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Fiscal decentralisation, institutional quality and ethnic conflict: A panel data analysis, 1985–2001

Jean-Pierre Tranchant

Fiscal decentralisation is increasing throughout the world, especially in developing countries where it is argued to foster good governance and delivery of public goods. Fiscal decentralisation is also widely promoted as an institutional device to manage ethnic conflict. Proponents of fiscal decentralisation claim that it helps accommodate ethnic minorities by granting them considerable policy-making authority. However, the empirical literature on ethnic conflict has mainly focused on federalism and political decentralisation while the few studies that have included fiscal decentralisation have produced mixed results. In this paper, I test the effect of fiscal decentralisation on ethnic conflict while emphasising state capacities as a crucial mediating variable. I assume that fiscal decentralisation is unlikely to produce any effect in countries characterised by low state capacities and weak institutions. The rationale is threefold. (i) State capacities are usually lower at the local level than at the central level; yet implementing fiscal decentralisation requires that subunits are endowed with sufficient bureaucratic and technical competences. (ii) Devolution of policy-making authority to lower tiers of governments is usually assumed more genuine in countries characterised by good governance. (iii) When state capacities are weak, ethnic groups may be tempted to claim more than fiscal decentralisation and seek independence. I assume also that minorities that are the most ethnically distant from the rest of the population are those that should benefit most from fiscal decentralisation. The system GMM estimations confirm that ethnically distinctive minorities benefit

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more from fiscal decentralisation. Regarding state capacities, findings are radically different with respect to the indicators that are used. Fiscal decentralisation is found to reduce the likelihood of conflict if GDP per capita is considered as a proxy for state capacity, while opposite results emerge when governance indices are used.

Introduction

Political and fiscal decentralisation are widely promoted as good institutional devices to prevent or manage ethnic conflicts. Political decentralisation, for instance, has been a crucial part of the reconstruction of Iraq and Afghanistan.¹ Proponents of decentralisation posit that giving groups more control over their own affairs protects them against predatory politics from the centre and allows them to implement policies of their own.² In the classical formulation of fiscal federalism by Oates, a centralised entity cannot differentiate public policies along local preferences.³ Owing to the asymmetrical information problem, the ruler is bound to implement the same policy across the territory. In contrast, in the presence of decentralisation, each subunit is allowed to implement public policies, which correspond to local preferences. This comes, however, at the cost of non-cooperative behaviour between the subunits. This paper tests some implications of this model in the case of conflict involving minority groups. Those groups are by definition too small to influence national politics. In addition, they may be characterised by different types of preferences towards public policies than the rest of the population. As such, it has been largely hypothesised that to accommodate minority groups, countries should resort to some degree of fiscal decentralisation.⁴

Some scholars have cast doubt about the effectiveness of self-rule arrangements for promoting political stability.⁵ According to Cornell, ‘The institution of autonomous regions is conducive to secessionism because institutionalising 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.’⁶ Recently, scholars have shifted their attention away from the question of the overall efficacy of decentralisation to emphasise the conditions for its success and failure.⁷

Yet, quantitative studies have mainly focused on federalism or political decentralisation measures while fiscal decentralisation has generally been overlooked. In this paper, I intend to reappraise the role of fiscal decentralisation in the management of ethnic violence by considering the conditions that enable it to work. In a first stage, I focus on the ethnic distance between the minority group and the rest of the population. The model of fiscal

federalism states that decentralisation is preferable to centralisation where preferences are widely heterogeneous across the regions. In the context of minority groups, it is hypothesised that those who come from a markedly different ethnic background from the rest of the population should be characterised by different preferences over public policies.⁸ Moreover, groups that are very different from the dominant population are also more likely to be politically marginalised. They are thus supposed to benefit the most from a downward shifting of policy-making. In a second stage, I assume that the institutional environment lies at the heart of the potential relationship between fiscal decentralisation and ethnic conflict. The argument is threefold. First, the subunit must enjoy sufficient institutional capacities to implement its decentralisation policies properly. Second, it is also more likely that fiscal decentralisation is genuine in countries characterised by good institutions. Third, the state must be perceived as credible from the viewpoint of an ethnic minority. These hypotheses are discussed further in section 2.

Overall, this suggests that fiscal decentralisation must be accompanied by strong state capacities at the national and subnational level in order to be effective. This paper tests the validity of these conclusions empirically. The empirical section uses as unit of analysis the minority group as defined by the minorities at risk (MAR) database. I am interested in the extent of rebellion and communal violence involving those groups. Fiscal decentralisation is proxied by the share of subnational expenditures in the overall state spending (IMF). I proxy local capacities by an indicator of income differential between the group and the majority, which in the case of local majorities, is likely to capture the overall wealth of the region. The GDP per capita and indices of governance are used to measure state capacities and the quality of institutions. The estimation sample is a cross-section time series of 40 to 52 ethnic groups over the period 1985–2001. The empirical models consist of ordered logit and of pooled OLS where fiscal decentralisation interacts with the different factors mentioned above. Estimating the effect of decentralisation on violent conflict is likely to be plagued by omitted variables and reverse causation. I thus make use of the panel structure of the data by using system GMM to instrument fiscal decentralisation and other potentially endogenous variables of interest. In addition, I claim that it is necessary to include institutions explicitly in any empirical inquiry on ethnic conflict, all the more when fiscal decentralisation is the variable of interest. Indeed, a greater degree of fiscal decentralisation is supposed to lead to better governance and transparency, through greater accountability of local leaders as compared to appointed bureaucrats. Decentralisation and institutions thus should be correlated. Two recent working papers stress the decisive role

institutions play in the observed pattern of conflict. Resting on similar instrumentation procedures, both Djankov and Reynal-Querol and Arcand and Tranchant find out that institutional quality may explain a large fraction of violent conflict incidence. It is then necessary to include institutions in the analysis.⁹

Results suggest that controlling for the institutional environment is necessary to estimate the effect of fiscal decentralisation properly. I also find that fiscal decentralisation is more effective when the ethnic distance between the group and the rest of the population is largest. Results also confirm that fiscal decentralisation works better in richer countries. Nonetheless, groups that are poorer than the rest of the population are those that benefit the most from fiscal decentralisation. This is at odds with the expectations that fiscal decentralisation must be accompanied by strong local state capacities. Alternatively, such an income differential between the group and the dominant population also reflects the political marginalisation of the group. This may help explain why decentralisation remains beneficial for those groups. Finally, no support is found for the hypothesis that strong institutions are needed for fiscal decentralisation to work. On the contrary, the interaction of fiscal decentralisation and a high score for bureaucratic quality is found to increase rebellion while the interaction of fiscal decentralisation and a high score for law and order tends to foster communal violence. This is a very counter-intuitive result and it is hard to imagine why GDP per capita and institutions yield opposite results. One could tentatively explain the result with reference to Cornell's argument about the strengthening of the legitimacy and resources of ethnically defined subunits that result from decentralisation. This effect could indeed be stronger when groups can build strong autonomous subunits thanks to working institutions.

The remainder of the paper is organised as follows: section 2 discusses why and under what conditions fiscal decentralisation can manage ethnic conflict, section 3 presents the data and methods used in the study, section 4 presents the results while section 5 concludes.

Fiscal decentralisation and ethnic conflict

Several authors have called for fiscal decentralisation to deal with ethnic conflict.¹⁰ On the other hand, political decentralisation in general, and fiscal decentralisation in particular have been criticised as tending to foster violent collective action through the increase in the legitimacy of subnational identities and the access to institutional resources that

decentralisation gives to groups.¹¹ Rather than inducing a departure from parochialism to favour nation-building, fiscal decentralisation may freeze subnational identities over time.¹² The presence of inter-regional inequalities may spur conflict.¹³ Other scholars argue that fiscal decentralisation does not preempt discrimination against regional minorities from newly empowered regional majorities.¹⁴

The rationale for resorting to fiscal decentralisation to manage ethnic conflict dates back to the seminal work on fiscal federalism by Oates.¹⁵ Oates considers that centralisation implies a uniform policy over the whole territory. The rulers do not know local preferences and they are consequently bound to implement the same policy everywhere. In decentralised settings, each subunit is presumed to be aware of local preferences. This makes it possible to design policies that correspond to the preferences of the local median voter. Decentralisation comes at the cost of non-cooperative behaviour among the subunits, which do not value the utility of the others. As such, decentralisation results in an under-optimal supply of public goods associated with negative externalities and over-optimal supply of public goods associated with positive externalities. Thus, the fiscal federalism theory consists of a trade-off between a uniform policy and the non-internalising of spatial spillovers.

It follows that regionally concentrated minority groups should be better off under decentralisation than under centralisation. As they are small and/or politically marginalised, their preferences would not be reflected in a uniform policy. Moreover, they are supposed to be characterised by different preferences than the rest of the population. The distance between the centralised policy and the true preferences of the group are likely to be maximal. In contrast, in decentralisation those groups would be granted the opportunity to design and implement public policies of their own. It should result in a substantial increase in the welfare of the groups.

Recently, some authors have restated the terms of the trade-off proposed by Oates. The assumption of asymmetrical information has not been demonstrated empirically and is theoretically weak. Instead, Seabright has stressed the greater accountability of politicians at the local level.¹⁶ In pure centralisation, it is not possible for citizens to sanction the ruler for a local policy as the scope of the vote is national. In decentralisation however, local leaders can be sanctioned or rewarded by local voters on the ground in relation to local policy. To put it differently, decentralisation is expected to enhance the accountability of politicians, as they are responsible for only one level of policy. The argument works as well for ethnic conflict. Minorities have no means to sanction

national leaders who ignore their demands, as the vote is national. In the presence of decentralisation, however, minority groups that constitute a significant minority or a majority at the local level become politically crucial for local rulers. This ensures that their demands must be better taken in account. Tommasi and Weinschelbaum stress the coordination problem that arises in highly centralised systems.¹⁷ Under a centralised system the principals (the citizens) are many whereas the agents (the elected governments) are few. This poses a problem of coordination, as many principals must contract with a small number of agents. In contrast, in decentralisation there is one agent per subunit, which helps alleviate the coordination problem. Bardhan and Mookherjee develop an analytical framework in which centralisation is characterised by little responsiveness of appointed bureaucrats to local needs whereas decentralisation entails the risk of elite capture.¹⁸ In terms of public goods delivery it is unclear which of the systems dominates. Only where elite capture is not greater at the local level than at the central one does decentralisation improve both efficiency and equity compared with centralisation.

It follows from the discussion that fiscal decentralisation is not equally appealing for all countries and ethnic groups. Two necessary conditions must be fulfilled for groups fully to benefit from the process: (i) the group must constitute a local majority (or at least be regionally concentrated); (ii) the preferences of the group must be dramatically different from those of the rest of the population. The first condition relates to the capacity of the group to take over the policy-making process at the local level. It is obvious that a minority group, which was evenly spread over all the country would have no more leverage on the decision-making process in decentralisation than in centralisation. Throughout the literature, the focus is then put on regionally concentrated groups. In this paper, I will restrict the analysis to the minority groups that are local majorities. The second condition states that groups that are dramatically different from the rest of the population are characterised by preferences far away from those of the median national voter. It follows that fiscal decentralisation must markedly increase the welfare of such groups by allowing them to design policies of their own. Alesina, Baqir and Easterly have produced evidence that ethnic groups differ in their preferences in USA.¹⁹ However, even in the absence of such differences in preferences across groups, the presence of limited altruism toward other groups is enough to make different groups better off in decentralisation. Luttmer has shown that the taste for redistribution was lower in heterogeneous communities.²⁰ Similarly, Alesina and La Ferrara suggest that people from different communities dislike

mixing.²¹ Hence, a minority group with a different ethnic background from the rest of the population is likely to get marginalised.

H1: The greater the distance between the ethnic background of the group and that of the rest of the population, the larger the beneficial impact of fiscal decentralisation.

I assume that local state capacities play a great role in the success or failure of fiscal decentralisation. Hence, it is necessary that the subunits that are granted large decision-making rights be endowed with enough technical and bureaucratic competences. Bardhan suggests that this is not usually the case, especially in developing countries.²² For instance, Sanchez shows that local governments in Colombia are too weak to resist the grip of local irregular groups.²³ Similarly, the results of Murshed and Tadjoeeddin reveal that while fiscal decentralisation is effective for tackling routine violence in Indonesia, the effect is stronger in richer districts that have the greatest state capacities.²⁴

H2: Fiscal decentralisation is more effective where subunits dispose of strong state capacities.

Finally there are also reasons to believe that national state capacities and institutional quality matter. Fiscal decentralisation requires that subunits really decide the policies for which they are granted legislative power. It is likely that when institutions and checks and balances are weak the central government tries to shape fiscal decentralisation in its own interest. Central governments have been shown to use fiscal decentralisation schemes opportunistically to sustain patron–client relationships.²⁵ Likewise, the likelihood that the state gives the means to subunits to deal with larger prerogatives is greater when institutions are good and the countries are rich. Finally, if the state is weak minorities may be tempted to seek more than fiscal decentralisation and try to obtain secession.

H3: Fiscal decentralisation is more effective where national state capacities are large and institutional quality is good.

Data and methods

Empirical studies aiming at estimating the impact of federalism or decentralisation have been quite scarce and have given mixed results. Cohen has found on MAR data that decentralisation increased ethnoregional protest and reduced rebellion.²⁶ He interprets this as a regional containment of previously nationwide conflicts, preventing countries from throwing themselves into large-scale destabilising violence. Saideman, Lanoue, Campenni, and Stanton using the same database suggest that federalism can help to reduce

ethnic conflict, but surprisingly enough this effect is stronger in autocracies.²⁷ Bermeo suggests through bivariate analysis that federalism performs better than a unitary setup in terms of peace building, the effect being stronger in wealthier countries.²⁸ Brancati resorts to an instrumentation procedure to show that if decentralisation is desirable overall, its effect is undermined by the presence of strong regional parties.²⁹ Bakke and Wibbels find that the interaction of fiscal decentralisation and inequalities is surprisingly conflict reducing while the interaction between fiscal transfers and ethnic fractionalisation also reduces conflict.³⁰

This paper intends to add to the literature by focusing on fiscal decentralisation. In particular, I will test the assumptions that fiscal decentralisation is efficient at managing ethnic conflict when minority groups are ethnically distant from the rest of the population and when countries and regions in which the process takes place enjoy sufficient state capacities. In order to test these hypotheses, the following benchmark model will be used:

$$V_{ijt} = \beta_0 + \beta_1 \text{Fiscal Decentralisation} + \beta_2 \text{State capacities} + \beta_3 \text{Institutions} + \beta_4 X_{ijt} + \varepsilon_{ijt}, \quad (1)$$

where the subscripts *i* denotes the group, *j* stands for the country and *t* denotes the year. *V* is an index of ethnic violence, which will alternatively be rebellion and communal violence. X_{it} is a vector of control variables.

The unit of analysis is minority groups as defined by MAR. Furthermore, I restrict the analysis to local majorities, i.e. groups that are minorities at the national level but that constitute majorities at the local level. This is calculated from the variable of group concentration (*Groupcon*) and the variables of local population share of the group at relevant local levels (*Reg1p*, *Reg2p*, ...) from minorities at risk (MAR).

The dependent variable V_{ijt} is operationalised through the two ethnic conflict variables provided by the MAR dataset. Rebellion is coded on a seven-point scale, which reports the extent of violent anti-regime activities. Communal violence ranges from zero to six and focuses on violence between groups.

The variable of interest, fiscal decentralisation, is captured by the share of subnational expenditures in overall state spending. It is computed by the International Monetary Fund and remains the most widely used variable for fiscal decentralisation throughout the literature on fiscal federalism, despite evident flaws. In particular, there is not always a correspondance between the share of subnational expenditures and the real devolution of policy-making authority to lower tiers of government.³¹

Institutions are measured by the indices of bureaucratic quality and law and order provided by the International Country Risk Guide (ICRG). Law and order is measured on a six-point scale, which is based on the strength of the judicial system and the enforcement of the law. The indicator for bureaucratic quality goes from zero to four and measures the strength and independence of the bureaucracy.

In a first stage, I will test whether previous studies that did not include institutional quality as a regressor have yielded biased estimates for the role of fiscal decentralisation. To do so I will compare results with and without institutions. Then I will check whether groups that are the most ethnically distant from the rest of the population are those that benefit most from fiscal decentralisation:

$$\begin{aligned}
 V_{ijt} = & \beta_0 + \beta_1 \text{Fiscal Decentralisation} + \beta_2 \text{Ethnic Distance} \\
 & + \beta_3 \text{Fiscal Decentralisation} * \text{Ethnic Distance} + \beta_4 \text{State Capacities} \\
 & + \beta_5 \text{Institutions} + \beta_6 X_{ijt} + \varepsilon_{ijt}
 \end{aligned} \tag{2}$$

Ethnic distance stem from MAR. It is constructed as the sum of the linguistic, racial, religious and cultural distances between the minority and the dominant group. The variable so created ranges from zero (no distance) to 11 (maximal distance).

Then I will consider the interaction between decentralisation and various indicators of state capacities:

$$\begin{aligned}
 V_{ijt} = & \beta_0 + \beta_1 \text{Fiscal Decentralisation} + \beta_2 \text{State capacities} \\
 & + \beta_3 \text{Fiscal Decentralisation} * \text{State Capacities} + \beta_4 \text{Institutions} + \beta_5 X_{ijt} + \varepsilon_{ijt}
 \end{aligned} \tag{3}$$

State capacities are proxied by four variables: income differential between the group and the rest of the population, GDP per capita and the two aforementioned indices of institutions. The first is intended to capture the subnational level of state capacities whereas the three others are country level variables. The income differential is provided by MAR and is on a scale from zero to two, with two being the largest differential. As the focus of the study is on local majorities, income differential is likely to reflect the relative wealth of the region as well. However, income differential also plausibly indicates the political status of the group. A group that is significantly poorer than the rest of the population is likely to be marginalised by the central government and has then greater chances to benefit from fiscal decentralisation. As this variable is imperfect, I will also consider the GDP per

capita and institutions of the country. Bermeo has already contrasted the impact of federalism with respect to GDP per capita and found that richer countries were more successful.³² Countries with higher GDP per capita are also likely to have stronger state capacities.³³ Finally, I will use bureaucratic quality, and law and order as additional measures of state capacities. By construction, those two variables entail a significant state power dimension. While GDP per capita and the indices of governance largely overlap and are strongly correlated with each other, results of Djankov and Reynal-Querol and Arcand and Tranchant show that they produce different effects on civil wars and ethnic conflicts.³⁴

It is important to control for factors that can explain decentralisation and conflict. That is why I include in all subsequent regressions the logarithm of population and the effective number of ethnic groups. Both have proved to be linked to the degree of decentralisation and they are likely to affect ethnic conflict in one way or other. Similarly, democracy is also included. Democracy is approximated by the sum of autocracy and democracy score from the Polity IV dataset. The variable so created ranges from -10 , reflecting pure dictatorship, to $+10$ for pure democracy. By the same token, I created a variable measuring the number of ethnic minorities that are local majorities in a country. Finally, an index of group coherence and the relative size of the group are included. Both are derived from MAR. Therefore, the empirical setting is a cross-sectional time series database spanning the period 1985–2001 with ethnic groups as the unit of analysis. The last year for which data on fiscal decentralisation are available for a wide range of countries is 2001.

Most existing empirical studies on the topic rely upon pooled OLS estimations. While useful to uncover multivariate correlations, this method is unlikely to yield any causal estimation. First, there is a possibility that the causal relationship runs from violent conflict to the level of decentralisation as well as the opposite. Second, if a third factor is omitted that explains both decentralisation and conflict in the long-term OLS estimations are equally flawed. Addressing the ensuing endogeneity bias is far from being an easy task. Brancati proposes an instrumentation procedure using the size of the country and its ethno-linguistic fractionalisation as instruments for decentralisation. In this paper, I will apply system GMM to deal with omitted variable and reverse causation biases. System GMM combines for every period an equation in first differences where endogeneous variables are instrumented by their lagged levels and an equation in level where endogeneous variables are instrumented by their lagged differences. The rebellion and communal violence are ordered categorical variables that call for the use of ordered logit

regressions. I will then present results from those estimations. However, I consider that the endogeneity issue is serious enough to prefer the system GMM estimator even though it is a linear one. Findings with pooled OLS will be displayed to check whether the use of a linear model gives closed results to the ordered logit. The estimation sample consists of 40 to 50 groups depending on specifications over the period 1985–2001.

Results

In Tables 1 and 2, regressions on fiscal decentralisation and ethnic violence with and without the institutional quality are provided. Rebellion and communal violence are successively considered. For each, ordered logit, pooled OLS, and system GMM estimations are provided.

Regarding rebellion (Table 1), we can see that when institutions are omitted from the specification the coefficient associated with fiscal decentralisation is negative but usually insignificant. The only exception is when ordered logit is used (column 1). Including institutions (bureaucratic quality) increases the magnitude of the coefficient associated with fiscal decentralisation as well as the precision of the points estimate. This is valid for every estimator. When system GMM estimations are considered, the coefficient is tripled going from -0.011 to -0.034 while the standard error is nearly the same. The size of the coefficient remains small though. This implies that increasing the share of subnational expenditures by 20 points of percentage is expected to reduce rebellion by only 0.6 points. At the same time, bureaucratic quality turns out to foster rebellion systematically, though the effect is insignificant and clearly lower with system GMM. If we retain the pooled OLS estimations, we would expect that doubling the score of bureaucratic quality (from 2 to 4 for instance) will increase the rebellion index by roughly 0.4 points. As bureaucratic quality is strongly correlated with fiscal decentralisation and as bureaucratic quality is found positively related to rebellion, it follows that omitting the institutions variable in the framework biases downward the estimated effect of fiscal decentralisation on rebellion. This result strongly confirms the need to control for the institutional environment. The fact that better bureaucratic quality is associated with more rebellion suggests that the mobilisation effect dominates the deterrence effect. To put it differently, this may reflect the fact that groups need to organise themselves better when they face a capable state rather than a weak one.

Table 1. Fiscal decentralisation and rebellion: with and without institutional quality

Dependent variable	Rebellion					
	Ordered logit	Ordered logit	Pooled OLS	Pooled OLS	System GMM	System GMM
Column	(1)	(2)	(3)	(4)	(5)	(6)
Fiscal decentralisation	-0.038 ^a (0.010)	-0.060 ^a (0.011)	-0.005 (0.007)	-0.017 ^b (0.006)	-0.011 (0.019)	-0.034 ^b (0.015)
Bureaucratic quality		0.289 ^a (0.110)		0.257 ^b (0.084)		0.116 (0.179)
Log. of GDP per capita	-0.655 ^a (0.133)	-0.690 ^a (0.162)	-0.438 ^a (0.085)	-0.465 ^a (0.104)	-0.421 ^b (0.172)	-0.355 ^c (0.193)
Democracy	0.040 ^c (0.021)	0.045 (0.028)	-0.011 (0.019)	-0.016 (0.019)	-0.008 (0.035)	0.018 (0.035)
Log. of population	0.539 ^a (0.119)	0.670 ^a (0.143)	0.247 ^a (0.073)	0.310 ^a (0.077)	0.279 ^c (0.158)	0.399 ^b (0.161)
No. of effective ethnic groups	-0.294 ^c (0.157)	-0.200 (0.159)	-0.103 (0.079)	-0.059 (0.074)	-0.076 (0.181)	0.046 (0.168)
Number of local majorities	-0.141 (0.097)	-0.112 (0.112)	-0.013 (0.085)	-0.026 (0.089)	-0.009 (0.172)	0.022 (0.190)
Group coherence	0.130 ^a (0.031)	0.124 ^a (0.034)	0.071 ^a (0.021)	0.078 ^a (0.023)	0.069 (0.053)	0.071 (0.058)
Group size	0.403 (0.690)	1.259 (0.823)	-0.776 ^c (0.456)	-0.464 (0.466)	-0.733 (1.090)	-0.508 (1.114)
Observations	509	467	509	467	509	467
Hansen <i>P</i> -value					1	1
AR(1) <i>P</i> -value					0.106	0.101
AR(2) <i>P</i> -value					0.929	0.513
R-squared	0.103	0.118	0.247	0.275		

Note: Robust standard errors are in parentheses. All regressions control for time effects. ^aSignificant at 1%; ^bSignificant at 5%; ^cSignificant at 10%.

Table 2. Fiscal decentralisation and communal violence: with and without institutional quality

Dependent variable	Communal violence					
	Ordered logit	Ordered logit	Pooled OLS	Pooled OLS	System GMM	System GMM
Column	(1)	(2)	(3)	(4)	(5)	(6)
Fiscal decentralisation	-0.004 (0.010)	-0.024 ^c (0.014)	-0.005 (0.009)	-0.022 ^b (0.009)	0.003 (0.019)	-0.010 (0.022)
Bureaucratic quality		0.299 ^c (0.181)		0.312 ^c (0.159)		0.201 (0.270)
Log. of GDP per capita	0.069 (0.118)	0.206 (0.197)	0.108 (0.104)	0.204 (0.162)	0.099 (0.238)	0.233 (0.263)
Democracy	-0.010 (0.029)	-0.018 (0.043)	-0.008 (0.028)	-0.023 (0.036)	-0.023 (0.048)	-0.031 (0.055)
Log. of population	-0.146 (0.108)	-0.526 ^b (0.236)	-0.140 (0.090)	-0.472 ^a (0.144)	-0.153 (0.198)	-0.487 ^b (0.236)
No. of effective ethnic groups	0.153 (0.152)	0.065 (0.212)	0.167 (0.138)	0.011 (0.177)	0.133 (0.281)	-0.009 (0.351)
Number of local majorities	0.302 ^a (0.087)	1.168 ^b (0.466)	0.372 ^a (0.108)	1.117 ^a (0.289)	0.352 ^c (0.188)	1.089 ^a (0.375)
Group coherence	0.129 ^a (0.040)	0.086 ^c (0.044)	0.112 ^a (0.035)	0.088 ^b (0.037)	0.113 (0.088)	0.090 (0.083)
Group size	2.045 (1.502)	2.817 ^b (1.331)	2.262 ^c (1.217)	3.183 ^a (1.119)	2.438 (3.433)	3.187 (3.073)
Observations	320	286	320	286	320	286
Hansen <i>P</i> -value					1	1
AR(1) <i>P</i> -value					0.012	0.022
AR(2) <i>P</i> -value					0.115	0.177
R-squared	0.047	0.082	0.123	0.206		

Note: Robust standard errors are in parentheses. All regressions control for time effects. ^aSignificant at 1%; ^bSignificant at 5%; ^cSignificant at 10%.

We can see from Table 2 that including bureaucratic quality in the communal violence estimations increases the coefficient associated with fiscal decentralisation as well as the precision of the estimation. However, with system GMM the effect of fiscal decentralisation remains insignificant. As for rebellion, bureaucratic quality is positively related with communal violence while the size of the effect is similar. However, the effect of institutions proves insignificant in our preferred specification, i.e. system GMM.

The control variables exhibit the expected signs. However, in the preferred system GMM specification very few reach usual levels of confidence. It appears that the logarithm of GDP per capita is strongly negatively associated with rebellion while the logarithm of the population increases rebellion. Regarding communal violence, only the logarithm of the population (surprisingly) is related negatively to the dependent variable whereas the number of local majorities in the country is associated with more communal violence.

Having shown that institutional quality matters and should be included in the specifications, I will now turn to the analysis of the hypothesised mediating variables that may shape the effect of fiscal decentralisation.

Columns 1 to 3 in Tables 3 and 4 display the interaction effect of fiscal decentralisation with the ethnic distance between the group and the rest of the country. For rebellion (Table 3), the coefficient associated with the interaction term is negative and strongly significant across all specifications, while the coefficient of fiscal decentralisation is also negative and significant with all estimators. This suggests that fiscal decentralisation is an effective device for all local majority groups but that its effect is enhanced in the case of groups markedly distinctive from the dominant population. For the most distinctive groups that receive a score of 11 (as the Mizos in India or the Turkmens in Russia), the estimated impact on the rebellion index of an increase by 10 points of percentage of the share of subnational expenditures reaches 0.924 instead of 0.77 for a group without ascriptive difference with the rest of population. Although the size of the impact may seem low, it is in fact significant once we remember that 80% of groups are characterised with a rebellion score below 2. Hence, fiscal decentralisation is an effective mechanism to manage low or moderate rebellion. The standalone coefficient for ethnic difference is negative and usually insignificant (except in column 1) while bureaucratic quality continues to increase rebellion.

No similar findings emerge for communal violence. Neither the coefficient associated with the interaction nor the one associated with fiscal decentralisation reach the usual levels of confidence. Ethnic difference is also unrelated to communal violence. This may be explained by the fact that communal violence does not involve a clash between the group

Table 3. Fiscal decentralisation, ethnic distance, state capacities and rebellion

Dependent variable	Rebellion			Rebellion			Rebellion		
	Ordered logit	Pooled OLS	System GMM	Ordered logit	Pooled OLS	System GMM	Ordered logit	Pooled OLS	System GMM
Column	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Fiscal decentralisation	-0.057 ^b (0.025)	-0.072 ^a (0.015)	-0.077 ^a (0.028)	-0.054 ^a (0.018)	-0.013 (0.009)	-0.014 (0.014)	0.010 (0.072)	-0.098 ^b (0.047)	-0.059 (0.074)
Bureaucratic quality	0.402 ^a (0.123)	0.279 ^a (0.075)	0.290 ^b (0.129)	0.227 ^b (0.110)	0.183 ^b (0.077)	0.141 (0.144)	0.251 ^a (0.113)	0.301 ^a (0.085)	0.303 ^c (0.164)
Fisc. dec ^c ethnic difference	-0.017 ^a (0.003)	-0.014 ^a (0.002)	-0.014 ^a (0.004)						
Ethnic difference	-0.304 ^a (0.106)	-0.072 (0.078)	-0.060 (0.127)						
Fisc. dec ^c income difference				-0.018 ^b (0.008)	-0.016 ^a (0.005)	-0.014 (0.011)			
Income difference				-0.469 ^c (0.270)	-0.198 (0.181)	-0.259 (0.329)			
Fisc. dec ^c log of GDP per capita							-0.009 (0.010)	0.010 ^c (0.005)	0.005 (0.009)
Log of GDP per capita	-1.147 ^a (0.211)	-0.811 ^a (0.112)	-0.821 ^a (0.166)	-0.513 ^a (0.153)	-0.381 ^a (0.094)	-0.349 ^a (0.149)	-0.406 (0.319)	-0.835 ^a (0.237)	-0.676 ^c (0.363)
Observations	467	467	467	452	452	452	467	467	467
Hansen <i>P</i> -value			1						1
AR(1) <i>P</i> -value			0.096			1			0.090
AR(2) <i>P</i> -value			0.470			0.099			0.528
R-squared	0.186	0.403		0.157	0.354	0.497	0.119	0.283	

Note: Robust standard errors are in parentheses and are corrected for clustering. All regressions control for time effects. ^aSignificant at 1%; ^bSignificant at 5%; ^cSignificant at 10%.

Table 4. Fiscal decentralisation, ethnic distance, state capacities and communal violence

Dependent variable	Communal violence		Communal violence		Communal violence				
	Ordered logit	Pooled OLS	System GMM	Ordered Logit	Pooled OLS	System GMM	Ordered logit	Pooled OLS	System GMM
Estimator	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Fiscal decentralisation	-0.022 (0.026)	-0.021 (0.025)	-0.023 (0.057)	0 (0.016)	0.002 (0.013)	0.001 (0.030)	0.445 ^a (0.109)	0.356 ^a (0.074)	0.359 ^a (0.105)
Bureaucratic quality	0.292 (0.184)	0.312 ^c (0.160)	0.245 (0.231)	0.296 (0.201)	0.366 ^b (0.165)	0.377 (0.253)	-0.074 (0.170)	-0.051 (0.138)	-0.071 (0.210)
Fisc. dec. ^c ethnic difference	0 (0.004)	0 (0.004)	0 (0.008)						
Ethnic difference	0.108 (0.189)	0.022 (0.148)	0.007 (0.229)						
Fisc. dec. ^c income difference				-0.017 ^b (0.008)	-0.016 ^b (0.007)	-0.017 (0.015)			
Income difference				0.966 ^b (0.413)	0.729 ^a (0.267)	0.756 (0.563)			
Fisc. dec. ^c log of GDP per capita							-0.055 ^a (0.012)	-0.044 ^a (0.008)	-0.045 ^a (0.012)
Log of GDP per capita	0.275 (0.299)	0.212 (0.201)	0.249 (0.344)	0.188 (0.224)	0.126 (0.161)	0.127 (0.259)	2.201 ^a (0.463)	1.909 ^a (0.309)	1.937 ^a (0.500)
Observations	286	286	286	277	277	277	286	286	286
Hansen <i>P</i> -value			1			1			0.803
AR(1) <i>P</i> -value			0.017			0.014			0.027
AR(2) <i>P</i> -value			0.186			0.190			0.250
R-squared	0.083	0.206		0.093	0.223		0.119	0.277	

Note: Robust standard errors are in parentheses and are corrected for clustering. All regressions control for time effects. ^aSignificant at 1%; ^bSignificant at 5%; ^cSignificant at 10%.

and the state but violent conflicts between groups. As a result, the theoretical framework that highlights the difference of preferences between a minority and the dominant group is less appropriate in the case of communal violence. However, the role of state capacities and institutions in the outcome of fiscal decentralisation is supposed to be the same for rebellion and communal violence. I will now turn to these estimations.

The first hypothesis I will test concerns the role of subnational state capacities. Hypothesis 2 states that subunits that lack the organisational and bureaucratic capacity to implement fiscal decentralisation would not benefit from the process. Unfortunately, no data on a cross-country basis exist for assessing subnational capacities. However, the MAR dataset makes available a measure of the income differential between the group and the rest of the country. As this study focuses on local majorities, this index of income differential should also proxy the income differential between the regions. It is then assumed that groups which are reported to be significantly poorer than the rest of the country dispose of less means to implement fiscal decentralisation. Columns 4–6 of Tables 3 and 4 present the results. Contrary to expectations, the interaction between income differential and fiscal decentralisation exhibits a negative sign. This is true for both rebellion (Table 3) and communal violence (Table 4). However, the coefficient is not significant once system GMM is used. This suggests that groups that are poorer than the rest of the country are not disadvantaged with respect to those that are not. However, this result does not rule out the hypothesis altogether. The variable used is a poor proxy of local state capacities as it is constructed as a differential between the wealth of the rest of the population and the wealth of the minority. Thus, the variable may also capture the extent of the political marginalisation experienced by groups, the effect of which on fiscal decentralisation runs in the opposite direction to the effect of local state capacities. The estimated coefficients are then the sum of two contradictory effects, which might explain the absence of results.

To alleviate this concern, I consider next three measures of state capacities and institutions that pertain to the state (H3). First, in columns 7 to 9 of Tables 3 and 4 are presented the results with the logarithm of GDP per capita. It is likely that GDP per capita reflects the degree of state capacities.³⁵ As far as rebellion is concerned, there is very little support for the claim that richer countries are better able to implement fiscal decentralisation. The sign of the interaction effect between GDP per capita and fiscal decentralisation is surprisingly positive although it reaches the usual levels of confidence only with pooled OLS. The direct impact of GDP per capita, however, is negative and significant. In contrast, when we turn to communal violence results are supportive of the

assumption. The interaction term is consistently negative and precisely estimated, while the coefficient associated with fiscal decentralisation becomes positive and very large. Overall, this suggests that fiscal decentralisation is expected to increase communal violence in countries with a logarithm of GDP per capita lower than eight. In the estimation sample, only 25% of countries are thus expected to reduce communal violence through fiscal decentralisation. This finding echoes those that highlight the importance of the level of GDP per capita in the context of local violence.³⁶ It is worth noting however that the direct effect of greater GDP per capita is to foster communal violence. Results suggest thus the need to distinguish between GDP per capita as a factor in promoting destabilisation and ethnic mobilisation and GDP per capita as a necessary condition for benefitting from the conflict-mitigating effect of fiscal decentralisation.

Finally, Tables 5 and 6 display the estimations with institutional quality as a mediating variable. Bureaucratic quality, and law and order are considered successively. Regarding rebellion, we can see from Table 5 that the interaction between fiscal decentralisation and bureaucratic quality is positive and significant. The global effect of fiscal decentralisation appears then to be negative but it tends to zero for maximum values of bureaucratic quality. Nothing similar arises with law and order. The results for communal violence do not give more support to the theory as the interaction between fiscal decentralisation and bureaucratic quality is negative but insignificant whereas that between fiscal decentralisation and law and order is positive and significant (except for system GMM). This is at odds with expectations and with the findings regarding GDP per capita. This very counter-intuitive result is hard to explain. Arcand and Tranchant find that working institutions increase ethnic mobilisation.³⁷ Though surprising at first glance this could make sense once we consider that minorities are more threatened by a working state than by a failed state, all other things being equal. In a strong state, the beneficial impact of fiscal decentralisation is offset by the considerable mobilisation that minorities need to oppose the state effectively. Such an argument is backed up by the fact that in these estimations institutions no longer foster violence directly. The conflict-conducive impact of institutions, which was apparent before is captured by the interaction term. One could also argue that fiscal decentralisation gives minorities legitimacy and resources that motivates the group to fight the state. This is the negative impact of decentralisation put forward by Cornell, which suggests that the more effective the fiscal decentralisation process is (thanks to the better institutions), the more conflict-prone it is. However while such an argument might explain why the effect of fiscal decentralisation on conflict is more negative with higher institutional quality, it does

Table 5. Fiscal decentralisation, institutions and rebellion

Dependent variable	Rebellion			Rebellion		
	Ordered logit	Pooled OLS	System GMM	Ordered logit	Pooled OLS	System GMM
Column	(1)	(2)	(3)	(4)	(5)	(6)
Fiscal decentralisation	-0.128 ^b (0.029)	-0.082 ^a (0.013)	-0.083 ^a (0.028)	-0.070 ^b (0.033)	-0.022 (0.022)	0.007 (0.034)
Bureaucratic quality	-0.037 (0.158)	-0.076 (0.105)	-0.066 (0.261)			
Law and order				-0.382 ^b (0.183)	-0.248 ^c (0.142)	-0.209 (0.226)
Fisc dec. ^c bureaucratic quality	0.024 ^a (0.009)	0.022 ^a (0.004)	0.022 ^b (0.010)			
Fisc. dec. ^c law and order				0.007 (0.007)	0.004 (0.005)	0.002 (0.008)
Log of GDP per capita	-0.731 ^a (0.166)	-0.548 ^a (0.106)	-0.550 ^a (0.184)	-0.498 ^a (0.155)	-0.369 ^a (0.097)	-0.401 ^b (0.179)
Observations	467	467	467	498	498	498
Hansen <i>P</i> -value			0			1
AR(1) <i>P</i> -value			0.071			0.095
AR(2) <i>P</i> -value			0.541			0.811
R-squared	0.122	0.297		0.117	0.263	

Note: Robust standard errors are in parentheses and are corrected for clustering. All regressions control for time effects. ^aSignificant at 1%; ^bSignificant at 5%; ^cSignificant at 10%.

Table 6. Fiscal decentralisation, institutions and communal violence.

Dependent variable	Communal violence			Communal violence		
	Ordered logit	Pooled OLS	System GMM	Ordered logit	Pooled OLS	System GMM
Column	(1)	(2)	(3)	(4)	(5)	(6)
Fiscal decentralisation	0.038 (0.048)	0.021 (0.030)	0.015 (0.046)	-0.058 ^b (0.028)	-0.050 ^c (0.026)	-0.052 (0.032)
Bureaucratic quality	0.611 ^a (0.259)	0.547 ^a (0.191)	0.461 (0.293)			
Law and order				0.078 (0.192)	0.013 (0.191)	-0.034 (0.301)
Fisc dec. ^c bureaucratic quality	-0.021 (0.016)	-0.015 (0.010)	-0.013 (0.014)			
Fisc. dec. ^c law and order				0.011 ^c (0.006)	0.011 ^c (0.006)	0.011 (0.008)
Log of GDP per capita	0.347 (0.285)	0.274 (0.192)	0.304 (0.266)	-0.029 (0.120)	0.038 (0.106)	0.042 (0.236)
Observations	286	286	286	315	315	315
Hansen <i>P</i> -value			1			1
AR(1) <i>P</i> -value			0.023			0.009
AR(2) <i>P</i> -value			0.190			0.193
R-squared	0.088	0.214		0.065	0.155	

Note: Robust standard errors are in parentheses and are corrected for clustering. All regressions control for time effects. ^aSignificant at 1%; ^bSignificant at 5%; ^cSignificant at 10%.

not explain the finding that the beneficial effect of fiscal decentralisation vanishes with good institutions.

Concluding remarks

Fiscal decentralisation is an institutional device that has been implemented increasingly over the last decades. In the context of ethnic conflict, it is often thought to dampen strife by giving groups control over their own affairs and by insulating minorities from predatory politics from the centre. However, federalism or decentralisation has not had uniform results, which has led scholars to question why some countries have benefited from it and others have not. In this paper, I have focused specifically on fiscal federalism to uncover the conditions that must be fulfilled for fiscal decentralisation to be effective in reducing conflict, controlling for institutional quality in order to reveal the true effect of fiscal decentralisation. System GMM estimations confirm that governance matters in explaining violent conflict. Better bureaucratic quality is associated with more rebellion and communal violence. As fiscal decentralisation and bureaucratic quality are strongly correlated, omitting institutions in estimations result in the under-estimation of the impact of fiscal decentralisation. I explain this institutional impact by the increase in group mobilisation produced by the presence of a capable state. Facing potential or effective threats from a strong state, it is necessary for minorities to organise themselves. Results also confirm that fiscal decentralisation is more desirable for groups that are different from the rest of the population. With respect to state capacities, findings confirm that fiscal decentralisation is more effective in richer countries. This effect is restricted to communal violence though. Finally no support emerged for the hypothesis that fiscal decentralisation requires a strong institutional environment to produce conflict-mitigating effects. On the contrary, the impact of fiscal decentralisation tends to vanish at high levels of bureaucratic quality. This very counter-intuitive finding requires confirmation by other studies and justifies further research to investigate more thoroughly the complex links between fiscal decentralisation, state capacities and institutions.

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Endnotes

1. Brancati, 'Decentralisation'.
2. Lijphart, *Democracies in Plural Societies*; Lijphart, 'The Puzzle of Indian Democracy'; Lustick, Miodownik and Eidelson, 'Secessionism in Multicultural States'; Hechter, *Containing Nationalism*.
3. Oates, *Fiscal Federalism*.
4. Hechter, *Containing Nationalism*; Lijphart, *Democracies in Plural Societies*; Gurr, *People Versus States*.
5. Roeder, 'Soviet Federalism'; Cornell, 'Autonomy as a source of conflict'; Snyder, *From Voting to Violence*; Bunce, *Subversive Institutions*.
6. Cornell, 'Autonomy as a Source of Conflict', 252.
7. Bakke and Wibbels, 'Federalism and Intrastate Struggles'; Brancati, 'Decentralisation'; Bermeo, 'The Import of Institutions'; Hale, 'Divided We Stand'.
8. Alesina, Baqir and Easterly, 'Public goods and ethnic divisions'; Alesina and La Ferrara, 'Participation in Heterogeneous Communities'.
9. Djankov and Reynal-Querol, 'The Colonial Origins of Civil War'; Arcand and Tranchant, 'Institutions, Mobilisation, and Rebellion'.
10. Lijphart, *Democracies in Plural Societies*; Gurr, *People Versus States*; Hechter, *Containing Nationalism*; Suberu, *Federalism and Ethnic Conflict in Nigeria*; Stepan, 'Federalism and Democracy'; Hooghe, 'Belgium'; Bächtinger and Steiner, 'Switzerland'.
11. Weiner, *Sons of the Soil*; Bunce, *Subversive Institutions*; Snyder, *From Voting to Violence*; Roeder, 'Soviet Federalism'; Linz and Stepan, 'Inequality Inducing and Inequality Reducing Federalism'; van Houten, 'The Politics of Fiscal Autonomy Demands'; Leibfried and Pierson, *European Social Policy*.
12. Cornell, 'Autonomy as a source of conflict'.
13. Gurr, *People Versus States*; Murshed and Gates, 'Spatial-horizontal Inequality'.
14. Roeder, 'Soviet Federalism'.
15. Oates, *Fiscal Federalism*.
16. Seabright, 'Accountability and Decentralisation in Government'.
17. Tommasi and Weinschelbaum, 'Centralisation versus Decentralisation'.
18. Bardhan and Mookherjee, 'Corruption and Decentralisation'.
19. Alesina *et al.*, 'Public Goods and Ethnic Divisions'.
20. Lutmer, 'Group Loyalty'.
21. Alesina and La Ferrara, 'Participation in Heterogeneous Communities'.
22. Bardhan, 'Decentralisation of Governance and Development'.

23. Sanchez, 'Conflict, Decentralisation, and Local Governance'.
24. Murshed and Tadjoeeddin, 'Is Fiscal Decentralisation Conflict Abating?'
25. Diprose, 'Passing on the Challenges'; Green, 'Decentralisation and Conflict'; Ukiwo, 'Creation of Local Government Areas and Ethnic Conflict in Nigeria'.
26. Cohen, 'Proportional Versus Majoritarian Ethnic Conflict Management in Democracies'.
27. Saideman, Lanoue, Campenni and Stanton, 'Democratisation, Political Institutions, and Ethnic Conflict'.
28. Bermeo, 'The Import of Institutions'.
29. Brancati, 'Decentralisation'.
30. Bakke and Wibbels, 'Diversity and Disparity'.
31. Rodden, 'Comparative Federalism and Decentralisation'.
32. Bermeo, 'The import of institutions'.
33. Fearon and Laitin, 'Ethnicity, Insurgency, and Civil War'.
34. Djankov and Reynal-Querol, 'The Colonial Origins of Civil War'; Arcand and Tranchant, 'Institutions, Mobilisation, and Rebellion'.
35. Fearon and Laitin, 'Ethnicity, Insurgency, and Civil War'.
36. Murshed and Tadjoeeddin, 'Is Fiscal Decentralisation Conflict Abating?'; Sanchez, 'Conflict, Decentralisation and Local Governance'.
37. Arcand and Tranchant, 'Institutions, Mobilisation and Rebellion'.

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