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Territorial Autonomy and the Trade-Off Between Civil and Communal Violence: Online Appendix

Appendix 1: Descriptive statistics

Table A1. Descriptive statistics (civil violence models).

Statistic	Mean	St. Dev.	Min	Max
Civil violence	0.003	0.055	0	1
Second-order majority	0.146	0.353	0	1
Territorial autonomy	0.314	0.304	0	1
Included	0.260	0.439	0	1
Relative size (state)	0.083	0.116	0.0001	0.850
Relative size (unit)	0.129	0.237	0	1.000
Population (unit)	0.050	0.077	0	0.925
Area (unit)	66405.97	283974.6	2.440	8082496
Avg. ruggedness (unit)	169.201	170.667	0	1071.655
Oil in unit	0.116	0.247	0	1.000
Distance capital (unit)	838.437	1511.892	0.575	39136.060
Distance border (unit)	132.455	166.333	0.001	1154.274
GDP pc.	11954.74	11972.64	327.606	96870.430
Population (state)	206.230	404.780	0.183	1386.395
Democracy	0.638	0.320	0	1
Ethnic fractionalization	0.513	0.237	0.105	0.973
Election year	0.256	0.436	0	1
Peaceyears	11.899	8.649	0	30
Civil v. spatial lag	0.078	0.268	0	1

Table A2. Descriptive statistics (communal violence models).

Statistic	Mean	St. Dev.	Min	Max
Communal violence	0.001	0.036	0	1
Territorial autonomy	0.311	0.301	0	0.950
Included/excluded	0.624	0.484	0	1
Excluded/excluded	0.185	0.388	0	1
Relative size (state, mean)	0.275	0.166	0.0001	0.498
Relative size (state, diff.)	0.420	0.325	0	0.944
Relative size (unit, mean)	0.381	0.123	0	0.500
Relative size (unit, diff.)	0.648	0.292	0	1.000
Asymmetry	0.105	0.307	0	1
Population (unit)	0.048	0.075	0	0.925
Area (unit)	63764.4	275479.5	2.44	8082496
Avg. ruggedness (unit)	170.455	168.758	0	1071.655
Oil in unit	0.114	0.243	0	1.000
Distance capital (unit)	814.218	1441.248	0.575	14860.25
Distance border (unit)	128.396	162.062	0.001	1154.274
GDP pc.	11532.0	11641	327.606	96870.43
Population (state)	187.725	383.172	0.183	1386.395
Democracy	0.626	0.321	0	1
Ethnic fractionalization	0.516	0.239	0.101	0.973
Election year	0.256	0.436	0	1
Peaceyears	12.010	8.693	0	30
Communal v. spatial lag	0.014	0.118	0	1

Table A3. Number and relative frequency of civil violence events, depending on type of group.

Group unit years	Incidence (all)	Incidence (maj.)	Incidence (min.)
all (178459)	548 (0.00307)	253 (0.0097)	295 (0.00194)
territorial autonomy = 0 (76315)	370 (0.00485)	152 (0.01307)	218 (0.00337)
territorial autonomy > 0 (102144)	178 (0.00174)	101 (0.00699)	77 (0.00088)

Table A4. Number and relative frequency of communal violence events, depending on type of dyad.

Dyad unit years	Incidence (all maj./min dyads)	Incidence (evenly included maj./min. dyads)	Incidence (unevenly included maj./min. dyads)
all (203208)	260 (0.00128)	148 (0.00194)	112 (0.00088)
territorial autonomy < 0 (87030)	105 (0.00121)	72 (0.00234)	33 (0.00059)
territorial autonomy >= 0 (116178)	155 (0.00133)	76 (0.00166)	79 (0.00112)

Appendix 2: Full model results

Table A5. Territorial autonomy and civil/communal violence incidence: full results.

	Civil violence (group)		Communal violence (dyad)	
	Maj.	Min.	Maj./min. dyad	
	model 1	model 2	model 3	model 4
Territorial autonomy	-1.123*	-1.221*	0.873	-0.242
	(0.538)	(0.475)	(0.718)	(0.676)
Territorial autonomy x included/excluded				2.567***
				(0.562)
Included	-1.182***	-0.423		
	(0.295)	(0.414)		
Included/excluded			0.092	-0.772†
			(0.456)	(0.454)
Excluded/excluded			0.566	0.623
			(0.529)	(0.471)
Relative size (state)	0.579	2.089		
	(1.034)	(1.286)		
Relative size (state, mean)			1.917	2.035
			(1.831)	(1.872)
Relative size (state, diff.)			-0.483	-0.538
			(0.870)	(0.902)
Relative size (unit)	0.232	3.083**		
	(0.533)	(0.939)		
Relative size (unit, mean)			2.368*	2.288*
			(1.065)	(1.131)
Relative size (unit, diff.)			-0.923**	-0.861*
			(0.334)	(0.351)
Asymmetry			0.283	0.294
			(0.317)	(0.314)
Population (unit, logged)	0.389***	0.252**	0.275*	0.288*
	(0.087)	(0.095)	(0.119)	(0.118)
Area (unit, logged)	0.030	0.110	0.466**	0.449**
	(0.094)	(0.130)	(0.154)	(0.148)
Avg. ruggedness (unit)	0.001	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Oil in unit	0.516	0.695*	1.064*	0.993†
	(0.507)	(0.299)	(0.520)	(0.524)
Distance capital (unit, logged)	-0.062	0.154	-0.099	-0.098
	(0.150)	(0.166)	(0.194)	(0.184)
Distance border (unit, logged)	-0.227**	-0.096	-0.188*	-0.167†
	(0.082)	(0.111)	(0.094)	(0.091)
GDP pc. (logged)	-0.431*	-0.830***	-0.433†	-0.352
	(0.173)	(0.222)	(0.232)	(0.236)
Population (state, logged)	0.101	-0.197	-0.012	0.005
	(0.140)	(0.132)	(0.212)	(0.209)
Democracy	0.251	-1.476*	0.257	0.323
	(0.720)	(0.683)	(0.546)	(0.547)
Ethnic fractionalization	0.216	0.145	0.846	0.900
	(0.980)	(1.331)	(1.152)	(1.111)
Election year	-0.533†	0.359	0.288	0.312
	(0.287)	(0.335)	(0.231)	(0.221)
Spatial lag	0.927***	1.286*	1.065**	1.019**
	(0.251)	(0.511)	(0.375)	(0.377)
Constant	1.190	1.574	-22.969***	-23.857***
	(2.402)	(2.204)	(2.896)	(2.957)
N	26,082	152,377	203,208	203,208
Log Likelihood	-1,091.455	-1,516.556	-1,559.871	-1,542.529
AIC	2,292.910	3,143.112	3,237.743	3,205.059

† p<0.1; * p<0.05; ** p<0.01; *** p<0.001; country-clustered SE's in parentheses; region- and year-fixed effects and cubic peace year term included but not reported; maj. = second-order majority; min. = second-order minority. The dependent variable is a binary variable equal to one if there is at least one instance of civil/communal violence involving a group/dyad in a given unit.

Appendix 3: Robustness checks

In this section, I probe whether six alternative explanations might account for my empirical findings (appendices 3.1-3.6). Thereafter, I check the general robustness of my models (appendix 3.7). I visualize my main findings with average marginal effects for the observed values in the sample. The supplementary R-replication script (file "___replication_master_file.R") generates full model results tables. Those not printed here are labelled with prefix "X" and can be found in the supplementary material, in file "tablesX.pdf". Those whose results are abbreviated here (appendices 5.2 and 5.3) can be found in full in the supplementary material, in file "tablesA_full.pdf".

Appendix 3.1: Cross-unit spillover effects of territorial autonomy

A first concern is that the consequences of territorial autonomy for civil or communal violence are rarely purely localized. Instead, they **may spill over across other administrative units**. Most problematically for my set-up, groups that are second-order minorities in one unit are often second-order majorities in other units with comparable degrees of autonomy. This raises concerns for my finding that territorial autonomy decreases second-order minorities' participation in civil violence. I have argued that territorial autonomy does so by demobilizing them and by redirecting their grievances towards the second-order majority. Instead, it could be that this finding simply reflects the pacifying consequences of their *group*-level autonomy attained in other units (cf. Cederman et al. 2015). This could decrease their grievances across the state territory and thereby reduce civil violence even in units where they only constitute a minority of the population.

I address these concerns with two procedures. First, I re-run my models while **controlling for the average territorial autonomy** enjoyed by group members as second-order majorities across the state territory. This is calculated as follows:

$$Avg.territorial\ autonomy_{\ g} = \sum_{u=1}^{U} c_{g,u} \times local\ majority_{g,u} \times territorial\ autonomy_{u} \quad \text{(A1)}$$

where $c_{g,u}$ is the fraction of group g's members settling in a given unit u (ranging from 0 to 1) and $local\ majority_{g,u}$ a dichotomous variable taking the value 1 if group g is the second-order majority in unit u, and 0 otherwise. If second-order minorities' reduced civil violence participation in autonomous units were due to their second-order majority status in *other* autonomous units, this variable would explain away the negative effect of second-order minorities' unit-wise *territorial autonomy*.

Second, I re-run my models while **excluding second-order minorities with any form of de-facto autonomy** from my sample (Vogt et al. 2015). If second-order minorities were less likely to participate in civil violence due to possessing autonomous status elsewhere in the state, I would not expect to find an effect of territorial autonomy in the remaining sample of second-order minorities without de-facto autonomy. For comparability, I apply these procedures to all my main models, even though this concern applies predominantly to second-order minorities' civil violence participation.

The results of these procedures do not substantiate concerns that cross-unit spill-over effects underlie my findings on second-order minorities' participation civil violence. In the first procedure, I only attain a statistically non-significant effect of *average territorial autonomy* (line 2 in figure A1, panel a). Moreover, the effect of my original unit-wise *territorial autonomy* variable on second-order minorities' civil violence participation remains negative and statistically significant in both checks (lines 3 and 4 in figure A3, panel a). As regards second-order majorities' civil violence participation (first line in figure A3, panel a) and communal violence between included-excluded second-order majority/minority dyads (lines 4 and 5 in figure A3, panel b), neither procedure substantively alters my results, although the AME of territorial autonomy in the latter is now only significant at the 90% level.

A related, concern is that **autonomy provided to *other groups in other units* may incentivize relatively disadvantaged groups to mobilize for similar concessions** (Walter 2006; 2009), irrespective of their status in their own administrative unit. Hence, my finding that autonomy increases communal violence between included and excluded groups may not be due to subnational tensions which I have highlighted. Instead, it might be due to autonomy-seeking violence that is directed at the center (see appendix 3.5), but takes subnational form. To probe for this possibility, I re-run my analyses while **controlling for the maximum territorial autonomy** in any administrative unit across the state territory in a given year. If the higher incidence of communal violence in autonomous administrative units is due to the mobilization of second-order minorities seeking similar autonomy as provided in other areas of the state, this variable would explain away the positive effect of my interaction between *included/excluded* and unit-wise *territorial autonomy*. However, I only attain a non-significant effect of maximum territorial autonomy on both civil and communal violence (figure A2). Moreover, the incorporation of this variable does not affect my finding that territorial autonomy increases communal violence between included/excluded dyads of second-order majorities and minorities (line 6 in figure A3, panel b).

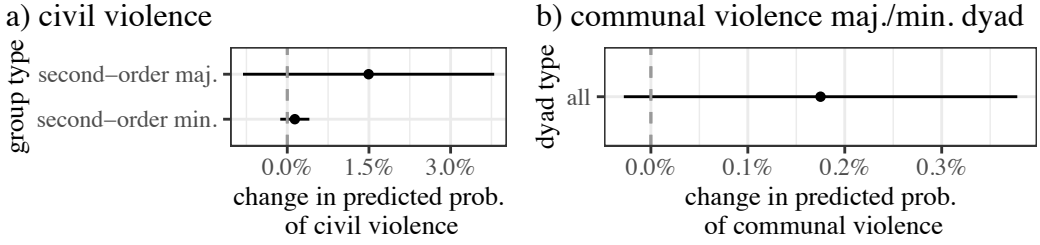


Figure A1. Effect of *average territorial autonomy* on civil and communal violence.
Note: Based on models A1-A3 in table X1.

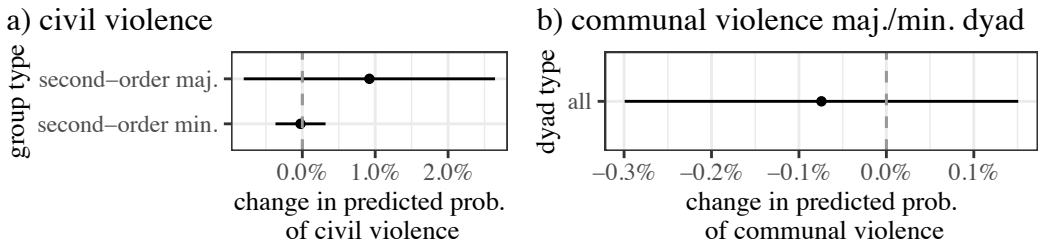


Figure A2. Effect of *maximum territorial autonomy* on civil and communal violence.
Note: Based on models A8-A10 in table X3.

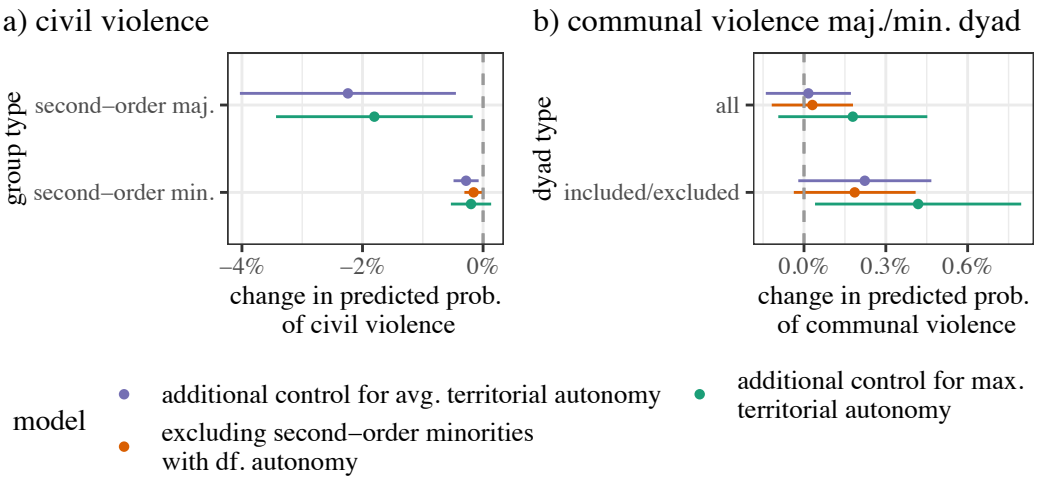


Figure A3. Effect of *territorial autonomy* on civil and communal violence when controlling for group-wise average territorial autonomy, excluding second-order minorities with de-facto (df.) autonomy from sample, and controlling for maximum territorial autonomy across units.
Note: Based on models A1-A11 in tables X1-X3.

Appendix 3.2: Group-wise feedback effects between civil and communal violence

A second concern are positive feedback effects between civil and communal violence. On the one hand, **communal violence may well escalate into full-scale civil war** (Fjelde et al. 2014). For example, this was the case for South Sudan's communal conflict between the Dinka and Nuer groups, discussed in this article's small-N analysis. In this case, initially localized, episodic bursts of inter-group violence escalated into civil war between the Dinka-dominated central government and armed Nuer organizations (Brosché 2014; 2019). On the other, the **legacies of civil violence**—such as widespread availability of weapons, formation of ethnic militias, refugee flows, and lower state capacity—also **increase the likelihood of subsequent communal violence** (cf. Böhmelt et al. 2019). For example, rebel groups in Syria engaged in civil violence against the Syrian government, but later turned against each other and engaged in inter-rebel fighting along ethnic lines as well (Melander et al. 2016). As many rebel organizations are ethnically-based, such fighting associated with previous civil violence enters my set-up in the subset of communal violence that is formally organized.

In my models, I have omitted feedback effects between these two types of violence, as my argument centers on the simultaneous, diverging effects of territorial autonomy on civil and communal violence. Thereby, conditioning for past or current violence of the respectively other type risks introducing **posttreatment bias** (cf. Acharya et al. 2016; Montgomery et al. 2018). Moreover, given my finding that territorial autonomy affects civil and communal violence in the opposite direction, whereas these two outcomes are positively correlated, not conditioning on past violence of the other type is the **comparably conservative estimation strategy**. In other words, this makes it more likely that I *under*-, rather than overestimate the contrary effects of territorial autonomy on the incidence of civil and communal violence, respectively. While conservative overall, this may be problematic for one specific possibility that I have argued against: that territorial autonomy increases communal violence among second-order majority-second-order minority dyads across the board, and not only among unevenly included ones.

To address this possibility, I proceed as follows. First, I re-run my models while **controlling for group-/dyad-wise violence of the respectively other type in the current and previous year**.[1] To probe the implications of feedback effects further, I disaggregate my communal violence models further in a second step. Specifically, I estimate two additional models that distinguish between formally and informally organized incidences of communal violence, respectively.[2] As

[1] In my civil violence models, this takes the value of 1 where a group was involved in communal violence in year t or t-1, and 0 otherwise. In my communal violence models, this takes the value 1 where either dyad member was involved in civil violence in year t or t-1, and 0 otherwise.

[2] Formally organized types of communal violence involve rebel groups and organizations that have a "high enough level of organization so as to be possible to include in the state-based armed conflict category" (Petterson 2020). Informally organized types of communal violence involve supporters of parties and candidates and groups with "common identification along ethnic, clan, religious, national or tribal lines" (Petterson 2020).

the former category frequently involves armed organizations that were involved in past civil violence, as in the Syrian case, I would expect the strongest effects of past or current civil violence on formally-organized communal violence.

Figure A4 shows the average marginal effects of these control variables for incidence of violence of the respectively other type. As expected, a group's recent or ongoing involvement in communal violence is positively associated with its subsequent participation in civil violence, although this is only significant for second-order minorities (panel a). Conversely, I also find that recent or ongoing civil violence involvement of at least one dyad member predicts subsequent communal violence among a dyad (panel b). As expected, this is more pronounced, and only statistically significant at the 95%-level, for formally organized incidents of communal violence (line 2 in panel b).

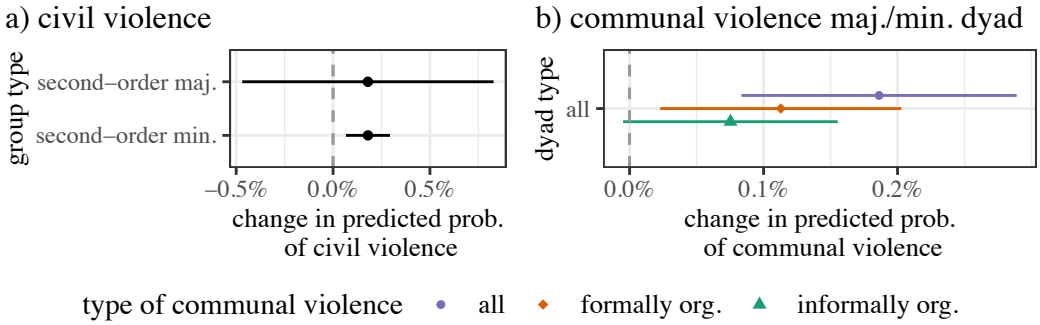


Figure A4. Effect of recent or ongoing communal violence on civil violence (panel a) and of recent or ongoing civil violence on communal violence [overall / formally organized / informally organized] (panel b).
Note: Based on models A12-A14 in table X4 and models A15 and A17 in table X5.

In a third step, I **explicitly model positive feedback effects** between civil and communal violence. For this purpose, I rely on two frameworks which represent alternative means to distinguish between mediated and direct (unmediated) effects. First, I employ the **causal mediation framework developed by Imai and colleagues (2011)**. This approach allows me to separate out the total estimated effect of territorial autonomy, as attained in each of the above-described models, into two components: a component mediated by violence of the respectively other type, captured by my new control variable for recent or ongoing incidence thereof; and a direct effect that is not affected by such feedback mechanisms. Second, I employ the **sequential g-estimator proposed by Acharya and colleagues (2016)**, which allows me to obtain the controlled direct effect of territorial autonomy. This captures the effect of territorial autonomy, when the respective mediator (recent civil/communal violence, respectively) is fixed at a particular level.

Figure A5 visualizes all three effects obtained in these procedures. First, as expected, for each violence type, the average direct (ADE) and average controlled direct effects (ACDE) of territorial autonomy go in the opposite direction than the effect mediated by the recent or ongoing incidence of the respectively other type of violence (ACME). This bolsters the claim that not conditioning for violence of the respectively other type leads me to underestimate the contrary effects of territorial autonomy on both civil and communal violence. Second, reassuringly, the ADE and ACDE of *territorial autonomy* retain their sign—negative for civil violence and positive for communal violence among included-excluded second-order majority/minority dyads—and remain statistically significant.

Third, I find only limited evidence for the possibility that, when accounting for feedback effects with civil violence, territorial autonomy might increase communal violence among second-order majority/minority dyads across the board. I only attain such an unconditional positive direct effect of territorial autonomy for the subset of communal violence incidents that are informally organized (panel d, line 6). However, this effect remains considerably smaller than the one attained for 'unevenly' excluded second-order majority/minority dyads (panel d, line 4). Moreover, I find evidence for a substantial negative effect of territorial autonomy on formally organized communal violence, mediated by recent civil violence, whereas the direct effect of territorial autonomy on it is not distinguishable from zero. While adding nuance, these patterns do not bolster claims that territorial autonomy might increase communal violence across the board. Instead, they highlight a further way in which the pacifying consequences of territorial autonomy may have been underestimated. Specifically, by reducing civil violence, territorial autonomy appears to reduce the fertile soil in which ethnic militias can thrive. Thereby, territorial autonomy also indirectly reduces communal violence incidents that are formally organized.

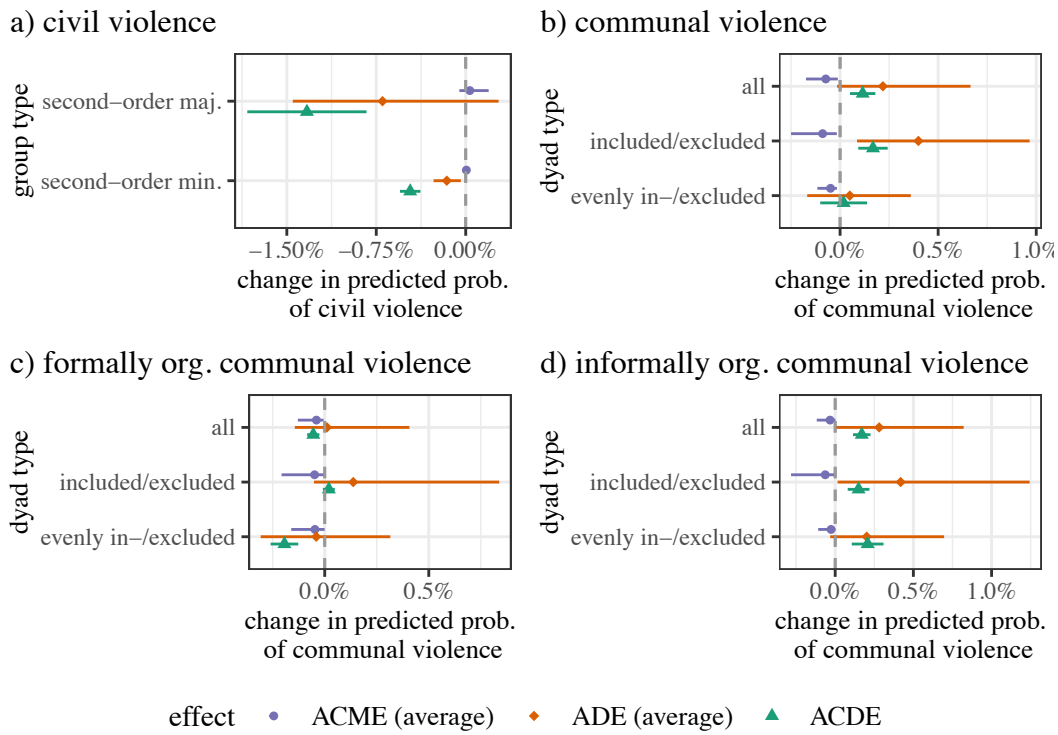


Figure A5. Effect of territorial autonomy on civil and communal violence: direct and mediated by recent violence of the respectively other type.
Note: Based on models A12-A15 in table X4 and models A16-A19 in table X5; ACME = average causally mediated effect; ADE = average direct effect; ACDE = average controlled direct effect.

Appendix 3.3: Nation-wide inter-group rivalries and communal violence

A third concern applies to my finding that territorial autonomy increases communal violence among unevenly included second-order majority-second-order minority dyads. I have argued that this is due to the combination of (1) higher incentives of second-order majorities and second-order minorities to engage in communal violence in autonomous units and (2) impaired ability or willingness by the central government to defuse these incentives for unevenly included dyads. However, an alternative explanation for this pattern are **nation-wide rivalries between included/excluded dyads**. These could simultaneously explain uneven central government inclusion in a dyad and higher incidence of communal violence among it. Moreover, the profound instability associated with such nation-wide rivalries might at the same time make the adoption of autonomy arrangements in areas populated by such dyads more likely.

If nation-wide inter-group rivalries did explain the association of territorial autonomy with communal violence among included-excluded dyads, I would expect this association to hold across the state territory, irrespective of dyad members' demographic shares in their administrative units. In other words, I would expect territorial autonomy to be associated with a higher risk of communal violence not only among unevenly included maj./min. dyads, but also among unevenly included second-order minority/minority (min./min.) dyads.

To probe for this possibility, I re-estimate my communal violence models, while **adding min./min. dyads to my sample**. In these models, I include a dummy variable designating maj./min. dyads and interact it with *territorial autonomy* (model A34) and, in a triple-interaction, with *territorial autonomy* and *included-excluded* (model A35).

Figure A6 shows the results of these models. In line with my argument, these indicate that territorial autonomy only increases the risks of communal violence among unevenly excluded maj./min. dyads. Conversely, I do not attain a similar effect of territorial autonomy on unevenly excluded dyads in units where both sides are second-order minorities, as would be predicted if nation-wide rivalries were the main driver of communal violence among them.

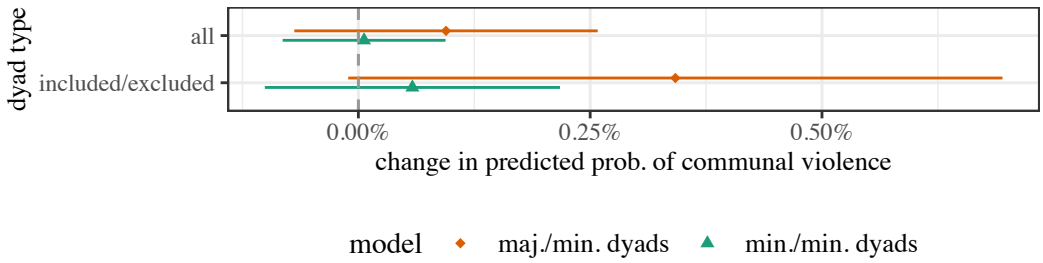


Figure A6. Effect of territorial autonomy on civil and communal violence: differentiation between maj./min. dyads (red) and min./min. dyads (green).
Note: Based on models A20 and A21 in table X6.

Appendix 3.4: Simultaneous central government inclusion and autonomy

A fourth concern is related to an empirical pattern whereby central governments might simultaneously shape ethnic power relations in both the central and subnational government. First, **governments might be more accommodative or repressive in general**. Thereby, some governments might combine far-ranging inclusiveness in the center with encompassing federal institutions, whereas others opt for a more integrationist approach that lacks both power-sharing at the center and territorial autonomy (cf. McGarry & O'Leary 2008). Second, governments **might decide to only include certain privileged groups and simultaneously provide them with second-order majority status in autonomous units**. Conversely, they might purposefully marginalize other groups by simultaneously blocking their representatives' from entering the central government and confining them to second-order minority status.

Such patterns of simultaneous central government decisions on inclusion at the center and the provision of autonomy raise two key concerns for my findings. First, my finding that territorial autonomy decreases civil violence might reflect broader inclusive/repressive strategies, rather than being the consequence of territorial autonomy specifically. On the one hand, its pacifying effect on civil violence might thereby be the result of a more accommodative central government in general. On the other, its pacifying effect for second-order majorities specifically might be driven by the same groups' simultaneous inclusion into central government. Second, my finding that territorial autonomy increases communal violence among unevenly included second-order majority/minority dyads may similarly be driven by broader patterns of group-differentiated unequal treatment by the central government as well. For instance, it may reflect second-order minorities' purposeful marginalization by a central government allied with relatively privileged second-order majorities.

I address these concerns in three robustness checks (see figure A7 for results). First, in my civil violence models, I **interact territorial autonomy with central government inclusion**, rather than including these variables only as separate terms. The results of this procedure bolster my original explanation. The marginal effect of territorial autonomy is stronger for excluded groups than for included ones, rather than the other way around (panel a). This is consistent with the interpretation that territorial autonomy acts as a partial substitute for central government inclusion in a "power-proximity" logic (Cederman et al. 2015). It is not consistent with the interpretation that territorial autonomy constitutes a complement which is mostly offered simultaneously with government inclusion to all or to specific groups in my sample.

Second, in my communal violence models, I **disaggregate my *included/excluded* variable further** to distinguish between situations where the second-order majority is included, whereas the second-order minority is excluded (*maj. incl./min. excl.*) from the inverse situation (*min. incl./maj. excl.*). Third, again for my communal violence models, I disaggregate the underlying power statuses even further, by **distinguishing dyads where one dyad member is powerless from those where it is actively discriminated by the central government** (Vogt et al. 2015). Again, I then disaggregate these two dummy variables to identify which dyad member holds the respective status. If the central government's purposeful marginalization of second-order minorities drove their higher communal violence participation in autonomous units, I would expect a pattern whereby communal violence becomes more likely only in constellations where the second-order majority is included, while the second-order minority is excluded. Moreover, I would expect the magnitude of this effect to increase where the second-order minority is not only powerless, but actively discriminated against at the national level. However, against this possibility, and in line with my argument, I find that territorial autonomy also increases the risks of communal violence in constellations where the second-order minority is included, whereas it is the *second-order majority* that is excluded (panel b). Moreover, when distinguishing *included/powerless* from *included/discriminated* dyads, I attain comparable effect magnitudes regardless of the degree to which the subordinate dyad member is excluded, although the inclusion of additional interaction terms results in these terms only attaining lower levels of statistical significance (panel c).

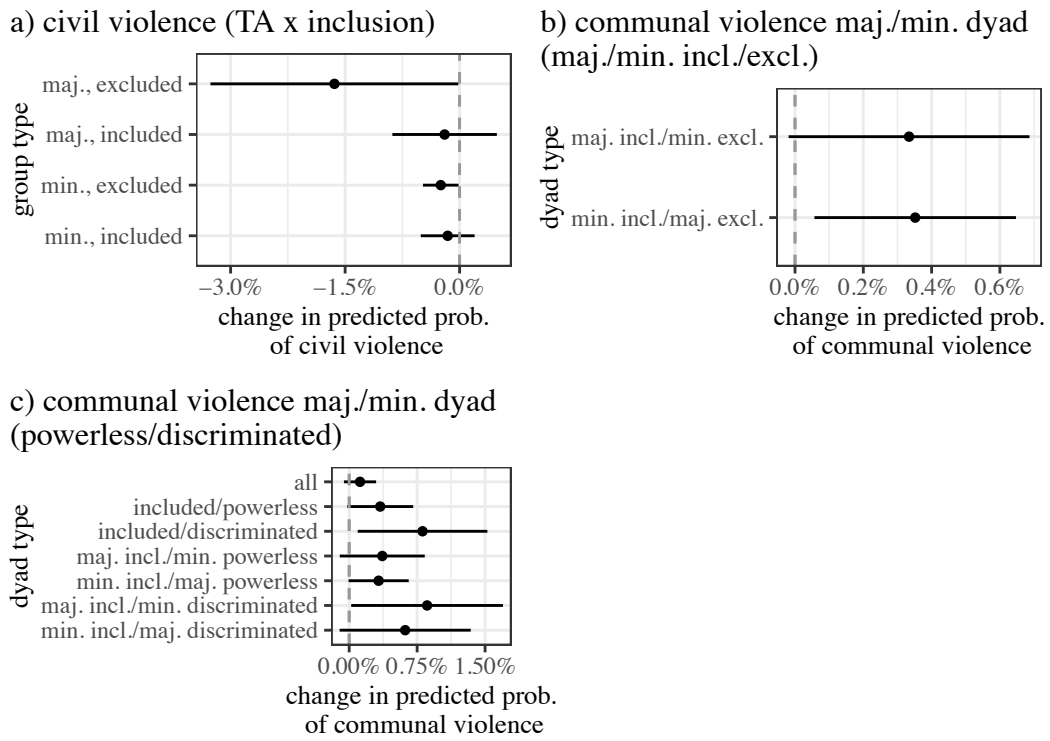


Figure A7. Effect of territorial autonomy on civil and communal violence when interacting *territorial autonomy* and *included* (panel a) and disaggregating *included-excluded* further (panels b and c).
Note: Based on models A22-A23 in table X7 and models A24-A27 in table X8.

Appendix 3.5: Uneven central government inclusion and concession-seeking "nuisance" violence

A fifth concern is posed by a seemingly alternative argument which I have only partially touched on in my theoretical discussion: the possibility that **uneven central government inclusion, rather than exacerbating the risks of communal violence, might decrease the risks of ethnic violence more generally**. As shown by Lacina (2017) for the case of India and by Lacina (2015) for a global sample, unequal representation in the central government might decrease the risk of concession-seeking "nuisance violence". Ethnic groups that hold less political influence at the center than their regional neighbors might be deterred from backing up demands for autonomy with violence, as they are likely to meet staunch opposition by both their neighbors and an unaccommodating central government. Conversely, if ethnic groups hold more political influence at the center than their regional neighbors, the central government is likely to cater to their demands. In such cases, the "controversy" may be "quickly resolved in their favor", without requiring violence (Lacina 2017: 198).

However, this seemingly alternative mechanism can be well reconciled with my own argument and findings. Most importantly, it applies to a type of violence that is in most cases distinct from subnational communal violence that forms the focus of my argument and analyses. Most importantly, this alternate mechanism, and its empirical applications, center on "nuisance" violence whereby ethnic groups seek concessions from the central government, rather than by pressure on their regional peers. To underline these arguments, I re-estimate model 2 (civil violence incidence by second-order minorities), while adding two additional dichotomous variables. These capture the **symmetric and asymmetric constellations** of uneven central government inclusion I have in my main communal violence models. Figure A8 shows the marginal effect of these variables. In line with Lacina's (2015; 2017) findings, it shows a negative association between uneven central government inclusion and civil violence in both constellations, though, in my sample, this is only statistically significant for constellations where the second-order minority is included, whereas the second-order majority is excluded.

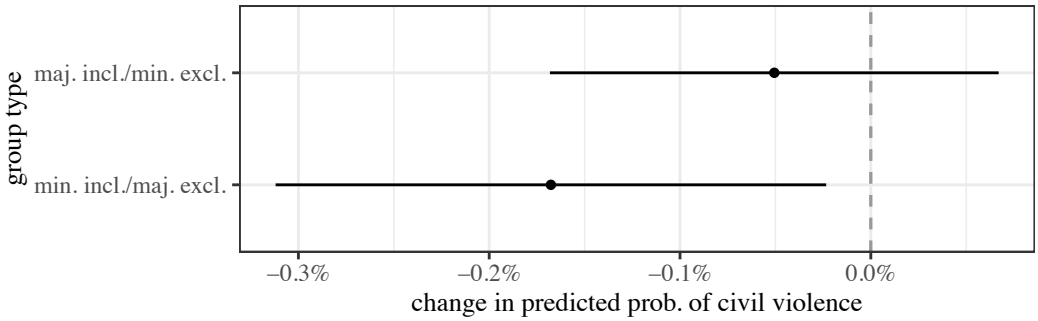


Figure A8. Effect of uneven central government inclusion on civil violence, depending on constellation.
Note: Based on model A28 in table X9.

Appendix 3.6: Territorial autonomy and communal violence incidence of nationally non-mobilized groups

A sixth concern relates to a key limitation of my sample: By proceeding from the list of groups included in the EPR dataset to construct my unit of analysis (Vogt et al. 2015), my set-up **by design only captures communal violence involving nationally-mobilized groups**. This may be problematic, as previous research indicates that communal violence may be more frequent among groups coded as "politically irrelevant" by EPR at the national level (Raleigh 2014). While such groups *are* part of the sample used in my models, communal violence might also become more likely in autonomous units among peripheral groups that do not enter the EPR group list in the first place. Hence, contrary to my arguments, it could be that territorial autonomy *does* increase communal violence across the board, but predominantly does so among the most peripheral groups that do not enter my sample in the first place.

In contrast to my main analyses, addressing this concern requires me to switch the level of analysis to the administrative unit level. Hence, the comparability of findings is limited. Nevertheless, I address this possibility by **re-estimating my communal violence models at the administrative unit-level** based on the following equation:

$$y_{ut} = \beta_0 + \alpha_1 autonomy_{ut} + \alpha_2 heterogeneity_{ut} \times autonomy_{ut} + \alpha_3 share\,'Others'_{ut} \times autonomy_{ut} + \beta_1 X'_{1ut} + \beta_2 X'_{2ct} + \gamma_r + \delta_t + \varepsilon_{ut} \quad \text{(A2)}$$

where y_{ut} is the incidence of at least one episode of communal violence in a given unit year. Importantly, for the purpose of this robustness check, y_{ut} also **includes communal conflicts where one or both dyad members are ethnic groups, but do not figure in the EPR group list** on which I rely in my main models. $Heterogeneity_{ut}$ is each unit's ethnic fractionalization index.[3] I interact this with *territorial autonomy* to account for the possibility that territorial autonomy might increase violence in heterogeneous units in general (Cunningham & Weidmann 2010). $Share\,'Others'_{ut}$ is each unit's total population share not accounted by nationally mobilized groups that are part of the EPR group list (Vogt et al. 2015). I interact this with *territorial autonomy* to account for the above-discussed possibility that territorial autonomy might increase communal violence in units with a high share of nationally non-relevant groups (Raleigh 2014).

My findings from these models do not bolster concerns that incorporating nationally non-mobilized groups would substantially alter my findings (see figure A9, which shows average marginal effects for observed values in the sample, analogously to the main article plots). In fact, I do not find any effect for territorial autonomy on communal violence across the board, at any level of ethnic heterogeneity or share of nationally non-mobilized groups in a unit.

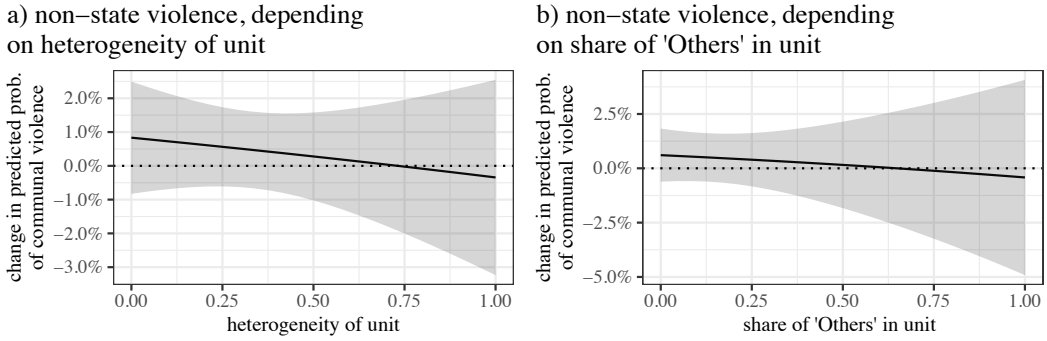


Figure A9. Effect of territorial autonomy on unit-level civil and communal violence, depending on ethnic heterogeneity of unit (panel a) and population share of non-EPR groups ('Others') in unit.
Note: Based on model A29 in table X10.

[3] Calculated based on group-wise population shares of the unit. The overall share of Others in the unit enters this index as well.

Appendix 3.7: General robustness checks

In this sub-section, I probe the general sensitivity of my models to sample changes, alternative and disaggregated independent variables, an alternative operationalization of second-order majorities, disaggregated dependent variables, and an alternative grid-cell based specification.

Appendix 3.7.1: Alternative specifications

In a first step, I probe the sensitivity of my findings to general changes to the specification. A first concern is that the **region- and year-fixed effects in my logistic regression models might entail a substantial data loss**, as groups without variation in the dependent variable are dropped in such specifications (Timoneda 2021). However, in my approach, this concern should be attenuated for two reasons. First, my fixed effects capture comparably highly-aggregated groups. Indeed, there are recorded civil and communal violence events for almost every region and year, meaning that virtually no data is dropped in my main models.[4] Second, my sample size is well above conventional thresholds at which logistic regressions with fixed effects are known to perform well (Timoneda 2021). Nevertheless, I probe the sensitivity of my findings to this concern, by estimating two alternative specifications: First, a **linear probability model which retains the fixed effects**; and, second, a **logistic regression that drops the fixed effects**. Reassuringly, my findings are almost unchanged, though the confidence intervals are larger in both procedures (see figure A10).

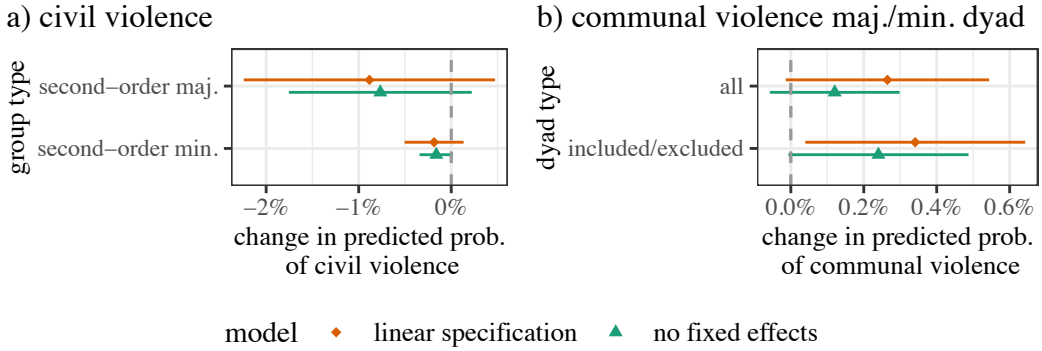


Figure A10. Effect of territorial autonomy on civil and communal violence, linear specification and logistic specification without region- and year-fixed effects.
Note: Based on models A30-A33 in table X11 and models A34-A37 in table X12.

A second concern is that my unit of analysis, based on **administrative boundaries, may itself be endogenous** to the risks of civil and communal violence (see discussion of endogeneity in the main article). To address this concern, I replicate my main models, while **switching the unit of analysis to the ethnic group- and dyad-grid cell year**, respectively. As in my instrumental variables approach (appendix 4), I take grid cell boundaries from the PRIO-GRID, which divides the world into arbitrary grid squares of 0.5 decimal degrees (Tollefsen et al. 2012). Aggregating information on this level, rather than administrative units themselves, enables me to use time-invariant units of analysis whose composition is not itself endogenous to conflict processes (cf. Carter et al. 2019). To assess my hypotheses in this adjusted set-up, I require information on the administrative unit in which a grid cell is located. For this, I spatially intersect the boundaries of all units in my sample with each PRIO-GRID cell and identify the administrative unit in which a grid cell was predominantly located in a given year. Additionally, I replace all my group-/dyad-unit and unit-level variables with their group/dyad-grid-cell and grid-cell level equivalents. Reassuringly, my findings are almost equivalent to the results of my main models (figure A11). As can be expected, the effect magnitude is diminished due to the considerably lower probability of violence occurring in a specific grid cell rather than a unit comprising multiple such grid cells.

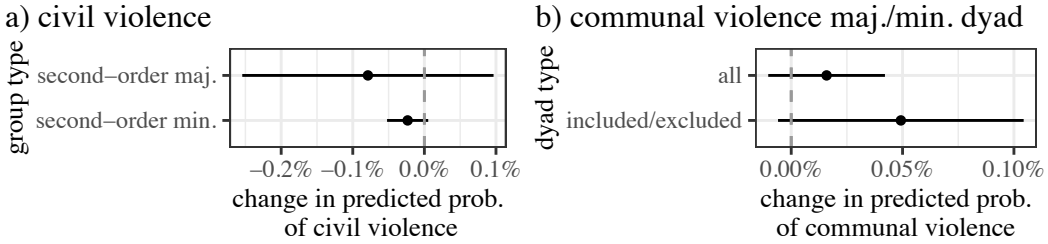


Figure A11. Effect of territorial autonomy on civil and communal violence, in a group-/dyad-grid-cell year specification.
Note: Based on models A38-A41 in table X13.

A third concern is posed by **dependencies between ethnic groups and dyads across units**. In my main models, I address this concern by excluding groups/dyads with ongoing violence in the previous year, including spatial lags of the respective

[4] The only exceptions are Oceania for civil violence and the Americas and Oceania for communal violence.

dependent variables, and clustering standard errors at the country-level. In appendices 3.1-3.3, I consider specific theoretical concerns that center on this issue. However, I also address this issue in more general terms by running a specification that **switches the unit of analysis to the ethnic group/dyad at the national (rather than unit) level**. This changed set-up has the disadvantage that I cannot distinguish between the second-order majority and minorities within a given unit. However, it enables me to probe whether nationwide dependencies among groups or dyads decisively influence my findings in a more general way. For this purpose, I aggregate my unit-level variables to the ethnic group/dyad-level by taking their size-weighted averages. For example, I replace my variable for a unit's *territorial autonomy* by the *average territorial autonomy* enjoyed by a group's members in a given year. I aggregate my dependent variables by focusing on the incidence of at least one civil violence event involving a group in a given year and the incidence of at least one communal violence event involving a dyad in a given year, respectively. Figure A12 shows the results. Reassuringly, while the confidence intervals are larger, they suggest a similar conclusion as my main models: territorial autonomy is associated with less civil violence, but with more communal violence among unevenly included dyads.

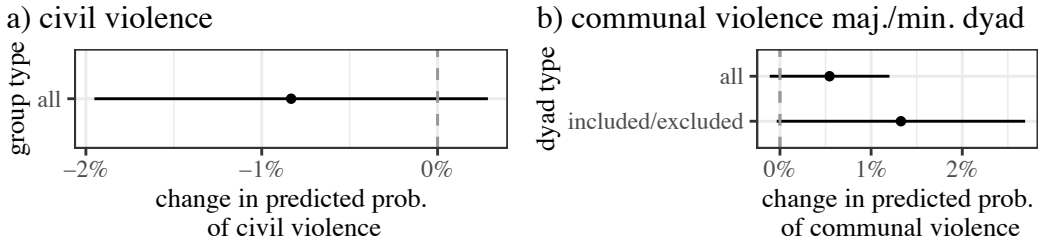


Figure A12. Effect of territorial autonomy on civil and communal violence, in a group-/dyad-year specification.
Note: Based on models A42-A44 in table X14.

Appendix 3.7.2: Sample changes

In a second step, I probe the sensitivity of my findings to seven types of **sample changes**. First, I re-run my analyses for subsamples corresponding to **minority-majority and majority-majority units**, to consider whether the dynamics differ between these two contexts. Second, I **add groups/dyads with ongoing violence in the previous year** back into the sample, which I excluded due to my focus on the initial incidence of violence, rather than its spatial diffusion. Third, I **exclude groups whose core settlement area, as coded by GeoEPR, does not overlap with a unit**.[5] I had included these to account for ethnic exclaves and the corresponding risk of regional boundary conflicts predicted by my argument. Fourth, I **only include groups which EPR continuously judges as "politically" relevant** in the period analyzed, thereby omitting groups who might potentially enter my sample due to involvement in civil or communal violence. My results are generally robust to these alterations, with two partial exceptions (see figure A13): First, I find no statistically-significant effect of territorial autonomy on second-order minorities' violence involvement in majority-majority units (panel a, line 5). This may reflect the fact that in such units, territorial autonomy may not redirect tensions from the national to the subnational level due to the congruence between politically dominant groups at both levels. Second, the effect of territorial autonomy on communal violence among included-excluded dyads loses statistical significance when incorporating groups with communal violence incidence in the previous year into the sample (panel b, line 7). This indicates that my theory is well suited to explain initial eruptions of communal violence, but not their subsequent diffusion across the state territory.[6]

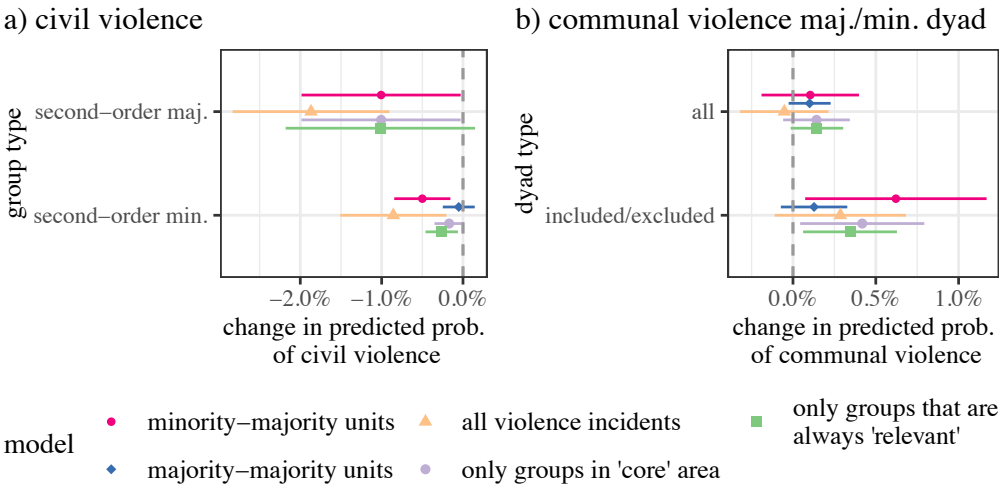


Figure A13. Effect of territorial autonomy on civil and communal violence, in specifications with a changed sample I.
Note: Based on models A45-A48 in table X15, models A49-A51 in table X16, models A52-A55 in table X17, models A56-A59 in table X18, and models A60-A63 in table X19.

[5] In the data, this corresponds to groups whose relative share of an administrative unit's/grid cell's population (int_grp_rel / rel_grp_gid) is 0.
[6] Additional analyses (not reported) indicate that this is mostly due to the widespread nation-wide diffusion of formally-organized communal violence, driven by a small number of cases, such as Syria, Afghanistan, and Iraq.

Fifth, I limit my sample to a more homogeneous set of countries, focusing on **segmented, unranked societies** (Vogt 2020) with **clientelist political systems**. In this approach, I exclude all former settler colonies, including all countries in the Americas, and countries with a clientelism value below 0.4 according to the V-Dem Clientelism index from my sample (Coppedge et al. 2020). Sixth, I split up my sample into **democratic** (Polity-index ≥ 6) **and autocratic countries** (Polity-index < 6) to probe whether the meaning of territorial autonomy, along with its effect on violence, might diverge between these contexts. Seventh, I re-run my models to the **subset of countries that ever saw civil or communal violence** in the period analyzed. Thereby, I probe whether my findings explain variance within this more violence-prone subsample as well. Again, my results are generally robust (figure A14), with one exception: I find no effect of territorial autonomy on civil violence in established democracies. This reflects the fact that the incidence of civil violence in democratic countries was extremely rare in the sample and period analyzed, regardless of whether they employed territorial autonomy or not.

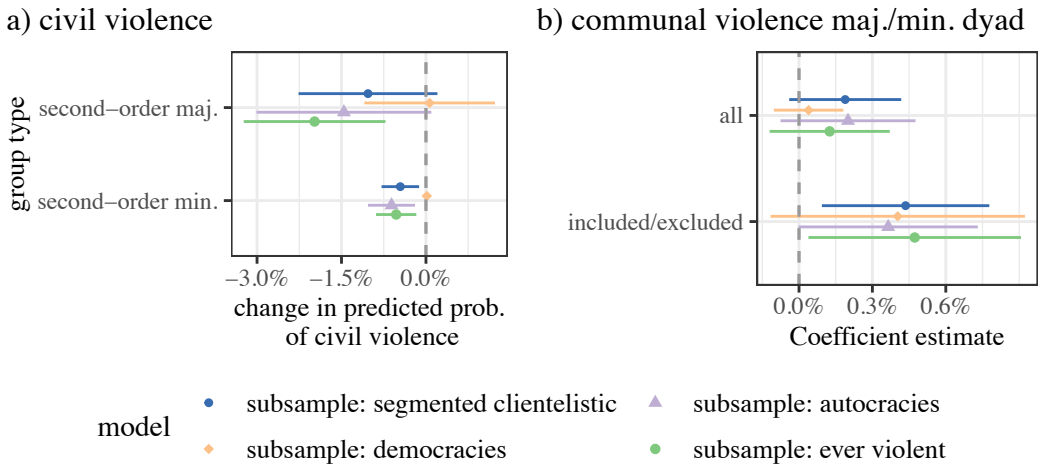


Figure A14. Effect of territorial autonomy on civil and communal violence, in specifications with a changed sample II.
Note: Based on models A64-A67 in table X20, models A68-A71 in table X21, models A72-A75 in table X22, and models A76-A79 in table X23.

Appendix 3.7.3: Alterations to the independent variable (territorial autonomy)

In a third step, I probe the robustness of my findings to alterations of my unit-level *territorial autonomy* index. First, I **aggregate my *territorial autonomy* index in an alternative manner that mirrors the aggregation procedure of the Regional Authority Index**. Second, I modify my original *territorial autonomy* variable to take the value 0 where any component (policy, fiscal, and political autonomy) takes the value 0. This gives a **more stringent operationalization that requires all autonomy components to be institutionalized** for a unit to be counted as meaningfully autonomous. Third, with the same rationale, I modify it to take the **value 0 where *fiscal autonomy* takes the value 0**. Fourth, I split up my *territorial autonomy* variable to **differentiate between special autonomy arrangements limited to part of the state territory** (e.g., Aceh) **and state-wide arrangements**.[7] Reassuringly, my findings remain virtually identical when employing each of these alternative operationalizations, indicating that my results are not sensitive to changes in the operationalization of *territorial autonomy* (figure A15). The only exception applies to the effect of special autonomy arrangements on second-order majorities' civil war involvement, which is not distinguishable from zero. This likely reflects the fact that such arrangements are rare in my sample. Moreover, they are most likely subject to severe reverse causation, whereby they are disproportionately adopted in difficult environments most at risk at conflict.

[7] I identify special autonomy arrangements by identifying units whose degree of autonomy is greater than the one of the median unit in a country year.

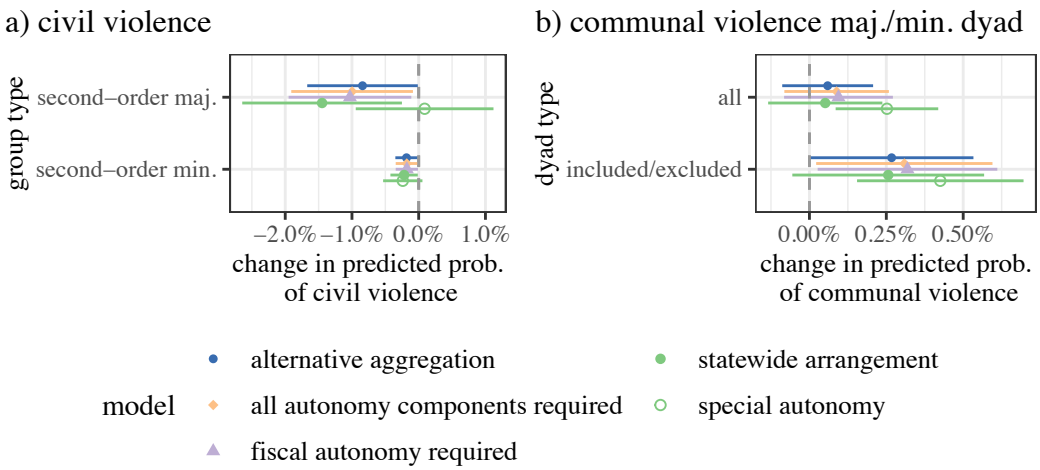


Figure A15. Effect of territorial autonomy on civil and communal violence, in specifications using an alternative operationalization of *territorial autonomy*.
Note: Based on models A80-A83 in table X24, models A84-A87 in table X25, models A88-A91 in table X26, and models A92-A95 in table X27.

Fifth, I examine the issue of **dynamic changes in the degree and type of territorial autonomy** over time. My main analysis has been configurational, aiming to establish cross-national patterns of how territorial autonomy arrangements are associated with civil and communal violence at a given point in time. However, in line with Lecours (2021), it might be that dynamic, more malleable, autonomy arrangements render second-order minorities more confident in their ability to peacefully negotiate concessions. Hence, subnational tensions might be more amenable to negotiated solutions and less prone to escalate into violence. To probe this conjecture, I calculate the **"age" of each administrative unit**, given by the number of years that both its degree of autonomy and its boundaries have been left unchanged. Thereby, I proxy for the perceived rigidity of a unit's autonomy arrangement in each given year. I then interact this variable (logged) with *territorial autonomy*. In accordance with Lecours (2021), I find that static arrangements reduce second-order minorities' civil violence involvement less substantially and increase their risk of communal violence more substantially than more dynamic arrangements (see panels b and c in figure A16). This suggests an important avenue for future research, which I highlight in the conclusion of the article.

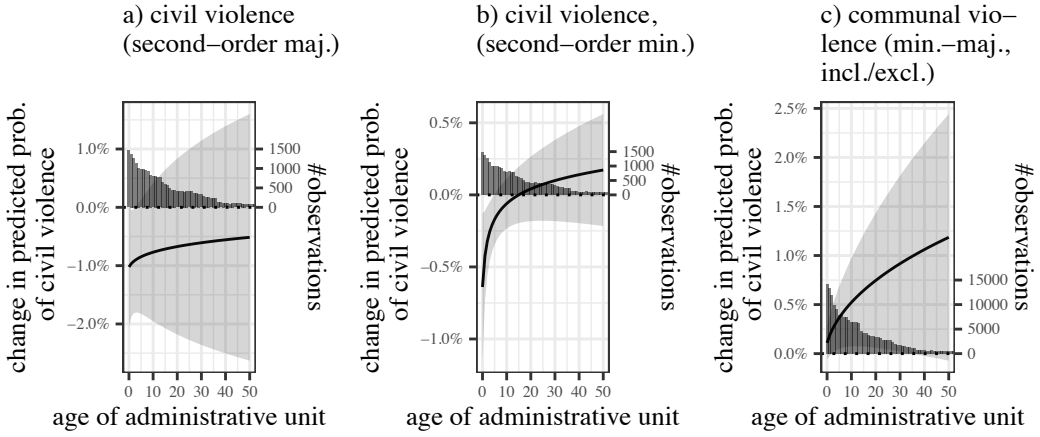


Figure A16. Effect of territorial autonomy on civil and communal violence, depending on age of administrative unit (unchanged boundaries and unchanged degree of autonomy).
Note: Based on models A96-A98 in table X28.

Sixth, to probe where my effects "come from", I **disaggregate my *territorial autonomy* index into its components**, running separate models for each. These models add nuance to my findings and highlight additional avenues for further research (figure A17). Most importantly, they indicate that the negative effect of territorial autonomy on civil violence participation of second-order majorities is most strongly driven by fiscal autonomy, although both policy and political autonomy also take a negative coefficient close to conventional levels of significance. Moreover, they indicate that the positive effect of territorial autonomy on communal violence is driven by policy autonomy, an effect which even appears to extend, with lower magnitude, to all dyads, and not only to unevenly included ones. However, again I also obtain positive coefficients that come close to statistical significance for political and fiscal autonomy as well.

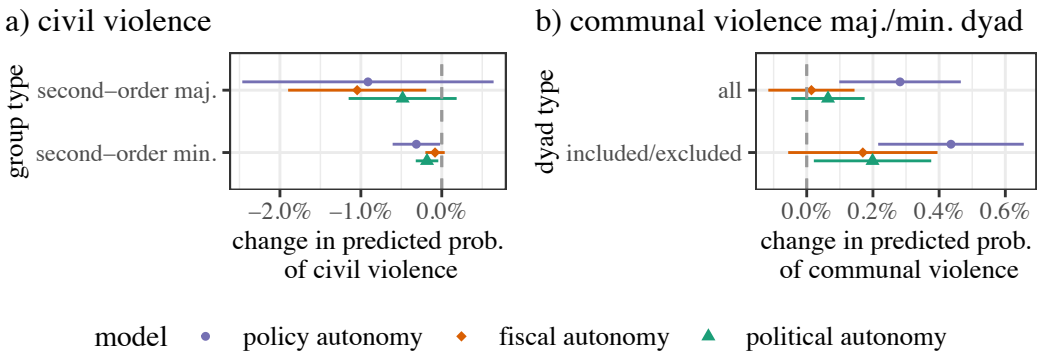


Figure A17. Effect of territorial autonomy on civil and communal violence, in specifications that replace the overall territorial autonomy index with the value of its components (policy autonomy, fiscal autonomy, political autonomy).
Note: Based on models A99-A102 in table X29, models A103-A106 in table X30, and models A107-A110 in table X31.

Seventh, I **operationalize territorial autonomy with alternative data sources** (see data supplement, section S2.6). I use two indicators for **fiscal decentralization**, **calculated with de-facto revenue and expenditure** of regional government tiers. These are based on a combination of the International Monetary Fund (2022) Government Finance Statistics, the World Bank (2001) Decentralization Database, and the OECD/UCLG (2022) World Observatory on Subnational Government Finance and Investment Database (see data supplement for details). Additionally, I employ the unit-level **Regional Authority Index** (RAI) self-rule dimension (Hooghe et al. 2016), normalized to a value between 0 and 1 for comparability. One important limitation of this second source for my purpose is that it excludes many countries that are most prone to both civil and communal violence. For example, it includes no countries in sub-Saharan Africa. Although the confidence intervals are larger, partly due to the exclusion of many countries with substantial variance in ethnic violence from the sample, the indicated marginal effects of these three alternative measures point in the same direction as the *territorial autonomy* variable I use in my main models (figure A18). The only exception applies to second-order majorities' civil violence involvement, for which I find no effect when using the RAI self-rule variable. As stated above, this likely reflects that many of the most violence-prone countries, including all of Africa, are not covered in this dataset.

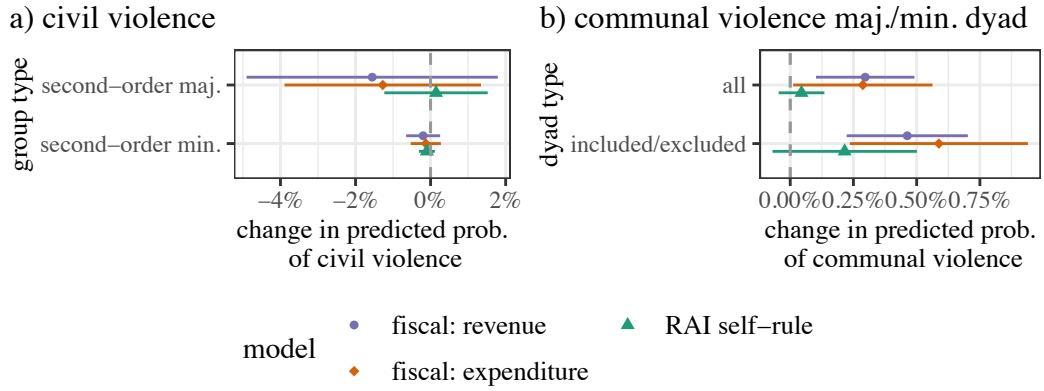


Figure A18. Effect of alternative territorial autonomy measures on civil and communal violence.
Note: Based on models A111-A114 in table X32, models A115-A118 in table X33, and models A119-A122 in table X34.

Appendix 3.7.4: Alternative definitions of second-order majority

In a fourth step, I employ two **alternative definitions of second-order majorities**. In my main models, I identified these as each unit's titular group in cases where a unit is designated as the homeland for a specific ethnic group (see data supplement S1.3) and as the largest group in each unit otherwise. Here, I re-run my models, **employing two exclusively demographic definitions**: First, I focus on the demographic plurality group in each unit, which may be most likely to control a unit, irrespective of any formal designation. Second, more stringently, I only identify groups as second-order majorities that possess a population share of more than 50%. My results using these alternative operationalizations of second-order majorities remain similar (see figure A19), although the effect of *territorial autonomy* is not significant at the 95%-level anymore for second-order majorities' civil violence participation when focusing on demographic majorities due to the substantially smaller number of cases remaining in this category.

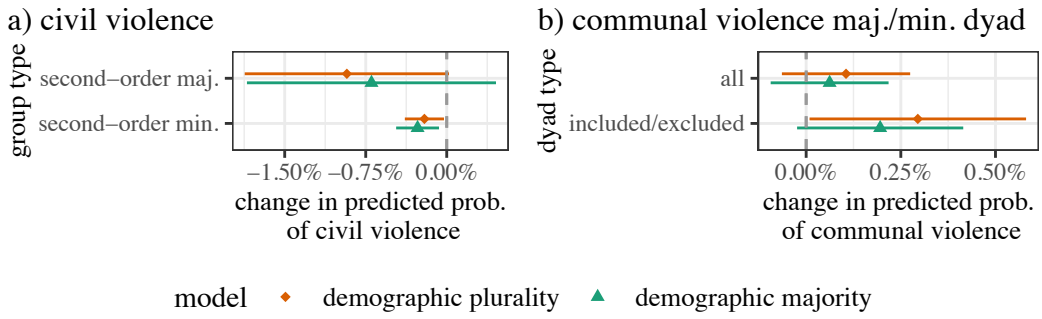


Figure A19. Effect of territorial autonomy on civil and communal violence, in specifications that define second-order majorities in demographic terms only.
Note: Based on models A123-A126 in table X35 and models A127-A130 in table X36.

Appendix 3.7.5: Disaggregated dependent variables

In a fifth step, I **disaggregate my dependent variables by the underlying type of incompatibility they revolve around**. The purpose of these analyses is to ascertain that my findings derive from violence in conflicts whose underlying incompatibilities are conceivably related to territorial autonomy, as stated in my argument. For example, in my main analyses, I investigate the impact of territorial autonomy on civil violence regardless of whether this was related to issues of subnational territorial control. Similarly, in my main models, I examine the impact of territorial autonomy on any type of communal violence that involves ethnically-differentiated contestants, regardless of whether their underlying incompatibility was related to issues of subnational government control, resources connected to subnational government, and subnational administrative boundaries, which I theoretically highlight. For this purpose, I proceed as follows:

For civil violence, I differentiate between **territorial and governmental civil wars**, relying on the UCDP classification, which is available for all civil violence events in my sample. Similar to previous research (Cederman et al. 2015) and in line with my arguments, I find that territorial autonomy predominantly reduces civil violence that revolves around territorial issues, while not exerting statistically significant effects on governmental civil violence (figure A20, panel a).

For communal violence, I proceed in two steps. First, focusing on the much smaller sample of Africa between 1989 and 2010, I **differentiate between communal violence over territorial and authority issues**, relying on the data assembled by von Uexkull and Pettersson (2018) which is available only for this subsample. According to my argument, both types of communal violence should be affected by territorial autonomy: conflicts over subnational boundaries in the former and conflicts over subnational government in the latter type. In this procedure, I attain positive but, due to the diminished sample size, clearly non-significant effects for both territorial and authority-related communal violence (figure A20, panel b). Second, to probe this issue further, and as a similar issue-based coding is not available for my full sample, I identify communal violence episodes that may *conceivably* be related to territorial issues. Specifically, I **focus on the subset of communal violence in which either dyad member was, at the same time, involved in a self-determination movement**, as coded by Germann & Sambanis (2021) and Cederman et al. (2022). Their coding, available for my full sample, identifies groups that voice demands for more autonomy or for changes in subnational boundaries. Focusing on the subset of communal violence events where either dyad member makes such demands hence gives an imperfect, but reasonable proxy for communal violence related to the territorial issues that I have theoretically emphasized. Reassuringly, for this subset of communal violence coinciding with self-determination conflicts, I attain a positive effect of territorial autonomy for included/excluded second-order majority/minority dyads which is statistically significant at the 95%-level (figure A20, panel b).

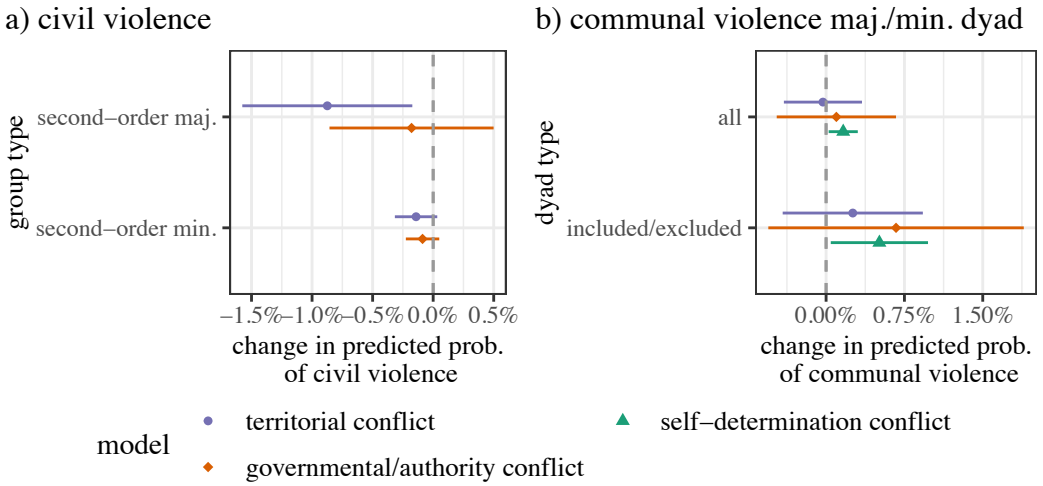


Figure A20. Effect of territorial autonomy on civil and communal violence, in specifications that disaggregate the dependent variable by issue type.
Note: Based on models A131-A134 in table X37 and models A135-A140 in table X38.

Appendix 4: Instrumental variable approach

Appendix 4.1: Full results

Table A6. Territorial autonomy and civil violence incidence: IV approach - uncorrected and instrumented results.

	second-order majorities			second-order minorities		
	model 5	model 6		model 7	model 8	
		eq1	eq2		eq1	eq2
dependent variable	*Civil v.*	*Terr. aut.*	*Civil v.*	*Civil v.*	*Terr. aut.*	*Civil v.*
Territorial autonomy	0.0534		-0.967	-0.612**		-2.468*
	(0.136)		(1.205)	(0.231)		(1.101)
French colony x max. abs. size (grid cell, logged)		-0.0826**			-0.0928**	
		(0.0253)			(0.0305)	
French colony	0.0994	0.0167	0.137	0.160	-0.0868	-0.0287
	(0.148)	(0.0731)	(0.156)	(0.219)	(0.0715)	(0.237)
Max. abs. size (grid cell, logged)	-0.0745	0.109**	0.0352	0.0477	0.0452†	0.124*
	(0.0779)	(0.0362)	(0.142)	(0.0351)	(0.0246)	(0.0483)
Included	-0.310**	-0.0688†	-0.363**	-0.704***	-0.0453	-0.747***
	(0.101)	(0.0402)	(0.132)	(0.180)	(0.0394)	(0.159)
Relative size (state)	-1.567	-0.498	-2.236	-1.447	0.317	-0.743
	(1.006)	(0.305)	(1.420)	(0.941)	(0.197)	(1.048)
Relative size (grid cell)	0.284***	0.0378	0.320**	0.499†	-0.0665	0.358
	(0.0820)	(0.0487)	(0.111)	(0.291)	(0.0961)	(0.367)
Population (grid cell, logged)	0.132***	0.00658	0.135***	0.122***	0.0173*	0.145***
	(0.0146)	(0.00666)	(0.0154)	(0.0165)	(0.00796)	(0.0175)
Area (grid cell, logged)	0.00181	-0.00282	-0.00120	0.0180	-0.00691	0.000721
	(0.0251)	(0.00351)	(0.0248)	(0.0295)	(0.00567)	(0.0341)
Avg. ruggedness (grid cell)	0.000229	3.51e-05	0.000253	0.000426*	4.69e-05	0.000489†
	(0.000156)	(0.000122)	(0.000243)	(0.000174)	(0.000104)	(0.000261)
Oil in grid cell	0.170*	0.00843	0.182*	0.0656	0.00972	0.0904
	(0.0777)	(0.0231)	(0.0785)	(0.167)	(0.0193)	(0.175)
Distance capital (grid cell, logged)	-0.00701	0.0104	0.00462	0.0215	0.00712	0.0393
	(0.0501)	(0.0210)	(0.0550)	(0.0470)	(0.0168)	(0.0534)
Distance border (grid cell, logged)	-0.0128	0.0131**	0.00203	-0.0233†	0.00928	-0.00284
	(0.0185)	(0.00491)	(0.0238)	(0.0139)	(0.00573)	(0.0220)
GDP pc. (logged)	0.0269	0.0173	0.0403	0.0556	-0.0667	-0.0783
	(0.0483)	(0.0421)	(0.0486)	(0.0669)	(0.0494)	(0.123)
Population (state, logged)	0.0351	-0.0464	-0.0278	0.0122	0.00719	0.0113
	(0.0784)	(0.0517)	(0.100)	(0.0711)	(0.0254)	(0.0743)
Democracy	-0.0486	0.167*	0.136	0.446*	0.278***	0.949*
	(0.202)	(0.0810)	(0.300)	(0.210)	(0.0585)	(0.370)
Ethnic fractionalization	-0.107	0.314†	0.271	-0.112	0.110	0.225
	(0.234)	(0.170)	(0.516)	(0.370)	(0.216)	(0.684)
Election year	0.0639	0.0188	0.0828†	-0.00577	0.00888	0.0138
	(0.0471)	(0.0135)	(0.0482)	(0.0473)	(0.0203)	(0.0642)
Spatial lag	0.895***	0.0238	0.902***	0.812***	0.0330	0.823***
	(0.0826)	(0.0356)	(0.0812)	(0.0844)	(0.0385)	(0.101)
Constant	-2.132***	-0.194	-2.221***	-2.969***	0.498	-1.818
	(0.577)	(0.346)	(0.616)	(0.810)	(0.473)	(1.207)
Observations	165624	165624	165624	246336	246336	246336
ρ		0.228			0.378	
		(0.273)			(0.231)	
σ		-1.538***			-1.674***	
		(0.0994)			(0.206)	
Shea partial R^2		0.03079993			0.03485203	
Log pseudolikelihood		14177.53			58398.196	
Prob > χ^2		0.0000			0.0000	
Kleibergen-Paap rk LM statistic		6.42			4.42	
Cragg-Donald Wald F statistic		5261.60			8893.38	
Kleibergen-Paap rk Wald F statistic		10.66			9.25	

† p<0.1; * p<0.05; ** p<0.01; *** p<0.001; country-clustered SE's in parentheses; region- and year-fixed effects and cubic peace year term included but not reported. The dependent variable is a binary variable equal to one if there is at least one instance of civil violence involving a group in a given grid cell.

Table A7. Territorial autonomy and communal violence incidence: IV approach - uncorrected and instrumented results.

	all second-order maj./min. dyads			included/excluded second-order maj./min. dyads		
	model 9	model 10		model 11	model 12	
		eq1	eq2		eq1	eq2
dependent variable	*Communal v.*	*Terr. aut.*	*Communal v.*	*Communal v.*	*Terr. aut.*	*Communal v.*
Territorial autonomy	-0.222		2.517*	0.728***		3.399***
	(0.199)		(1.223)	(0.203)		(0.808)
French colony x max. abs. size (grid cell, logged)		-0.0814**			-0.0852**	
		(0.0288)			(0.0303)	
French colony	-0.539†	0.0150	-0.569**	-0.366	0.00115	-0.564**
	(0.277)	(0.0746)	(0.219)	(0.274)	(0.0789)	(0.213)
Max. abs. size (grid cell, logged)	0.0128	0.0622*	-0.148†	-0.0735	0.0686*	-0.239*
	(0.0498)	(0.0286)	(0.0777)	(0.0590)	(0.0337)	(0.103)
Included/excluded	-2.070	-0.194	-0.632	-0.131	-0.270	1.121
	(1.269)	(0.252)	(1.616)	(2.258)	(0.341)	(2.432)
Excluded/excluded	-0.220	0.174	-0.893	-0.862	0.294	-1.733
	(0.831)	(0.144)	(0.943)	(1.291)	(0.213)	(1.260)
Relative size (state, mean)	0.514**	0.0647	0.287		-	-
	(0.169)	(0.0488)	(0.242)			
Relative size (state, diff.)	0.280	0.107†	-0.0169		-	-
	(0.191)	(0.0634)	(0.310)			
Relative size (grid cell, mean)	1.213***	0.124	0.683†	1.125***	0.155	0.436
	(0.323)	(0.135)	(0.359)	(0.320)	(0.178)	(0.643)
Relative size (grid cell, diff.)	-0.385*	-0.0130	-0.286	-0.517**	-0.0248	-0.302
	(0.161)	(0.0602)	(0.224)	(0.162)	(0.0541)	(0.201)
Asymmetry	0.272**	0.0271	0.158	-0.101	0.0243	-0.149
	(0.0995)	(0.0220)	(0.126)	(0.190)	(0.0258)	(0.164)
Population (grid cell, logged)	0.146***	0.0120	0.0922*	0.174***	0.0109	0.104
	(0.0308)	(0.00801)	(0.0443)	(0.0497)	(0.00724)	(0.0647)
Area (grid cell, logged)	0.0926	-0.00842	0.101	0.342*	-0.00886	0.277*
	(0.110)	(0.00633)	(0.0944)	(0.163)	(0.00616)	(0.131)
Avg. ruggedness (grid cell)	0.000235	5.42e-05	0.000139	-0.000682	0.000202	-0.000977†
	(0.000464)	(0.000117)	(0.000418)	(0.000568)	(0.000174)	(0.000587)
Oil in grid cell	-0.0189	0.00893	-0.0487	-0.118	0.124**	-0.470**
	(0.148)	(0.0204)	(0.146)	(0.187)	(0.0478)	(0.182)
Distance capital (grid cell, logged)	0.134*	0.00528	0.0982	0.143	0.0159	0.0660
	(0.0658)	(0.0143)	(0.0739)	(0.113)	(0.0187)	(0.109)
Distance border (grid cell, logged)	0.00557	0.0100*	-0.0250	-0.0366	0.0134**	-0.0678*
	(0.0319)	(0.00483)	(0.0340)	(0.0340)	(0.00487)	(0.0331)
GDP pc. (logged)	0.106	-0.0646	0.252†	0.170*	-0.0612	0.278*
	(0.103)	(0.0437)	(0.152)	(0.0771)	(0.0385)	(0.121)
Population (state, logged)	0.128	-0.00806	0.156†	0.136	-0.0251	0.207†
	(0.0841)	(0.0277)	(0.0860)	(0.0869)	(0.0327)	(0.112)
Democracy	-0.170	0.331***	-1.044†	-0.183	0.287***	-0.918*
	(0.241)	(0.0634)	(0.579)	(0.320)	(0.0681)	(0.460)
Ethnic fractionalization	-1.620***	0.300	-2.335**	-0.407	0.372	-1.757
	(0.413)	(0.193)	(0.716)	(1.375)	(0.261)	(1.531)
Election year	0.297*	0.0185	0.196†	0.132	0.0371*	-0.0146
	(0.139)	(0.0180)	(0.115)	(0.137)	(0.0176)	(0.0872)
Spatial lag	0.622***	0.0447†	0.400**	0.720***	0.0706	0.350†
	(0.0958)	(0.0251)	(0.145)	(0.0943)	(0.0497)	(0.197)
Constant	-5.152***	0.231	-4.953**	-7.519***	0.138	-5.811*
	(1.285)	(0.401)	(1.763)	(2.214)	(0.457)	(2.432)
Observations	319192	319192	319192	84693	84693	84693
ρ		-0.608*			-0.765*	
		(0.286)			(0.324)	
σ		-1.623***			-1.497***	
		(0.161)			(0.0660)	
Shea partial R^2		0.02911182			0.03519818	
Log pseudolikelihood		63609.86			6024.7398	
Prob > χ^2		0.0000			0.0000	
Kleibergen-Paap rk LM statistic		4.85			5.010	
Cragg-Donald Wald F statistic		9569.15			3087.789	
Kleibergen-Paap rk Wald F statistic		7.97			7.877	

† p<0.1; * p<0.05; ** p<0.01; *** p<0.001; country-clustered SE's in parentheses; region- and year-fixed effects and cubic peace year term included but not reported. The dependent variable is a binary variable equal to one if there is at least one instance of communal violence involving a dyad in a given grid cell.

Appendix 4.2: Assumptions

Appendix 4.2.1: Instrument strength

To be valid instruments, my measures must satisfy the **relevance criterion**, i.e. they must have sufficient instrument strength in explaining unit-level *territorial autonomy* after controlling for covariates. In the model results provided in appendix 4.1, I show empirical evidence that the instruments are, at conventional statistical levels, significant and substantially meaningful predictors of territorial autonomy. Echoing this finding, figure A21 visualizes the strong correlation between my instrument and unit-wise territorial autonomy for all units entering my sample.

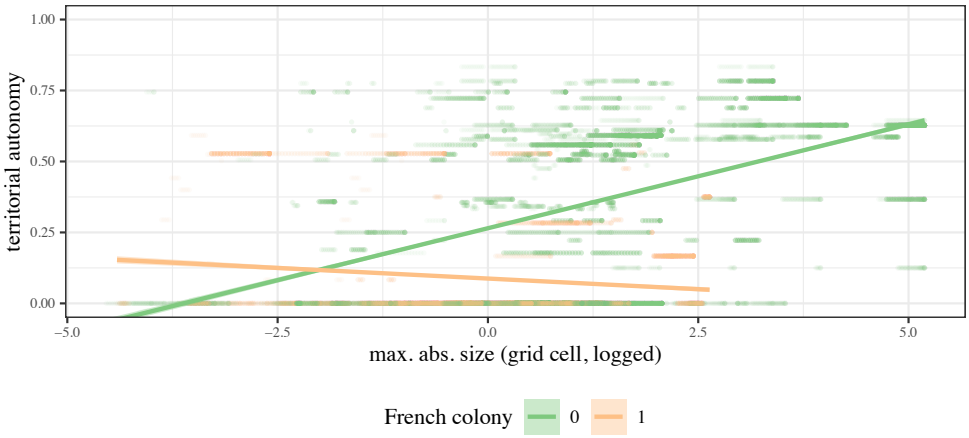
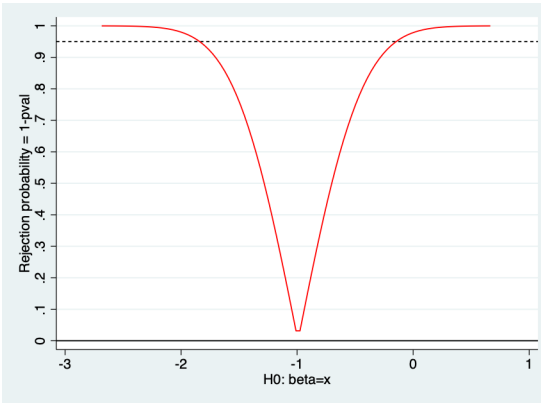


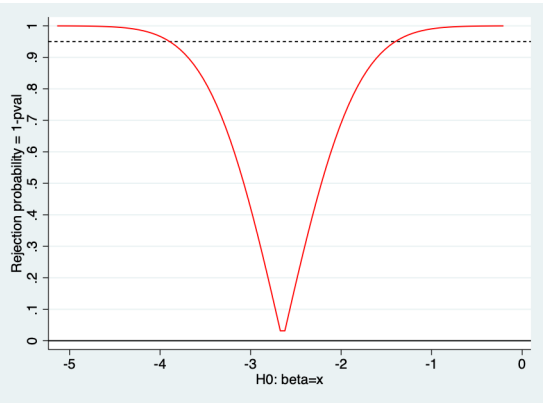
Figure A21. Correlation between the absolute size of a grid cell's largest group (logged) and the territorial autonomy index of the administrative unit in which a grid cell is located (former European colonies in Asia and Africa).

More formally, the Shea partial R^2 (Shea 1997) takes reasonable values in each model (around 0.03). However, while the first-stage F statistics are close to the conventional threshold of 10, they still fail to reach it. This points to a potential weak instrument problem, which could bias my second-stage point estimates. To address this issue, I estimate **Anderson-Rubin confidence sets for all my second stage coefficients of *territorial autonomy* that are robust to the presence of potentially weak instruments**. These indicate that I cannot be certain of the specific point estimates I attain. However, the supported confidence sets underline the direction of my coefficients (negative for civil violence, positive for communal violence, see figure A22) and increase confidence in their relative magnitude, as they are relatively narrow.

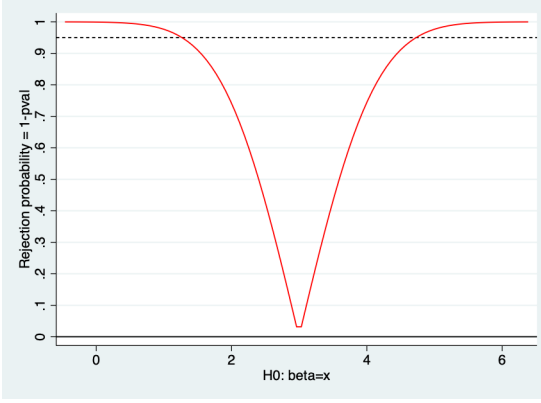
a) model 6



b) model 8



c) model 10



d) model 12

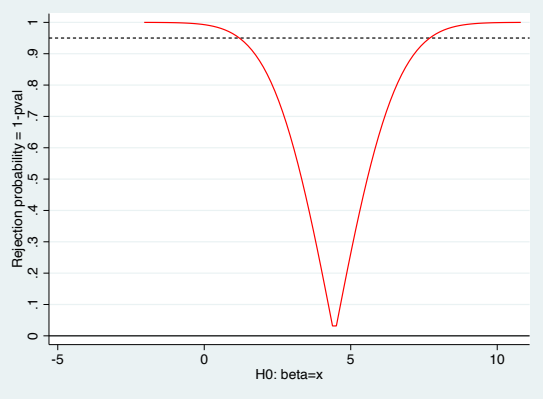


Figure A22. Anderson-Rubin confidence sets for second stage coefficients of *territorial autonomy* in the presence of weak instruments, models 6 and 8 in table A6 and models 10 and 12 in table A7.

Appendix 4.2.2: Potential violations of the exclusion restriction

In addition to being relevant predictors of my endogenous covariates, my instruments must also satisfy the **exclusion restriction** (Wooldridge 2010: 89-90). This would be violated under any of three conditions (cf. Wucherpfennig et al. 2016). A first violation of the exclusion restriction arises if there is **reverse causation** between civil/communal violence in a grid cell and my instruments. This cannot be ruled out. However, it seems unlikely that the French or other colonial powers deliberately colonized areas that are more prone to civil or communal violence, depending on the demographic size of their largest resident group. Instead, in many cases, colonial borders in Africa and Asia were demarcated between European colonizers due to reasons unrelated to local ethno-demography, often without prior reconnaissance on the ground (cf. discussion in Wucherpfennig et al. 2016: 894).

A second violation arises if the **instruments are correlated with an omitted determinant of civil/communal violence**. This applies if grid cells vary in characteristics which (i) are consequential for civil/communal violence, (ii) systematically differ between French and other colonial empires, (ii) do so depending on the size of the largest resident group, and (iii) are not controlled for in the analysis. Following the arguments by Wucherpfennig et al. (2016), I address this concern in a first robustness check that controls for geographic and climatic conditions in a grid cell's area, extracted from the ISAM-HYDE historical land-use dataset (Meiyappan & Jain 2012). Hence, I incorporate three land-use controls: the percentage of its area covered by (1) agriculture, (2) pasture, and (3) grassland surfaces. These factors might not only affect colonial boundaries, but also critically influence the tradeoff between civil and communal violence, given that much communal violence revolves around resource scarcity (e.g., Döring 2020; Fjelde & von Uexkull 2012). Reassuringly, my results are not affected by these additional controls (see figure A23). For similar reasons, I also estimate a second robustness check: Focusing on sub-Saharan Africa, Boone (2003) demonstrates that postcolonial changes in the degree of autonomy awarded to a locality were critically influenced by the **locality's economic importance and the relationship of local elites to the central government**. In particular, territorial autonomy was likely to be provided, or deepened, in economically valuable, cash-crop producing zones that hosted local elites who were hierarchically organized and dependent on the national regime. As proxy for this process, I control for the interaction between the percentage of a grid cell covered by agriculture (as above) and a dichotomous variable indicating whether the grid cell's demographically largest ethnic group was included in the central government. In line with Boone (2003), this interaction is positively associated with a grid cell's degree of autonomy. Reassuringly, adding this control does not change my findings (see figure A23).

A third violation arises if my **instrument affects local civil and communal violence through omitted variables** (i.e., causal pathways unrelated to the territorial autonomy in the administrative unit containing the grid cell). A key concern is that the combination of colonial heritage and ethno-demographic factors affects not only territorial autonomy, but also the economic prospects of residents in a grid cell, which in turn influences local risks of civil and communal violence. To address this concern, I re-estimate my IV analysis in two further robustness checks. In the first, I add a control for the gross cell product measured in purchasing power parity terms (Nordhaus 2006); in the second, I add a control for calibrated mean nightlights (Elvidge et al. 2014).[8] Again, my results are not affected by these additional controls in either check (see figure A23).

Finally, I explore an alternative operationalization of my instrument. Instead of measuring the size of the largest group in a grid cell in the given year, I calculate this for the year of independence, relying on the ICOW Colonial History Dataset (Hensel 2018) to identify this year. Reassuringly, my results remain substantively similar and are, if anything, more precisely identified (see figure A23).

Appendix 4.2.3: Results of IV robustness checks

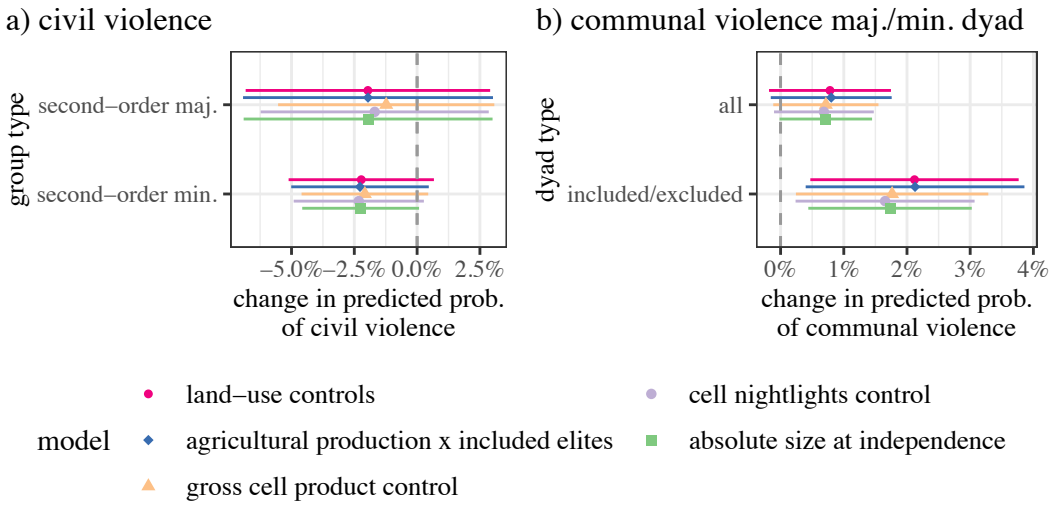


Figure A23. Instrumental variable approach: Territorial autonomy and civil/communal violence incidence of second-order majorities and second-order minorities.
Note: Robustness checks, based on models A141-A160 in tables X39-X48.

[8] Image and data processing by NOAA's National Geophysical Data Center. DMSP data collected by US Air Force Weather Agency.

Appendix 5: Mechanisms

In this section, I examine four step-wise implications of the causal mechanisms underlying my argument (see figure A24). First, I have argued that **second-order majorities will disproportionately benefit from territorial autonomy**, in terms of representation, subnational policies, and access to socio-economic resources. This unequal distribution of the benefits of territorial autonomy accentuates inter-group inequalities at the subnational level and generates tensions between second-order majorities and minorities. To probe this first step of my mechanisms, I examine the **association of territorial autonomy with *stable nightlight emissions***, by which I proxy for group-wise economic attainments (for a similar rationale at the national level see Bormann et al. 2021 and Cederman et al. 2011). Consistent with my hypothesized mechanisms, I find that high degrees of autonomy are associated with higher nightlights emissions in areas in each unit inhabited by second-order majorities, but with relatively lower emissions in areas in each unit inhabited by second-order minorities (appendix 5.1).

Second, I have argued that **territorial autonomy may incentivize second-order majorities**, who control the subnational administration, **to marginalize second-order minorities more aggressively**, for instance through forced expulsions or one-sided violence. As I have argued, such extreme steps will be most likely where second-order majorities are included in the national government, while second-order minorities are excluded. In such symmetric constellations, they, and the subnational government authorities they control, are less inhibited from engaging in one-sided violence against second-order minorities, as they may expect the national government to tacitly or even overtly support such moves. In turn, this generates especially combustible grievances among second-order minorities, which may escalate into mass-driven communal violence. To probe the intermediate implications of this mechanism, I **examine how territorial autonomy affects *one-sided violence by second-order majorities against second-order minorities***. Consistent with my argument, I find that second-order majorities are more likely to engage in one-sided violence against second-order minorities in units with higher degrees of autonomy. Moreover, this relationship is particularly pronounced in symmetric constellations where second-order majorities are included, whereas second-order minorities are excluded (appendix 5.2).

Third, building on these two mechanisms, I have argued that territorial autonomy **will alleviate second-order majorities' grievances** and thereby reduce their incentives to engage in civil violence against the central government. In contrast, I have argued that territorial autonomy **should not decisively affect second-order minorities' absolute grievance levels; rather it should redirect them against the second-order majority**. Thereby, territorial autonomy generates tensions between them and second-order majorities that may escalate into communal violence. To probe the main attitudinal implications of this mechanism, I **examine how territorial autonomy affects grievances of second-order majority and second-order minority members using mass survey data**. Consistent with my argument, I find that territorial autonomy is associated with lower grievance levels among respondents belonging to second-order majorities, but not those of second-order minorities (appendix 5.3). A limitation of this procedure is that I cannot investigate whether territorial autonomy generates grievances among second-order minority members that are directed against the second-order majority specifically. I hence leave the investigation of this additional implication to future research (see conclusion of the article).

Finally, I have argued that, whether the subnational tensions arising from both mechanisms escalate into communal violence, depends on the relative balance of power between second-order majorities and minorities in the national government. If only second-order minorities are included, they will expect the national government to intervene in communal conflicts on their behalf, to force second-order majorities into negotiations, and to support agreements that are beneficial for them. Conversely, if only second-order majorities are included, the national government will be biased in their favor. In such constellations, second-order majorities are less conciliatory towards second-order minorities and less likely to enter negotiations with them. At the same time, second-order minority members are less likely to trust the government's willingness to mediate in an impartial manner or uphold any proposed agreements. Using data on **central government mediation, intervention, negotiations, and agreements in non-state conflicts in Africa**, I examine these implications. Consistent with my argument, I find that the former constellation is associated with more frequent government interventions and a higher probability of negotiated agreements. Conversely, the latter constellation is associated with fewer government mediation attempts and is less likely to generate either negotiations or agreements (appendix 5.4).

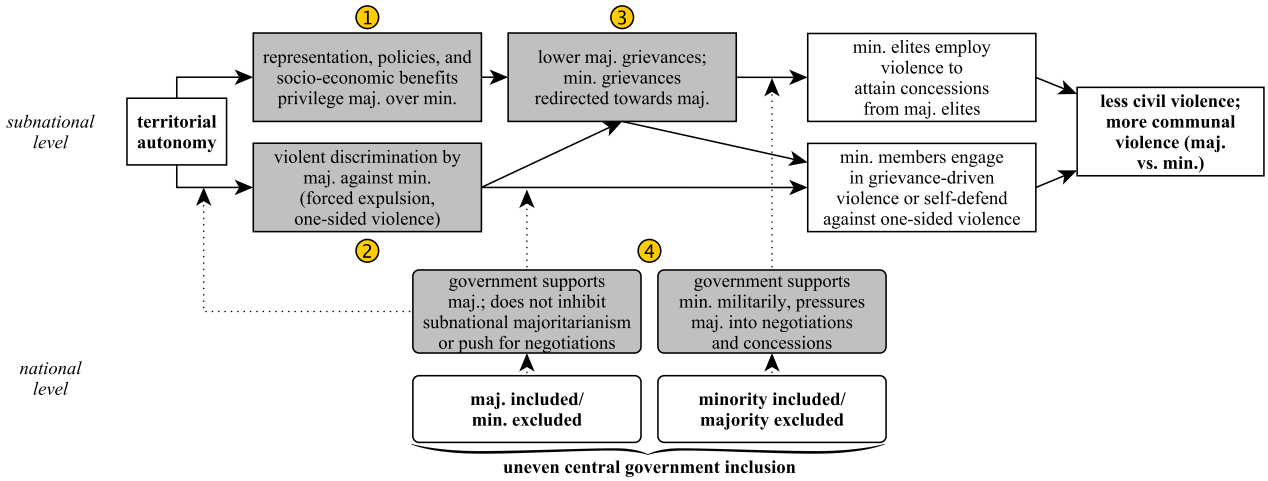


Figure A24. Mechanisms connecting territorial autonomy with civil and communal violence.
Note: Greyed-out boxes indicate the four sets of implications investigated in this section; maj. = second-order majorities; min. = second-order minorities.

Appendix 5.1: Stable night light emissions in settlement areas of second-order majorities and minorities

Appendix 5.1.1: Model set-up

To proxy for the economic development of each ethnic group in each administrative unit, I rely on the newly-released, **harmonized global nighttime light dataset** assembled by Li et al. (2020), available for all years between 1992 and 2018. For each regionally concentrated ethnic group in my sample, I use this dataset to calculate the average night light emissions across its settlement area within each administrative unit.

My unit of analysis is the ethnic group in each administrative unit, constructed analogously to my civil violence models. My sample includes all ethnic groups with a regionally distinct settlement pattern in each administrative unit in which the second-order majority is itself regionally concentrated.[9]

My dependent variable are **nightlight emissions in the settlement area of a given group in a given administrative unit year**, normalized by subtracting the average nightlight emissions across all groups in a given administrative unit year. In other words, it captures differences in nightlight emissions between groups in each administrative unit in each year, corresponding to my mechanism that highlights the within-unit unequal distribution of socio-economic resources.

My key independent variables are *territorial autonomy* and its interaction with *second-order majority* status. If my hypothesized mechanism applies, the main term of territorial autonomy should take a negative sign (corresponding to territorial autonomy being associated with lower relative nightlight emissions in settlement areas of second-order minorities). Conversely, its interaction with second-order majority status should take a positive sign (corresponding to territorial autonomy being associated with relatively higher nightlight emissions in settlement areas of second-order majorities).

My independent variables are analogous to my civil violence models. However, I additionally include group-fixed effects to account for stable between-group differences in nightlight emissions that are not due to territorial autonomy. This also requires me to drop two controls that are largely time-invariant at the national and group levels (*ethnic fractionalization* and *group size* at the national level).

Table A8 reports the results of this specification (model A161). Corresponding to my expectations, it shows that territorial autonomy is negatively associated with nightlight emissions in settlement areas of second-order minorities, while this correlation is, conversely, positive for second-order majorities.

Appendix 5.1.2: Model results

Table A8. Territorial autonomy and stable nightlight emissions.

	model A161
Territorial autonomy	-0.479* (0.204)
Territorial autonomy x second-order majority	0.961* (0.439)
Included	0.002 (0.028)
Second-order majority	-0.571* (0.247)
Relative size (unit)	0.903** (0.308)
Population (unit, logged)	-0.030 (0.029)
Area (unit, logged)	0.081** (0.026)
Avg. ruggedness (unit)	0.0003† (0.0002)
Oil in unit	0.082 (0.075)
Distance capital (unit, logged)	-0.024 (0.036)
Distance border (unit, logged)	0.005 (0.021)
GDP pc. (logged)	-0.014 (0.012)
Population (state, logged)	0.082† (0.047)
Democracy	0.044 (0.039)
Election year	-0.0002 (0.002)
Constant	0.176 (0.522)
N	111,742
R^2	0.306
Adjusted R^2	0.302
Residual Std. Error	2.219 (df = 111117)
F Statistic	78.483*** (df = 624; 111117)

† p<0.1; * p<0.05; ** p<0.01; *** p<0.001; country-clustered SE's in parentheses; group- and year-fixed effects included but not reported. The dependent variable is a continuous variable that captures the difference in nightlight emissions in a given group's settlement area in a given unit and the size-weighted average of nightlight emissions across all groups in the same unit.

[9] In units where this is not the case, it becomes impossible to compare nightlight emissions between second-order majorities and minorities.

Appendix 5.2: One-sided violence by second-order majorities

Appendix 5.2.1: Model set-up

To identify instances of one-sided violence by second-order majorities against second-order minorities, I rely on the UCDP-GED dataset (Sundberg & Melander 2013). I use the Ethnic One-Sided Violence Dataset (Fjelde et al. 2021) to ethnically **attribute the victims of all OSV episodes for which such data are available to the list of EPR groups** I use in my analysis (Vogt et al. 2015, see data supplement, section S3). My unit of analysis is the **directed second order-majority/minority dyad**. This is constructed analogously to my list of undirected second-order majority/minority dyads used for the communal violence models in the main article. My dependent variable, *one-sided violence*, takes the value 1 if dyad member 1 engages in one-sided violence against dyad member 2 in a given unit year, and 0 otherwise. Due to my focus on one-sided violence by second-order majorities, I limit my sample to directed dyads where dyad member 1 (the perpetrator) is the second-order majority in its unit. Thereby, the dependent variable captures all instances of one-sided violence by the second-order majority against the respective second-order minority in a given unit.

Due to the preponderance of OSV events in these regions (Fjelde et al. 2021), and as I do not expect second-order majority discrimination against second-order minorities to be equally likely to take violent form in other regions, I limit my sample to all countries in Asia and Africa. Moreover, I exclude groups that hold the highest political status at the national level from my analysis that might engage in one-sided violence for different, non-local reasons, for example due to national-level state-building efforts. Finally, in contrast to my main models, my sample only covers the time period between 1989 and 2013, to which data availability of the EOSV dataset is limited (Fjelde et al. 2021).

Table A9 reports the results of three models based on this information. With the exception of the switch from undirected to directed dyads, these are constructed analogously to equation 2, which I use in my communal violence models in the main article. In model A162, I introduce my territorial autonomy and *included-excluded* measures as separate terms; in model model A163, I interact them. Finally, in model A164, I disaggregate my *included-excluded* measure into two separate terms to distinguish between the constellations of uneven government inclusion: First, *included (maj.)/excluded (min.)* refers to symmetric constellations where the second-order majority is included whereas the second-order minority is excluded (for which my argument implies the strongest effect of territorial autonomy on one-sided violence). Second, *included (min)/excluded (maj.)* refers to the opposite, asymmetric constellation where the second-order minority is included whereas the second-order majority is excluded.

Appendix 5.2.2: Model results

Table A9. Territorial autonomy and one-sided violence incidence by second-order majorities against second-order minorities.

	model A162	model A163	model A164
Territorial autonomy	0.112 (0.697)	-1.242† (0.722)	-1.260† (0.737)
Territorial autonomy x included/excluded		2.687** (0.885)	
Territorial autonomy x maj. included/min. excluded			15.217*** (2.793)
Territorial autonomy x min. included/maj. excluded			2.118** (0.759)
Included/excluded	0.602 (0.514)	-0.230 (0.592)	
Maj. included/min. excluded			-9.017*** (1.942)
Min. included/maj. excluded			0.276 (0.581)
Excluded/excluded	0.756 (0.677)	0.673 (0.624)	0.452 (0.630)
N	55,404	55,404	55,404
Log Likelihood	-1,503.172	-1,481.863	-1,443.165
AIC	3,106.345	3,065.726	2,992.329

† p<0.1; * p<0.05; ** p<0.01; *** p<0.001; country-clustered SE's in parentheses; region- and year-fixed effects, control variables, and intercept included but not reported (full results reported in file "tablesA_full.pdf" in supplementary material). The dependent variable is a binary variable equal to one if there is at least one instance of one-sided violence by a second-order majority against the given second-order minority in a given administrative unit.

Appendix 5.3: Grievances by second-order majorities and minorities

Appendix 5.3.1: Survey measures

To obtain information on second-order majorities' and second-order minorities' grievances, I considered **all conventionally-used freely available cross-national mass surveys** and screened them for attitudinal measures pertaining to grievances. I included two types of surveys in the resulting collection of attitudinal data. First, large global mass surveys, including the International Social Survey Programme (ISSP) National Identity modules (ISSP Research Group 2010-2015), augmented by its spin-off, the China Survey.[10] Second, a series of barometer surveys covering specific regions, including Africa (Afrobarometer Data 1999-2016), Asia (the Asian Barometer and the South Asia Barometer),[11] Europe (the European Social Survey (Norwegian Centre for Research Data, Norway 2002) and the New Baltics Barometer series (Rose 2010)), and Latin America (the Latinobarometro).[12] To obtain a comparable measure for grievances, I combine items from these surveys that tap into respondents' perception of belonging to a group that is discriminated against or treated unfairly by the government (see table A10). To combine these items across different surveys, I re-code their answer categories into a binary variable: *Feeling discriminated*. This takes the value of 1 if respondents indicated that their ethnic group is (often) discriminated against or if they asserted that their government at least sometimes doesn't treated all groups equally.[13] It takes the value 0 otherwise. Mirroring my concept of grievances as evaluations of injustice directed against the government, this measure directly captures the outcome of interest. Similar measures have also been employed to proxy for grievances before (Dowd 2015; Juon 2023; Kirwin & Cho 2009; Miodownik & Nir 2016).

Table A10. Survey items of dependent variable: Belonging to a discriminated group.

Survey	Wave	Question	Categories
Afrobarometer	1-6	How often, if ever, are [respondent's ethnic group] treated unfairly by the government?	Never / Sometimes / Often / Always
Asian Barometer	3-4	All citizens from different ethnic communities in [country] are treated equally by the government.*	Strongly agree / Somewhat agree / Somewhat disagree / Strongly disagree
European Social Survey	1-8	Would you describe yourself as being a member of a group that is discriminated against in this country?	Yes / No
ISSP-N	1-3	How proud are you of [country's] fair and equal treatment of all groups in society?*	Not proud at all / Not very proud / Somewhat proud / Very proud
Latinobarometro	14, 15, 16, 18	Would you describe yourself as being a member of a group that is discriminated against in this country?	Yes / No
New Baltics Barometer	1,5	Non-citizens and minority nationalities are being badly treated here.*	Strongly agree / Agree / Disagree / Strongly disagree

Note: * Only used for groups that do not have the highest power status in central government in a given year (Vogt et al. 2015); ISSP-N = International Social Survey Programme National Identities module.

Appendix 5.3.2: Ethnic attribution of surveys

To analyze the relationship between territorial autonomy and individual attitudes, survey respondents had to be attributed to their respective ethnic groups. For this purpose, I again rely on the list of ethnic groups provided by the Ethnic Power Relations Dataset (Vogt et al. 2015; cf. Juon 2023). On the survey side, I combine explicit self-identification questions asked in some of the surveys with information on respondents' settlement area, religion, language, and phenotype provided in others. On the EPR group side, I combined information on the size of each group (Vogt et al. 2015), its subgroups defined by language, religion, and phenotype, taken from the EPR-Ethnic Dimensions Dataset (Vogt et al. 2015), and its share in each region, calculated as detailed in appendix 1.2. This enables me to calculate the population shares of each group's segments (given by religion, language, and phenotype) in each territorial unit used in the surveys. In turn, I use this combined information to calculate the demographic probability that a respondent is part of a given ethnic group, given their available information on the corresponding characteristics. In my main models, I only include individuals that could be attributed to an ethnic group with reasonably high demographic probability (≥80%).[14] Moreover, I only include administrative units where this ethnic attribution procedure allows me to identify both second-order majorities and minorities.

[10] The China Survey is a project of the College of Liberal Arts at Texas A&M University, in collaboration with the Research Center for Contemporary China (RCCC) at Peking University.

[11] Both available at: <http://asianbarometer.org/> (accessed on: 17.5.2020).

[12] Available at: <http://www.latinobarometro.org/latContents.jsp> (accessed on: 17.5.2020).

[13] These group-unspecific statements were only used for non-core groups, for who a strong correlation between their answer to this question item and to a direct question about their specific group treatment seems likely.

[14] This step predominantly excludes respondents in survey waves that did not collect systematic information on ethnic self-identification, settlement area, and cultural attributes.

Appendix 5.3.3: Model set-up

My unit of analysis is individual *i* nested in group year *y*, group *g*, country year *t,* and country *c*. Moreover, all individuals are simultaneously nested in administrative unit *u*. Overall, my sample encompasses more than 160'000 respondents from 162 groups, in 204 administrative units, and a total of 41 countries,[15] with an average of 3.22 available survey rounds per group.

I conduct my analysis with a set of hierarchical multilevel models. These are suitable, as respondents are clustered into subgroups and therefore affected by common context. To account for this clustering, I include random intercepts at the levels of the country, country-year, group, group-year, and administrative unit. Moreover, to account for my combination of differently-worded survey items, I include a survey-fixed effect.

Table A11 reports the main results from two models. In model A165, I introduce my unit-level territorial autonomy measure and my group-unit-level second-order majority dummy as separate terms; in model A166, I interact them to account for my argument that territorial autonomy differentially affects grievances of second-order majorities and second-order minorities.

Appendix 5.3.4: Model results

Table A11. Territorial autonomy and grievances of second-order majorities and second-order minorities.

	model A165	model A166
Territorial autonomy	-0.412†	-0.212
	(0.243)	(0.251)
Second-order majority x territorial autonomy		-0.277***
		(0.084)
Second-order majority	-0.212†	-0.205†
	(0.113)	(0.113)
Included	-1.093***	-1.149***
	(0.190)	(0.191)
N	166,696	166,696
Log Likelihood	-68,961.350	-68,955.950
AIC	137,976.700	137,967.900
BIC	138,247.300	138,248.600

† p<0.1; * p<0.05; ** p<0.01; *** p<0.001; random intercepts included at levels of: country, group, country-year, group-year, and administrative unit. The dependent variable is a binary variable equal to one if there is a respondent stated they belong to a group that is discriminated against or treated unfairly, and 0 otherwise. Control variables and intercept included but not reported (full results reported in file "tables A full.pdf" in supplementary material).

[15] The included countries are Albania, Belgium, Benin, Bulgaria, Canada, Chile, Costa Rica, Cote d'Ivoire, Cyprus, Ecuador, Ethiopia, Finland, Gabon, Georgia, Guinea, Kenya, Latvia, Liberia, Lithuania, Madagascar, Malawi, Mali, Mexico, Namibia, Nicaragua, Niger, Nigeria, Russia, Senegal, Serbia and Montenegro/Serbia, Sierra Leone, South Africa, Spain, Switzerland, Ukraine, United Kingdom, Zambia, Zimbabwe.

Appendix 5.4: Central government responses to communal violence between second-order majorities and minorities

Appendix 5.4.1: Model set-up

In a final step, I investigate the **impact of uneven government inclusion on central government mediation, intervention, negotiations, and agreements during communal conflicts**. To do so, I rely on information from two datasources. First, I use data on central government intervention in non-state conflicts by Elfversson (2015), which covers 181 communal conflicts that occurred in sub-Saharan Africa between 1989 and 2010. Second, I rely on data from the African Peace Processes (APP) dataset (Duursma & Gamez forthcoming)[16] on government mediation, negotiations, and agreements in non-state conflicts, covering 476 communal conflicts in Africa between 1989 and 2019. Using these sources, I create four dichotomous dependent variables:

- First, I create a variable for *government mediation efforts* in ongoing non-state conflicts, based on APP. This takes the value 1 in every conflict year in which either the government or the head of state attempted to mediate in a conflict.
- Second, I create a variable for *government intervention* in ongoing non-state conflicts. This take the value 1 in every conflict year in which there was an armed state intervention in response to a specific conflict within its territory, either during or after the violence, taken from Elfversson (2015), which can be interpreted as a measure for central government intervention in favor or against one side of the conflict.
- Third, I construct a variable for *negotiations* in ongoing non-state conflicts, based on APP. This takes the value 1 in every conflict year in which there were ongoing bilateral or mediated negotiations within the conflict dyad.
- Finally, I create a variable for negotiated *agreements* in ongoing non-state conflicts, based on APP. This takes the value 1 in conflict years in which an agreement was reached, either in the form of ceasefires or peace agreements.

The unit of analysis in each case is the non-state conflict year, with my sample covering all non-state conflicts covered by Elfversson (2015) and APP, respectively.

To **adapt my independent variables** to this set-up, I proceed as follows. First, I identify all ethnic dyads involved in a given conflict in a given year, by relying on my list of ethnically-attributed communal violence events used in the main analysis. I then code three dichotomous variables, taking the value of 1 in conflict years in which (1) at least one involved dyad encompassed an included second-order majority and an excluded second-order minority, (2) at least one involved dyad encompassed an included second-order minority and an excluded second-order majority, (3) and at least one excluded/excluded ethnic dyad, and 0 otherwise. Second, I identify the mean *territorial autonomy* across all unique units in which incidents of violence in a given conflict-year have occurred. For this purpose, I intersect the locations of these incidents, taken from UCDP-GED (Sundberg & Melander 2013), with my geo-coded administrative units. Then, I take the average autonomy scores across these units.[17] As controls, I include my country-year variables for *GDP pc. (logged)*, *Population (state, logged)*, *Democracy*, *Ethnic fractionalization*, and *Election year*, as in the main analysis. Moreover, I control for characteristics of the given non-state conflict, including its *intensity*, given by the (logged) battle-related deaths in a year, and a dummy variable for ethnic non-state violence, to distinguish conflicts where both sides were ethnic groups, from conflicts with non-ethnic actors or ethnic groups that were not nationally mobilized (Vogt et al. 2015). Moreover, I control for previous government mediation and intervention attempts and for previous negotiations and agreements, respectively.

Table A12 shows four models corresponding to these dependent variables. These offer support for my hypothesized mechanisms. First, I have argued that **asymmetric constellations**, where only the second-order minority is included, may incentivize its elites to use violence to provoke central government intervention on their side and to obtain concessions from the excluded second-order majority. In line with this argument, I find that conflicts characterized by such constellations are positively associated with **more central government interventions** (though again, the data do not enable me to probe whether intervention occurs on the side of second-order minorities, see model A168). Moreover, they also appear **more likely to result in mutual agreements** (model A170) (cf. grey lines in figure A25).

Second, I have argued that **symmetric constellations**, in which only the second-order majority is included, make its elites less inhibited from engage in aggressive discrimination and less conciliatory towards second-order minorities (see also appendix 5.2). At the same time, second-order minorities will be reluctant to agree to central government mediation, as they may perceive the central government as biased or as unlikely to uphold proposed agreements. In line with this argument, I find that such constellations appear **negatively associated with efforts central government mediation** efforts (though this is only significant at the 0.1-level, see model model A167). Moreover, I also find that they are **positively associated with military interventions by the central government** (although the data do not enable me to probe whether such intervention occurs in favor of the second-order majority, see model A168). Finally, and more strongly in terms of statistical significance, I find that they indeed **feature fewer negotiations** (model A169) and are **less likely to result in negotiated agreements** (model A170) (cf. black lines in figure A25).

[16] The APP dataset is publicly available under <http://allardduursma.com/publication/african-peace-processes-dataset/>.

[17] I exclude 8 conflict-years where this procedure did not yield any intersection, as this does not allow me to construct my variable for territorial autonomy.

Appendix 5.4.2: Model results

Table A12. Uneven government inclusion, central government responses to ongoing communal violence, and negotiated agreements.

	Gov. mediation model A167	Gov. intervention model A168	Negotiations model A169	Agreement model A170
Territorial autonomy	-0.480†	1.075*	-0.119	-0.328
	(0.288)	(0.481)	(0.291)	(0.434)
Included (maj.)/excluded (min.)	-0.504†	0.562	-0.630**	-0.614*
	(0.282)	(0.392)	(0.207)	(0.280)
Included (min.)/excluded (maj.)	0.089	0.707	-0.015	0.309
	(0.299)	(0.567)	(0.173)	(0.229)
Excluded-excluded	-0.084	0.475	-0.042	-0.419
	(0.254)	(1.054)	(0.363)	(0.280)
GDP pc. (logged)	-0.323***	0.753**	0.123	0.002
	(0.091)	(0.237)	(0.114)	(0.154)
Population (state, logged)	0.041	-0.075	-0.219†	-0.305†
	(0.124)	(0.231)	(0.121)	(0.171)
Democracy	1.275*	3.008***	1.186***	1.194**
	(0.506)	(0.684)	(0.323)	(0.397)
Ethnic fractionalization	0.531	1.068	0.796†	0.848
	(0.506)	(1.135)	(0.464)	(0.623)
Election year	0.304	-0.299	0.050	0.363
	(0.200)	(0.391)	(0.194)	(0.246)
Intensity (logged)	0.489***	0.357*	0.500***	0.427***
	(0.033)	(0.157)	(0.026)	(0.029)
Ethnic violence	0.113	0.147	0.361†	0.315
	(0.197)	(0.218)	(0.189)	(0.228)
Previous negotiations	1.324***			
	(0.237)			
Previous gov. mediation		0.590†		
		(0.318)		
Previous gov. intervention			0.976***	
			(0.164)	
Previous agreement				1.102***
				(0.142)
Constant	-16.231***	6.491**	-4.417***	-3.989*
	(0.894)	(2.384)	(1.298)	(1.935)
N	2,367	258	2,367	2,367
Log Likelihood	-522.438	-144.927	-1,141.820	-853.359
AIC	1,130.876	357.854	2,369.640	1,792.718

† p<0.1; * p<0.05; ** p<0.01; *** p<0.001; country-clustered SE's in parentheses; year-fixed effects included but not reported. The dependent variable are binary variables equal to one if there is an instance of government mediation (model A169), government intervention (model A170), negotiations between involved non-state actors (model A171), or negotiated agreement between involved non-state actors (model A172) in the given non-state conflict year.

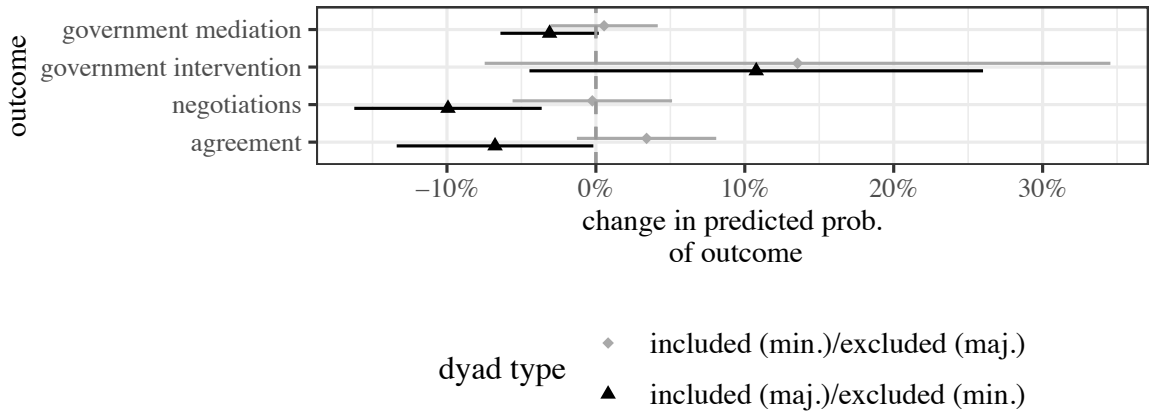


Figure A25. Uneven central government inclusion and central government mediation, intervention, negotiations, and agreements during African communal conflicts.
Note: Based on models A167-A170 in table A12.

Appendix 5.5: Case selection for model-testing small-N analysis

Following Lieberman (2005: 442), the goal of my model-testing small-N analysis is to "gain contextually based evidence" that my model "actually "worked" in the manner specified" by my theory. Following Lieberman's (2005: 444) recommendations, I aim to identify cases for further investigation that are well predicted by my "best fitting statistical model". Specifically, focusing on included-excluded second-order majority-second-order minority dyads, I identify four cases where my models predict that moderate or high degrees of territorial autonomy substantially increased the risks of communal violence and where substantial communal violence did, actually, occur. For this purpose, I proceed as follows:

1) First, for all second-order majority/minority dyad-unit years in my sample, I predict the yearly risks of communal violence based on model 4, using the actually observed values of all covariates.
2) Second, I predict those risks again in analogous fashion, but artificially set *territorial autonomy* to 0. This gives a counterfactual risk of communal violence in the hypothetical absence of territorial autonomy.
3) Third, I identify stable unit-dyad periods in which my key independent variables – *territorial autonomy* and *included/excluded* – remain unchanged. These form the universe of potential cases I select from.
4) Fourth, for each of these dyad-unit periods, I calculate the cumulative risks of communal violence incidence across all years, using both the scenarios with observed territorial autonomy values and the counterfactual scenario without territorial autonomy, by aggregating the risks calculated in steps 1 and 2 above. I then calculate, for each period, the difference between those two risks. Higher positive values of this difference indicate that territorial autonomy substantially increased the risks of communal violence according to my model results.
5) Fifth, I select four cases for further qualitative analysis, following four criteria (see figure A26). First, I only consider **cases where my model indicates that territorial autonomy substantially increased the risks of communal violence** (predicted cumulative risk increase 0.15 or greater), as calculated in steps 4. In figure A26, this value is mapped onto the y-axis. Second, I only consider **cases where communal violence did, actually occur**. These cases are highlighted in red in figure A26. Third, I focus on cases with **at least moderately high conflict intensity**, as given by the cumulative number of casualties across all communal violence incidents (visualized in figure A26 with symbol size). Fourth, from among the remaining cases, I select four that cover the **range of values from moderate to high degrees of *territorial autonomy*** (0.5-0.75, mapped onto the x axis in figure A26), are located in **different countries, and that did not theoretically motivate the present article in the first place** (i.e., cases that were not covered extensively by the case study research specifically investigating the connection between territorial autonomy and communal violence).

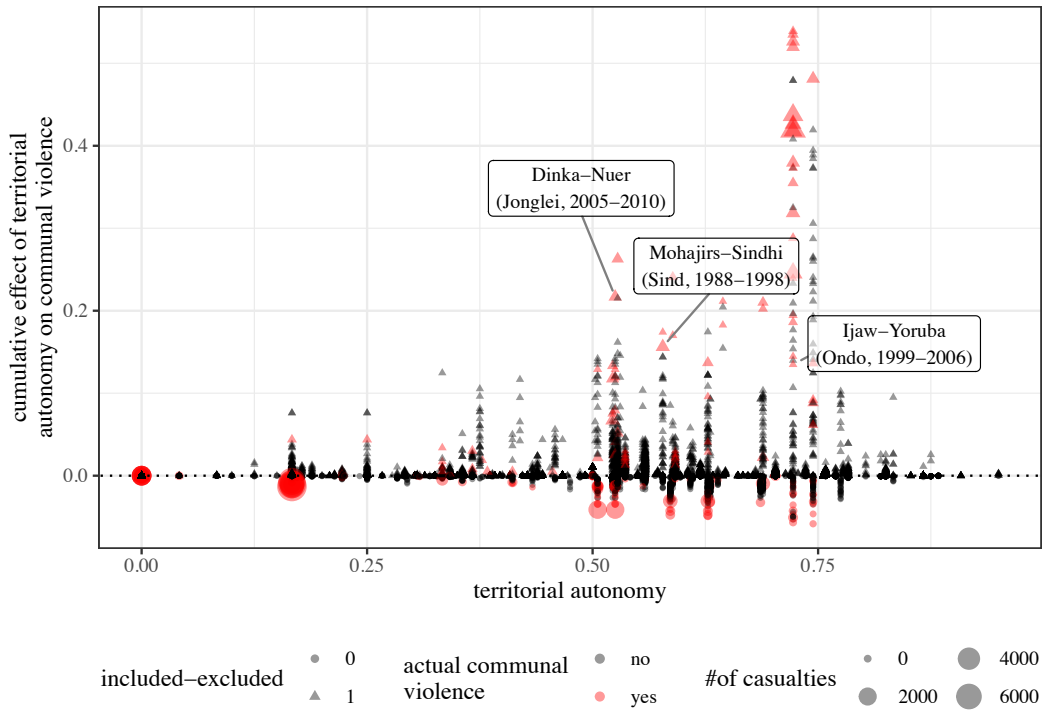


Figure A26. Case selection.
Note: Calculation of cumulative effect of territorial autonomy on communal violence based on model 4.

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