)	(0.020)	(0.016)
Conc. in one region	0.007	−0.004	−0.015	−0.010	0.063	−0.042	−0.026	−0.109	−0.161
	(0.004)	(0.021)	(0.024)	(0.014)	(0.047)	(0.020)	(0.022)	(0.060)	(0.031)
Observations	708	708	708	708	708	708	459	459	459

Note: standard errors are in parentheses and corrected for clustering. Weighted regressions weight each observation by the inverse of the frequency the corresponding country appears in the estimation sample. R^2 refers to *pseudo-*R^2 for OLS estimations and *within* R^2 for FE ones. Excluded category for *Group concentration*: widely dispersed. All regressions control for time effects. OLS^a include the following additional controls: *gprop*, *localprop* and *localprop*groupcon*. Same other controls as in tables 1 and 2 but not shown.

Table 3: Decentralization and intensity of ethnic conflict: the role of group concentration

Dependent variable	Presence of Protest			Presence of Rebellion			Presence of Communal Violence		
Estimator	OLS	Group FE	Country FE	OLS	Group FE	Country FE	OLS	Group FE	Country FE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Unweighted regressions								
Decentralization	0.003	0.010	0.003	0.001	0.004	−0.015	−0.007	−0.018	−0.025
	(0.004)	(0.012)	(0.009)	(0.003)	(0.005)	(0.006)	(0.005)	(0.017)	(0.009)
Primarily urban	−0.363		−0.120	−0.735		−0.830	−2.080		−1.327
	(0.251)		(0.410)	(0.168)		(0.339)	(0.257)		(0.334)
Maj. in one region	0.023		0.992	−0.309		−0.836	−1.631		−1.692
	(0.279)		(0.384)	(0.203)		(0.345)	(0.376)		(0.566)
Conc. in one region	0.132		0.593	0.422		0.416	−0.281		−0.331
	(0.197)		(0.297)	(0.179)		(0.226)	(0.276)		(0.295)
Dec.*Primarily urban	−0.001	−0.032	−0.044	0.047	−0.012	0.025	0.017	0.017	0.023
	(0.006)	(0.015)	(0.023)	(0.005)	(0.009)	(0.018)	(0.007)	(0.024)	(0.013)
Dec.*Maj. in one reg.	−0.009	−0.030	−0.012	0.003	−0.013	0.018	0.016	0.005	0.019
	(0.006)	(0.012)	(0.006)	(0.006)	(0.007)	(0.005)	(0.007)	(0.016)	(0.009)
Dec.*Conc. in one reg.	−0.003	−0.002	−0.011	−0.012	−0.029	−0.005	0.005	0.012	−0.331
	(0.003)	(0.012)	(0.005)	(0.012)	(0.023)	(0.005)	(0.006)	(0.017)	(0.295)
Marginal Effect of decentralization for groups:									
Widely dispersed	0.003	0.010	0.003	0.001	0.004	−0.015	−0.007	−0.018	−0.025
	(0.004)	(0.012)	(0.009)	(0.003)	(0.005)	(0.006)	(0.005)	(0.017)	(0.009)
Primarily urban	0.002	−0.022	−0.041	0.048	−0.008	0.010	0.010	0.000	−0.002
	(0.005)	(0.008)	(0.019)	(0.005)	(0.006)	(0.016)	(0.004)	(0.011)	(0.010)
Maj. in one region	−0.006	−0.020	−0.010	0.004	−0.009	0.002	0.010	−0.014	−0.006
	(0.005)	(0.005)	(0.007)	(0.005)	(0.004)	(0.005)	(0.008)	(0.003)	(0.005)
Conc. in one region	0.000	0.008	−0.008	−0.006	−0.008	−0.020	−0.003	−0.006	−0.021
	(0.003)	(0.007)	(0.007)	(0.004)	(0.013)	(0.006)	(0.003)	(0.007)	(0.009)
R^2	0.174	0.148	0.416	0.382	0.106	0.620	0.308	0.051	0.594
	Weighted regressions								
Decentralization	0.006	0.015	−0.004	−0.005	0.000	−0.023	−0.010	−0.026	−0.031
	(0.005)	(0.012)	(0.007)	(0.005)	(0.003)	(0.009)	(0.004)	(0.018)	(0.011)
Primarily urban	−0.351		0.211	−0.796		−1.113	−2.340		−0.945
	(0.265)		(0.435)	(0.244)		(0.473)	(0.324)		(0.437)
Maj. in one region	0.414		0.847	−0.483		−0.984	−1.796		−1.781
	(0.262)		(0.348)	(0.366)		(0.423)	(0.493)		(0.654)
Conc. in one region	0.165		0.708	0.318		0.341	−0.610		−0.425
	(0.195)		(0.263)	(0.261)		(0.316)	(0.225)		(0.359)
Dec.*Primarily urban	0.000	−0.035	−0.047	0.046	−0.006	0.050	0.022	0.026	0.025
	(0.007)	(0.014)	(0.025)	(0.007)	(0.006)	(0.031)	(0.004)	(0.023)	(0.015)
Dec.*Maj. in one reg.	−0.012	−0.040	−0.011	0.006	−0.006	0.028	0.016	0.013	0.024
	(0.006)	(0.012)	(0.005)	(0.008)	(0.004)	(0.008)	(0.008)	(0.018)	(0.010)
Dec.*Conc. in one reg.	−0.008	−0.013	−0.009	−0.003	0.003	0.006	0.007	0.011	0.003
	(0.004)	(0.014)	(0.007)	(0.006)	(0.016)	(0.010)	(0.005)	(0.021)	(0.008)
Marginal Effect of decentralization for groups:									
Widely dispersed	0.006	0.015	−0.004	−0.005	0.000	−0.023	−0.010	−0.026	−0.031
	(0.005)	(0.012)	(0.007)	(0.005)	(0.003)	(0.009)	(0.004)	(0.018)	(0.011)
Primarily urban	0.006	−0.020	−0.051	0.041	−0.006	0.026	0.011	−0.001	−0.006
	(0.006)	(0.006)	(0.022)	(0.007)	(0.004)	(0.026)	(0.002)	(0.013)	(0.011)
Maj. in one region	−0.006	−0.026	−0.015	0.001	−0.006	0.004	0.006	−0.014	−0.007
	(0.006)	(0.005)	(0.005)	(0.006)	(0.002)	(0.006)	(0.009)	(0.005)	(0.003)
Conc. in one region	−0.002	0.001	−0.013	−0.008	0.004	−0.017	−0.003	−0.015	−0.028
	(0.003)	(0.010)	(0.008)	(0.005)	(0.016)	(0.009)	(0.004)	(0.010)	(0.008)
Observations	708	708	708	708	708	708	459	459	459

Note: standard errors are in parentheses and corrected for clustering. Weighted regressions weight each observation by the inverse of the frequency the corresponding country appears in the estimation sample. R^2 refers to *pseudo-*R^2 for OLS estimations and *within* R^2 for FE ones. Excluded category for *Group concentration*: widely dispersed. All regressions control for time effects. OLS^a include the following additional controls: *gprop*, *localprop* and *localprop*groupcon*. Same other controls as in tables 1 and 2 but not shown.

Table 4: Decentralization and presence of ethnic conflict: the role of group concentration

Dependent variable	Protest			Rebellion			Communal Violence		
Estimator	OLS	Group FE	Country FE	OLS	Group FE	Country FE	OLS	Group FE	Country FE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Unweighted regressions								
Decentralization	0.018	0.038	0.021	0.019	−0.013	0.013	0.003	0.012	−0.019
	(0.009)	(0.012)	(0.010)	(0.006)	(0.011)	(0.013)	(0.014)	(0.029)	(0.026)
Local maj.	1.009		0.277	1.611		0.956	1.255		2.449
	(0.263)		(0.807)	(0.424)		(0.738)	(0.638)		(1.314)
Dec.*Local maj.	−0.032	−0.056	−0.030	−0.030	0.007	−0.026	−0.018	−0.077	−0.033
	(0.006)	(0.016)	(0.007)	(0.009)	(0.017)	(0.010)	(0.016)	(0.034)	(0.019)
Marginal Effect of decentralization for groups:									
No local maj.	0.018	0.038	0.021	0.019	−0.013	0.013	0.003	0.012	−0.019
	(0.009)	(0.012)	(0.010)	(0.006)	(0.011)	(0.013)	(0.014)	(0.029)	(0.026)
Local maj.	−0.014	−0.018	−0.009	−0.012	−0.014	−0.004	−0.015	−0.065	−0.051
	(0.007)	(0.011)	(0.010)	(0.007)	(0.012)	(0.011)	(0.016)	(0.019)	(0.019)
R^2	0.210	0.054	0.375	0.307	0.014	0.447	0.144	0.059	0.421
	Weighted regressions								
Decentralization	0.021	0.056	0.009	0.024	0.006	0.028	0.013	−0.007	−0.047
	(0.009)	(0.019)	(0.011)	(0.007)	(0.012)	(0.015)	(0.016)	(0.033)	(0.019)
Local maj.	0.338		1.266	1.436		1.941	1.326		2.963
	(0.510)		(0.446)	(0.581)		(0.604)	(0.757)		(1.360)
Dec.*Local maj.	−0.031	−0.091	−0.027	−0.047	−0.018	−0.044	−0.075	0.000	−0.019
	(0.009)	(0.024)	(0.011)	(0.009)	(0.020)	(0.012)	(0.039)	(0.019)	(0.017)
Marginal Effect of decentralization for groups:									
No local maj.	0.021	0.056	0.009	0.024	0.006	0.028	0.013	−0.007	−0.047
	(0.009)	(0.019)	(0.011)	(0.007)	(0.012)	(0.015)	(0.016)	(0.033)	(0.019)
Local maj.	−0.009	−0.036	−0.018	−0.023	−0.016	0.004	0.001	−0.082	−0.066
	(0.007)	(0.011)	(0.008)	(0.008)	(0.013)	(0.011)	(0.018)	(0.015)	(0.016)
Observations	1037	1037	1037	1037	1037	1037	1037	1037	1037

Note: standard errors are in parentheses and corrected for clustering. Weighted regressions weight each observation by the inverse of the frequency the corresponding country appears in the estimation sample. R^2 refers to *pseudo-*R^2 for OLS estimations and *within* R^2 for FE ones. Excluded category for *Group concentration*: widely dispersed. All regressions control for time effects. OLS^a include the following additional controls: *gprop*, *localprop* and *localprop*groupcon*. Same other controls as in tables 1 and 2 but not shown.

Table 5: Decentralization and intensity of ethnic conflict: the role of local majority

Dependent variable	Presence of Protest			Presence of Rebellion			Presence of Communal Violence		
Estimator	OLS	Group FE	Country FE	OLS	Group FE	Country FE	OLS	Group FE	Country FE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Unweighted regressions								
Decentralization	0.005	0.007	−0.003	0.003	−0.015	−0.002	0.002	−0.002	0.000
	(0.003)	(0.006)	(0.005)	(0.002)	(0.007)	(0.006)	(0.004)	(0.008)	(0.006)
Local maj.	0.212		−0.163	0.536		0.238	0.471		0.593
	(0.140)		(0.204)	(0.153)		(0.317)	(0.166)		(0.280)
Dec.*Local maj.	−0.007	−0.021	−0.007	−0.011	0.008	−0.009	−0.004	−0.008	−0.008
	(0.003)	(0.008)	(0.003)	(0.003)	(0.008)	(0.003)	(0.004)	(0.008)	(0.005)
Marginal Effect of decentralization for groups:									
No local maj.	0.005	0.007	0.003	0.003	−0.015	−0.002	0.002	−0.002	0.000
	(0.003)	(0.006)	(0.005)	(0.002)	(0.007)	(0.006)	(0.004)	(0.008)	(0.006)
Local maj.	−0.003	−0.014	−0.010	−0.009	−0.006	−0.011	−0.002	−0.009	−0.009
	(0.003)	(0.005)	(0.005)	(0.003)	(0.005)	(0.006)	(0.004)	(0.003)	(0.003)
R^2	0.133	0.082	0.327	0.300	0.070	0.441	0.126	0.025	0.387
	Weighted regressions								
Decentralization	0.005	0.010	−0.008	0.004	−0.006	0.005	0.003	−0.007	−0.007
	(0.004)	(0.007)	(0.006)	(0.002)	(0.007)	(0.005)	(0.004)	(0.010)	(0.004)
Local maj.	0.018		0.244	0.403		0.694	0.387		0.653
	(0.233)		(0.362)	(0.190)		(0.235)	(0.162)		(0.280)
Dec.*Local maj.	−0.008	−0.030	−0.007	−0.015	−0.001	−0.013	−0.001	−0.006	−0.004
	(0.005)	(0.008)	(0.006)	(0.003)	(0.008)	(0.004)	(0.004)	(0.010)	(0.004)
Marginal Effect of decentralization for groups:									
No local maj.	0.005	0.010	−0.008	0.004	−0.006	0.005	0.003	−0.007	−0.007
	(0.004)	(0.007)	(0.006)	(0.002)	(0.007)	(0.005)	(0.004)	(0.010)	(0.004)
Local maj.	−0.003	−0.020	−0.015	−0.011	−0.006	−0.008	0.002	−0.013	−0.011
	(0.003)	(0.004)	(0.005)	(0.002)	(0.004)	(0.004)	(0.004)	(0.002)	(0.003)
Observations	1037	1037	1037	1037	1037	1037	672	672	672

Note: standard errors are in parentheses and corrected for clustering. Weighted regressions weight each observation by the inverse of the frequency the corresponding country appears in the estimation sample. R^2 refers to *pseudo-*R^2 for OLS estimations and *within* R^2 for FE ones. Excluded category for *Group concentration*: widely dispersed. All regressions control for time effects. OLS^a include the following additional controls: *gprop*, *localprop* and *localprop*groupcon*. Same other controls as in tables 1 and 2 but not shown.

Table 6: Decentralization and presence of ethnic conflict: the role of local majority

Appendix : List of countries (ranked by MAR code)

United States	Canada	Dominican Republic	Mexico
Nicaragua	Costa Rica	Panama	Colombia
Peru	Brazil	Bolivia	Paraguay
Chile	United Kingdom	Switzerland	Spain
Germany	Hungary	Czech Republic	Slovak Republic
Italy	Croatia	Bulgaria	Moldova
Romania	Russia	Estonia	Latvia
Lithuania	Ukraine	Belarus	Georgia
Azerbaijan	Zimbabwe	South Africa	Iran
Israel	India	Sri Lanka	Thailand
Malaysia	Indonesia	Australia	

Table 7: Countries present for estimations with local majority

United States	Canada	Mexico	Nicaragua
Costa Rica	Peru	Brazil	Paraguay
United Kingdom	Switzerland	Spain	Hungary
Czech Republic	Slovak Republic	Italy	Croatia
Bulgaria	Moldova	Romania	Russia
Estonia	Latvia	Lithuania	Ukraine
Belarus	Georgia	Azerbaijan	Zimbabwe
South Africa	Iran	Israel	India
Sri Lanka	Thailand	Malaysia	Indonesia
Australia			

Table 8: Countries present for estimations with group concentration