Periphery versus periphery: The origins of separatist war

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Abstract

Center-versus-periphery distributional conflict is the standard explanation for separatist war. However, many separatist movements face their strongest opposition from other groups in their area. I claim that the central government's political ties to rival ethnic groups in the periphery determine the probability of secessionist conflict. Ethnic groups are most likely to become violent separatists if the central government moderately favors rival groups in their geographic area. I demonstrate that pattern using three types of data: a cross-national panel on separatist war by ethnic groups, 1946–2009; a global cross-section of anti-state separatist violence in sub-national administrative units in the 1990s; and a within-country analysis of secessionist insurgencies in India, 1950–2009. The central government's political ties to rival ethnic groups in the periphery are a more empirically powerful explanation of separatist violence than center-versus-periphery factors, such as regional inequality or natural resource endowments.

1 Introduction

Theories of separatism stress distributional conflict between the capital and the periphery. Either the center is bent on extraction from a rich periphery (Alesina and Spolare, 2003; Collier and Hoeffler, 2002; Gourevitch, 1979) or an impoverished hinterland rebels against a wealthy metropole (Gellner, 1964, 1983; Jenne et al., 2007; Shils, 1975). Such accounts downplay conflicting interests in the periphery. Yet many separatist movements face their strongest opposition from other groups in their own area. For example, an autonomy plan for Jammu and Kashmir proposed by the Indian government in 2000 was rejected by Hindus and Buddhists in Kashmir because "both minorities feared for their future under a Muslim-dominated state" (Keesing's, 2000). The primary obstacle to Catholic self-rule in Northern Ireland was resistance by Protestants there. The separatist insurgency in the southern Philippines began as an intercommunal conflict between Christian settlers and local Muslims.

Although conflict within the periphery is central to well-known separatist conflicts, there is little attention to periphery-versus-periphery rivalries as a possible cause of these conflicts. This paper claims that separatists' core grievance against the center is not center/periphery wealth distribution but the center's role as guarantor of existing political arrangements in the periphery. The most-likely separatists are ethnic groups whose rivals in the periphery are moderately favored by the center. The center's political bias means it is unlikely to preemptively address the out-of-favor group's grievances. Moderate, as opposed to extreme, political inequality between the out-of-favor group and its rival is also important. Groups at an extreme political disadvantage relative to their rivals are often deterred from violence because they expect central government repression.

I use three data sources to show that separatist violence is explained by a central government's political ties to rival ethnic groups in the periphery: global data on separatist war at the ethnic group level between 1946 and 2009; separatist violence at the level of subnational administrative units cross-nationally in the 1990s; and secessionist rebellion by language groups in India, one

of the few countries to have experienced numerous secessionist wars. Each empirical strategy has distinct strengths. The global analysis of ethnic groups is generalized evidence of the origins of separatist war. The analysis of subnational administrative units captures the inherently spatial nature of separatist conflict. The analysis of India uses the most reliable measures of ethnicity and political incentives. Together, the analyses offer corroboration that ethnic groups are most likely to rebel when the center moderately favors their rivals in the periphery. Government's ties to competing peripheral ethnic groups also have more explanatory power than center/periphery distributional variables, such as economic disparities and natural resources.

The contributions of this study are, first, a more empirically powerful explanation for separatist war. Separatist conflict is the most common type of ethnic war (Cederman et al., 2011), is particularly likely to lead to prolonged conflict (Walter, 2009), and has serious implications for the international system. A clear understanding of why such violence occurs is critical. Second, the finding that separatism is driven by within-periphery conflict has important policy implications. Separatism is rarely an existential threat to the state (cf. Roeder, 2007; Walter, 2009); the specter of greedy regions stripping resources from the center should not be used to excuse draconian responses to regional autonomy movements. On the other hand, policy analysts have a tendency to see regional autonomy (Lake and Rothchild, 1996; Sisk, 1996)—or even territorial partition (Kaufmann, 1996)—as the natural solution to separatist violence. These solutions are more benign from the perspective of center/periphery conflict than from the perspective of inter-periphery conflict. If ethnic groups in the periphery are at odds, proposals for regional autonomy may create discriminatory subnational governments or incentivize ethnic cleansing.

The paper is structured as follows. The next section reviews the existing literature on separatist war, a literature focused on center/periphery distributional problems. Section 3 proposes an account of separatism based on competing interests in the periphery. Sections 4–6 are empirical. Section 4 is a cross-national analysis at the ethnic group level. Section 5 examines separatist violence using subnational administrative areas as the unit of analysis. Section 6 studies within-

country variation in separatism using original data from India.

2 Center versus periphery

The conventional view that distributional conflict between the periphery and the center causes separatist violence has three variants. One proposes that relatively poor areas seek separation, a second argues that relatively wealthy regions try to secede, and a third claims that resource-rich areas rebel. Economically disadvantaged regions are said to be prone to separatism because they blame central policies for underdevelopment (Williams, 1977). Rich regions try to separate in order to avoid transferring wealth to poor regions (Alesina et al., 2004; Gourevitch, 1979; Roeder, 2007). Finally, regions become separatist if they have a disproportionate share of valuable natural resources (Collier and Hoeffler, 2002). Separation would stop dispersal of resource income to other parts of the country.

Center/periphery distributional conflict undergirds even theories of separatism not directly concerned with regional inequality. For example, Hale (2004, 2008) argues that the center's ability to credibly commit to a peace settlement with separatists is a function of the economic value of the periphery. In Walter (2009), a government's fear of a reputation for accommodating separatists depends on the economic value of all potentially secessionist regions. For both authors, central extraction from the periphery is the core issue in separatist conflict.

Yet, empirical work finds mixed evidence that center/periphery distributional conflict causes separatism.[1] Cederman et al. (2011) find a correlation between regional inequalities and separatist

[1]The other main stream of empirical literature on secession focuses on rebel opportunity, e.g., sparsely populated and rugged territory, distance to the capital, and territorial concentration (Buhaug and Rød, 2006; Cederman et al., 2009a; Weidmann, 2009); institutional assets (Jenne et al., 2007; Roeder, 2007; Treisman, 1997); or relative population size proxying for relative military capability (Buhaug et al., 2008; Cederman et al., 2009a).

war; both relatively rich and relatively poor regions are more likely to rebel, although the correlation is clearer with regard to poor regions.[2] On the other hand, earlier studies find no evidence (Jenne et al., 2007) or weak evidence of a correlation between ethnic or regional inequality and separatist conflict (Buhaug et al., 2011; Østby, 2008; Østby et al., 2009, 2011). In all these studies, relative deprivation outperforms relative wealth as a correlate of violence. There is also mixed evidence on whether natural resources are a correlate of separatism. Reviewing the literature, Ross (2006) argues that secessionist war is positively correlated with onshore oil or gas but that a small number of cases drive this statistical finding. He also argues that correlations between diamond wealth and separatism are spurious. In sum, there is stronger evidence for a correlation between relative deprivation and separatist war than for one between relative wealth and separatism or between natural resources and separatism.

The empirical record should give researchers pause. Relatively rich and/or resource-rich regions theoretically have stronger incentives to seek separation than poor regions. A rich region has relatively smaller economic gains from being part of a large country. The high value of the region also makes it more difficult for the government to credibly promise not to extract wealth in future. Thus, if center/periphery distributional problems drive separatism, there should be more evidence of separatism by rich and resource-rich regions. Also, a correlation between relative poverty and conflict is consistent with the argument that military feasibility ("opportunity") explains rebellion (Collier and Hoeffler, 2004; Fearon and Laitin, 2003). The feasibility of rebellion may be higher in poor areas because of factors like limited physical infrastructure or low opportunity costs for joining a rebellion (Fearon, 2008). A correlation between within-country poverty and the location of violence may therefore reflect better opportunities for fighting in some areas over others (Hegre et al., 2009). The correspondence between regional poverty and separatist war could also reflect economic hardship induced by violence or the expectation of violence.

[2]The authors present their results in terms of ethnic war. However, in an appendix they find that separatist wars are correlated with regional inequality while non-separatist ethnic wars are not.

3 Periphery versus periphery

Center/periphery distributional accounts of separatism deemphasize intra-periphery conflict. However, separatists frequently confront opposition within the periphery (Fearon and Laitin, 2011; Gellner, 1983). For example, in Kashmir, Northern Ireland, the Philippines, Chechnya, Darfur, Sri Lanka, Tibet, Georgia, Kosovo, Croatia, Bosnia-Herzegovina, southern Thailand, and Kurdish Iraq, separatists have faced resistance in the periphery.

To the extent that large-n studies of separatism incorporate competing interests in the periphery, researchers focus on the demographic make-up of separatists' region. Existing studies disagree on the expected relationship between separatism and diversity. Toft (2005) and Roeder (2007) argue that ethnic homogeneity in the periphery encourages separatism by aiding mobilization. Cunningham and Weidmann (2010) argue for a non-linear relationship between diversity and conflict. They reason that homogeneity and very high heterogeneity diffuse grievances. Thus, there is no consensus on the effects of diversity in the periphery nor the mechanism connecting ethnic demography and violence.

My theory of peripheral rivalries and separatism begins with the observation that separatists usually call for self-rule or revised arrangements for self-rule in the periphery. The center is the guarantor of existing political arrangements in the periphery. Whether separatism becomes violent depends on how the center acts as guarantor; those actions in turn depend on the center's political ties to interests in the periphery that favor the status quo. Specifically, groups that do not anticipate being in the winning coalition under (revised) self-rule will not favor separatists' demands. A pro-status quo group might be privileged by a discriminatory regional government, as in Protestant-ruled in Northern Ireland. Or a pro-status quo group might be a minority that prefers central rule to a regional government dominated by the local majority. Non-Muslims opposed to greater autonomy for Kashmir are an example.

If the center changes the political arrangements in the periphery it will lose support among

currently-advantaged groups, although it may win support from newly-empowered groups. Therefore, the center's inclination to change political arrangements in the periphery depends on the political value of pro-status quo groups there relative to the political value of groups calling for change. The response of the ruling Indian Congress Party to emergent Sikh separatism in the 1980s illustrates this point. On several occassions, negotiators came close to a peace deal, only to have the central government bow out. Mediators claim that the government scuttled these agreements for fear of losing votes among non-Sikh constituencies in Punjab and surrounding states (Alexander, 2004; Chima, 2010; Jacob and Tully, 1985).

If separatism is connected to the central government's role as guarantor of political arrangements in the periphery, a group is unlikely to rebel if it is politically advantaged relative to others in the periphery.

> *Hypothesis 1: An ethnic group is unlikely to use separatist violence if it is politically advantaged relative to its rivals in the periphery.*

This argument is unexpected from the perspective of center/periphery distributional conflict; in some theories of this type, groups that are powerful in the periphery are especially likely to challenge the center because their regional power base aids rebellion (Roeder, 2007; Toft, 2005; Treisman, 1997).

However, there is not a strictly increasing relationship between discontent with politics in the periphery and rebellion. The most aggrieved groups are likely those whose local rivals have very strong ties to the capital. Those strong ties imply the government will pay high costs to crush any challenge to existing political arrangements in the periphery. Therefore, ethnic groups whose local rivals are very powerful in the capital will often be deterred from separatism.

> *Hypothesis 2: An ethnic group that is politically disadvantaged relative to its rivals in the periphery is least likely to use separatist violence if its rivals are politically*

dominant at the center.

Hypotheses 1 and 2 can be combined to obtain a hypothesis about the incidence of separatism at the level of the territorial political unit, rather than the ethnic group. High inequality in the political importance of groups in the periphery will be associated with peace:

> *Hypothesis 3: If one of the ethnic groups in a region is also politically dominant at the center, separatist violence in the region is unlikely.*

The politically dominant group does not need separatism. Disfavored groups are deterred from violence.

The highest probability of separatism is when a group's rival in the periphery is moderately politically favored. Moderate, as opposed to extreme, political favoritism is important because the government's willingness to defend the status quo arrangements in the periphery is limited. For example, North Irish Catholic militancy caused English popular support for the Protestant regional government to collapse. London then dissolved the regional government, a step that reflected the fact that North Irish Protestants were politically dispensable, especially compared to the English public's concern for order. London's finite willingness to defend North Irish Protestants' interests created the political opportunity for Catholic rebellion. In general, a disparity in political importance that is not too large is a precondition for violence to plausibly extract concessions from the government. If the pro-status quo group in the periphery is not much more valuable politically than the separatists, the government can be persuaded by violence.

Conflict is less likely when groups in the periphery are of equal political value than it is when the government moderately favors one group. If the center is politically indifferent between groups, it may be able to prevent violence by enforcing a compromise among groups in the periphery. The center's incentive to find and implement a peace-preserving settlement is lower if the government favors pro-status quo groups compared to the government being politically indifferent between the groups. Thus:

Hypothesis 4: An ethnic group is most likely to use separatist violence when it is at a moderate political disadvantage relative to its rivals in the periphery.

Again, this logic has observable implications at the level of the territorial political entity as well as at the level of the ethnic group:

Hypothesis 5: Moderate inequality of ethnic groups' political importance to the center makes separatist violence more likely than either equality or high inequality of political importance to the center.

Appendix A lays out the argument above formally. The model features a government and two ethnic groups with opposite preferences regarding the amount of local autonomy; groups have private information about their military capabilities. The government has an initial choice of the amount of autonomy to grant. Each ethnic group then has recourse to violence. In case of violence, the government chooses between concessions and repression. When the government places a much higher political value on one group than on the other, it is willing to repress militancy by the disfavored group. The disfavored group anticipates this repression and is deterred from violence (H2). The favored group does not need to rebel (H1). If the political value of the groups in the periphery is not too unequal the government will, conditional on violence, make concessions to the disfavored group. Each group is willing to fight if the government's initial choice of policy is very unpalatable. The government's initial policy decision then becomes a choice between implementing a compromise or choosing the policy preferred by the favored group while risking violence. If one group is moderately more politically valuable than the other, the government may risk violence in order to court the more valuable group's favor; the group that is disfavored will then rebel if it can. If the government is indifferent (or nearly indifferent) between the groups, it implements a compromise policy and avoids violence. Therefore, violence is more likely at moderate levels of inequality in groups' political value to the center than at equality (H4).

The remainder of this paper investigates the incidence of separatism using three different em-

pirical strategies: two cross-national datasets and a within-India investigation of separatism. The next section is a global panel analysis at the level of ethnic groups.

4 Which ethnic groups become separatist?

To study separatist rebellion by ethnic groups worldwide, I use the Ethnic Power Relations (EPR) Dataset, v 2.0 (Cederman et al., 2006; Wimmer et al., 2009). EPR "identifies all politically relevant ethnic groups and records the level of access to state power by their representatives" (Cederman et al., 2009b, 1) from 1946–2009.[3] EPR also uses the PRIO/Uppsala Armed Conflict Dataset (Gleditsch et al., 2002) to code groups engaged in separatist and non-separatist civil wars.

I use the EPR ethnic groups' geospatial locations (Wucherpfennig et al., 2011) to identify rivalries in the periphery. For each ethnic group, I code its primary rival as the group with which it has the largest spatial overlap.[4] Then, I record the political positions of each ethnic group and its overlapping rival using the EPR dataset. EPR codes three tiers of access to central power: groups with absolute power; groups in inter-ethnic powersharing regimes; and exclusion from central power.[5]

[3]Ethno-linguistic groups in countries where ethnicity is deemed politically irrelevant are not included in EPR.

[4]In case a group has an equal area of overlap with two or more rivals, the most populous of the groups (based on national population) is coded as the main rival. If a group has no overlap with any other group in the country, the closest group—based on distance between centroids—is coded as the main rival. GeoEPR codes some ethnic groups as "dispersed," with their area of settlement equivalent to the borders of the country; an example is white Americans. There are no cases of separatist rebellion by a dispersed group and such groups are not included as potential separatists in my data. However, a dispersed group may be coded as the primary rival of a potentially separatist group. Finally, GeoEPR excludes nomadic and purely urban groups; such groups are not included as potential separatists or as rivals in my data.

[5]Some groups are politically relevant for only part of the period 1946–2009. I code irrelevant

Groups in inter-ethnic powersharing regimes are further divided into senior and junior partners. I categorize the center's ties to groups in the periphery into four dummy variables: *Rival dominant*, *Rival advantaged*, *Rival equal*, *Rival disadvantaged*. If the rival group has absolute power in the capital, *Rival dominant* is coded as one. If the rival group is included in a powersharing government and has a higher political status than the main group, *Rival advantaged* is coded as one. This category includes cases in which both the main group and the rival are in a powersharing government but the rival group has a higher status and cases in which the rival group is in a powersharing government and the main group is excluded. *Rival equal* is coded as one if the main and rival groups are in power at the same political rank or if both are excluded. *Rival disadvantaged* indicates that the main group is included in central power and its rival has a lower rank or is excluded. Summary statistics for all variables are in Table 2; unless otherwise noted, independent variables have been lagged one year.

Table 1 records the incidence of separatist war onset in each category of rival political standing.[6] Above, I argued that groups politically privileged over their rivals in the periphery rarely engage in separatist war (H1); thus, the *Rival disadvantaged* category is expected to have the least rebellion. According to Table 1, the rate of separatism in this category was just 0.03%, compared to 0.5% for all groups. Groups whose overlapping rivals are very powerful are the least likely among the disadvantaged groups to rebel (H2); that argument implies that the *Rival dominant* category should have less rebellion than the *Rival equal* or *Rival advantaged* categories. In Table 1 the rate of separatism is 0.64% for groups with a dominant rival, slightly lower (0.58%) for groups with a rival of equal political status, and higher in the *Rival advantaged* category, almost 1%. The high rate of rebellion in the *Rival advantaged* category corresponds to the argument that groups are most likely to be separatist when their rivals in the periphery have a moderate political advantage

groups as excluded. By EPR's definitions, in a country with one dominant ethnic group, other groups are either of equal status (in a very small number of cases) or excluded.

[6]Groups fighting an ongoing ethnic war—separatist or not—are dropped.

Table 1: Political standing of an ethnic group's main rival in the periphery and the onset of separatist war, 1946–2009

	Separatist war			
	Yes		No	
	N	%	N	%
Rival dominant	33	0.64	5085	99
Rival advantaged	33	0.94	3463	99
Rival equal	69	0.58	11781	99
Rival disadvantaged	2	0.031	6377	100
Total	137	0.51	26706	99
χ^2	44.80			
p-value	0.000			

(H4).

4.1 Modeling separatist war by ethnic groups

Moving to a multivariate regression analysis, I introduce control variables to disentangle an ethnic group's own political power from intra-periphery rivalry. I code whether the main ethnic group was *Excluded* from power in the capital. A dummy variable for *Regional Autonomy* codes whether the ethnic group has self-rule in the periphery (based on Roeder, 2007). Groups with regional autonomy may be less aggrieved or use regional institutions to build their political influence at the center. Therefore, regional autonomy is a plausible influence on grievances, political standing, and violence. Dummy variables for *Anocracy* and *Democracy* capture country regime type (Marshall and Jaggers, 2012), another measure of grievance.[7]

A second set of controls are variables that might explain groups' political importance at the center and might cause conflict directly. First, as noted above, demographic diversity in the pe-

[7]Based on the Polity Index's combined autocracy and democracy scores, which yield a scale from -10 to 10. Countries scoring 6 and above are democracies. Countries scoring between -5 and 5 are anocracies, as are countries for which Polity codes the country's regime type as unknown.

Table 2: Summary statistics for analysis of separatism by ethnic groups cross-nationally, 1946–2009 (Section 4)

	Mean	St. Dev.	Min	Max
Separatist war onset	0.0047	0.068	0	1
Rival dominant	0.21	0.41	0	1
Rival advantaged	0.14	0.34	0	1
Rival equal	0.41	0.49	0	1
Inequality	0.12	0.39	0	5.1
Relative deprivation	0.78	0.74	0	6.0
Relative wealth	0.52	0.82	0	9.6
Relative oil/gas wealth	0.079	0.27	0	1
Group excluded at center	0.56	0.50	0	1
Regional autonomy	0.11	0.31	0	1
Difference group pop. shares sq.	0.19	0.28	0	0.95
Ln distance to capital	5.9	1.2	1.2	8.6
Anocracy	0.25	0.44	0	1
Democracy	0.31	0.46	0	1
Ln group population ('000s)	9.5	2.0	2.0	16
Ln country GDP per capita	7.8	1.2	2.7	11
Ln country population ('000s)	17	2.0	12	21
Peace years	28	18	0	63
Observations	21470			

riphery has been posited to have a relationship to separatism. Of particular concern is a possible non-linear relationship between groups' relative population and conflict. If population also drives political importance, demography might explain why moderate political inequality is associated with conflict. I use a non-linear measure of diversity suggested by Cunningham and Weidmann (2010): the squared difference in an ethnic group's and its rival's national population shares (*Difference group population sq.*).[8] I also include *Ln group population*, since population is correlated with violence and is also likely to influence political importance. Very remote groups may be unlikely to overlap with a dominant ethnic group and have better opportunities for rebellion (Buhaug et al., 2009). Therefore, I measure *Ln distance* between the ethnic group and the capital.[9] Two country level controls—*Ln country GDP per capita* and *Ln country population* (both from Heston et al., 2011)—capture the most robust known correlates of civil war. Finally, I include peace years and peace year splines.[10]

4.2 Correlates of ethnic group separatism

Model 1 (Table 3) gives the first set of regression results for separatist war onset at the ethnic group level. *Rival dominant*, *Rival advantaged* and *Rival equal* are in the model; *Rival disadvantaged* is the reference category. The regression coefficients have been translated to odds ratios. An odds ratio greater than one implies increased likelihood of separatist war onset; odds ratios less than one imply decreased likelihood. An odds ratio roughly equal to one suggests a null effect.

Groups with a political advantage relative to their rivals in the periphery are the least likely to rebel. The odds ratios on the included variables for rival political importance imply six to eleven-times higher odds of separatist war than in the *Rival disadvantaged* category. Both *Rival*

[8]Population shares are from the EPR dataset.

[9]This is calculated as the distance from the ethnic group's centroid to the capital, using data from Weidmann et al. (2010a).

[10]Peace years reflect time since separatist or non-separatist ethnic war.

advantaged and *Rival equal* are statistically significant, while *Rival dominant* is nearly so ($p = 0.102$). Note that this result obtains despite controlling for the main group's exclusion from central power and for its regional autonomy. This finding contrasts with the expectation that power in the periphery makes an ethnic group more likely to rebel by increasing its capabilities.

As expected, the groups most likely to rebel are those whose rivals are advantaged politically, with an eleven-fold increase in odds of rebellion over the reference group. The differences between the coefficients on *Rival advantaged* and *Rival dominant* or *Rival equal* are not statistically significant. Nonetheless, the point estimates imply that the risk of separatism is greatest if a group's rivals are moderately favored by the center.

4.3 Regional inequality and natural resources

Do these results still obtain if the regressions control for center/periphery distributional conflict? I confirm that they do by using regional inequality data collected by Cederman et al. (2011). Model 2 (Table 3) controls for inequality. If g is the per capita GDP of the ethnic group's area and G that of the country:

$$Inequality = (log(g/G))^2$$

Model 3 distinguishes between relatively deprived and relatively wealthy areas:

$$Relative\ deprivation = \begin{cases} g/G & \text{if } g < G \\ 0 & \text{otherwise} \end{cases}$$

$$Relative\ wealth = \begin{cases} G/g & \text{if } G < g \\ 0 & \text{otherwise} \end{cases}$$

Both Models 2 and 3 also include a dummy variable for *Relative oil/gas wealth* to capture the role of natural resources in center/periphery conflict. I use Cederman et al.'s (2011) data to calculate

whether the ethnic group's region earned a larger share of its income from oil or gas than did the country as a whole.[11]

In Models 2 and 3, the odds ratios estimated for the politics-of-the-periphery variables are only slightly attenuated. Groups whose rivals in the periphery are advantaged at the capital remain at a statistically significant elevated risk of conflict, with an increase in conflict odds of more than seven-fold. The coefficients on *Rival equal* and *Rival dominant* are no longer statistically significant, although the point estimates imply a higher risk of conflict. (In Model 2, the p-values on *Rival equal* and *Rival dominant* are 0.122 and 0.103, respectively. In Model 3, the p-values are 0.122 and 0.100, respectively.) It is also important to bear in mind that controlling for center/periphery distributional conflict is likely to result in an underestimate of the effects of the periphery-versus-periphery variables because groups' political standing also influences wealth—i.e., inequalities are a likely source of "post-treatment" bias. Nonetheless, the results in Models 2 and 3 still imply that groups are most likely to rebel when the center moderately favors their rivals in the periphery; separatism is least likely when a group is politically advantaged over its rivals in the periphery.

4.4 Robustness checks

Appendix B provides additional robustness checks of the association between peripheral rivalry and separatist war. All of the robustness tests produce qualitatively similar results to those above.

First, Walter (2009) argues that the number of potential separatists influences the incidence of rebellion. If central government make-up is also a function of the number of potential separatists, potential separatists may be an important omitted variable.

Second, Appendix B introduces controls for crossborder coethnics, crossborder coethnics in power, and crossborder co-ethnic rebellion. Ethnic groups may be more likely to rebel if they can

[11] Coding diamond deposits in the ethnic group's area (Gilmore et al., 2005) does not significantly change my results.

Table 3: Logistic regressions of separatist war onset at the ethnic group level, 1946–2009

	Model 1	Model 2	Model 3
Rival dominant	5.6	5.5	5.6
	(6.1)	(6.1)	(6.1)
Rival advantaged	10*	7.4+	8.0+
	(12)	(8.1)	(8.7)
Rival equal	7.0+	5.4	5.4
	(7.6)	(5.7)	(5.7)
Inequality		1.3	
		(0.32)	
Relative deprivation			1.3
			(0.32)
Relative wealth			1.1
			(0.13)
Relative oil/gas wealth		2.1+	2.2+
		(0.95)	(0.95)
Group excluded at center	4.5***	4.6***	4.5***
	(1.9)	(1.9)	(1.9)
Regional autonomy	2.9**	3.2**	3.2**
	(1.1)	(1.2)	(1.2)
Difference group pop. shares sq.	0.64	0.72	0.71
	(0.56)	(0.54)	(0.53)
Ln distance to capital	1.3	1.3	1.2
	(0.26)	(0.24)	(0.25)
Anocracy	2.2*	2.1+	2.1
	(0.89)	(0.90)	(0.95)
Democracy	1.9	2.1	2.0
	(0.89)	(1.1)	(1.0)
Ln group population ('000s)	1.1	1.00	1.0
	(0.088)	(0.079)	(0.081)
Ln country GDP per capita	1.2	1.1	1.1
	(0.18)	(0.19)	(0.19)
Ln country population ('000s)	1.1	1.1	1.1
	(0.17)	(0.17)	(0.17)
Peace year splines	Yes	Yes	Yes
Observations	21470	18862	18862
Ln likelihood	-557	-520	-520

Exponentiated coefficients; Standard errors in parentheses
Standard errors clustered by country
$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

seek support from crossborder coethnics in power or engaged in rebellion (Kirschner, 2009). If the political position of ethnic groups is also related across borders, a spurious correlation between political variables and rebellion might result.

Three additional tests explore group proximity to international borders. The analysis above makes no judgements about how physically remote a group must be to qualify as in the periphery; however, separatism may be inherently more plausible for groups closer to or on an existing international border. Regressions in the appendix include groups' distance to the border, or a dummy variable indicating ethnic groups on an international border or coastline. I also reestimate the risk of separatism amongst only border ethnic groups.

Another possible confound for my analysis is the role of migration in creating spatial overlap between ethnic groups in the periphery. Governments may sponsor migration to the periphery as a means of pacification, as in Tibet or the West Bank. Migration may, therefore, create an endogenous relationship between the risk of violence and spatial overlap with a dominant or advantaged ethnic group. That concern is partially mitigated by the fact that the GeoEPR data do not reflect recent migration; the dataset's areas of settlement are basically constant from the 1940s to the present. Nonetheless, to check for the role of migration, I code whether a groups' rivals had a dispersed or partially urban settlement pattern, as opposed to a single regional concentration. Dispersed and urban settlement patterns are probable indicators of pre-1940s migration.

Finally, Appendix B reports a multinomial logistic regression for separatist and non-separatist ethnic war. The periphery rivalry variables explain only separatist wars. That result increases confidence that the correlations above reflect a relationship between peripheral rivalries and separatism rather than a dynamic common to all ethnic conflict.

Table 4: Tests of the explanatory power of periphery/periphery and center/periphery variables in models of separatist war onset at the level of ethnic groups

Center/periphery model includes:			
Inequality	X		
Relative deprivation		X	
Relative wealth		X	
Relative oil/gas wealth			X
Ln likelihood center/periphery model	-794	-791	-792
Ln likelihood periphery/periphery model†	-768	-768	-768
Vuong statistic	2.48	2.53	2.30
p-value	0.013	0.011	0.022

† Periphery/periphery model uses *Overlapping dominant*, *Overlapping advantaged*, and *Overlapping excluded*. See Table 13 in Appendix B for full results.

4.5 Center/periphery or periphery/periphery?

My next step is to adjudicate between center/periphery and periphery/periphery factors in terms of explanatory power (Table 4). Vuong non-nested model tests[12] compare a basic periphery/periphery model—*Rival dominant*, *Rival advantaged* and *Rival equal*—to various center/periphery models. Each column of Table 4 indicates which center/periphery variables are in the model. The center/periphery model's log-likelihood is noted. The Vuong statistic compares that log-likelihood to the log-likelihood of the periphery/periphery model, correcting for degrees of freedom.[13] A positive Vuong statistic indicates that the periphery/periphery specification better explains the data. The null hypothesis of the Vuong test is that the models are an equally good fit to the data. If the null is rejected, the periphery/periphery model is judged to have a superior fit.

The Vuong tests show that, compared to center/periphery distributional conflict, indicators of rival political standing have more explanatory power. The null hypothesis of equal explanatory

[12]Described in an international relations context by Clarke (2001).

[13]The Vuong test favors parsimonious models. Therefore, the center/periphery variables are tested separately to bias against rejecting the null hypothesis.

power is rejected when comparing the periphery/periphery model to either measure of regional inequality or to relative oil wealth.

Analysis of rebellion at the ethnic group level is broad evidence that central ties to competing groups in the periphery are crucial to separatist war. The next two sections use narrower research designs that address possible objections to the results above.

5 Where does separatist violence happen?

I now shift from ethnic groups to territorial administrative jurisdictions, asking where separatism occurs rather than which groups rebel. I show that the center's political ties to the largest ethnic groups in a territorial jurisdication drive separatist violence.

Using territorial jurisdictions as a unit of analysis addresses a potential drawback of the ethnic group analysis above: the need for strong assumptions about which groups in the periphery have competing interests. Here, subnational administrative units are considered likely arenas of political competition and the largest groups in those arenas likely political rivals.

This analysis also uses a different operationalization of ethnicity than that in Section 4. I start from Cunningham and Weidmann's (2010) study of ethnic violence in subnational administrative units across all countries in the 1990s. They combined data on administrative boundaries worldwide in 1991 (UNEP, 1998) with the Geo-referencing of Ethnic Groups (GREG) Dataset (Weidmann et al., 2010b). GREG is based on the *Atlas Narodov Mira* (Bruk and Apenchenko, 1964), a 1960s Soviet language atlas. By contrast, EPR catalogs groups that are politically relevant instead of defining ethnic groups by specific traits. EPR risks bias by creating a list of ethnic groups as defined by politics and then predicting political outcomes on the basis of ethnicity. In particular, many groups included in GREG are omitted from EPR on the grounds of political irrelevance. By excluding ethnic groups that have not mobilized, the EPR data may not allow identification of factors that deter political action. On the other hand, EPR indicates some ethnic distinctions that

GREG misses, such as racial or religious cleavages within a single language group. Therefore, I take the approach of using several datasets on ethnicity to ensure that my findings are not artifacts of one dataset's coding scheme.

5.1 Political rivalry in subnational jurisdictions

The independent variable of interest is the center's political ties to the two largest ethnic groups in each administrative unit. I matched the largest and second largest GREG groups in each unit to the EPR ethnic group list for 1991. Many GREG ethnic groups are not politically relevant per EPR and, therefore, not included in the EPR data. Yet that political irrelevance is informative with regard to the central government's political incentives. *Groups equal* connotes that the two largest groups in an administrative unit were both included in power on the same tier of the EPR hierarchy or that both were excluded/irrelevant. *One group advantaged* indicates that the groups were included in the center at different tiers of power or that one was in a powersharing government and the other excluded/irrelevant. A third dummy variable, *One group dominant*, signifies that one group has absolute power in the capital while the other is excluded/irrelevant. Summary statistics are in Table 6.

Territories with *One group dominant* at the center should have low levels of separatist violence (H3). Territories with *Groups equal* should be less conflictual than territories with *One group advantaged* (H5).

The dependent variable for the analysis is whether separatist, anti-state violence took place in an administrative unit at any time between 1991 and 1999. Note that the data are not a panel—each subnational unit is in the data once—and the dependent variable is a dummy for any violence in this period rather than a count of violent incidents. The dependent variable is a recoding of Cunningham and Weidmann's anti-state violence data, which they drew from Gleditsch et al. (2002), the Minorities at Risk Project (2009), and Cunningham et al. (2009). I use the same sources to determine whether anti-state violence was connected to separatism and use only separatist anti-state

Table 5: Relative political standing of two largest ethnic groups in a subnational administrative unit and anti-state separatist violence between 1991 and 1999

	Separatist violence			
	Yes		No	
	N	%	N	%
One group dominant	27	2.3	1157	98
One group advantaged	21	3.7	550	96
Groups equal	39	4.7	785	95
Total	87	3.4	2492	97
χ^2	9.2			
p-value	0.010			

violence as my dependent variable.

Table 5 shows that the lowest levels of violence, less than 1%, were recorded in territorial units where one group was also in a dominant political position at the center. Violence was more common when the groups had an equal position on the political hierarchy (4.7%) or when one group was advantaged (3.7%).

5.2 Correlates of separatist violence in subnational units

Moving to a multivariate analysis, I use control variables similar to those in Section 4.[14] To distinguish intra-periphery rivalry from political exclusion, a dummy variable records whether one or both groups were excluded from central power according to EPR *(One or both excluded)*.[15] A second dummy variable codes local self-rule in the form of federalism *(Regional autonomy)*. Country-level *Anocracy* and *Democracy* are also noted. To capture the demography of the periph-

[14]Unless otherwise noted, control variables are measured in 1991 and from Cunningham and Weidmann's replication data.

[15]If one or both ethnic groups were politically irrelevant in a country with at least one politically relevant ethnic group, *One or both excluded* is coded as a one. If both groups were politically irrelevant in a country with no relevant groups, this variable is coded as a zero.

Table 6: Summary statistics for analysis of anti-state separatist violence in subnational administrative units between 1991 and 1999 (Section 5)

	Mean	St. Dev.	Min	Max
Anti-state separatist violence	0.034	0.18	0	1
Groups equal	0.32	0.47	0	1
One group advantaged	0.23	0.42	0	1
One group dominant	0.46	0.50	0	1
Inequality	0.14	0.29	8.1 e-13	3.0
Relative deprivation	0.90	0.74	0	5.1
Relative wealth	0.45	0.71	0	5.6
Relative oil abundance	0.59	0.49	0	1
One or both excluded	0.75	0.43	0	1
Regional autonomy	0.35	0.48	0	1
Difference group pop. shares sq.	0.67	0.37	0	1
Ln distance to capital	5.5	1.2	0.11	8.9
Anocracy	0.35	0.48	0	1
Democracy	0.44	0.50	0	1
Ln population ('000s)	6.2	1.5	-0.18	12
Ln country GDP per capita	3.6	0.45	2.6	4.4
Ln country population ('000s)	9.7	1.5	6.6	14
Observations	2600			

ery, I include the square of the difference in the two groups' unit-level population shares *(Difference population share sq.)*. Distance from the capital (*Ln distance*), population of the administrative unit (*Ln population*), *Ln country population*, and *Ln country GDP per capita* control for opportunity to rebel.

Table 7 reports logistic regressions of anti-state separatist violence at the level of subnational administrative units; again, results are reported as odds ratios. *Groups equal* and *One group advantaged* are the key independent variables; the omitted reference category is a territory in which one of the two ethnic groups is politically dominant at the center.

In accord with expectations, both *Groups equal* and *One group advantaged* are associated with a statistically significant increase in the likelihood of separatist violence compared to the reference category. Regions with ethnic groups of equal standing in the capital have 2.5-times greater odds

Table 7: Logistic regression models of anti-state separatist violence in subnational administrative units between 1991 and 1999

	Model 4	Model 5	Model 6
One group advantaged	3.2*	5.2**	5.2**
	(1.8)	(3.2)	(3.2)
Groups equal	2.5+	4.0*	4.1*
	(1.4)	(2.3)	(2.4)
Inequality		1.4	
		(0.89)	
Relative deprivation			1.1
			(0.59)
Relative wealth			1.1
			(0.40)
Relative oil abundance		2.1	2.1
		(0.98)	(0.98)
One or both excluded	2.7	4.5+	4.5+
	(1.8)	(3.5)	(3.5)
Regional autonomy	0.48	1.7	1.6
	(0.31)	(0.95)	(0.96)
Difference group pop. shares sq.	0.32*	0.44	0.43
	(0.16)	(0.24)	(0.23)
Ln distance to capital	1.3*	1.4*	1.4*
	(0.16)	(0.24)	(0.25)
Anocracy	4.8+	3.8	3.9
	(4.1)	(3.6)	(3.6)
Democracy	5.1+	1.7	1.7
	(4.8)	(1.3)	(1.3)
Ln population ('000s)	1.4+	1.5	1.5
	(0.28)	(0.35)	(0.36)
Ln country GDP per capita	0.26*	0.072**	0.075**
	(0.18)	(0.065)	(0.065)
Ln country population ('000s)	1.5*	1.5+	1.5+
	(0.27)	(0.32)	(0.33)
Observations	2366	1608	1608
Ln likelihood	-268	-178	-178

Exponentiated coefficients; Standard errors in parentheses
Standard errors clustered by country
$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

of conflict; regions where one group is politically advantaged at the center have 3.2-times higher conflict odds. The higher risk of conflict in the *One group advantaged* category bears out the expectation that moderate political inequality is most likely to lead to separatism.[16]

5.3 Regional disparities, natural resources, and violence

In Models 6 and 7, measures of inequality and natural resources are added to the territorial analysis of separatist violence. These models take advantage of another benefit of the move from ethnic groups to territorial units, which is higher quality data on inequality. The inequality data in Section 4 is based on a global spatial grid of GDP produced by Nordhaus (2006), using statistics from subnational administrative units in the early 1990s. I use Nordhaus's original inputs[17] to code GDP per capita for about 70% of the administrative units in my data. Doing so addresses two problems of data quality. First, Nordhaus's redistribution of administrative-level statistics onto a geo-spatial grid will inevitably have introduced error. Second, Nordhaus did not have subnational data for 97 "small" countries—including all of Central America and much of Africa—where he instead estimated the geospatial distribution of wealth based on the distribution of population.[18] I drop these cases, looking only at administrative units for which GDP data is available. Removing these sources of measurement error may provide a better test of the relative explanatory power of center/periphery and periphery/periphery variables. With these GDP data, I calculate *Inequality*, *Relative deprivation*, and *Relative wealth* using the formulas in Section 4.3. I used the spatial overlap of administrative units and oil or natural gas deposits to calculate *Relative oil abundance*, coded as a one for an administrative unit containing a greater share of the country's oil fields than

[16]The difference between the coefficients on *Groups equal* and *One group advantaged* is not statistically significant, however.

[17]Available at http://gecon.yale.edu/country-listing.

[18]See Nordhaus et al. (2006, 13). A small country is defined as one occupying less than 44 cells on a grid with resolution of 1° longitude/latitude or approximately 440,000 km^2.

Table 8: Tests of the explanatory power of periphery/periphery and center/periphery variables in models of anti-state separatist violence in subnational administrative units

Center/periphery model includes:			
Inequality	X		
Relative deprivation		X	
Relative wealth		X	
Relative oil abundance			X
Ln likelihood center/periphery model	-277	-277	-277
Ln likelihood periphery/periphery model†	-264	-264	-264
Vuong statistic	1.97	2.78	1.96
p-value	0.049	0.005	0.049

† Periphery/periphery model uses *Groups equal* and *One group advantaged*. See Table 17 in Appendix C for full results.

its share of the population.[19]

Adding variables for center/periphery distributional conflict to Model 3 actually increases the correlation between the politics-of-the-periphery variables and violence (Models 4 and 5). Territories with one group advantaged at the center have five-times higher odds of conflict than a territory where one group is also dominant in the capital. Territories where groups have equal political standing at the capital have four-times higher odds of conflict.

Table 8 reports Vuong non-nested model tests comparing the explanatory power of inequality and natural resources to a model including *Groups equal* and *One group advantaged*. The positive test statistics imply that the periphery/periphery variables have more explanatory power than center/periphery disparities. In all cases a Vuong test rejects the null hypothesis that the center/periphery model has as much explanatory power as the periphery/periphery model.

[19]Oil and gas locations from Lujala et al. (2007). I also calculated relative diamond abundance (Gilmore et al., 2005). Relative diamond wealth seemed to be negatively correlated with anti-state violence and did not change my main results.

5.4 Additional models of anti-state separatist violence

Appendix C provides robustness checks of this section's analysis of separatist violence in subnational administrative units. I introduce controls for the number of potential separatists in each country, for crossborder coethnics, distance to an international border, adjacency to an international border, and differences in population growth rates, a proxy for migration. The results are similar to those reported above.

This section shows that central government political ties to rival groups in the periphery explain separatism across territorical political entities. The next section uses data from India to further explore the determinants of separatism.

6 Separatist war in India

The final empirical section of this paper examines which Indian ethnic groups have fought separatist wars. This subnational research design addresses perennial problems of cross-national work on ethnic conflict, problems to which the preceding analysis is not immune: the difficulty of defining ethnic groups; the strong assumptions about ethnic groups' incentives; and the problem of measuring groups' political importance to the capital.

6.1 Identifying ethnic groups

The within-India design allows an enumeration of ethnic groups that is not likely to reflect the politics of the period of this study. By contrast, both the GREG and EPR listings of ethnic groups are shaped by political processes that are also relevant to separatism. EPR explicitly focuses only on politically relevant ethnic groups. The GREG definition of ethnicity based on language is not overtly political. However, even if GREG accurately records languages as distributed in the 1960s, that distribution had already been shaped by political processes that also contributed to ethnic con-

flict in the period of my study. For India, a colonial-era linguistic survey provides estimates of the language composition of Indian districts. The *Linguistic Survey of India (LSI)* was conducted by Sir George Abraham Grierson (1903) through questionnaires to British civil servants. He promolgated his survey before Britain introduced limited self-rule for India and at a time when official British policy was based more heavily on caste and religion than language. There is no record of popular attention to or participation in Grierson's survey. The *LSI* is therefore less endogeneous to contemporary politics than the available cross-national listings of ethnic groups. Grierson's data also does not reflect any post-independence migration, alleviating concerns about endogeneity between migration, rivalry in the periphery, and violence.

I identify potential separatist groups in India by finding enclaves of one or more contiguous districts within the same state that share a plurality language. All of India's separatist wars have taken place along the northern land border.[20] I deal with this perfect correlation by looking only at groups in India's border states. The result is a panel dataset with 52 groups observed from 1950 to 2009; ten of these groups (19%) have fought a separatist war according to the UCDP/PRIO Armed Conflict Dataset (Gleditsch et al., 2002).[21] The dependent variable in the regression analyses in this section is the incidence of separatist war; 5.6% of group-years have a new or ongoing separatist conflict.

6.2 Identifying rivals

A within-country research design also allows precise identification of which ethnic groups have competing interests. India's formal institutions define the winners and losers from changes to

[20]The clustering of rebellion on the border is likely a product of the greater feasibility of rural insurgency. India has never had a symmetric war or urban revolution that was sufficiently deadly and organized to qualify as a civil war. Thus, opportunity for rural insurgency appears to be a necessary condition for separatist war in that country.

[21]Table 20 in Appendix D lists all cases of separatist war.

Table 9: Summary statistics for analysis of separatist war in India, 1950–2009 (Section 6)

	Mean	St. Dev.	Min	Max
Separatist insurgency	0.056	0.23	0	1
Ln relative government representation	0.15	1.3	-3.0	3.4
Inequality (Literacy)	0.19	0.28	3.8 e-8	3.4
Relative underdevelopment	0.63	0.28	0	1.00
Relative development	0.096	0.27	0	1.00
Oil region	0.44	0.50	0	1
Mining region	0.33	0.47	0	1
Ln group's government representation	-0.054	1.8	-4.6	3.7
Statehood	0.22	0.41	0	1
Difference group pop. shares sq.	0.40	0.23	0.0045	0.90
Ln distance	6.8	0.68	4.8	7.5
Ln group population ('000s)	6.9	2.2	1.9	11
Ln country GDP per capita	0.100	0.45	-0.52	1.2
Ln country population ('000s)	11	0.31	10	11
Peace years	26	18	0	62
Observations	2451			

political arrangements in the periphery. Since 1957, India has been organized as a linguistic federation. Separatism tends to be resolved by the creation of new states, the devolution of more autonomy to an existing state, or the creation of an autonomous area with some of the powers of a state. Two constituencies stand to lose from new grants of statehood or autonomy. The first is people who would become minorities in a new or newly-empowered state or autonomous area. Each Indian state sets its own official language(s) for secondary and higher education, the civil service, and employment in government-owned industries, giving substantial economic advantages to the majority language group (Weiner, 1962, 58). A second opposed constituency is relevant if an ethnic group seeks to split from an existing state with an ethnic majority. The existing state's majority ethnic group will lose economically if a minority area separates. Indian states receive most of their budget as per capita transfers from the center. Access to these resources can be restricted by language. Decreasing the minority population of a state thus decreases the per capita allocation of central resources to the majority language group.

Based on these institutional incentives, I code the local rivals for each potentially separatist group. For a minority group in a state with an ethnic majority, that state majority is the rival. If the potential separatists live in a state without a majority language or are the majority language in their state, their rival is the largest linguistic minority in their area.

6.3 Measuring political ties to New Delhi

I measure ethnic groups' political importance to the central executive using representation in the ruling party or coalition in the lower house of India's parliament, the Lok Sabha.[22] I multiply a group's population share in a parliamentary constituency by the number of seats there that are held by the prime minister's party or coalition. A group's total government representation is the sum of these figures across all the constituencies in the group's area.[23]

I construct *Relative government representation* by dividing the government representation of the rival group by that of the potentially-separatist group. The minimum value of relative representation is zero, which occurs if the rival has no representation in the prime minister's coalition. Relative government representation of one implies equal representation for the main ethnic group and its rival. Relative government representation greater than one means that the rival group had more representation in the ruling coalition than the main group had.

The expected relationship between *Relative government representation* and separatist war is an inverted U-curve. Low values of relative government representation imply that the main group has much more political weight with New Delhi than its rivals. These politically-favored groups are expected to be peaceful (H1). Very high values of relative representation imply a group in the periphery that is much less politically important than its rival. Such extremely disadvantaged groups are deterred from violence (H2). The low expected incidence of rebellion at the extremes of relative government representation implies that the probability of separatist war will look like an inverted

[22]The upper house is ceremonial.

[23]Delimitation orders and election results from ECI (2012).

U-curve when plotted against relative government representation. Groups are most likely to pursue separatism when their opponents in the periphery have a moderate political advantage (H4). Therefore, the peak probability of separatist war should occur when relative political importance moderately favors the groups opposed to self-rule—i.e., when relative government representation is greater than one.

6.4 Setting up multivariate analysis

The regression analysis of Indian separatism controls for group's political position and opportunity to rebel. I note the group's number of seats in the prime minister's party/coalition *(Ln group's government representation)*, whether they are the majority in an existing state *(Statehood)*, their population *(Ln group population)*[24] and *Ln distance* to New Delhi.[25] The difference in population shares between an ethnic group and its rival is included as a squared term *(Difference group pop. shares sq.)*. Additional control variables are national population (*Ln country population*) and income (*Ln country GDP per capita*),[26] as well as peace year splines. Summary statistics for all variables are in Table 9; independent variables are lagged one year.

6.5 Multivariate analysis of separatism in India

In the basic specification for separatist war in India (Model 7, Table 10) relative government representation is estimated to have a statistically significant, non-linear relationship with separatist civil war. The linear term has an odds ratio greater than one and the squared term has an odds ratio smaller than one, implying an inverted-U relationship. Figure 1 plots the predicted probability of

[24]Language shares are from the *LSI* and population data are from the census (Census Commissioner, 2001).

[25]Distances calculated using GADM (2012).

[26]From Heston et al. (2011).

Table 10: Logistic regressions of the incidence of separatist war by Indian border-region ethnic groups, 1950–2009

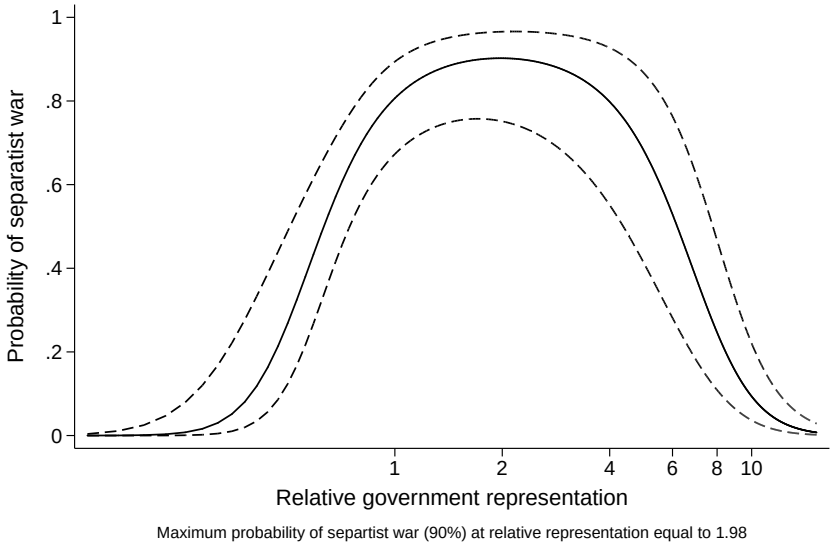
	Model 7	Model 8	Model 9
Ln relative government representation	10^{*} (10)	17^{**} (18)	19^{**} (21)
Ln relative government representation sq.	0.18^{***} (0.083)	0.15^{***} (0.074)	0.15^{***} (0.078)
Inequality (Literacy)		1.2 (0.82)	
Relative underdevelopment			0.11^{*} (0.12)
Relative development			0.072^{*} (0.095)
Oil region		2.8^{+} (1.7)	3.4^{*} (2.0)
Mining region		2.7^{+} (1.4)	2.2 (1.2)
Ln group's government representation	0.80 (0.38)	0.86 (0.39)	0.93 (0.43)
Statehood	12^{***} (8.3)	15^{***} (9.7)	19^{***} (13)
Difference group pop. shares sq.	12 (26)	8.6 (17)	7.1 (13)
Ln distance	4.9^{***} (2.3)	2.0 (0.95)	2.0 (0.94)
Ln group population ('000s)	1.5^{*} (0.32)	1.3 (0.31)	1.2 (0.30)
Ln country GDP per capita	0.025^{+} (0.048)	0.028^{+} (0.058)	0.023^{+} (0.052)
Ln country population ('000s)	630^{+} (2100)	1000^{+} (3700)	2000^{+} (7800)
Peace year splines	Yes	Yes	Yes
Observations	1588	1588	1588
Ln likelihood	-62	-61	-60

Exponentiated coefficients; Standard errors in parentheses

Standard errors clustered by ethnic group

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 1: Predicted probability of separatist war by Indian border-region ethnic group as a function of relative government representation. Based on Table 10, Model 7 and plotted with 90% confidence intervals



conflict against relative government representation, showing this non-linear relationship.[27] Note that the ticks on the x-axis are labeled with the unlogged values of relative government representation; the ticks are unevenly spaced to reflect log-scaling.

The highest probability of separatist war, about 90%, is estimated to be when a group's opponents in the periphery have a moderate political edge in New Delhi, relative representation of 1.98. As expected, when a group is much more politically significant than its local rival, the probability of separatism is low. The probability of insurgency is less than 0.01% at the 5th percentile of relative government representation (0.14). Groups are also unlikely to rebel if their rivals in the periphery have a very large political advantage in New Delhi. At the 95th percentile of relative government representation (15) the probability of conflict is 0.74%.

[27]Based on Table 10, Model 8, with control variables set to the mean or median of the data and peace years set to zero.

6.6 Inequality and resources in the Indian context

My next step is to test the robustness of these findings when controlling for center/periphery distributional conflict. Another advantage of the within-India research design is the availability of a measure of inequality that changes over time. In Section 4, inequality is constant at the group level because it is based on GDP data from a single point in time. For India, I calculate center/periphery disparties using the percent of the population that is literate in an ethnic group's area compared to national literacy; these figures are from the decennial census (Census Commissioner, 2001). I calculate *Inequality*, *Relative underdevelopment*, and *Relative development* by entering literacy rates into the formulas in Section 4.3. To code natural resource abundance, I used a geo-referenced map of Indian districts (GADM, 2012), information on changes to districts over time (Census Commissioner, 2004), and geo-referenced data on oil and natural gas (Lujala et al., 2007). I record an indicator variable for ethnic groups whose area overlapped known oil deposits (*Oil region*). I also coded ethnic enclaves that overlapped a *Mining region* using Government of India data on the extraction of copper, coal, zinc, lead, and gold (IndiaStat, 2013) and georeferenced diamond data (Gilmore et al., 2005). Oil and mining regions are by definition resource-rich relative to India as a whole, which is mineral-resource poor; since the 1950s, oil and mining have never accounted for more than 3% of India's GDP (CSO, 2012).

Models 8–9 show that the relationship between relative government representation and separatist war is not likely to be an artifact of regional inequalities or resource endowments. Relative government representation is statistically significant in both models. The linear terms have odds ratio greater than one while the squared terms are smaller than one, implying an inverted-U curve. The estimated maximum probability of rebellion occurs at relative representation of 2.13 in Model 8 and 2.17 in Model 9.

Center versus periphery distributional concerns also have less explanatory strength than periphery rivalries. Table 11 gives results of Vuong tests comparing a model of separatism using relative government representation to models using inequality or natural resources. The positive, statis-

Table 11: Tests of the explanatory power of periphery/periphery and center/periphery variables in models of separatist war in India

Center/periphery model includes:			
Inequality (Literacy)	X		
Relative underdevelopment		X	
Relative development		X	
Oil region			X
Mineral region			X
Ln likelihood center/periphery model	-518	-508	-513
Ln likelihood of periphery/periphery model estimated on same sample†	-494	-494	-494
Vuong statistic	3.20	1.97	2.80
p-value	0.001	0.049	0.005

† Periphery/periphery model uses *Ln relative government representation* and *Ln relative government representation sq.*. See Table 21 in Appendix D for full results.

tically significant test statistics indicate that the periphery-versus-periphery variables have more explanatory power.

6.7 Further analysis of separatism in India

Appendix D presents checks of the robustness of the models in Table 10. First, I add variables for the center's reputational concerns and crossborder ethnic groups. As noted above, one advantage of using colonial language data is that ethnic composition does not reflect post-independence migration. The *LSI* also provides information on colonial-era migration of language groups. Appendix D incorporates colonial-era migration into the analysis above. Throughout the robustness checks, separatism in India is closely related to New Delhi's political ties to competing ethnic groups in the periphery.

This section demonstrates the utility of combining subnational and cross-national data. Almost every aspect of the analysis—the definition ethnic groups, the identification of rivalrous groups, the coding of political standing—is better-measured in the within India analysis. These results

increase confidence that the cross-national correlations in previous sections are meaningful.

7 Conclusion

Intra-periphery conflict is largely ignored in the study of separatist war. Theories of separatism stress center/periphery distributional concerns; quantitative empirical studies have followed suit. This paper proposes that central government ties to competing interests in the periphery determine the likelihood of separatist violence. Using panel data from ethnic groups worldwide, a cross-sectional dataset of subnational administrative units, and variation in separatism in India, I show that ethnic groups are most likely to rebel when their rivals in the periphery have a moderate political advantage in the capital.

This paper contributes to our understanding of an important human and international security problem: separatist ethnic war. It also takes a step beyond the existing literature on civil conflict, which tends to consider domestic politics only as an exogeneous source of grievances. Separatist war is the product of grievances and a government reluctant to address those grievances because of its ties to pro-status quo groups. Yet, the most aggrieved groups may not be the most likely to rebel if they are deterred by the strength of central political ties to their rivals. The resulting account of separatist war is both more dynamic and more empirically powerful than the center versus periphery concerns that have dominated the literature.

Finally, the finding that separatism is driven by within-periphery conflict has important policy implications. Policy solutions to separatist violence that focus on partition or revenue sharing may be ineffective if the separatists' core grievance is the distribution of political power within the periphery. Such measures may even be counterproductive, promoting discriminatory subnational governments or inducing counter-rebellion by separatists' rivals in the periphery.

References

Alesina, A., Baqir, R., and Hoxby, C. (2004). Political jurisdictions in heterogeneous communities. *Journal of Political Economy*, 112(21):348–396.

Alesina, A. and Spolare, E. (2003). *The Size of Nations*. MIT Press, Cambridge, MA.

Alexander, P. (2004). *Through the corridors of power: An insider's story*. HarperCollins, New Delhi.

Bruk, S. I. and Apenchenko, V. S., editors (1964). *Atlas Narodov Mira [Atlas of the Peoples of the World]*. Glavnoye Upravleniye Geodezii i Kartografii Gosudarstvennogo Geologicheskogo Komiteta SSR and Institut Etnografii im. N.N. Miklukho-Maklaya Akademii Nauk SSR, Moscow.

Buhaug, H., Cederman, L.-E., and Rød, J. K. (2008). Disaggregating ethno-nationalist civil wars: A dyadic test of exclusion theory. *International Organization*, 62:531–51.

Buhaug, H., Gates, S., and Lujala, P. (2009). Geography, rebel capability, and the duration of civil conflict. *Journal of Conflict Resolution*, 53(4):544–569.

Buhaug, H., Gleditsch, K. S., Holtermann, H., Østby, G., and Tollefsen, A. F. (2011). It's the local economy, stupid! Geographic wealth dispersion and conflict outbreak location. *Journal of Conflict Resolution*, 55(5):814–840.

Buhaug, H. and Rød, J. K. (2006). Local determinants of African civil wars, 1970–2001. *Political Geography*, 25(3):315–335.

Cederman, L.-E., Buhaug, H., and Rød, J. K. (2009a). Ethno-nationalist dyads and civil war: A GIS-based analysis. *Journal of Conflict Resolution*, 53(4):496–525.

Cederman, L.-E., Min, B., and Wimmer, A. (2009b). *The Ethnic Power Relations (EPR) dataset*. Ethnic Power Relations Dataverse, Cambridge, MA.

Cederman, L.-E., Weidmann, N. B., and Gleditsch, K. S. (2011). Horizontal inequalities and ethnonationalist civil war: A global comparison. *American Political Science Review*, 105(03):478–

495.

Cederman, L.-E., Wimmer, A., and Min, B. (2006). Why do ethnic groups rebel? New data and analysis. *World Politics*, 62(1):87–119.

Census Commissioner (2001). *Census of India 2001*. Directorate of Census Operations, Government of India Press, New Delhi.

Census Commissioner (2004). *India Administrative Atlas, 1872-2001: A Historical Perspective of Evolution of Districts and States in India*. Office of the Registrar General and Census Commissioner (India), New Delhi.

Chima, J. S. (2010). *The Sikh separatist insurgency in India: Political leadership and ethnonationalist movements*. Sage, New Delhi.

Clarke, K. A. (2001). Testing nonnested models of international relations: Reevaluating realism. *American Journal of Political Science*, 45(3):724–744.

Collier, P. and Hoeffler, A. (2002). The political economy of secession. In *World Bank Working Papers*, Washington, DC.

Collier, P. and Hoeffler, A. (2004). Greed and grievance in civil war. *Oxford Economic Papers*, 56(4):563–595.

CSO (2012). *Components of Gross Domestic Product (at Factor Cost)*. Central Statistics Office and Reserve Bank of India, New Delhi.

Cunningham, D. E., Gleditsch, K. S., and Salehyan, I. (2009). It takes two: A dyadic analysis of civil war duration and outcome. *Journal of Conflict Resolution*, 53(4):570–597.

Cunningham, K. G. and Weidmann, N. B. (2010). Shared space: Ethnic groups, state accommodation, and localized conflict. *International Studies Quarterly*, 54(4):1035–1054.

ECI (2012). *General Election Results and Statistics*. Election Commission of India, New Delhi. eci.nic.in, accessed May 11, 2012.

Fearon, J. D. (2008). Economic development, insurgency, and civil war. In Helpman, E., editor, *Institutions and Economic Performance*, pages 292–328. Harvard University Press, Cambridge,

MA.

Fearon, J. D. and Laitin, D. D. (2003). Ethnicity, insurgency, and civil war. *American Political Science Review*, 97(1):75–90.

Fearon, J. D. and Laitin, D. D. (2011). Sons of the soil, migrants, and civil war. *World Development*, 39(2):199–211.

GADM (2012). *GADM database of Global Administrative Areas, v 2.0*. University of California, Davis, Davis, CA.

Gellner, E. (1964). *Thought and Change*. Weidenfeld and Nicolson, London.

Gellner, E. (1983). *Nations and Nationalism*. Cornell University Press, Ithaca, NY.

Gilmore, E., Gleditsch, N. P., Lujala, P., and Rød, J. K. (2005). Conflict diamonds: A new dataset. *Conflict Management and Peace Science*, 22(3):257–292.

Gleditsch, N. P., Wallensteen, P., Eriksson, M., Sollenberg, M., and Strand, H. (2002). Armed conflict 1946–2001: A new dataset. *Journal of Peace Research*, 39(5):615–637.

Gourevitch, P. A. (1979). The reemergence of 'peripheral nationalisms': Some comparative speculations on the spatial distribution of political leadership and economic growth. *Comparative Studies in Society and History*, 21(3):303–322.

Grierson, G. A. (1903). *Linguistic Survey of India*. Office of the Superintendent of Government Printing (India), Calcutta.

Hale, H. (2004). Divided we stand: Institutional sources of ethnofederal state survival and collapse. *World Politics*, 56(2):165–93.

Hale, H. E. (2008). *The Foundations of Ethnic Politics: Separatism of States and Nations in Eurasia and the World*. Cambridge University Press, Cambridge.

Hegre, H., Østby, G., and Raleigh, C. (2009). Poverty and civil war events: A disaggregated study of Liberia. *Journal of Conflict Resolution*, 53(4):598–623.

Heston, A., Summers, R., and Aten, B. (2011). *Penn World Table, v 7.0*. Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania, Philadelphia,

PA. pwt.econ.upenn.edu.

Hyman, G. (2000). *Latin American Population Database*. UNESCO through UNEP-GRID Sioux Falls, Sioux Falls, SD.

IndiaStat (2013). *IndiaStat: Revealing India Statistically*. Datanet India Pvt. Ltd., New Delhi.

Jacob, S. and Tully, M. (1985). *Amritsar: Mrs.Gandhi's Last Battle*. Jonathan Cape Ltd, London.

Jenne, E., Saideman, S., and Lowe, W. (2007). Separatism as a bargaining posture: The role of leverage in minority radicalization. *Journal of peace research*, 44(5):539–558.

Kaufmann, C. (1996). Possible and impossible solutions to ethnic civil wars. *International Security*, 20(4):136–175.

Keesing's (2000). India. *Keesing's World News Archive*, 46(June):43625.

Kirschner, S. A. (2009). *Families and Foes: Ethnic Civil War Duration*. Dissertation completed at the University of Michigan Department of Political Science, Ann Arbor, MI.

Lake, D. A. and Rothchild, D. (1996). Containing fear: The origins and management of ethnic conflict. *International Security*, 21(2):41–75.

Lewis, M. P., editor (2009). *Ethnologue: Languages of the World*. SIL International, Dallas, TX.

Lujala, P., Rød, J. K., and Thieme, N. (2007). Fighting over oil: Introducing a new dataset. *Conflict Management and Peace Science*, 24(3):239–256.

Marshall, M. and Jaggers, K. (2012). *Polity IV Project: Political Regime Characteristics and Transitions, 1800–2010*. Societal-Systems Research Inc. and Colorado State University, Vienna, VA.

Minorities at Risk Project (2009). *Minorities at Risk (MAR) Dataset*. Minorities at Risk Project, College Park, MD.

Nelson, A. (2004). *Population Density for Africa in 1960–1990*. UNESCO through UNEP-GRID Sioux Falls, Sioux Falls, SD.

Nordhaus, W. D. (2006). Geography and macroeconomics: New data and new findings. *Proceedings of the National Academy of Sciences*, 103(10):3510–3517.

Nordhaus, W. D., Azam, Q., Corderi, D., Hood, K., Victor, N. M., Mohammed, M., Miltner, A., and Weiss, J. (2006). *The G-Econ Database on Gridded Output: Methods and Data*. G-Econ, Yale University, New Haven, CT.

Østby, G. (2008). Polarization, horizontal inequalities and violent civil conflict. *Journal of Peace Research*, 45(2):143–162.

Østby, G., Nordås, R., and Rød, J. (2009). Regional inequalities and civil conflict in Sub-Saharan Africa. *International Studies Quarterly*, 53(2):301–324.

Østby, G., Urdal, H., Tadjoeddin, M. Z., Murshed, S. M., and Strand, H. (2011). Population pressure, horizontal inequality and political violence: A disaggregated study of Indonesian provinces, 1990–2003. *Journal of Development Studies*, 47(3):377–398.

Roeder, P. G. (2007). *Where Nation-States Come From: Institutional Change in the Age of Nationalism*. Princeton University Press, Princeton, NJ.

Ross, M. L. (2006). A closer look at oil, diamonds, and civil war. *Annual Review of Political Science*, 9:265–300.

Shils, E. (1975). *Center and Periphery: Essays in Macrosociology*. University of Chicago, Chicago, IL.

Sisk, T. D. (1996). *Power Sharing and International Mediation in Ethnic Conflicts*. United States Institute of Peace, Washington, DC.

Toft, M. (2005). *The Geography of Ethnic Violence: Violence, Identity, Interests, and the Indivisibility of Territory*. Princeton University Press, Princeton, NJ.

Treisman, D. (1997). Russia's 'ethnic revival': The separatist activism of regional leaders in a postcommunist order. *World Politics*, 29(2):212–249.

UNEP (1998). *Administrative Boundaries - First Level (ESRI)*. United Nations Environment Program, Division of Early Warning and Assessment and GRID-Europe, Geneva.

Walter, B. F. (2009). *Reputation and Civil War: Why Separatist Conflicts are so Violent*. Cambridge University Press, New York.

Weidmann, N. B. (2009). Geography as motivation and opportunity. *Journal of Conflict Resolution*, 53(4):526–543.

Weidmann, N. B., Kuse, D., and Gleditsch, K. S. (2010a). The geography of the international system: The CShapes dataset. *International Interactions*, 36(1):86–106.

Weidmann, N. B., Rød, J. K., and Cederman, L.-E. (2010b). Representing ethnic groups in space: A new dataset. *Journal of Peace Research*, 47(4):491–499.

Weiner, M. (1962). *The Politics of Scarcity: Public Pressure and Political Response in India*. University of Chicago Press, Chicago, IL.

Williams, S. W. (1977). Internal colonialism, core-periphery contrasts and devolution: An integrative comment. *Area*, 9(4):272–278.

Wimmer, A., Cederman, L.-E., and Min, B. (2009). Ethnic politics and armed conflict: A configurational analysis of a new global dataset. *American Sociological Review*, 74(11):316–337.

Wucherpfennig, J., Weidmann, N. B., Girardin, L., Cederman, L.-E., and Wimmer, A. (2011). Politically relevant ethnic groups across space and time: Introducing the GeoEPR dataset. *Conflict Management and Peace Science*, 28(5):423 –437.

Periphery versus periphery: The origins of separatist war

Web appendices

A Periphery versus periphery: Formalization

In this appendix, I formalize the theoretical arguments in the main text. The model below is based on an incomplete information model of crisis bargaining. The main modification is that the government's cost of accommodation depends on the political importance of competing domestic groups in the periphery. As a result of that modification, the probability of violence becomes a function of groups' relative political importance.

A.1 Sequence of actions

Consider a model with three actors: a government (G) and two ethnic groups in the periphery. One of the two groups (S) seeks autonomy, anticipating enhanced political power under an autonomous regime. S's demands are opposed by those people in the periphery who are not their co-ethnics (M); this group fears marginalization in an autonomous regime.

The model proceeds as follows:

1. Nature independently determines the types of M and S: each is strong with a probability of ρ ($0 < \rho < 1$) or weak with a probability of $1-\rho$. Denote the strong types as M_s and S_s and the weak types as M_w and S_w. The cost of militancy to a strong type is k, where $1-\rho > k > 0$; the cost of militancy to a weak type is K, where $K > 1$. G does not observe either group's type nor do the groups observe each other's type.

2. G proposes a degree of autonomy for the periphery, $\alpha_0 \in (1,0)$.

3. M and S independently and simultaneously choose whether or not to pursue militancy. If one or both groups chooses militancy, there is a cost to G of $\delta > 0$ and the groups' types become common knowledge due to fighting.

4. Depending on which group(s) have used violence:

(a) **If neither group chooses militancy**, the policy G has already proposed prevails and the game ends.

(b) **If one of the two groups has become militant and the other group is weak**, G can choose to repress the militant group or concede to it.

- If G concedes to the militant group, it implements the militant group's preferred policy—i.e., $\alpha_1 = 1$ if S has become militant and $\alpha_1 = 0$ if M has become militant.
- If G chooses repression it pays a cost of repression, described below. G also sets α_1 to the repressed group's least preferred policy—i.e., $\alpha_1 = 0$ if S is the target of repression and $\alpha_1 = 1$ if M is the target.

After G's choice between repression or concessions, the game ends.

(c) **If both of the groups have opted for militancy OR only one group has become militant but the other group is the strong type**, fighting is indecisive. The policy G has already proposed prevails and the game ends.

A.2 S's and M's utilities

The actors' utilities for policy are as follows:

$$\begin{aligned} U_M(\alpha) = &\quad 1-\alpha \\ U_S(\alpha) = &\quad \alpha \end{aligned}$$

Note that these utility functions, combined with the assumption that $K > 1$, imply that M_w and S_w never choose militancy. The cost of violence to a weak group (K) is higher than the benefit of receiving the group's most preferred policy.

A.3 G's utility

$$U_G(\alpha) = \alpha s + (1-\alpha)m \text{ where } \begin{cases} s = 1 & \text{if S does not choose militancy} \\ s = 0 & \text{if S chooses militancy} \\ m = \gamma > 0 & \text{if M does not choose militancy} \\ m = 0 & \text{if M chooses militancy} \end{cases}$$

In the government's utility function, m and s represent the political value of constituencies M and S to the government. The weighting of m and s by α reflects how much support the government can expect within each group based on the policies it enacts. These political values are equal to 0 if a group chooses militancy, implying that once a group has become militant the government does not receive its political support regardless of the final policy outcome. The comparative static of interest is the relative political importance of M and S. Therefore, G's utility is simplified by setting s to 1. γ can be interpreted as M's political value to the center relative to the political value of S.

Finally, G's costs of repression also depend on the political importance of the group targeted for repression. In the case that only M has become militant and S is weak, the cost of repressing M is $r+\gamma$. In the case that only S has become militant and M is weak, the cost of repressing S is $r+1$.

A.4 Solution concept

This model has a unique pure strategy, sub-game perfect Nash equilibrium, which can be found through backward induction. A complete solution to the model is given in Table 12.

A.5 Political dominance and the deterrence of violence

Proposition 1. *If $\gamma < 1-r$ or $\gamma > 1+r$, there is a pure strategy equilibrium in which there is no violence.*

Table 12: Strategies within pure strategy sub-game perfect Nash equilibrium

Parameter values			M militant?		S militant?		G's choice if militancy by …	
							M and S_w	S and M_w
γ	$\frac{1-\rho-k}{1-\rho} > \frac{k}{1-\rho}$?	α_0	M_w	M_s	S_w	S_s	Concede to M?	Concede to S?
$\gamma < 1-r$	Y/N	1	N	N	N	If $\alpha_0 < \frac{1-\rho-k}{1-\rho}$	N	Y
$1+r < \gamma$	Y/N	0	N	If $\alpha_0 > \frac{k}{1-\rho}$	N	N	Y	N
$1-r < \gamma < 1$	Y	1	N	If $\alpha_0 > \frac{k}{1-\rho}$	N	If $\alpha_0 < \frac{1-\rho-k}{1-\rho}$	Y	Y
$1 < \gamma < 1+r$	Y	0	N	If $\alpha_0 > \frac{k}{1-\rho}$	N	If $\alpha_0 < \frac{1-\rho-k}{1-\rho}$	Y	Y
$1-r < \gamma < \overline{\Phi}$	N	1	N	If $\alpha_0 > \frac{k}{1-\rho}$	N	If $\alpha_0 < \frac{1-\rho-k}{1-\rho}$	Y	Y
$\underline{\Phi} < \gamma < 1+r$	N	0	N	If $\alpha_0 > \frac{k}{1-\rho}$	N	If $\alpha_0 < \frac{1-\rho-k}{1-\rho}$	Y	Y
$\max(\overline{\Phi}, 1-r) < \gamma < 1$	N	$\frac{k}{1-\rho}$	N	If $\alpha_0 > \frac{k}{1-\rho}$	N	If $\alpha_0 < \frac{1-\rho-k}{1-\rho}$	Y	Y
$1 < \gamma < \min(\underline{\Phi}, 1+r)$	N	$\frac{1-\rho-k}{1-\rho}$	N	If $\alpha_0 > \frac{k}{1-\rho}$	N	If $\alpha_0 < \frac{1-\rho-k}{1-\rho}$	Y	Y

$\underline{\Phi} = \frac{1-\rho-k+\rho(1-\rho)\delta}{1-\rho-k-\rho(1-\rho)^2}$, $\overline{\Phi} = \frac{1-\rho-k-\rho(1-\rho)^2-\rho(1-\rho)\delta}{1-\rho-k}$

In case of militancy by only S when M is the weak type, G's final utility after choosing repression would be $\gamma - r - 1 - \delta$. G's final utility if it concedes to S is $-\delta$. G concedes to S if $\gamma < r + 1$ and represses S otherwise.

In case of militancy by only M when S is the weak type, G's final utility if it represses M is $1 - r - \gamma - \delta$. G's final utility if it concedes to M is $-\delta$. G concedes to M if $\gamma > 1 - r$ and represses M otherwise.

A.5.1 Equilibrium with deterrence of M

When $\gamma < 1 - r$, M will not use violence regardless of G's initial choice of α_0. If M_s chooses militancy, its final utility will be $(1-\rho) * 0 + \rho(1-\alpha_0) - k$. If M_s does not choose militancy, its final utility will be $1 - \alpha_0$. Therefore, M_s does not use violence.

If S_s chooses militancy its final utility will be $(1-\rho) + \rho\alpha_0 - k$. If S_s does not choose militancy, its final utility will be α_0. Therefore, S_s chooses militancy if $\frac{1-\rho-k}{1-\rho} > \alpha_0$.[1]

G can set the initial value of α_0 without fear of violence by M. S is more politically valuable than M ($\gamma < 1$), so G chooses $\alpha_0 = 1$.

A.5.2 Equilibrium with deterrence of S

If $\gamma > 1 + r$, S will be deterred from violence regardless of G's initial choice of α_0. If S_s chooses militancy, its final utility will be $(1-\rho) * 0 + \rho\alpha_0 - k$. If S_s does not choose militancy, its final utility will be α_0. Therefore, S_s does not choose militancy.

If M_s chooses militancy, its final utility will be $1 - \rho + \rho(1-\alpha_0) - k$. If M_s does not choose militancy, its final utility will be $1 - \alpha_0$. Therefore, M_s chooses militancy if $\alpha_0 > \frac{k}{1-\rho}$.

G can set the initial value of α_0 without fear of violence by S. M is more politically valuable than S ($\gamma > 1$), so G chooses $\alpha_0 = 0$.

[1] By the assumption that $k < 1 - \rho$, $\frac{1-\rho-k}{1-\rho}$ is positive.

A.6 Groups' strategies neither group is politically dominant

If $1-r<\gamma<1+r$, G concedes when only one group has used violence and the other is weak. What are the equilibrium strategies for M_s and S_s in that case?

M_s's utility if it does not choose militancy is $1-\alpha_0$. If it chooses militancy its payoff is $1-\rho+\rho(1-\alpha_0)-k$. M_s chooses militancy if $\alpha_0>\frac{k}{1-\rho}$.

S_s's utility if it does not choose militancy is α_0. If it chooses militancy its payoff is $1-\rho+\rho\alpha_0-k$. S_s chooses militancy if $\frac{1-\rho-k}{1-\rho}>\alpha_0$.

Note that there is a value of α_0 that induces both S_s and M_s to rebel only if it simultaneously can be the case that $\frac{1-\rho-k}{1-\rho}>\alpha_0$ and $\frac{k}{1-\rho}<\alpha_0$. That implies $\frac{1-\rho-k}{1-\rho}>\frac{k}{1-\rho}$. There is a value of α_0 that induces both S_s and M_s not to rebel only if it simultaneously can be the case that $\frac{1-\rho-k}{1-\rho}<\alpha_0$ and $\frac{k}{1-\rho}>\alpha_0$. That implies $\frac{1-\rho-k}{1-\rho}<\frac{k}{1-\rho}$.

A.7 The government's optimal choice of α_0 if neither group is politically dominant

Given the strategies of M_s and S_s, G's choice of α_0 determines whether one or both of the strong groups will rebel. There are four cases to consider: neither group rebels (i.e., $\frac{1-\rho-k}{1-\rho}<\alpha_0<\frac{k}{1-\rho}$); both groups rebel (i.e., $\frac{1-\rho-k}{1-\rho}>\alpha_0>\frac{k}{1-\rho}$); only S_s rebels (i.e., $\frac{1-\rho-k}{1-\rho}>\alpha_0$ and $\frac{k}{1-\rho}>\alpha_0$); only M_s rebels (i.e., $\frac{1-\rho-k}{1-\rho}<\alpha_0$ and $\frac{k}{1-\rho}<\alpha_0$). To determine G's optimal choice of α_0 it is helpful to write out G's utility in each of the four possible cases. For each case, one can then solve for the optimal value of α_0 within the range of possible values.

A.7.1 α_0 such that both strong groups rebel

G's utility from such an equilibrium is:

$$(1-\rho)^2(\alpha_0+(1-\alpha_0)\gamma)-(1-(1-\rho)^2)\delta. \tag{1}$$

The derivative of this function in terms of α_0 is

$$(1-\rho)^2(1-\gamma). \tag{2}$$

The derivative is positive if $\gamma < 1$. G's maximum utility within this equilibria (i.e., subject to $\frac{1-\rho-k}{1-\rho} > \alpha_0 > \frac{k}{1-\rho}$) is at $\alpha_0 = \frac{1-\rho-k}{1-\rho}$. The derivative is negative if $\gamma > 1$. G's utility is maximized at $\alpha_0 = \frac{k}{1-\rho}$.

A.7.2 α_0 such that neither group rebels

G can induce an equilibria where neither strong group rebels if it sets $\frac{1-\rho-k}{1-\rho} < \alpha_0 < \frac{k}{1-\rho}$. G's utility is:

$$\alpha_0 + \gamma(1-\alpha_0). \tag{3}$$

If $\gamma > 1$, G's maximum utility within this equilibria is from setting $\alpha_0 = \frac{1-\rho-k}{1-\rho}$. If $\gamma < 1$, G's maximum utility within this equilibria is from setting $\alpha_0 = \frac{k}{1-\rho}$.

A.7.3 α_0 such that only M_s rebels

G can induce an equilibria where only M_s rebels if it sets $\frac{1-\rho-k}{1-\rho} < \alpha_0$ and $\frac{k}{1-\rho} < \alpha_0$. G's utility in that case is

$$(1-\rho)(\alpha_0 + (1-\alpha_0)\gamma) + \rho^2\alpha_0 - \rho\delta. \tag{4}$$

The derivative of G's utility with respect to α_0 is

$$(1-\rho)(1-\gamma) + \rho^2. \tag{5}$$

If this derivative is negative, G's utility is maximized for this equilibria at $\alpha_0 = min(\frac{k}{1-\rho}, \frac{1-\rho-k}{1-\rho})$. If this derivative is positive, G's maximum utility in this equilibria is at $\alpha_0 = 1$.

A.7.4 α_0 such that only S_s rebels

G can induce an equilibria where only S_s rebels if it sets $\frac{1-\rho-k}{1-\rho} > \alpha_0$ and $\frac{k}{1-\rho} > \alpha_0$. G's utility in that case is

$$(1-\rho)(\alpha_0 + (1-\alpha_0)\gamma) + \rho^2(1-\alpha_0)\gamma - \rho\delta. \tag{6}$$

The derivative of this function with respect to α_0 is

$$(1-\rho)(1-\gamma) - \rho^2\gamma. \tag{7}$$

If this derivative is negative, G's utility is maximized at $\alpha_0 = 0$. If this derivative is positive, G's maximum utility within this equilibria is at $\alpha_0 = max(\frac{k}{1-\rho}, \frac{1-\rho-k}{1-\rho})$.

A.8 Which violent equilibria is optimal for G?

Proposition 2. *If $1-r < \gamma < 1+r$ and G does not choose a value of α_0 that both strong groups prefer to rebellion, G chooses the value of α_0 most preferred by the favored group.*

G's optimal choice among equilibria that involve at least one group rebelling is to adopt an extreme policy of α_0, gaining maximum support from the politically favored group. I show this first for the case where S is the preferred group and then for the case where M is the preferred group.

A.8.1 When S is favored

If $\gamma < 1$, G's utilities for equilibria that involve militancy are:

$$U_G(\alpha_0^* | M_s + S_s \text{ militant}) = (1-\rho)^2(\frac{1-\rho-k}{1-\rho} + \frac{k}{1-\rho}\gamma) - (1-(1-\rho)^2)\delta \tag{8}$$

There are three cases to consider when calculating $U_G(\alpha_0^* | S_s \text{ militant})$. First, if $(1-\rho)(1-\gamma) -$

$\rho^2\gamma > 0$ and $\frac{1-\rho-k}{1-\rho} > \frac{k}{1-\rho}$:

$$U_G(\alpha_0^*|S_s \text{ militant}) = (1-\rho)(\frac{1-\rho-k}{1-\rho} + \frac{k}{1-\rho}\gamma) + \rho^2\frac{k}{1-\rho}\gamma - \rho\delta \tag{9}$$

Second, if $(1-\rho)(1-\gamma) - \rho^2\gamma > 0$ and $\frac{1-\rho-k}{1-\rho} < \frac{k}{1-\rho}$:

$$U_G(\alpha_0^*|S_s \text{ militant}) = (1-\rho)(\frac{k}{1-\rho} + \frac{1-\rho-k}{1-\rho}\gamma) + \rho^2\frac{1-\rho-k}{1-\rho}\gamma - \rho\delta \tag{10}$$

Third, if $(1-\rho)(1-\gamma) - \rho^2\gamma < 0$:

$$U_G(\alpha_0^*|S_s \text{ militant}) = (1-\rho)\gamma + \rho^2\gamma - \rho\delta \tag{11}$$

G's utility when only M_s is militant is:

$$U_G(\alpha_0^*|M_s \text{ militant}) = 1 - \rho + \rho^2 - \rho\delta \tag{12}$$

Because $\gamma < 1$, it is also true that $1 > \pi + (1-\pi)\gamma$ where $0 < \pi \leq 1$. In other words, a lottery that involves some probability of receiving a payoff of 1 and some probability of a payoff of γ is worth less than a certain payoff of 1. By inspection it is clear that $U_G(\alpha_0^*|M_s \text{ militant})$ is greater than $U_G(\alpha_0^*|M_s + S_s \text{ militant})$ and greater than $U_G(\alpha_0^*|S_s \text{ militant})$.

A.8.2 When M is favored

If $\gamma < 1$, G's utilities for equilibria that involve militancy are:

$$U_G(\alpha_0^*|M_s + S_s \text{ militant}) = (1-\rho)^2(\frac{k}{1-\rho} + \frac{1-\rho-k}{1-\rho}\gamma) - (1-(1-\rho)^2)\delta \tag{13}$$

There are three cases to consider when calculating $U_G(\alpha_0^*|S_s \text{ militant})$. First, if $(1-\rho)(1-\gamma) + \rho^2 < 0$ and $\frac{1-\rho-k}{1-\rho} > \frac{k}{1-\rho}$:

$$U_G(\alpha_0^*|M_s \text{ militant}) = (1-\rho)(\frac{k}{1-\rho} + \frac{1-\rho-k}{1-\rho}\gamma) + \rho^2\frac{k}{1-\rho} - \rho\delta \tag{14}$$

Second, if $(1-\rho)(1-\gamma)+\rho^2 < 0$ and $\frac{1-\rho-k}{1-\rho} < \frac{k}{1-\rho}$:

$$U_G(\alpha_0^*|M_s \text{ militant}) = (1-\rho)(\frac{1-\rho-k}{1-\rho} + \frac{k}{1-\rho}\gamma) + \rho^2\frac{1-\rho-k}{1-\rho} - \rho\delta \tag{15}$$

Third, if $(1-\rho)(1-\gamma)+\rho^2 > 0$:

$$U_G(\alpha_0^*|M_s \text{ militant}) = 1-\rho+\rho^2-\rho\delta \tag{16}$$

G's utility when only S_s is militant is:

$$U_G(\alpha_0^*|S_s \text{ militant}) = (1-\rho)\gamma+\rho^2\gamma-\rho\delta \tag{17}$$

Because $\gamma > 1$, it is also true that $1 < \pi + (1-\pi)\gamma$ where $0 < \pi \leq 1$. In other words, a lottery that involves some probability of receiving a payoff of 1 and some probability of a payoff of γ is worth more than a certain payoff of 1. Thus, $U_G(\alpha_0^*|S_s \text{ militant})$ is greater than $U_G(\alpha_0^*|M_s+S_s \text{ militant})$ and greater than $U_G(\alpha_0^*|M_s \text{ militant})$.

A.9 Will G settle the conflict?

Proposition 3. *Even when a settlement that prevents the strong type of each group from rebelling is feasible, G may choose a value of* α_0 *such that violence is possible in equilibrium.*

G may prefer a value of α_0 such that the strong type of the out-of-favor group becomes militant. I show this first for the case when S is favored and then for the case when M is favored.

A.9.1 When S is favored

When is $U_G(\alpha_0^*|M_s \text{ militant}) > U_G(\alpha_0^*|M_s+S_s \text{ not militant})$? The relevant inequality is:

$$
\begin{array}{ll}
1-\rho+\rho^2-\rho\delta & > \frac{k}{1-\rho}+\frac{1-\rho-k}{1-\rho}\gamma \\
1-\rho(1-\rho)-\rho\delta & > \frac{k}{1-\rho}+\frac{1-\rho-k}{1-\rho}\gamma \\
1-\rho(1-\rho)-\rho\delta-\frac{k}{1-\rho} & > \frac{1-\rho-k}{1-\rho}\gamma \\
\frac{1-\rho(1-\rho)-\rho\delta-\frac{k}{1-\rho}}{\frac{1-\rho-k}{1-\rho}} & > \gamma \\
\frac{1-\rho-\rho(1-\rho)^2-\rho(1-\rho)\delta-k}{1-\rho-k} & > \gamma \\
\frac{1-\rho-k-\rho(1-\rho)^2-\rho(1-\rho)\delta}{1-\rho-k} & > \gamma
\end{array}
$$

A.9.2 When M is favored

When is $U_G(\alpha_0^*|S_s \text{ militant}) > U_G(\alpha_0^*|M_s+S_s \text{ not militant})$? The relevant inequality is:

$$
\begin{array}{ll}
(1-\rho)\gamma+\rho^2\gamma-\rho\delta & > \frac{1-\rho-k}{1-\rho}+\frac{k}{1-\rho}\gamma \\
(1-\rho(1-\rho))\gamma & > \frac{1-\rho-k}{1-\rho}+\frac{k}{1-\rho}\gamma+\rho\delta \\
(1-\rho(1-\rho)-\frac{k}{1-\rho})\gamma & > \frac{1-\rho-k}{1-\rho}+\rho\delta \\
\gamma & > \frac{\frac{1-\rho-k}{1-\rho}+\rho\delta}{1-\rho(1-\rho)-\frac{k}{1-\rho}} \\
\gamma & > \frac{1-\rho-k+\rho(1-\rho)\delta}{1-\rho-\rho(1-\rho)^2-k} \\
\gamma & > \frac{1-\rho-k+\rho(1-\rho)\delta}{1-\rho-k-\rho(1-\rho)^2}
\end{array}
$$

B Separatism by ethnic groups: Supporting materials

This appendix provides additional analyses of the ethnic-group level dataset of separatist war analyzed in Section 4.

Table 13 displays the full regression results of the models used in the Vuong non-nested model tests reported in Table 4 in the main text.

Table 14 provides summary statistics for all variables introduced in this appendix.

Table 15 contains reestimates of the incidence of separatist war onset with additional control variables. To tap the government's reputational concerns, *No. potential separatists* is the number of territorially-concentrated ethnic groups—i.e., groups that are not solely urban, dispersed, or nomadic—that have never been in rebellion. *Crossborder coethnics* was coded as a one if GeoEPR implied that a group had politically-relevant coethnics in another country within 900 kilometers. I coded coethnicity using group descriptions in the EPR data and information in *Ethnologue* (Lewis, 2009). *Crossborder coethnics in power* indicates that one or more of the coethnic groups was in power. *Crossborder coethnic rebellion* indicates that one or more of these crossborder groups was fighting a civil war in their home country.

Models B1–B3 in Table 15 include the controls for potential separatists and crossborder coethnics in the base specification for separatist war onset (Model 1, Table 3). As in the main text, *Rival dominant*, *Rival advantaged*, and *Rival equal* are associated with more conflict; *Rival advantaged* and *Rival equal* are statistically significant. The estimated effect sizes are similar to those in Model 1, although the coefficient on *Rival advantaged* is somewhat diminished. These results support the hypotheses that groups privileged in the periphery are the least likely to rebel and groups moderately politically disadvantaged relative to their rivals in the periphery are the most likely to rebel.

Models B4–B6 (Table 16) explore the role of borders in separatist war. Model B4 includes *Ln distance to international border* in place of logged distance to the capital. This is the shortest

distance between the ethnic group's area of settlement and the country's international land border or coastline. In Model B5, *International border* is coded as a one for groups adjacent to an international border, including coastlines. Model B6 repeats the estimation of the basic model for separatist war onset (Model 1, Table 3) using only ethnic groups that are adjacent to an international border. In models B4–B6, the estimated effects and statistical significance of *Rival advantaged* and *Rival equal* are similar to the findings in the main text.

Model B7 (Table 16) adds a dummy variable based on the settlement pattern data provided by GeoEPR. I note the settlement pattern of each ethnic group: regionally concentrated; regionally concentrated and urban; or dispersed. The variable *Rivals possible migrants* is coded as a one if the rival group is regionally concentrated and urban or dispersed. In these cases, overlap with the main group is more likely to reflect prior migration. The results on the main variables of interest in Model B7 are somewhat stronger than than the results in the original specification.

Finally, Model B8 (Table 16) is a multinomial logistic regression of the onset of separatist war and non-separatist ethnic war. Rival political standings are not statistically significant predictors of non-separatist war and the variables have much smaller estimated effects. Thus, the political correlates of these two modes of war appear to be different. The paper's main results capture political dynamics unique to separatism.

Table 13: Vuong non-nested model tests of the explanatory power of periphery/periphery and center/periphery models of separatist war onset at the level of ethnic groups (see Section 4, Table 4)

	Periphery vs periphery model	Center vs periphery models		
Rival dominant	17***			
	(10)			
Rival advantaged	19***			
	(11)			
Rival equal	11***			
	(6.5)			
Inequality		1.4**		
		(0.17)		
Relative deprivation			1.4***	
			(0.13)	
Relative wealth			1.1	
			(0.13)	
Relative oil/gas wealth				2.1**
				(0.49)
Observations	23766	23766	23766	23766
Ln likelihood	-768	-794	-791	-792
Vuong statistic		2.48	2.53	2.30
p-value		0.013	0.011	0.022

Exponentiated coefficients; Standard errors in parentheses
$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 14: Summary statistics for variables introduced in Appendix B

	Mean	St. Dev.	Min	Max
Non-separatist war onset	0.0025	0.050	0	1
No. potential separatists	9.9	14	0	47
Crossborder coethnics	0.50	1.0	0	9
Crossborder coethnics in power	0.13	0.34	0	1
Crossborder coethnic rebellion	0.027	0.16	0	1
Ln distance to international border	0.50	1.4	0	6.7
International border	0.88	0.33	0	1
Rivals possible migrants	0.48	0.50	0	1
Observations	21470			

Table 15: Additional models of separatist war onset at the ethnic group level, 1946–2009: Cross-border coethnics

	Model B1	Model B2	Model B3
Rival dominant	5.8	5.7	5.8
	(6.3)	(6.2)	(6.4)
Rival advantaged	8.9*	8.7+	7.8+
	(9.8)	(9.7)	(8.6)
Rival equal	6.7+	6.6+	6.3+
	(7.1)	(7.0)	(6.7)
Group excluded at center	4.2***	4.1**	4.1**
	(1.8)	(1.7)	(1.8)
Regional autonomy	2.8**	3.0**	3.1**
	(1.0)	(1.1)	(1.2)
Difference group pop. shares sq.	0.46	0.45	0.42
	(0.40)	(0.40)	(0.37)
Ln distance to capital	1.3	1.3	1.3
	(0.25)	(0.25)	(0.25)
Anocracy	1.9+	1.9+	1.8+
	(0.64)	(0.61)	(0.58)
Democracy	1.2	1.2	1.3
	(0.62)	(0.62)	(0.63)
Ln group population ('000s)	0.97	0.97	0.95
	(0.073)	(0.078)	(0.072)
Ln country GDP per capita	1.1	1.1	1.1
	(0.16)	(0.15)	(0.15)
Ln country population ('000s)	1.4*	1.4+	1.4*
	(0.21)	(0.22)	(0.22)
No. potential separatists	0.95*	0.95*	0.95*
	(0.019)	(0.020)	(0.020)
Crossborder coethnics	0.84		
	(0.18)		
Crossborder coethnics in power		0.53	
		(0.27)	
Crossborder coethnic rebellion			2.0
			(1.1)
Peace year splines	Yes	Yes	Yes
Observations	21470	21470	21470
Ln likelihood	-548	-548	-548

Exponentiated coefficients; Standard errors in parentheses
Standard errors clustered by country
$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 16: Additional models of separatist war onset at the ethnic group level, 1946–2009: International borders, migration, and a multinomial model

					Model B8	
	Model B4	Model B5	Model B6	Model B7	Separatist	Non-separatist
Rival dominant	5.7	5.6	7.5^{+}	7.7^{+}	5.6	2.1
	(6.2)	(6.1)	(8.2)	(8.5)	(6.1)	(1.3)
Rival advantaged	8.1^{+}	8.2^{+}	9.0^{+}	11*	10*	1.6
	(8.9)	(9.1)	(10)	(12)	(12)	(1.0)
Rival equal	6.7^{+}	6.8^{+}	7.2^{+}	7.2^{+}	7.0^{+}	1.9
	(7.1)	(7.2)	(7.6)	(7.6)	(7.6)	(1.1)
Group excluded at center	4.5***	4.5***	3.7**	3.8***	4.5***	2.6*
	(1.8)	(1.9)	(1.6)	(1.5)	(2.0)	(1.1)
Regional autonomy	3.0**	3.0**	3.3**	3.0**	2.9**	0.89
	(1.1)	(1.1)	(1.2)	(1.1)	(1.1)	(0.63)
Difference group pop. shares sq.	0.43	0.45	0.44	0.48	0.63	0.42
	(0.38)	(0.39)	(0.40)	(0.42)	(0.56)	(0.30)
Ln distance to capital			1.3	1.2	1.3	1.2
			(0.25)	(0.24)	(0.26)	(0.18)
Anocracy	1.8^{+}	1.8^{+}	1.8^{+}	1.9^{+}	2.2*	1.2
	(0.58)	(0.58)	(0.55)	(0.62)	(0.89)	(0.40)
Democracy	1.1	1.1	0.90	1.5	1.9	0.066*
	(0.63)	(0.63)	(0.40)	(0.74)	(0.89)	(0.072)
Ln group population ('000s)	0.93	0.93	0.98	0.96	1.1	1.6**
	(0.067)	(0.067)	(0.084)	(0.080)	(0.088)	(0.27)
Ln country GDP per capita	1.1	1.1	1.0	1.1	1.2	0.84
	(0.16)	(0.16)	(0.15)	(0.16)	(0.18)	(0.16)
Ln country population ('000s)	1.6**	1.6**	1.4**	1.5*	1.1	0.50***
	(0.21)	(0.21)	(0.21)	(0.25)	(0.17)	(0.085)
No. potential separatists	0.95*	0.95*	0.95***	0.95**		
	(0.019)	(0.020)	(0.016)	(0.017)		
Ln distance to international border	0.95					
	(0.095)					
International border		0.99				
		(0.38)				
Rivals possible migrants				0.52^{+}		
				(0.18)		
Peace year splines	Yes	Yes	Yes	Yes	Yes	Yes
Observations	21470	21470	18841	21470	21470	
Ln likelihood	-551	-551	-472	-546	-882	

Exponentiated coefficients; Standard errors in parentheses
Standard errors clustered by country
$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

C Separatism in subnational administrative units: Supporting materials

This appendix provides supplemental materials for Section 5.

Table 17 reports the full models used in the non-nested model comparisons reported in Table 8 in the main text.

Table 18 gives summary statistics for all variables introduced in this appendix

Table 19 reports logistic regressions of separatism in subnational territorial units using additional control variables. *No. potential separatists* is the number of ethnic groups in a country that are (i) in the majority in at least one subnational unit and (ii) all of the subunits where the group is a majority are peaceful per the Cunningham and Weidmann data. The dummy variable *Crossborder coethnics* indicates that one or both ethnic groups in a subnational administrative unit had linguistic coethnics abroad. Crossborder coethnics were easily identified from the GREG data, which uses uniform language codes across countries. *Crossborder coethnics in power* indicates that at least one of these coethnic groups was included in power in another country, based on the GREG-to-EPR matching described in the main text. *Crossborder coethnic anti-state violence* indicates that at least one coethnic group abroad lived in an administrative unit where anti-state separatist violence took place.

In Models C1–C3, *Groups equal* and *One group advantaged* are associated with a statistically significant increase in the odds of separatist violence. Thus, the models are consistent with the hypothesis that high political inequality in a region makes separatist violence unlikely (H3). The differences between the estimated effects of *Groups equal* and *One group advantaged* are smaller than in Model 4 (Table 7) in the main text. In the model containing *Crossborder coethnic anti-state violence*, the estimated increase in conflict in the *Groups equal* category is actually larger than that in the *One group advantaged* category. Thus, only models C1 and C2 support the hypothesis that moderate political inequality is more conflictual than political equality (H5).

Models C4 and C5 include additional controls for border regions. Model C4 includes *Ln distance to international border* in place of distance to the capital. This is the shortest distance between the administrative unit and the country's international land border or coastline. In Model C5, *International border* is coded as a one for administrative units adjacent to an international border, including coastlines. Models C4 and C5 return results similar to those in the main text.

Model C6 uses relative population growth as a proxy for migration data. I used geo-spatial UN data on population for Latin America (Hyman, 2000) and Africa (Nelson, 2004) to calculate the rate of population change in countries and administrative units between 1960 and 1990. For administrative areas that grew faster than their country as a whole, *Above average population increase* is the difference between the percent change in an administrative area's population and the percent change in the country's population. For administrative areas that grew more slowly than their country as a whole, *Above average population increase* is zero. This proxy is clearly imperfect as a relatively high rate of population growth captures both migration and differences in fertility and mortality rates. However, crossnational, internal migration data for the 1990s is not available. Model C6 includes only 409 administrative units. In that sub-sample, after controlling for *Above average population increase*, *One group advantaged* and *Groups equal* are correlated with higher risk of separatist violence. The former is statistically significant. However, the unlikely point estimate on *One group advantaged*—a more than 100-fold increase in odds of violence—and the small sample size mean these results must be treated as very tentative.

Table 17: Vuong non-nested model tests of the explanatory power of periphery/periphery and center/periphery models of anti-state separatist violence in subnational administrative units (see Section 5, Table 8)

	Periphery vs periphery model	Center vs periphery models		
Groups equal	4.1***			
	(1.2)			
One group advantaged	3.0**			
	(0.98)			
Inequality		1.3		
		(0.48)		
Relative deprivation			1.1	
			(0.29)	
Relative wealth			1.0	
			(0.29)	
Relative oil abundance				1.2
				(0.32)
Observations	1745	1745	1745	1745
Ln likelihood	-264	-277	-277	-277
Vuong statistic		1.97	2.78	1.96
p-value		0.049	0.005	0.049

Exponentiated coefficients; Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 18: Summary statistics for variables introduced in Appendix C

	Mean	St. Dev.	Min	Max
No. potential separatists	3.9	3.9	0	18
Crossborder coethnics	0.93	0.25	0	1
Crossborder coethnic in power	0.17	0.38	0	1
Crossborder coethnic anti-state violence	0.074	0.26	0	1
Ln distance to international border	1.0	1.8	0	6.7
International border	0.74	0.44	0	1
Above average population increase (%)	4.3	7.7	0	46
Observations	2600			

Table 19: Additional models of the incidence of separatist anti-state violence in subnational administrative units between 1991 and 1999

	Model C1	Model C2	Model C3	Model C4	Model C5	Model C6
One group advantaged	3.8**	3.8**	5.5***	3.7**	3.7**	110*
	(1.8)	(1.8)	(2.7)	(1.8)	(1.8)	(250)
Groups equal	3.1*	3.0*	7.5***	3.3*	3.4*	18
	(1.5)	(1.5)	(4.3)	(1.7)	(1.7)	(35)
One or both excluded	1.5	1.5	1.2	1.7	1.7	3.2
	(0.84)	(0.77)	(0.84)	(0.89)	(0.89)	(6.1)
Regional autonomy	0.62	0.62	0.69	0.67	0.68	0.20*
	(0.36)	(0.36)	(0.37)	(0.38)	(0.37)	(0.14)
Difference group pop. shares sq.	0.23**	0.23**	0.25**	0.21**	0.21**	0.91
	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.86)
Ln distance to capital	1.5**	1.5**	1.4*			6.1***
	(0.21)	(0.21)	(0.23)			(2.7)
Anocracy	7.0+	6.9+	4.0	5.7+	5.7+	
	(7.3)	(7.3)	(3.8)	(5.3)	(5.3)	
Democracy	7.7+	7.5+	3.3	6.7+	6.7+	
	(8.5)	(8.6)	(2.5)	(7.1)	(7.0)	
Ln population ('000s)	1.2	1.2	1.4+	1.1	1.1	6.0***
	(0.22)	(0.22)	(0.28)	(0.19)	(0.19)	(2.1)
Ln country GDP per capita	0.16*	0.16*	0.12**	0.17*	0.17*	0.015***
	(0.12)	(0.12)	(0.079)	(0.12)	(0.12)	(0.019)
Ln country population ('000s)	2.0***	2.1***	2.0***	2.4***	2.3***	2.1
	(0.44)	(0.45)	(0.36)	(0.46)	(0.46)	(1.2)
No. potential separatists	0.81**	0.80**	0.80***	0.81**	0.81**	
	(0.062)	(0.067)	(0.044)	(0.064)	(0.065)	
Crossborder coethnics	1.0					
	(0.42)					
Crossborder coethnic in power		0.90				
		(0.68)				
Crossborder coethnic anti-state violence			43***			
			(25)			
Above average population increase (%)						1.1***
						(0.037)
Ln distance to international border				0.98		
				(0.083)		
International border					1.1	
					(0.37)	
Observations	2366	2366	2366	2366	2366	409
Ln likelihood	-250	-250	-202	-254	-254	-43

Exponentiated coefficients; Standard errors in parentheses
Standard errors clustered by country
$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

D Separatism in India: Supporting materials

This appendix contains supporting material for Section 6.

Table 20 gives a list of ethnic groups that have fought separatist wars in India and the years of these wars.

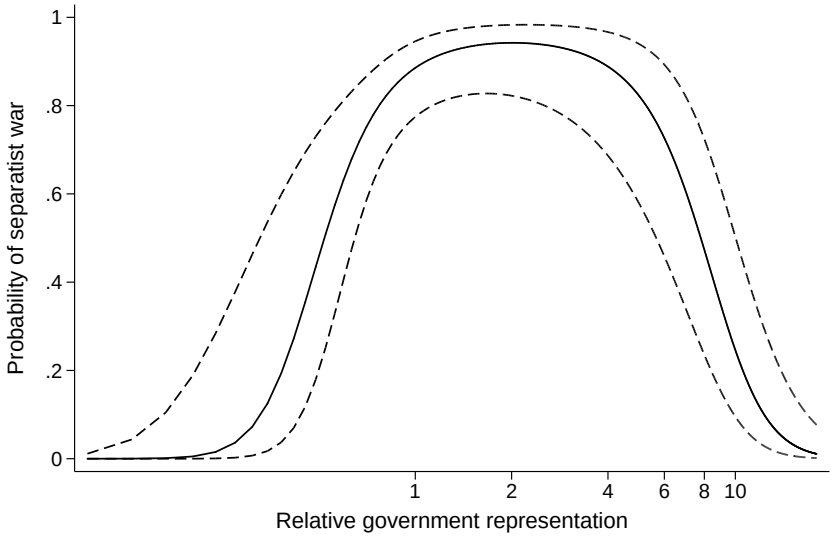
Table 21 contains the full models used in the non-nested model tests reported in Table 11.

Summary statistics for variables introduced in this appendix are in Table 22.

Table 23 adds additional control variables to the basic model for separatist war incidence in India in the main text (Model 7, Table 10). *No. potential separatists* is the number of border groups in the data that have not previously rebelled. I coded crossborder coethnics based on *Ethnologue* (Lewis, 2009). 85% of Indian border groups have crossborder coethnics, and all but one separatist group has crossborder coethnics. (The exception is the Dimasa.) Given the near-perfect correlation between rebellion and having crossborder coethnics, Model D1 re-estimates the correlates of separatism using only the subset of Indian border groups that also had crossborder coethnics. The coefficients on relative government representation and its squared term are statistically significant but somewhat attenuated compared to Model 7 in the main text. Figure 2 plots the predicted probability of conflict against relative government representation, based on Model D1 with control variables set to the mean or median of the data and peace years set to zero. (Note that the ticks on the x-axis give the unlogged values of relative government representation; the ticks are unevenly spaced to reflect log-scaling.) The inverted-U curve relationship found in the main text is still readily apparent. The maximum predicted probability of violence (94%) occurs at relative government representation of 2.0. At the 5th percentile of relative representation (0.095), the probability of rebellion is less than 0.001%; the probability of conflict at the 95th percentile of relative representation (18) is 1.1%.

Crossborder coethnics in power is a dummy variable indicating whether a group's crossborder coethnics were in power abroad. *Crossborder coethnic rebellion* indicates at least one crossbor-

Figure 2: Predicted probability of separatist war by Indian border-region ethnic group as a function of relative government representation (Based on Table 23, Model D1, plotted with 90% confidence intervals)



der coethnic was fighting a civil war. These variables were coded using EPR data from India's contiguous neighbors. The coefficients on relative representation in Model D2 are very close to those in Model 7 in the main text. The coefficients on relative representation in Model D3 are very close to those in Model D1 (plotted in Figure 2). In both models D2 and D3, relative government representation and its square are statistically significant correlates of separatist war.

Finally, Model D4 adds a dummy variable indicating whether a group's rival in the periphery migrated there during British rule of India (*Rival migrant*). This information is based on Grierson (1903). The coefficient estimates and statistical significance of relative government representation are similar to those in Model D1.

Table 20: Ethnic groups fighting separatist conflicts in India, 1950–2010

Ethnic group	Years of insurgency
Nagas	1956–68 1992–1997 2000 2005–07
Mizos	1966–68
Tripuri	1979–1988 1992–93 1995 1997–04 2006
Meitei	1982–88 1992–2000 2003–2009
Gurumukhti Punjabi	1983–93
Kashmiri	1989–2010
Bodo	1989–90 1993–2004 2009–2010
Assamese	1990–91 1994–2010
Kukis	1997
Dimasa	2008

Table 21: Vuong non-nested model tests of the explanatory power of periphery/periphery and center/periphery models of separatist war in India (see Section 6, Table 11)

	Periphery vs periphery model	Center vs periphery models		
Ln relative government representation	1.3			
	(0.20)			
Ln relative government representation sq.	0.49***			
	(0.066)			
Inequality (Literacy)		0.079***		
		(0.049)		
Relative underdevelopment			27***	
			(16)	
Relative development			4.1+	
			(3.1)	
Oil region				3.0***
				(0.57)
Mining region				0.71+
				(0.14)
Observations	2451	2451	2451	2451
Ln likelihood	-494	-518	-508	-513
Vuong statistic		3.20	1.97	2.80
p-value		0.001	0.049	0.005

Exponentiated coefficients; Standard errors in parentheses
$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 22: Summary statistics for variables introduced in Appendix D

	Mean	St. Dev.	Min	Max
No. potential separatists	37	4.7	29	43
Crossborder coethnics	0.85	0.35	0	1
Crossborder coethnics in power	0.22	0.41	0	1
Crossborder coethnic rebellion	0.017	0.13	0	1
Rival migrant	0.12	0.33	0	1
Observations	2451			

Table 23: Additional models of the incidence of separatist war by Indian border-region ethnic groups, 1950–2009

	Model D1	Model D2	Model D3	Model D4
Ln relative government representation	8.4^{+} (9.6)	11^{*} (12)	8.5^{+} (11)	8.8^{+} (11)
Ln relative government representation sq.	0.22^{**} (0.12)	0.17^{**} (0.096)	0.23^{*} (0.15)	0.21^{*} (0.13)
Ln group's government representation	1.0 (0.61)	1.1 (0.65)	1.00 (0.66)	1.0 (0.60)
Statehood	11^{**} (9.3)	14^{**} (12)	20^{***} (17)	12^{**} (11)
Difference group pop. shares sq.	13 (31)	16 (38)	11 (26)	13 (32)
Ln distance	4.8^{**} (2.3)	3.5^{*} (1.9)	4.5^{*} (2.7)	5.4^{***} (2.3)
Ln group population ('000s)	1.2 (0.32)	1.3 (0.35)	1.3 (0.34)	1.3 (0.36)
Ln country GDP per capita	2.7 (5.3)	1.1 (2.1)	6.0 (14)	1.9 (3.7)
Ln country population ('000s)	16000^{**} (53000)	32000^{**} (110000)	950^{+} (3700)	19000^{**} (61000)
No. potential separatists	2.0^{***} (0.19)	2.0^{***} (0.16)	1.9^{***} (0.16)	2.0^{***} (0.17)
Crossborder coethnics in power		0.28^{**} (0.13)		
Crossborder coethnic rebellion			11 (19)	
Rival migrant				1.0 (0.63)
Peace year splines	Yes	Yes	Yes	Yes
Observations	1384	1588	1588	1588
Ln likelihood	-56	-56	-55	-57

Exponentiated coefficients; Standard errors in parentheses

Standard errors clustered by ethnic group

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$