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2010

Does Fiscal Decentralization Dampen All Ethnic Conflicts? The Heterogeneous Impact of Fiscal Decentralization on Local Minorities and Local Majorities

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Abstract

Fiscal decentralization is widely proposed as an efficient means to accommodate ethnic violence. Yet while most of the econometric cross-country studies supports this view, case studies offer mixed results. In this paper, it is argued that this is partly due to the fact that fiscal decentralization exerts a heterogeneous impact across ethnic local majorities and minorities, both types of groups being regionally concentrated. The main argument in favour of fiscal decentralization is that by politically and fiscally empowering the local communities, these are enabled to allocate public spending in a way that is closer to their preferences. This paper hypothesises that such an empowerment mechanism, while

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relevant for local majorities, is likely to perform poorly for local minorities as they are not in a dominant position locally. This might feed ethnic violence as local minorities mobilize to obtain administrative regions in which they would control the decentralized policy. Similarly, fiscal decentralization could fuel communal violence as politically marginalized ethnic minorities clash against powerful local majorities. The article also hypothesises that the concern expressed by sceptics that fiscal decentralization undermines national cohesion and encourages secessionism is more acute for local majorities than for local minorities as the latter are usually too small to credibly envisage independence. Such hypotheses are discussed in the paper and then empirically tested on a panel dataset of ethnic local majorities and minorities across the world on the period 1985-2001. The main results are that i) fiscal decentralization does not encourage secessionism but on the contrary dampen rebellion of local majorities but, ii) fiscal decentralization fuels rebellion of local minorities, iii) fiscal decentralization reduces communal violence for both local majorities and minorities. As a result of its heterogeneous impact, the article calls into question the relevance of relying on fiscal decentralization to manage ethnic violence.

1 Introduction

Many economists consider that decentralization improves the quality of governance, fosters political participation and helps designing and implementing policies that are closer to the local preferences of the people. In the field of development, the idea to resort to bottom-up approaches - usually entailing a strong participatory dimension from people at the grassroots - rather than to top-down approaches, is also gaining ground. Political scientists and policy-makers tend also to call for decentralization in order to dampen ethnic conflicts. As most conflicts around the world are no more between states but within states, and as most of the latter entail a significant ethnic dimension (Sambanis 2001), the ques-

tion of the desirability of decentralization for dealing with this issue is a crucial one. Many developing countries have undertaken, or currently undertake, a process of democratization of their institutions. This usually goes hand in hand with a higher level of fiscal decentralization (Bird & Vaillancourt 1998). Many of these countries are also ethnically diverse and plagued by ethnic conflicts of various degree of severity. Yet do we know what are the consequences of the decentralization process on the level and likelihood of ethnic conflict in a country? Moreover do we know the distribution of the impact of decentralization across the various ethnic groups that compose a country? There exists several cross-country estimations of the effectiveness of decentralization as a means to mitigate ethnic conflict (Cohen 1997, Brancati 2006, Saideman, Lanoue, Campenni & Stanton 2002, Bakke & Wibbels 2006, Tranchant 2008, Siegle & O'Mahony 2006). They have usually found that decentralization was effective in managing ethnic violence conditional on certain country level factors (absence of regional parties, economic development) and ethnic group level factor (degree of spatial concentration). However, I claim in this paper that one cannot derive fully reliable policy recommendations on the two aforementioned questions from the results of existing large-N studies. That is because they fail to properly address the heterogeneous nature of the effect of decentralization across ethnic groups. Indeed, most existing studies estimate the effect of decentralization averaged over all ethnic groups in a country (Bakke & Wibbels 2006, Siegle & O'Mahony 2006, Cohen 1997), which hides the potential presence of within country variability. This yields misleading results if the average effect of decentralization hides a great deal of heterogeneity. And results in this paper suggest that this is the case. Decentralization does exert a strong effect on ethnic violence but the sign of this effect points in opposite direction with respect to groups's demographic characteristics. Depending upon the distribution of ethnic groups within a country and depending upon the distribution of demographic characteristics of these groups, the overall effect of decentralization can be null, negative or positive.

In this paper I draw on the study by Saideman et al. (2002) which has contrasted the effect of federalism with respect to the degree of groups spatial concentration. The study found that the intensity of rebellion decreased with federalism, but this was true only for spatially concentrated groups. I undertake a similar approach for fiscal decentralization and consider that beside groups spatial concentration, the local majority status of groups is crucial to understand why some groups increase their level of violence and why some others decrease it when decentralization goes up. In a nutshell the rationale is as follows. The main merit associated with decentralization (fiscal or political) is that it brings the government closer to the people. An ethnic group characterized by different preferences from the rest of the country will likely be marginalized if the public policy is decided at the central level. Decentralized government, on the other hand, allows ethnic groups to partly control their own affairs. But this requires that the ethnic groups are geographically concentrated but also, I argue, that they constitute a majority in the administrative regions in which they reside. For concentrated groups which are not local majorities, it is dubious that fiscal decentralization will bring new opportunity to bear upon the political system. On the contrary, one can fear that fiscal decentralization will encourage these groups to fight against the local majority (communal violence) or against the state (rebellion) in order to claim an autonomous status (Cornell 2002).

One of the main result of the paper is to show that within the category of concentrated groups (also referred to as 'territorial minorities'), the effect of fiscal decentralization changes dramatically with respect to the local majority status of the group. More specifically, the results suggest that if fiscal decentralization is effective at managing rebellion of local majorities, it also fuels rebellion for local minorities in the same proportion. This suggests that in presence of fiscal decentralization, local minorities fight for obtaining their own region in which they could fully benefit from the decentralization. Countries find thus themselves in a bind: refusing decentralization will foster rebellion from local majori-

ties, and promoting fiscal decentralization will fuel rebellion from local minorities. Thus, depending upon the number of each of these groups, the overall effect of decentralization can be null, negative or positive. Results for communal violence are more encouraging as I find that fiscal decentralization is significantly associated with lower violence for every groups.

The rest of the paper is organized as follows. Section 2 reviews the main arguments of the pros and cons of decentralization, and outlines hypotheses about the relationships between fiscal decentralization, group concentration, local majority and conflict behaviour. Section 3 presents the empirical strategy and the data. Section 4 discusses the results. Section 5 concludes.

2 Fiscal Decentralization, Ethnic Conflict and Demographic characteristics of Ethnic Groups

2.1 Does fiscal decentralization empower ethnic minorities or unleash centrifugal forces?

Numerous scholars have called for decentralization as a means to manage ethnic conflict: (Lijphart 1977, Hechter 2000, Hooghe 2004, Lustick, Miodownik & Eidelson 2004, Suberu 2001, Gurr 2000) for instance. The main argument in favour of decentralization is that, in pluriethnic societies, decentralization allows ethnic minorities to control their own affairs whilst the geographical integrity of the country is maintained. More specifically, decentralization is aimed at managing "territorial cleavages", that is, situations of conflict involving minorities which are geographically concentrated in some parts of the country. By bringing the government closer to the people, decentralization allows the public policies to reflect the local preferences (Oates 1972). If an ethnic group is characterized by preferences over the policy which are different from those of the

dominant groups, decentralization results in an increase of its welfare. Arguably, the increase in the group's welfare is negatively associated with its motive for rebellion.

In contrast, opponents point out that decentralization in multi-ethnic countries contributes to 'freeze' ethnic identities over time (Hardgrave 1993, Kymlicka 1998) and to reinforce the legitimacy of ethnically defined subunits (Cornell 2002). Moreover, decentralization also provides new institutional and economic resources to the separatist movements. As a result decentralization fosters violent conflicts instead of preventing them (Cornell 2002, Roeder 1991, Bunce 1999). This can be illustrated by the experience of the Basque country in Spain where - despite a very large degree of fiscal decentralization - the demands for independence have not disappeared and terrorism activities are still ongoing. In addition, decentralization might further weaken the nation-building process. The reason is that decentralization spurs centrifugal forces in a country as each ethnic group claims its own administrative region in which it would be dominant (Cornell 2002). The relationship between fiscal decentralization and creation of local administrative units has for a long time remained overlooked by scholars. Green (2008a, 2008b) and Siegle & O'Mahony (2006) report that in Uganda - one of the most ethnically fragmented countries in the world - the fiscal decentralization process has been accompanied by an enormous increase in the number of districts. Part of the explanation lies in the fact that some local ethnic minorities claimed their own districts. Another danger associated with decentralization is that it may fuel communal violence at the local level (Horowitz 1991, Nordlinger 1972, Suberu 1994).

The existing econometric studies tend to give credence to the proponents of decentralization as decentralization is found to either decrease rebellion and/or communal violence or to have no effect (Cohen 1997, Saideman et al. 2002, Brancati 2006, Tranchant 2008). Only Siegle & O'Mahony (2006) found that revenue decentralization was associated with more rebellion. Bakke & Wibbels (2006) and Siegle & O'Mahony (2006) have used country level measures of violence and therefore used

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every ethnic groups within a country to lead their estimations. The econometric model of Cohen (1997) has pooled every ethnic groups together and does not distinguish between concentrated and dispersed groups. Brancati (2006) and Tranchant (2008) have considered only spatially concentrated groups as decentralization cannot empower dispersed groups. Previously, Saideman et al. (2002) have shown that federalism reduced rebellion only for concentrated groups. The upshot is that the effect of decentralization has been estimated using either all groups within a country or only the spatially concentrated groups. Hence within the broad category of spatially concentrated groups the effect of decentralization was assumed to be uniform.

I argue here that we need to go further and that fiscal decentralization is likely to exert differentiated impacts on different types of concentrated ethnic groups and that it is possible that decentralization detracts some groups from violence whilst it fuels violence for some others. Hence, the aim of this paper is to estimate the distributional consequences of fiscal decentralization with respect to groups characteristics. In the subsequent subsection I formulate hypotheses about the relationship between fiscal decentralization, groups characteristics and conflict behaviour. I chose to restrict the analysis to fiscal decentralization as it is advised to many developing countries in order to improve governance. Furthermore Siegle & O'Mahony (2006) argue that fiscal decentralization is the strongest commitment to decentralization as it involves that the central state gives away some of its powers.

2.2 Fiscal Decentralization, Local Majority status and Ethnic Violence

It is useful first to define the term ethnic violence. In what follows I consider two forms of ethnic violence, namely rebellion and communal violence. Rebellion stands for violent anti-regime activities and communal violence refers to inter-groups violent rivalries. The two definitions are those of the Minorities At Risk database whose data I use in the

empirical section. Also, I refer in what follows to the region as a generic name for the relevant local layer of government in which the minority may or may not be concentrated. Depending on the countries, the term region must be replaced by state, province or district or any other name granted to local administrative units.

The main point of this paper is to claim that both arguments put forward by proponents and opponents to decentralization alike need to be restated in terms of the local minority/majority status of the ethnic groups. I elaborate from the theoretical model of (Bjorvatn & Cappelen 2003) which Let me consider first the argument over the empowerment of territorial minorities. In a democratic society, the decentralized regional policy will be that of the regional median voter whilst the centralized policy will follow the preference of the national median voter (Bjorvatn & Cappelen 2003). It follows that fiscal decentralization is desirable for ethnic groups which are too small to bear upon national level politics and which are geographically concentrated. In ethnofederations where administrative boundaries perfectly overlap ethnic groups boundaries, fiscal decentralization gives automatically new opportunities for concentrated groups. Usually regions exhibit some degree of ethnic diversity though it might be lower than at the national level. In that case, for the mechanism of empowerment to work it is not enough that a group is regionally concentrated, it must also account for a simple local majority within the administrative region so that the regional median voter will be for sure a member of the group (Bjorvatn & Cappelen 2003). For a concentrated group that represents a local simple majority, fiscal decentralization will increase the welfare and reduces the motives for rebellion.

H1a: In a democratic society, fiscal decentralization reduces ethnic violence for local majorities

It is important to note that in imperfect democracies or non-democracies, the mechanism of the median voter does not fully apply. Either because

some powerful interests distort the policy in their favour or because the regional policy reflects the preferences of the central state or those of a local minority which is better connected to the central state.

H1b: In imperfect or non democracies the effect of fiscal decentralization on local majorities is ambiguous

If a group only accounts for a relative majority or is a local minority, the regional policy will not necessarily follow the preferences of the group members. Therefore, the effect of fiscal decentralization will depend on the regional and national distributions of preferences. Tenants of decentralization tend to see the state as the main threat to ethnic minorities. This implies that the gap in preferences of the considered group and the state is higher than that between this same group any other group in the country (Bjorvatn & Cappelen 2003). In that case, a local minority will still benefit from fiscal decentralization as the gap between its preferred policy and the implemented policy will always be reduced with respect to centralization.

H2a: If the gap in preferences is wider between the state and the local minority than it is between the local minority and any other group, then decentralization reduces ethnic violence for local minorities

Ethnic conflicts do not only take place between the state and a minority. There are numerous evidences of inter-group clashes that do not not involve the state directly. Local competition over resources or the presence of an ethnicized economic organization drive groups to conflict all around the world. It is then conceivable that a local minority might be worse-off in decentralization where it has to face a hostile local majority than in centralization (Horowitz 1991, Suberu 1994). It is all the more true if the checks and balances and democratic institutions are weaker at the local level than at the country level (Bardhan 2002). This can manifest itself through discriminatory policies enacted by the regional majorities or a lack of political will to redress deep-rooted dis-

criminatory social practices. The result might be an increase in the level
of communal violence.

*H2b: Conversely, if the preferences of the local minority are more far
apart from those of the local majority than from those of the state, then
fiscal decentralization will result in communal violence*

Now let me state the main arguments of the opponents of decen-
tralization in the perspective of the local majority/minority status of
the ethnic groups. The first concern is that decentralization reinforces
and legitimates the ethnic identities. Groups which are locally concen-
trated and form a local majority will benefit from a renewed legitimacy
and increasing resources. Instead of dampening the 'flames of ethnic
conflict' (Brancati 2006), decentralization might in fact strengthen the
motives for and the resources necessary to launch or continue separatist
movements.

H3: Fiscal decentralization increases rebellion for local majorities

Groups which do not form a local majority are encouraged to claim
an equal treatment viz. the local majorities and ask for carving out new
regions in which they would be dominant (Cornell 2002). I stress here the
idea that administrative boundaries are to some extent endogenous to
the decentralization process. Green (2008*b*) and Diprose (2008) investi-
gated this under-researched dimension of decentralization in respectively
Uganda and Indonesia. Green shows that the tremendous multiplication
of districts creation which happened during the decentralization process
in Uganda had a lot do with patron-client relationship on one hand, and
claims from local minority ethnic groups to dispose of their own districts
on the other hand. In some instances these claims took a violent form.

*H4: Decentralization increases rebellion for local minorities moti-
vated by the demand to create their own regions*

Before to turn to the quantitative analyses of these hypotheses, let me illustrate first how the process of fiscal decentralization has indeed provided various incentives for peace and violence to different kinds of ethnic groups in post-independence India.

2.3 An Illustration of the Group's Differentiated Conflict Behaviour in Decentralization: The Case of North-east India

The post-independence history of North-east India offers a striking illustration of the conflicting above mentioned hypotheses[1]. Following the partition of India, a federal and fiscally decentralized country, the Indian North-east counted three states: Tripura, Manipur and Assam. Assam exhibited a tremendous ethnic and religious diversity. In the periphery of Assam lived some tribal groups (Mizos, Nagas, Khasi...) which in our terminology are local minorities. This means that they were concentrated in Assam but none of these groups reached a majority of the state population. In 1954, one of these groups, the Nagas, launched a rebellion and claimed its own state. The protracted violence that ensued was put to an end when the union government in New Delhi created the Nagaland state in 1963. The example of the Nagas were followed by the Mizos which started an armed rebellion in 1966. The union government chose in a first stage to repress the movement before to change its strategy. In 1972 New Delhi sought to settle all the North-eastern troubles at once by creating Union Territories or states for the tribal groups living in Assam. In particular the state of Mizoram was carved out from the district of Lushai Mounts, where the Mizos were concentrated and dominant. In consequence, in 1986 the Mizo National Front gave up the armed rebellion. The reorganization of 1972 has not however succeeded in preventing ethnic violence altogether. In Assam communal violence broke out between the minority of Bangladeshi Muslims and the majority of Assamese Hindus. Since 1985 the United Liberation

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[1]The account to follow draws on Jaffrelot (1997), chapter 12.

Front of Assam (ULFA) - an Assamese armed group extremely hostile to foreigners - began to increase the scale of its violent activities and resorted to guerilla, murders and extortion. It took several direct interventions of New Delhi, especially through the 'Presidential Rule'[2], to force its members to surrender. Furthermore the centrifugal movements continued. For example the Bodos, another tribal group, which have demanded an autonomous state since the 1970s engaged in massive violence from the mid-1980s and early 1990s. The Bodo Security Force engaged notably in terrorism and kidnapping. In 1993 the violence receded as the Bodos accepted the idea of an autonomous Council of Bodoland. It is worth noting that the Bodos were not a majority in any district or town. They were concentrated in Assam but there its 1 million inhabitants were fairly geographically spread.

I argue that the experience of North-east India illustrates very well the need to go beyond estimating an average group effect of fiscal decentralization and to ascertain whether local minorities and local majorities react in opposite ways to decentralization. The Mizos and the Nagas were local minorities in the state of Assam. In the decentralized India, they did not have a say in the conduct of the affairs of Assam and this triggered violent movements to force the state to give them a majority status. Once the majority status has been granted, the rebellion has gradually receded. Interestingly, even the Bodos, which are not a genuine territorial minority in Assam, have followed the same path. In the meantime, some communal violence broke out. The specificity of Assam lies in that the identities there are profoundly nested. This implied that solving one problem (with the Nagas for instance) would trigger a new series of violent claims from other groups as the administrative boundaries were modified and the majority and minority status of all groups were also changed. It is not possible to know for sure what would have been the history of the Indian North-east in the absence

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[2]The 'Presidential Rule' allows the centre to bypass the state governments and rule them directly in case of persistent troubles that the state governments cannot resolve.

of decentralization. In contrast, we know that decentralization in India gave rise to complicated dynamics of ethnic peace and violence, largely due to the demographic characteristics of ethnic groups. These kinds of dynamics has been overlooked thus far in the quantitative analyses of decentralization. The rest of the paper tries to fill this gap.

3   Data and Methods

I will now turn to the empirical assessment of the effect of fiscal decentralization on ethnic violence. Fiscal decentralization is captured by the share of subnational expenditures in overall state spending. The data originally come from the Government Financial Statistics computed by the International Monetary Fund and have been gathered by the World Bank along with other indicators of fiscal decentralization. I stress the expenditure decentralization, as opposed to revenue decentralization, since the discussion in the previous section made clear that what matters from the viewpoint of ethnic conflict is the groups's capacity to influence public spending at various levels of government. The decentralization data covers between 34 and 55 countries on a yearly basis between 1972 and 2001. This is a limited coverage as most of African countries are left out of the dataset. There exists another dataset, compiled by Daniel Treisman, which provide indicators of decentralization for a larger number of countries. But, unlike the IMF data, they are only available for one period (the mid-1990s), rendering impossible the use of panel data techniques. As I claim later in this section that the issue of unobserved heterogeneity is of a crucial importance in this analysis, I therefore choose to work with the IMF data in order to be able to control for a potential omitted variables bias. The unit of analysis is the ethnic groups at risk as defined by the Minorities At Risk (MAR) database. MAR covers 285 groups around the world. The groups selected are groups with a history and/or an ongoing experience of violence and/or discrimination. All of these groups are demographic minorities. Along with information on various forms of ethnic conflict and violence, the

database makes available information on their demographic, political, social and cultural characteristics. This is what I need to test the effect of fiscal decentralization conditional on demographic groups's characteristics. In particular I use the binary variable 'regional base' which takes the value 1 if the group disposes of 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, p. 18). This variable captures well the notion of 'territorial minority' as a group having a regional base enjoys a territory it can claim. This means it can rule this territory under decentralization, or call for independence on the basis of this territory. Hence groups having a regional base do rebel significantly more than groups lacking one. Yet, this variable is imperfect as it does not distinguish between local majorities and local minorities. In the data it turns out that slightly more than 20% of the territorial minorities are not a simple majority of the regional population. I have stressed in the previous section the need to distinguish between the incentives provided by fiscal decentralization in terms of conflict behaviour on local majorities and local minorities. Therefore I have constructed a new variable labelled 'local majority' which takes the value 1 if the group is majoritarian in its regional base and 0 otherwise[3] Ethnic violence is measured by the intensity and the presence of rebellion and communal violence. It is important to distinguish between intensity and likelihood of conflict as it may be that fiscal decentralization is 'peace-preventing', namely that it has an influence on the likelihood of conflict but not on the intensity of ongoing conflicts, or 'conflict-mitigating', namely that it reduces the intensity of ongoing conflicts but fails to prevent the formation of new conflicts. Rebellion refers to the violent actions engaged by a group against the state as terrorism, guerilla or civil war. Communal violence differs from rebellion as it measures violence occurring between groups. It entails acts of anti-group demonstration, harass-

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[3]I make use of the variable 'gc6b' which informs on the regional proportion of the population which belong to the groups.

ment and communal warfare. The intensity of conflict is assessed by MAR through an ordinal scale going from 0 to 7 for rebellion and 0 to 6 for communal violence. The variables of presence of conflict are dummies which take the value 1 when the intensity of conflict is positive and 0 otherwise. Annual data are available from 1985 for rebellion and from 1990 for communal violence.

The models to estimate are as follows.

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\begin{aligned}
y_{it} &= \beta_0 + \beta_1 Fisc.Decentralization + \beta_2 Fisc.Decentralization * Rbase \\
&\quad + \beta_3 X_{it} + \beta_4 Z_{ijt} + c_j + \zeta_t + u_{ijt} \tag{1} \\
y_{it} &= \beta_0 + \beta_1 Fisc.Decentralization + \beta_2 Fisc.Decentralization * LocalMajority \\
&\quad + \beta_3 X_{it} + \beta_4 Z_{ijt} + c_j + \zeta_t + u_{ijt} \tag{2}
\end{aligned}
$$

The subscript i denotes the group, j the country and t the year of observation. y_{ijt} is an indicator of ethnic violence, $Rbase$ the regional base variable, X_{jt} a vector of country level controls and Z_{ijt} a vector of group level controls including $Rbase$ or $Localmajority$. Finally c_j is a country specific effect and ζ_t a time trend.

As the variable of interest is measured at the country level and the dependent variables are measured at the group level, one has to choose between including group or country specific effects (including both is not possible as the two dimensions are nested). I have decided to include a country specific effect as it is unlikely that some unobservable characteristic of an ethnic minority would influence alone the degree of fiscal decentralization in a country. This is confirmed by Hausman tests which show that for every specifications that will be considered thereafter a group specific effect is never correlated with fiscal decentralization. The estimator will therefore be either country fixed effect or country random effect. For each specification the choice follows the result of a Hausman test. Both fixed and random effects rest on the assumption of homoscedastic errors which is not supported by the data. Statistical tests reveal that errors are both serially correlated and that the variance of the errors is not constant across time. The estimations

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therefore use a robust variance-covariance matrix.

The use of panel data estimators is an improvement with respect to previous studies which by and large resorted to pooling estimators. Fiscal decentralization is only one aspect of the institutional arrangements that prevail in a country, and which are correlated with one another. It is difficult to control for all the facets of institutional arrangements which can include the type of electoral system, the various aspects of decentralization, the openness of the political regime and so forth. Moreover it is likely that fiscal decentralization is correlated with some other geographic or historical characteristics of a country which are (especially for the latter) difficult to measure. For all these reasons the possibility to use panel data estimators is a substantial improvement.

I will also control for variables that are time-varying and likely to be correlated with both fiscal decentralization and ethnic violence. The controls are the logarithm of the GDP per capita, stemming from the World Development Indicators (WDI), the logarithm of the population (WDI), the bureaucratic quality (computed by the International Country Risk Guide, ICRG), the level of democracy (from Polity IV), the ethnic fragmentation index (Alesina, Devleeschauwer, Easterly, Kurlat & Wacziarg 2003), the past autonomy status of the group (MAR) and the group coherence index (MAR).

4 Results

4.1 Fiscal Decentralization and Territorial Minorities

The estimated impacts of fiscal decentralization on intensity and likelihood of ethnic conflicts are found in the first panel of table I. The coefficient associated with fiscal decentralization is allowed to be different for groups having a regional base on the one hand, and for those which do not have a regional base on the other. The lower part of the table presents the marginal effect of fiscal decentralization along with

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its standard error for each type of groups . For each measure of conflict I run country random effects or country fixed effects depending on the result of a prior Hausman test robust to heteroskedasticity. There are several findings worth noting. Firstly, the interaction term between fiscal decentralization and regional base is usually negative (except for the likelihood of communal violence in column 4) and nearly always the coefficient is statistically significant (except in column 1). This confirms that the conflict behaviour of ethnic groups in decentralization differs across groups, with respect to their demographic characteristics. Secondly, for groups lacking a regional base, the marginal effect of fiscal decentralization is surprisingly always negative. It even reaches the usual level of confidence for the likelihood of rebellion (column 2). Thirdly, the marginal effect of fiscal decentralization is consistently negative for territorial minorities. They are statistically significant for the presence of rebellion and both intensity and presence of communal violence. These results do not reveal a distinction as neat as expected between ethnic groups having a regional base and the others. In fact, if the interaction term between fiscal decentralization and regional base is negative and significant, the signs of the marginal effects are the same across groups. The only difference is that the marginal effects are more often statistically significant for groups having a regional base. Before to go further, I check the robustness of the results by testing whether they are driven by outliers. I re-run the regressions without observations on India. Indian observations account for nearly 20% of the estimation sample as the country hosts many ethnic minorities, and as it is well covered by the decentralization data. The results are found in the lower panel of table I. Insofar as territorial minorities are concerned, the results are completely similar to those displayed in the upper panel of I. However, for groups without a regional base, the effect of fiscal decentralization is now never statistically significant. This set of results tends then to confirm the hypotheses that fiscal decentralization is of no consequence for groups lacking a regional base and is effective at reducing rebellion and communal violence for groups having a regional base. In India though,

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this does not seem to be the case, as even groups without a regional base lower their level of violence when fiscal decentralization goes up. This is an interesting result of its own, but to explain it is beyond the scope of the paper.

4.2   Fiscal Decentralization and Local Majorities

The main assumption made in the paper is that within the category of regionally concentrated groups, fiscal decentralization provides different incentives to ethnic groups with respect to their local majority status. I will now consider the interaction between fiscal decentralization and the local majority variable. The introduction of the local majority variable leads to a drastic reduction in the number of observations. This is due to data limitations on the regional population of groups. After including the same set of controls as in the previous estimations, the sample is composed of only 12 local minorities in 9 countries and 42 local majorities in 29 countries. The results are displayed in the upper panel of table II. They show that the divide between local minority and local majority is relevant for rebellion. For local majorities, the effect of fiscal decentralization is negative albeit statistically significant only for the likelihood of rebellion. In contrast, the effect of fiscal decentralization is positive for local minorities, and it reaches usual levels of confidence for both intensity and likelihood of rebellion. Contrariwise, for communal violence the results do not support the presence of this divide. The impact of fiscal decentralization is negative for both local minorities and local majorities and is always statistically significant. The magnitude of the effect is even larger for local minorities than for local majorities. The fear that decentralization would trigger inter-groups violence - partly due to the weakness of local checks and balances - does not seem grounded. The lower panel of table II replicates the analysis without the Indian observations. The picture is similar to the one above, namely, that for local majorities fiscal decentralization significantly reduces the likelihood of rebellion and the intensity and likelihood of communal vi-

olence. For local minorities, fiscal decentralization fuels rebellion and detracts from communal violence. The positive point estimate of fiscal decentralization in the rebellion regression is even much larger than in the upper panel of table II. It turns out then that excluding Indian observations strengthens the results.

These findings must be taken with caution given the low number of local minorities included in the sample. In order to broaden the estimation sample and to get reassurance about the robustness of the results, I present in tables III and IV estimations with a fewer number of controls. Only rebellion is considered as only for rebellion the divide between local majorities and local minorities is relevant in the data. Table III displays results for the intensity of rebellion whereas table IV is concerned with the likelihood of rebellion. In column 1, I replace bureaucratic quality by law and order (also stemming from ICRG) which permits to enlarge the sample to 17 local minorities (in 10 countries) and 43 local majorities (in 29 countries). In both tables the point estimate of fiscal decentralization for local minorities is nearly unchanged and is still significant at the 5% level. This holds true when I use the sample without India. In column 2, I remove the institutional variable, increasing the number of local minorities to 19. The coefficient associated with fiscal decentralization is similar and is still significant. Finally in column 3, I drop the two variables of group cohesion and past autonomy status. The sample includes now 20 local minorities in 13 countries and 48 local majorities in 34 countries. Here again the results on local minorities are unaffected. In consequence, the finding that fiscal decentralization fuels rebellion for local minorities does not seem to be driven by the small size of the sample.

4.3 Large local majorities versus small local majorities

The previous set of results has shown that fiscal decentralization produces different incentives to ethnic groups even within the category of

territorial minorities. I investigate now whether the subcategory of local majorities is in itself an heterogeneous category. To check this possibility, I split the local majorities further into 2 categories: local majorities for which the group's proportion of the regional population is below 75% and local majorities for which the group's proportion of the regional population is above 75%. I call the first category 'small local majority' and the second one 'large local majority'. These categories are created with the MAR variable called 'gc6b'. The results shown in the upper panel of table V are based on respectively 12 local minorities, 14 small local majorities and 24 large local majorities. It turns out that as far as rebellion is concerned, the small local majorities behave similarly as the local minorities. For both, fiscal decentralization fosters rebellion. Even the magnitude of the coefficient is similar. In contrast, the reaction of the large local majorities is drastically different from that of the two other categories. They significantly reduce their level of rebellion with fiscal decentralization. However the magnitude (in absolute value) of the effect is roughly only half of that for the other groups. Regarding the likelihood of rebellion, the results in column 2 show that fiscal decentralization increases the risk of rebellion for local minorities and lowers it for the large local majorities. Small local majorities are not affected by fiscal decentralization. As in table II, fiscal decentralization does not provide different group incentives for communal violence. The marginal effect is negative for all 3 types of groups, but statistically significant only for the local minorities and the large local majorities. The results are unaffected when I increase the sample size by dropping some of the controls.

The lower panel of table V presents the same estimations conducted on a sample excluding India. While the signs of the different effects are strictly similar to those obtained on the full sample, there is some noticeable changes in the magnitudes of those effects. In fact, it appears that the rebellion-producing effect of fiscal decentralization on local minorities and small local majorities alike is dramatically enhanced. Roughly, the size of this effect is doubled whereas the size of the rebellion-mitigating

effect of fiscal decentralization on large local majorities stays unaffected. Together these results mean that the desirable effect of fiscal decentralization is concentrated on one category of ethnic group (the large local majorities) while the undesirable effect of fiscal decentralization hits both the local minorities and the small local majorities. In addition, the undesirable effect is twice as large as the desirable effect. It is only because the large local majorities are more common than the local minorities and the small local majorities that the average effect of fiscal decentralization on the sample of territorial minorities at large appears as desirable (see table I). Before to discuss the implications of this result, I must try to explain it.

The fact that only large local majorities reduce their level of rebellion with fiscal decentralization does not fit with the mechanism of the median voter. However, as stated by the hypothesis *H1b*, it may be that in imperfect democracies, to be a local majority does not suffice for the group to control its own affairs. In many contexts, the central state and some local ethnic minorities are engaged in a long-standing patronage relationship that exclude the principal local minority of the regional power. In Uganda, Nigeria and Indonesia, the process of decentralization has been accompanied by the creation of new local administrative units (Green 2008*a*, Ukiwo 2006, Diprose 2008). Local ethnic groups have fought for the control of these units and, in the absence of a strong democratic environment, it is not certain that the biggest groups always win. Yet, in the presence of large local majorities, the probability that the control of the regional policy falls into the grip of a small group becomes unrealistic. It would take a pure autocratic regime to repress the voice of a group accounting for more than three quarters of the regional population.

5 Concluding Remarks

The bottom line of the paper is that the effect of fiscal decentralization on rebellion is heterogeneous even within the rather narrow category of

territorial minorities. Yet it is usually considered that territorial minorities at large are responsive to fiscal decentralization as opposed to dispersed groups. Proponents of and opponents to decentralization disagree on the nature of this response but they agree on the focus on territorial minorities. This paper suggests that this is greatly misleading. Drawing on the most commonly arguments put forward by proponents and opponents to fiscal decentralization, I have argued that one needs to distinguish between local minorities and local majorities. Both are territorial minorities but the incentives generated by fiscal decentralization are likely to diverge between these two groups. The empirical results confirm this hypothesis: fiscal decentralization quells rebellion of local majorities and fuels rebellion of local minorities. Furthermore the effect of fiscal decentralization on local minorities is stronger than that on local majorities. However, as local majorities largely outnumber local minorities, the effect of fiscal decentralization on territorial minorities at large appears as desirable. On the ground that democracy is not firmly established within the sample, I have checked whether the cut-off between local minorities and local majorities was in fact shifted upward, namely that a small local majority would be closer to a local minority than to a large local majority. This proved consistent with the data as fiscal decentralization dampens rebellion only for the large local majorities. In contrast, fiscal decentralization fosters rebellion of both local minorities and small local majorities.

The results have a strong interest in terms of policy recommendations. They show that if an ethnically fragmented country would engage itself in a fiscal decentralization process (to improve the quality of the governance for instance) it would generate sizeable and complex consequences on the level and likelihood of ethnic rebellions. At first glance the magnitudes of the marginal effects displayed in tables I - V seem low. In fact, a one standard deviation increase in the level of fiscal decentralization would result in a 80% increase of the intensity of rebellion of the average local minority, a 69% increase of the intensity of rebellion of the average small local majority and a 32% decrease of the

intensity of rebellion of the average large local majority. These are very important effects, and as they point in opposite directions with respect to ethnic groups characteristics, they suggest to be extremely careful before to call for decentralization as a way to mitigate ethnic conflict. More specifically, these results should push some countries to give up on the use of fiscal decentralization even though previous results in the literature would suggest otherwise. Hence for Mexico, where both the Mayans and the Zapotecs are small local majorities, fiscal decentralization should be avoided. The same is true for, among others, Nicaragua (with Indigenous people), Colombia (Black people), Bulgaria and Romania (with respectively the Turks and the Magyars) and Sri Lanka (with the Tamils). In contrast, Canada (with the Quebecois), Panama (with the Indigenous people), Peru (with Indigenous people and Lowland indigenous people), Bolivia (with Indigenous highland people), the UK (with the Scots), the Slovak Republic (with the Hungarians), Zimbabwe (with the Ndebele) and South Africa (with the Zulus and the Xhosas) are examples of countries where fiscal decentralization looks like a good solution. Finally there exists a sizeable number of countries where both local minorities and/or small local majorities coexist with large local majorities. In those countries, the consequences of fiscal decentralization are ambiguous. This concerns for instance Spain (with the Basques and the Catalans), Russia, Azerbaijan, Iran and India.

These results strongly call for including the predicted effects of fiscal decentralization on ethnic conflict before donors and policy-makers commit themselves to fiscal decentralization (e.g. as part of a 'good governance' reform package) in any country. The results shed also another light on the previous empirical results of the literature. Studies which have pooled every groups together or used country level violence measures have estimated an average treatment effects across ethnic groups. The results of this paper directly challenge the relevance of such an average effect.

In contrast such a story is not true when one looks at communal violence. In that case fiscal decentralization reduces communal violence

for every territorial minorities. This is a very encouraging result for countries plagued by endemic inter-groups violence. Yet, as it is not possible to separate the respective effects of fiscal decentralization on rebellion and communal violence, even the use of fiscal decentralization as a tool for mitigating communal violence may prove dangerous.

Finally, the findings show that both proponents and opponents hold a part of the truth. Indeed, as advocated by the proponents of fiscal decentralization, it seems true that devolving power-making to concentrated local majorities limits their motives to rebellion. In contrast, the fear expressed by sceptics that decentralization reinforces secessionism is not supported by the data. In the same time, however, the results are consistent with the idea that decentralization fosters centrifugal demands. Local minorities are encouraged to claim the creation of new administrative regions in which they would be dominant. Such claims takes more often than not a violent form.

References

Alesina, Alberto., Arnaud Devleeschauwer, William Easterly, Sergio Kurlat & Romain Wacziarg. 2003. "Fractionalization." *Journal of Economic Growth* 8(2):155–194.

Bakke, Kristin & Erik Wibbels. 2006. "Diversity, Disparity, and Civil Conflicts in Federal States." *World Politics* 59(1):1–50.

Bardhan, Pranab. 2002. "Decentralization of Governance and Development." *Journal of Economic Perspectives* 16(4):185–205.

Bird, Richard M. & Francois Vaillancourt. 1998. *Fiscal Decentralization in Developing Countries*. Cambridge: Cambridge University Press.

Bjorvatn, Kjetil & Alexander W Cappelen. 2003. "Decentralization and the Fate of Minorities." CESifo Working Paper No. 1032.

Brancati, Dawn. 2006. "Decentralization: Fueling the Fire or Dampening the Flames of Ethnic Conflict." *International Organization* 60(Summer):651–685.

Bunce, Valerie. 1999. *Subversive Institutions: The Design and the Destruction of Socialism and the State*. Cambridge: Cambridge University Press.

CIDCM. 2009. "Minorities at Risk Project." College Park, MD: Center for International Development and Conflict Management. Retrieved from http://www.cidcm.umd.edu/mar/.

Cohen, Frank S. 1997. "Proportional Versus Majoritarian Ethnic Conflict Management in Democracies." *Comparative Political Studies* 30(5):607–630.

Cornell, Svante E. 2002. "Autonomy as a Source of Conflict: Caucasian Conflicts in Theoretical Perspective." *World Politics* 54(2):245–276.

Diprose, Rachael. 2008. "Passing on the Challenges or Prescribing Better Management of Diversity? Decentralisation, Power Sharing and Conflict Dynamics in Central Sulawesi, Indonesia." *Conflict, Security and Development* 8(4):393–425.

Green, Elliot. 2008*a*. "Decentralization and Conflict in Uganda." *Conflict, Security and Development* 8(4):427–450.

Green, Elliott. 2008*b*. "District Creation and Decentralization in Uganda." Crisis State Working Paper 24.

Gurr, Ted Robert. 2000. *People Versus States*. Washington, DC: United States Institute of Peace Press.

Hardgrave, Robert L., Jr. 1993. "India: The Dilemmas of Diversity." *Journal of Democracy* 4(4):54–68.

Hechter, Michael. 2000. *Containing Nationalism*. Oxford: Oxford University Press.

Hooghe, Liesbeth. 2004. Belgium: Hollowing the Center. In *Federalism and Territorial Cleavages*, ed. U.M. Amoretti & N. Bermeo. Baltimore, MD: Johns Hopkins University Press.

Horowitz, Donald L. 1991. *A Democratic South Africa? Constitutional Engineering in a Divided Society*. Berkeley, CA: California University Press.

International Monetary Fund. 2001. "Governement Financial Statistics." Washington, DC: IMF.

Jaffrelot, Christophe. 1997. *L'Inde contemporaine de 1950 a nos jours (Contemporary India from 1950 to nowadays)*. Paris: Fayard chapter 12.

Kymlicka, Will. 1998. Is Federalism a Viable Alternative to Secession? In *Theories of Secessionism*, ed. P.B. Lehning. New York: Routledge Press pp. 111–150.

Lijphart, Arend. 1977. *Democracies in Plural Societies: A Comparative Exploration.* New Haven, CT: Yale University Press.

Lustick, Ian, Dan Miodownik & Roy J. Eidelson. 2004. "Secessionism in Multicultural States: Does Sharing Power Prevent or Encourage It ?" *American Political Science Review* 94(2):209–230.

Nordlinger, Eric. 1972. *Conflict Regulation in Divided Societies.* Cambridge, MA: Harvard University Center for International Affairs.

Oates, Wallace E. 1972. *Fiscal Federalism.* New York, NY: Harcourt Brace Jovanovich.

Roeder, Philip G. 1991. "Soviet Federalism and Ethnic Mobilization." *World Politics* 43(2):196–232.

Saideman, Stephen, David J. Lanoue, Michael Campenni & Samuel Stanton. 2002. "Democratization, Political Institutions and Ethnic Conflict: A Pooled Time-Series Analysis, 1985-1998." *Comparative Political Studies* 35(1):103–129.

Sambanis, Nicholas. 2001. "Do Ethnic and Non-Ethnic Civil Wars Have the Same Causes ? A Theoretical and Empirical Inquiry (Part 1)." *Journal of Conflict Resolution* 45(3):259–282.

Siegle, Joseph & Patrick O'Mahony. 2006. "Assessing The Merits of Decentralization as a Conflict Mitigation Strategy." Paper prepared for the workshop on Decentralization and Democratic Local Governance, USAID, September 18-19, 2006.

Suberu, Rotimi T. 1994. The Travails of Federalism in Nigeria. In *Nationalism, Ethnic Conflict and Democracy*, ed. L. Diamond & M.F. Plattner. Baltimore, MD: The Johns Hopkins University Press chapter 4, pp. 56–70.

Suberu, Rotimi T. 2001. *Federalism and Ethnic Conflict in Nigeria.* Washington, DC: United States Institute of Peace Press.

Tranchant, Jean-Pierre. 2008. "Fiscal Decentralization, Institutional Quality and Ethnic Conflict: A Panel Data Analysis, 1985-2001." *Conflict, Security and Development* 8(4):491–514.

Treisman, Daniel. 2008. "Decentralization Dataset." available at: http://www.sscnet.ucla.edu/polisci/faculty/treisman/.

Ukiwo, Ukoha. 2006. "Creation of Local Government Areas and Ethnic Conflict in Nigeria: The Case of Warri, Delta State." Unpublished Manuscript.

World Bank. 2003. "World Development Indicators." Washington, DC: World Bank.

Dependent variable	Intensity of rebellion	Likelihood of rebellion	Intensity of communal violence	Likelihood of communal violence
Sample	Full sample			
Estimator	Fixed effects (1)	Random effects (2)	Fixed Effects (3)	Fixed effects (4)
Fisc. decentralization	−0.009 (0.009)	−0.004 (0.002)	−0.012 (0.023)	−0.002 (0.005)
Fisc. dec.*regional base	−0.001 (0.006)	−0.003 (0.001)	−0.045 (0.011)	0.009 (0.003)
Marginal effect of fiscal decentralization for:				
Non territorial minorities	−0.009 (0.009)	−0.004 (0.002)	−0.012 (0.023)	−0.002 (0.005)
Territorial minorities	−0.010 (0.009)	−0.008 (0.002)	−0.057 (0.021)	−0.011 (0.005)
Observations	970	970	605	605
Sample	Without India			
Estimator	Fixed effects (1)	Random effects (2)	Fixed Effects (3)	Fixed effects (4)
Fisc. decentralization	0.009 (0.008)	−0.003 (0.002)	−0.031 (−0.023)	−0.005 (0.006)
Fisc. dec.*regional base	−0.015 (0.005)	−0.005 (0.001)	−0.024 (0.011)	−0.004 (0.003)
Marginal effect of fiscal decentralization for:				
Non territorial minorities	0.009 (0.008)	−0.003 (0.002)	−0.031 (−0.023)	−0.005 (0.006)
Territorial minorities	−0.006 (0.008)	−0.008 (0.002)	−0.055 (0.022)	−0.010 (0.005)
Observations	835	835	515	515

Robust standard errors in parentheses. The choice between fixed and random effects follow a Hausman test robust to heteroskedacity. The estimations entail the other following controls: logarithm of GDP per capita, logarithm of population, democracy, bureaucratic quality, number of effective ethnic groups, group cohesion index, autonomy claims, time trend.

Table I: Fiscal decentralization, ethnic conflict and territorial minorities

Dependent variable	Intensity of rebellion	Likelihood of rebellion	Intensity of communal violence	Likelihood of communal violence
Sample	Full sample			
Estimator	Fixed effects	Fixed effects	Fixed Effects	Fixed effects
	(1)	(2)	(3)	(4)
Fisc. decentralization	0.036 (0.017)	0.009 (0.005)	−0.084 (0.028)	−0.019 (0.007)
Fisc. dec.*local majority	−0.046 (0.012)	−0.016 (0.003)	0.033 (0.017)	0.010 (0.004)
Marginal effect of fiscal decentralization for:				
Local minorities	0.036 (0.017)	0.009 (0.005)	−0.084 (0.028)	−0.019 (0.007)
Local majorities	−0.009 (0.012)	−0.008 (0.004)	−0.051 (0.021)	−0.008 (0.005)
Observations	562	562	358	358
Sample	Without India			
Estimator	Fixed effects	Random effects	Fixed Effects	Fixed effects
	(1)	(2)	(3)	(4)
Fisc. decentralization	0.109 (0.017)	0.036 (0.006)	−0.054 (−0.028)	−0.008 (0.007)
Fisc. dec.*local majority	−0.112 (0.015)	−0.044 (0.006)	0.002 (0.018)	0.001 (0.005)
Marginal effect of fiscal decentralization for:				
Local minorities	0.109 (0.017)	0.036 (0.006)	−0.054 (−0.028)	−0.008 (0.007)
Local majorities	−0.004 (0.010)	−0.008 (0.004)	−0.052 (0.021)	−0.008 (0.005)
Observations	457	457	288	288

Robust standard errors in parentheses. The choice between fixed and random effects follow a Hausman test robust to heteroskedacity. The estimations entail the other following controls: logarithm of GDP per capita, logarithm of population, democracy, bureaucratic quality, number of effective ethnic groups, group cohesion index, autonomy claims, time trend.

Table II: Fiscal decentralization, ethnic conflict and local majorities

Dependent variable	Intensity of rebellion	Intensity of rebellion	Intensity of rebellion	Intensity of rebellion	Intensity of rebellion	Intensity of rebellion
Sample	Full sample	Full sample	Full sample	Without India	Without India	Without India
Estimator	Fixed effects (1)	Fixed effects (2)	Fixed Effects (3)	Fixed effects (4)	Fixed Effects (5)	Fixed effects (6)
Robustness check	Law and Order	Without institutions	Without group variables	Law and Order	Without institutions	Without group variables
Fisc. decentralization	0.033 (0.017)	0.040 (0.016)	0.035 (0.016)	0.028 (0.019)	0.033 (0.018)	0.033 (0.019)
Fisc. dec.*local majority	−0.052 (0.013)	−0.051 (0.012)	−0.047 (0.012)	−0.035 (0.020)	−0.032 (0.018)	−0.032 (0.019)
Marginal effect of fiscal decentralization for:						
Local minorities	0.033 (0.017)	0.040 (0.016)	0.035 (0.016)	0.028 (0.019)	0.033 (0.018)	0.033 (0.019)
Local majorities	−0.019 (0.012)	−0.011 (0.011)	−0.011 (0.011)	−0.007 (0.011)	0.001 (0.011)	0.001 (0.011)
Observations	601	655	675	496	550	570

Robust standard errors in parentheses. The choice between fixed and random effects follow a Hausman test robust to heteroskedacity. The estimations entail the other following controls: logarithm of GDP per capita, logarithm of population, democracy, bureaucratic quality, number of effective ethnic groups, group cohesion index, autonomy claims, time trend. In columns (1) and (4) bureaucratic quality is replaced by law and order, in columns (2) and (5) law and order is dropped and in columns (3) and (6) autonomy claims and group cohesion index are dropped.

Table III: Fiscal decentralization, intensity of rebellion and local majorities: robustness checks

Dependent variable	Likelihood of rebellion	Likelihood of rebellion	Likelihood of rebellion	Likelihood of rebellion	Likelihood of rebellion	Likelihood of rebellion
Sample	Full sample	Full sample	Full sample	Without India	Without India	Without India
Estimator	Fixed effects (1)	Fixed effects (2)	Fixed Effects (3)	Fixed effects (4)	Fixed Effects (5)	Fixed effects (6)
Robustness check	Law and Order	Without institutions	Without group variables	Law and Order	Without institutions	Without group variables
Fisc. decentralization	0.007 (0.004)	0.009 (0.004)	0.006 (0.004)	0.014 (0.004)	0.014 (0.004)	0.015 (0.005)
Fisc. dec.*local majority	−0.018 (0.002)	−0.017 (0.002)	−0.014 (0.003)	−0.024 (0.004)	−0.021 (0.004)	−0.022 (0.004)
Marginal effect of fiscal decentralization for:						
Local minorities	0.007 (0.004)	0.009 (0.004)	0.006 (0.004)	0.014 (0.004)	0.014 (0.004)	0.015 (0.005)
Local majorities	−0.010 (0.003)	−0.008 (0.003)	−0.008 (0.003)	−0.010 (0.004)	−0.007 (0.003)	−0.007 (0.003)
Observations	601	655	675	496	550	570

Robust standard errors in parentheses. The choice between fixed and random effects follow a Hausman test robust to heteroskedacity. The estimations entail the other following controls: logarithm of GDP per capita, logarithm of population, democracy, bureaucratic quality, number of effective ethnic groups, group cohesion index, autonomy claims, time trend. In columns (1) and (4) bureaucratic quality is replaced by law and order, in columns (2) and (5) law and order is dropped and in columns (3) and (6) autonomy claims and group cohesion index are dropped.

Table IV: Fiscal decentralization, likelihood of rebellion and local majorities: robustness checks

Dependent variable	Intensity of rebellion	Likelihood of rebellion	Intensity of communal violence	Likelihood of communal violence
Sample	Full sample			
Estimator	Fixed effects (1)	Fixed effects (2)	Fixed Effects (3)	Fixed effects (4)
Fisc. decentralization	0.051 (0.017)	0.012 (0.004)	−0.066 (0.028)	−0.018 (0.007)
Fisc. dec.*small majority	0.000 (0.017)	−0.006 (0.003)	0.063 (0.022)	0.013 (0.005)
Fisc. dec.*large majority	−0.075 (0.013)	−0.022 (0.003)	0.009 (0.019)	0.009 (0.004)
Marginal effect of fiscal decentralization for:				
Local minorities	0.051 (0.017)	0.012 (0.004)	−0.066 (0.028)	−0.018 (0.007)
Small majorities	0.051 (0.019)	0.006 (0.004)	−0.003 (0.025)	−0.004 (0.006)
Large majorities	−0.024 (0.012)	−0.011 (0.003)	−0.057 (0.020)	−0.009 (0.005)
Observations	562	562	358	358
Sample	Without India			
Estimator	Fixed effects (1)	Fixed effects (2)	Fixed Effects (3)	Fixed effects (4)
Fisc. decentralization	0.093 (0.017)	0.032 (0.006)	−0.057 (−0.028)	−0.008 (0.007)
Fisc. dec.*small majority	0.011 (0.028)	−0.012 (0.008)	0.066 (0.037)	−0.002 (0.014)
Fisc. dec.*large majority	−0.116 (0.015)	−0.045 (0.006)	0.000 (0.018)	0.000 (0.005)
Marginal effect of fiscal decentralization for:				
Local minorities	0.093 (0.017)	0.032 (0.006)	−0.057 (−0.028)	−0.008 (0.007)
Small majorities	0.104 (0.023)	0.020 (0.006)	0.009 (0.035)	−0.010 (0.013)
Large majorities	−0.024 (0.010)	−0.013 (0.004)	−0.058 (0.021)	−0.008 (0.005)
Observations	457	457	288	288

Robust standard errors in parentheses. The choice between fixed and random effects follow a Hausman test robust to heteroskedacity. The estimations entail the other following controls: logarithm of GDP per capita, logarithm of population, democracy, bureaucratic quality, number of effective ethnic groups, group cohesion index, autonomy claims, time trend.

Table V: Fiscal decentralization, ethnic conflict and small versus large minorities