

One of These Things Is Not Like the Other: How Access to Power Affects Forms of Ethnopolitical Violence

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Abstract

While some continue to see ethnic conflict as entrenched and unavoidable, increasingly researchers are beginning to look at the impact of tangible (i.e. manipulable) structures upon ethnic violence. The present study examines how access to executive-level power affects two types of ethnic conflict launched against the state: those initiated by excluded groups, and those initiated by groups included within the central government. Using the Ethnic Power Relations country-year dataset, a series of rare events logit tests are conducted to provide insight into the drivers of global ethnic conflict between 1945 and 2010. The findings suggest that approaches to development and conflict prevention may achieve more mileage by considering the specific conditions of the subject country: an emphasis on economic development and power sharing in inclusive countries, and civil society promotion in those characterized by exclusion.

Introduction

The drivers of ethnic conflict have long been debated in the academic literature. Some schools of thought see such conflicts as the inevitable result of historical divides along ethnic, religious, linguistic, or cultural lines. Others claim particularist identities are irrelevant and argue that ethnic conflict stems from political opportunism within weak states. In such cases, ethnolinguistic and religious identities are argued to contribute only insofar as they are useful in mobilizing insurgents against the state. Those in the relative deprivation camp emphasize the role of discontent experienced by minority groups and attempt to delineate specific conditions that engender conflict. Fewer, however, have examined the impact of government inclusiveness on forms of ethnopolitical conflict.

While others have argued that exclusion from the polity increases the probability that insurgent groups will take up arms, few quantitative studies distinguish between the political statuses of the groups that initiate hostilities. Through the inclusion of new data and more robust statistical tests that better account for the relatively rare incident of conflict in an otherwise large data set, this research adds to the ongoing debate.

A clearer understanding of why certain groups engage in hostilities will be of interest to both academics and policymakers. Particularly, determining whether (1) excluded groups are more likely to rebel because they are excluded from the government, and (2) whether power sharers are more likely to engage in armed conflict in fragmented governments will provide practical insight into the prediction of future conflicts. Such knowledge will be of assistance in the development of preventative statecraft and in the programmatic design of NGOs seeking to promote regimes that are both stable and inclusive.

Does Ethnic Identity Matter?

Primordialism maintains that ethnic identity, as a deeply ingrained historical phenomenon, is the most important determinant of ethnic conflict. In this view, modernization increases the likelihood of rebellion by posing a challenge to the culture of minority groups (Gurr and Harff 1994).¹ Thus, the “Balkan ghosts” extending from the fourteenth century, the medieval caste system which subordinated Hutus to Tutsis in modern day Rwanda, and precolonial Somali clan rivalries are cited as primary causes of political violence for scholars in this camp (Jentleson 2004, 466). These scholars often cite degrees

¹ Examples of influential scholars adopting a primordialist perspective are David L. Horowitz, Anthony D. Smith, and Pierre L. van den Berghe.

of separation—such as cultural, linguistic, and religious differences—between ethnic groups as predictors of conflict (Huntington 1996).

The influence of primordialism often manifests in the quantitative literature as statistical control (or, less commonly, as primary explanatory) variables in the form of ethno-demographic measures. However, findings regarding the relative significance of such variables are inconclusive. For example, Fearon and Laitin (2003) and Sambanis (2001) found that ethnic fractionalization, measured as the likelihood of two randomly selected people speaking the same language, did not increase the probability of high intensity conflict when controlling for GDP per capita. Similarly, Mousseau (2001) found ethnic heterogeneity to have an insignificant impact on political violence when controlling for regime type. However, Esteban and Ray (2008) found highly polarized (based on a measure of intergroup antagonism) societies to be less prone to conflict overall, though more likely to experience high intensity conflict. Conversely, Mousseau (2001) found highly fractionalized societies to be more prone conflict generally, albeit to lower intensity conflict. Representative of quantitative studies emphasizing the role of religion, Fox (2003) found that while religion is not the primary cause of ethnic rebellion, it does impact the likelihood of rebellion and can significantly intensify pre-existing conflicts.

While the primordialist literature is both extensive and extant in contemporary debates, most current scholarship takes an instrumentalist or “purposive” view of ethnic identification. The instrumentalist perspective deemphasizes historical ethnonational disputes and the presumed rigidity of ethnic identities, and instead focuses on how ethnicity is used to mobilize insurgents, or to exacerbate existing divides (Jentleson 2004, 466). Within the academic literature, this broad perspective is divided among a number of competing theories regarding the particular function ethnicity plays in generating conflict. While some focus on the role of shared identities in uniting groups around grievances against the state,

others argue grievances are far less important than the structural conditions that contribute to the durability of regimes. Within this latter perspective, some posit nuanced structural arguments emphasizing regime type or government composition rather than socioeconomic and geography-based conceptions of state structure and strength.

Developing a Model

Having moved away from the deterministic perspective of ethnicity, a significant amount of research focuses on the specific conditions under which minority groups will mobilize against the state.

Advancing a relative deprivation hypothesis, Gurr and others (1970, 1993, 2000; Gurr and Moore 1997) posit that income inequality, economic modernization, regime repressiveness, and political and cultural discrimination against ethnic groups fosters grievances which in turn increase the likelihood that minority groups will rebel. This aggregate-psychological perspective blends with resource mobilization theory and rests fundamentally on the assumption that ethnic groups rebel when they are angry because of a perceived inequality, particularly when there are also practical and cultural conditions that support rebellion (Skocpol 1979; Tarrow 2011).

Since grievances are widespread and mass conflicts are proportionally rare, grievance-based approaches are often combined with resource mobilization theory. More fully addressing the practical and cultural support aspect, resource mobilization theory assumes variance in leadership, organization, and access to resources better explains why some groups rebel. Thus, scholars have studied settlement patterns that allow minorities to mobilize more effectively (Toft 2003), have analyzed international contexts supportive of mobilization (Olzak 2006), and have revised theories to account for mobilization capacity (Muller and Seligson 1987). However, such grievance-based mechanisms have been deemphasized in recent statistical examinations of civil war onset and other forms of

ethnopolitical violence. The increasingly common logic is that while ethnic grievances are widespread, the event of mass political violence is rare, and proxy measures of resource mobilization such as population density are insufficient in explaining the gap (Cederman, Wimmer, and Min 2010; Muller and Seligson 1987). Additionally, many view grievance-based hypotheses as failing to account for the capacity of the state, or for the fact that insurgents are rational actors (Sambanis 2001). Consequently, the case is often made that additional variables are needed to explain why some groups move from grievance to armed conflict and others do not.

Fearon and Laitin (1996; 2003) propose that conflict occurs when states are weak and that structural variables such as rough terrain, a diminished central government, and support from outside states increase the likelihood of conflict. Their insurgency model measures the strength of the central government through proxy variables such as GDP per capita, the age of the state, the size of the population, and whether the state is an oil exporter. With the exception of population size, Fearon and Laitin (2003) find all of these variables positively associated with the strength of the state. In contrast, population size is theorized as negatively correlated with state strength and found to be a significant predictor of conflict. While Fearon and Laitin do not argue that ethnicity is irrelevant, they claim it is a relatively unimportant driver of ethnic conflict. However, Fearon and Laitin do leave space for further examination of how ethnicity contributes to preference formation on the part of the state and competing groups.

The idea of preference formation turns on the notion that politicized ethnicity functions like an intense version of an interest group. This conceptualization of ethnicity is based on Rabushka and Shepsle (1972), who argued that framing ethnic identity in such a way would lead to escalating policy and ethnic 'outbidding' wars that would ultimately leave ethnic groups unwilling to share power with one another under a democratic system. While their conception

shares the fatalistic tones of primordialism, it underscores the importance of how ethnic groups interact with one another in the polity, which is an emphasis the scholarship on ethnic violence has increasingly adopted.

The understanding that ethnicity—typically defined broadly as identification along the lines of shared cultural, linguistic, or religious markers—becomes particularly relevant in the political sphere has led some scholars of ethnopolitical violence to focus on state structure. For example, research on political violence has long argued that democratic regimes are less likely to experience conflict because non-violent means of dissent are more readily available. In support of this, Scarritt, McMillan, and Mozaffar (2001) found that while conflict is less likely in democratic societies, other forms of dissent such as protests are more likely. Similar to the democratic regime theory, though based on a different operative logic, autocratic regimes are frequently hypothesized to be less conflict prone.

Most theories relevant to ethnopolitical violence support this view on the basis that an autocratic regime disincentivizes armed rebellion through its greater capacity to repress or co-opt its population (Mousseau 2001; Muller and Seligson 1987; Scarritt, McMillan, and Mozaffar 2001). Thus, many studies of political violence include an “anocracy” dummy variable to control for regime type.² Those who focus on the influence of state structure upon political violence, however, have incorporated increasingly nuanced measures of regime type, frequently (though far from exclusively) as an element of the dependent variables of the study.

Many recent studies in this vein ground their analysis in the theory of Charles Tilly (1978) and other political conflict theorists. Countering arguments that diversity leads to more conflict, Tilly and others in this camp argued simple demographics were insufficient to

² That is, a government characterized by a mixed or confused system, falling somewhere between autocracy and democracy

measure potential conflict. What really mattered were the structural conditions of the ruling elite. Tilly's polity approach considered the structure of the state and the relationships between rulers, insiders, and outsiders. Born in opposition to relative deprivation and resource mobilization theories, the polity model acknowledges that frustration and resources are both important, but asserts that the state still may retain the ability to repress dissent by making the costs too high (Tarrow 2011). Violence in this conception is a "by-product" of the more important claims made against the government on the part of power-seeking groups engaged in competition with one another (Skocpol 1979).

Wimmer, Cederman, and Min (2009a) use a Tilly-based polity model to measure the determinants of the onset of ethnic conflict and find more conflict prone states to be those with three particular configurations of power: ethnocracies (rather than simply ethnically diverse states), states in which a large number of ethnic elites share power, and states with a history of authoritarian rule. Similarly, Asal, Early, and Schulzke (2015) find that political exclusion and/or repression of ethnic minority organizations (EMOs) in Eastern Europe on the part of governments increases the likelihood that an EMO will form a militia.

Additionally, other researchers conducting global studies using groups rather than countries as the unit of analysis have found similar results. Using a five-category regime measure based on Tilly's polity model, Goldstone et al. (2009), for example, found political structure to be the most important predictor of multiple forms of ethnic violence. Thus, while many researchers have identified the importance of state structure, few have incorporated such a measure into the dependent variable in order to understand more directly the link between inclusion and conflict. The following section provides a brief overview of how quantitative studies have tested theories related to ethnopolitical violence before proposing the hypotheses of the current study.

Past Approaches and Present Hypotheses

Methods vary across studies examining how state structure impacts ethnopolitical conflict. Particularly because the event of conflict is rare, most studies employ large data sets that cover several decades and use either group-year or country-year as the unit of analysis. Since these data sets are cross-sectional—time-series, some such as Gurr (2000) have employed time series to measure the risk of conflict onset. Others, such as Box-Steffensmeier, Reiter, and Zorn (2003) have used event history analysis to study the duration of varied forms of conflicts. However, the more common approach is to use logistic regression. Wimmer, Cederman, and Min (2009a) and Fearon and Laitin (2003) have used multinomial logistic regression to measure the onset of hostilities according to the forms of conflict. Goldstone et al. (2009) have used a case-control-method employing conditional logistic regression to estimate the effects of the independent variables conditioned on inclusion in clusters of matched samples. Others (e.g. Wimmer, Cederman, and Min 2010; Wimmer and Min 2006) have employed a series of binary logistic regressions to measure the onset of conflict initiated by particular groups.³

Additionally, while some studies have used rare events logit (developed by King and Zeng 2001) as a robustness check, most have reported probability estimates based on standard binary logistic regression. That is, a number of studies (e.g. Wimmer, Cederman, and Min 2010; Wimmer and Min 2006) have accounted for the rarity of conflict in large data sets when determining the significance of variables. However, most do not maintain that statistical control when computing probability estimates, a problem identified by King

³ Logistic regression remains the dominant approach to measuring the onset of conflict within cross-sectional—time-series data sets, despite unresolved issues of temporal dependence between observations.

and Zeng (2001).

The present study seeks to add to the growing literature that analyzes the onset of conflict according to the groups that initiate hostilities. Particularly, it seeks to determine the relative importance of a series of independent variables within two models that employ distinct binary dependent variables: a) onset of conflict initiated by groups excluded from the central government, and b) onset of conflict initiated by groups from within the central government. Furthermore, it employs statistically rigorous means to estimate the probabilities of each of the significant variables.

The first model, borrowing language from Wimmer, Cederman, and Min (2009a), is termed the *rebellion* model. It is based on the hypothesis (**H₁**) that countries characterized by large shares of ethnopolitical groups excluded from the polity will be more likely to experience armed conflict initiated on the part of excluded groups. The second model is termed the *infighting* model, and is based on the hypothesis (**H₂**) that rebellion by included groups is more likely when the polity is shared among a large number of political groups engaged in competition with one another. While the first hypothesis operates on the assumption that exclusion breeds radicalization, the second adopts a merged structural/political-opportunity approach, suggesting that more fragmented polities will be more likely to experience conflict, particularly under certain conditions.

Data and Variables

The present study draws upon the country-year Version 3.0 of the Ethnic Power Relations dataset (Wimmer, Cederman, and Min 2009a). The dataset was constructed through expert surveys seeking to identify the varying degrees of exclusion and political participation of ethnic groups worldwide, and contains annual data on 758 politically relevant ethnic groups for the years 1945 to 2010.⁴

⁴The advantage of expert survey data, particularly in a study seeking to identify ethnic representatives in government, is the greater

In categorizing ethnic groups, ethnicity is defined in the broad, Weberian sense as “a subjectively experienced sense of commonality based on a belief in common ancestry and shared culture” (Wimmer, Cederman, and Min 2009b, 1). Thus, because a number of characteristics may induce such a sense of commonality, the definition of ethnicity used in coding groups incorporates language, religion, and physical characteristics.⁵ Ethnic groups are considered politically relevant if they meet one of two criteria: 1) represented nationally by at least one political organization active in national politics or 2) the ethnic community is directly and systematically discriminated against in public politics through exclusion. Wimmer, Cederman, and Min’s (2009b) coding of political relevance mirrors that of the Minorities at Risk dataset, but expands the number of groups by including majority as well as minority groups.

Dependent Variables

The present study employs two binary dependent variables, each of which corresponds to a particular hypothesis. The first, *rebellion* (H_1), codes as 1 the onset of ethnic conflict initiated by ethno-political groups excluded from the central government. Nonevents, or the absence of conflict, as well as conflicts initiated by included groups are coded as 0. The second dependent variable, *infighting* (H_2), codes as 1 the onset of conflict initiated by groups that were included in the central government and codes all nonevents and conflicts initiated by

flexibility to distinguish substantive representation from token representation in government. The disadvantage, however, is the lack of precise parameters applied to the coding of groups and group status.

⁵ More information on the understanding of ethnicity behind the EPR dataset is provided by Wimmer (2008).

non-included groups as 0.⁶ Inclusion is defined as having access to executive-level power, whether in the presidency, cabinet, or in senior administrative posts (including the army). Exclusion is determined as a simple negative, that is, the lack of access to central power. In classifying groups as included or excluded, the coders who constructed the data set emphasized simple access to power rather than the degree of representation relative to the size of the ethnic group in question.

In coding onset of conflict, the present study also employs a lower threshold of conflict than the typified 1,000 total deaths and 100 or more annual battlefield death threshold employed by most studies of civil war (e.g. Fearon and Laitin 2003; Goldstone et al. 2009; Sambanis 2001). Recognizing that excluded groups and included groups within fragmented polities often face difficulties in mobilizing resources, a lower annual battlefield death threshold provides more data on conflicts and remains significant for testing the primary hypotheses of this study.

Using the low-intensity onset variable within the EPR dataset, which is based on the UCDP/PRIO Armed Conflicts Data Set (ACD), conflict is defined as “any armed and organized confrontation between government troops and rebel organizations, or between army factions, that reaches an annual battle-death threshold of 25 people” (Wimmer, Cederman, and Min 2009b, 1). This annual death threshold is a common measure in studies of ethnic conflict and is frequently characterized as “low-intensity” civil

⁶ This was achieved by recoding the disaggregated ethnic conflict variable in the original dataset in order to create two dichotomous variables which contained as positive events only conflicts initiated by excluded and included groups. This allows for the more robust rare events binary logistic regression to be employed rather than the multinomial logistic regression used by Wimmer, Cederman, and Min (2009a).

war. This coding scheme is consistent across the dependent variables. Similarly, the independent variables explained below are common to both models, and a primary variable in the *rebellion* model simply becomes a control in the *infighting* model.

Primary Independent Variables

The primary independent variable in the *rebellion* model is the *size of excluded population*, which is expected to have a positive impact on the likelihood of rebellion. The excluded population variable is coded as the natural log of the share of the excluded population relative to the total ethnopolitically relevant population. Representing a standardized degree of exclusion, the excluded variable ranges from 0 to approximately 4.6. Similar to Wimmer, Cederman, and Min (2009a), the variable is logged to account for the greater effects of exclusion on likelihood of conflict at lower levels of exclusion.

Additionally, a *size of the largest excluded group* variable, which ranges from 0 to 0.98 as a percent of the population, is included to control for the size of the largest excluded group. However, it is expected that because of the wide variance across countries in group size as a percent of population⁷, a standardized measure that compares the proportion of those excluded along ethnic lines to the entire ethnopolitical population will more accurately capture the phenomenon of ethnic exclusion. Since the excluded population variable focuses solely on the ethnopolitically relevant population, rather than an ethnic population in comparison with the general population, it is also theoretically consistent.

⁷ Within the data set, 50% of countries have a value of less than 0.035, 75% countries are less than 0.14, and 95% of countries exclude less than 58 percent of the population, yet the variable extends to .98 and has a skewness of 2.4. In contrast, the share of the excluded population variable has a skewness of only 0.15.

The *number of included groups* variable varies from 1 to 14 and measures the number of ethnic groups that share power in the central government.⁸ As the primary independent variable in the *infighting* model, it is hypothesized that the number of power sharing groups will positively impact the likelihood of infighting as the polity becomes increasingly fragmented.

Control Variables

A number of control variables standard in the literature on ethnopolitical violence are also included. The present study improves upon the oil production measure used in Wimmer, Cederman, and Min (2009a) by generating a logged oil production variable, lagged one year, that corrects the highly skewed distribution in the original variable.⁹ Ross (2004) has argued the presence of oil increases the likelihood a country will experience conflict. While autocratic bargaining based theories (similar to Fearon and Laitin's emphasis on state strength) suggest oil increases the capacity of a state to repress or co-opt its citizens, opportunist theorists would suggest high oil wealth increases the incentives of rebel groups to capture the state and its associated resources. It is hypothesized that while oil-rich regions may be more prone to conflict over long periods of time, controlling directly for exclusion along ethnic lines will reduce the significance of oil upon the risk of conflict.

⁸ In the model, only India has more than 8 groups, with each observation coded at 13 or 14 included groups. Therefore, the findings section will present computed probabilities with India both included and excluded in the number of groups variable, and will include several robustness checks.

⁹ The original oil production variable had a skewness of 13.4, and 51% of its values were zero with 99% of the values below 46.2 and a maximum value of 270.9. The logged version has a skewness of 0.86 and a range from -10.5 to 5.6.

Similarly, GDP per capita is recoded as a logged variable to correct for skewness in the original variable,¹⁰ and is expected to reduce the likelihood of conflict. Theoretical justification could come from economic modernization arguments that argue that higher GDP per capita increases the education, level of interaction with diverse groups, or civil society of a country. However, since the present study lags GDP per capita by only one year, the negative effect of a country's wealth on the onset of conflict is expected to be a function of the relative capacity of a state, similar to Fearon and Laitin's (2003) weak state hypothesis.

The size of the population is also included as a natural log and lagged by a year to account for effects a larger population may have on mobilization (Jazayeri 2015). Larger populations are expected to increase the probability of conflict due to the greater opportunity of dissident groups forming, similar to what resource mobilization theories would suggest. Additionally, it is expected that governments have greater difficulty controlling larger populations and such might provide rebel groups with a greater incentive to act (Fearon and Laitin 2003).

To account for primordialist arguments, the standard ethnic-diversity proxy variable of linguistic fractionalization, based on the Soviet Atlas, is included in each model. Linguistic fractionalization calculates the likelihood that two randomly selected citizens would speak different languages. Similar to Esteban and Ray (2008), who find fractionalization to have a positive effect on conflict, it is hypothesized that the variable will be significant in the case of *rebellion* when exclusion and ethnic tension is theorized to be highly significant. However, in the case of *infighting*, it is expected that ethnic rivalries will play a lesser role in the onset of conflict. Since exclusion is no longer the assumed driver of conflict, ethnic tensions are expected to become more operational within the polity, thus

¹⁰ An original skewness of 58.5 is corrected to 0.089.

rendering the linguistic fractionalization variable insignificant when controlling for the number of included groups. Also included as a control is a measure of mountainous terrain adopted from Fearon and Laitin's (2003) data set. While their insurgency—weak-state model hypothesizes that mountainous terrain facilitates conflict by providing insurgent groups with a place to hide, it is expected that geographic features will lose significance when controlling for political status.

The colonial past variable is measured as the percentage of years a state has experienced imperial rule between 1816 and independence, and is expected to be particularly important in those cases when conflict is initiated by groups within the polity.¹¹ A measure of regime type is also included as a control. Based on Polity IV scores, the anocracy dummy variable is lagged one year and included to control for regime type. While many previous studies (Mousseau 2001; Muller and Seligson 1987; Scarritt, McMillan, and Mozaffar 2001) have found anocracies to be more susceptible to conflict, it is expected that controlling for the more nuanced measure of the political status of the groups within the polity will render this measure of regime type insignificant. The regime change variable is included as a dummy variable which is coded as one if a country experiences a change in the Polity IV score of 3 or more points within the past three years. Those such as Fearon and Laitin (2003) who use an insurgency model of conflict that emphasizes the increased likelihood of conflict in weak states have found regime

¹¹ A territory is classified as being under colonial rule for all years in which it was a dependency of an empire, including communist empires and the core territories of land-based empires (e.g. Turkey under the Ottomans), but not the main territories of noncontiguous empires such as Spain or Portugal.

change to be a significant predictor of conflict.¹² However, since the present study employs a lower-intensity conflict threshold and includes theoretically more relevant predictors of specific forms of conflict, regime change is not expected to have a significant impact in either model.

Since the present study measures the onset of conflict, a dummy variable is included to drop ongoing conflicts by including them as missing. Additionally, the study controls for potential time trends by including a variable that measures the number of peace years since the last onset of conflict as well as a series of cubic splines on the number of peace years similar to Wimmer, Cederman, and Min (2009a). Beck, Katz, and Tucker (2003) recommend this as a strategy for avoiding a violation of the interdependence assumption of ordinary logit or probit when using a binary dependent variable with a time-series—cross-sectional data set, and the practice has become increasingly common in the IR literature. However, it is important to note that there remains debate within the statistical literature on how to address time trends in logistic regressions conducted using cross-sectional—time-series data sets.¹³ Given past

¹² While two-way causality is plausible, the likelihood of this is significantly reduced when exclusively studying onset of conflict and limiting the regime change variable to the past three years. Also, since the conflict threshold is of relatively low-intensity at only 25 annual deaths, questions of directionality are largely mitigated.

¹³ Beck, Katz, and Tucker (2003) argue that time-series cross-sectional data utilizing a binary dependent variable is grouped duration data and a degree of temporal dependence does not necessarily bias the estimation results. They demonstrate that including temporal dummy variables or a temporal spline within the logit specification controls for temporal dependence. As the more parsimonious model, the present study uses a temporal spline on peace years.

studies and the existing literature, the proposed method is theorized to provide the most accurate results.

Model

The present study employs a *rebellion* and *infigthing* model of rare events binary logistic regression to determine the relative influence of a series of variables on the onset of armed rebellion against the state initiated by ethnic groups. The *rebellion* model tests the effects of the size of the excluded population on the onset of conflict initiated by groups excluded from the central government. The *infigthing* model measures the effects of the number of groups included within the central government for its effects on ethnic conflict initiated by groups within the central government. Each model utilizes robust standard errors and contains 7,630 observations clustered by 157 countries.

Table 1 provides descriptive statistics that reveal the rarity of conflict within the data set. It is also important to note the greater prevalence of rebellion, which comprises about 80 percent of all instances of conflict. Addressing the overall rarity of conflict, rare events binary logistic regression controls for bias in the logit coefficients that is the result of far fewer ones (the event of conflict) in the dependent variables than zeros (“nonevents,” i.e. the absence of conflict) by accounting for the fact that ones provide more statistically relevant information than zeros (King and Zeng 2001; Tomz, King, and Zeng 2003).¹⁴ By employing rare events logit in both significance testing and in computing the relative strength of the

¹⁴ King and Zeng (2001) argue that in the case of rare events data, biases in probability estimates often result substantive underestimation of event probabilities, and that normal methods of computing probability in logit analysis are problematic given finite (albeit large) samples. Thus, the present study uses Stata software developed to improve the computation of probability estimates.

variables, the model provides statistically rigorous findings, which are discussed in the subsequent section.

Table 1: Onset of War by Group Status

	<u>Freq.</u>	<u>Percent</u>	<u>Cum.</u>
No conflict (0)	7,786	98.46	98.46
Infighting (model 2)	24	0.3	98.76
Rebellion (model 1)	98	1.24	100
Total	7,908	100	

Results

Table 2 displays the results of the dichotomous onsets of rebellion and infighting regressed logistically on each of the 16 independent variables.¹⁵ Panel I of Table 2 demonstrates support for the hypothesis (H_1) that states characterized by large shares of ethnopolitical groups excluded from the polity will be more likely to experience rebellion. Similarly, panels II and III of Table 2 demonstrate support for the hypothesis (H_2) that infighting is more likely when the polity is shared among a large number of political groups engaged in competition with one another. Also as expected, while the share of the excluded population is a highly significant predictor of conflict in the *rebellion* model, it loses significance in the *infighting* model. Similarly, the number of included groups is significant only in the *infighting* model as the proposed theory would suggest.

¹⁵ While the time controls (i.e. the 3 cubic splines and number of peace years variables) show the presence of high multicollinearity, this is a theoretical concern and expected as each is a function of the other. Omitting the time controls, all VIF scores are less than 1.74, demonstrating that no serious multicollinearity is present where unintended.

Table 2: Onset Of Ethnic Conflict By Group Status⁺

	Rebellion	Infighting India included	Infighting India excluded
Ln(excluded population)	0.68*** (0.14)	-0.09 (0.27)	-0.06 (0.27)
Size of largest excluded group	-1.45 (0.87)	-1.76 (2.75)	-1.81 (3.08)
# of included groups	0.08 (0.05)	0.26*** (0.06)	0.24** (0.09)
Ln(Oil production per capita, lag)	0.09 (0.03)	0.14 (0.03)	0.09 (0.09)
Ln(GDP per capita, lag)	-0.08* (0.03)	-0.13* (0.07)	-0.52* (0.20)
Ln(size of population, lag)	0.32*** (0.09)	-0.36** (0.12)	-0.45** (0.17)
Linguistic fractionalization	1.42** (0.49)	1.47 (1.12)	1.76 (1.11)
Ln(mountainous terrain)	0.07 (0.11)	0.44* (0.19)	0.42* (0.19)
% of years of colonial past	0.08 (0.46)	2.76* (1.14)	2.80* (1.26)
Anocracy, lag	0.37 (0.23)	0.44 (0.40)	0.52 (0.44)
Regime change in last 3 years	0.16 (0.29)	0.11 (0.59)	0.12 (0.61)
Ongoing war drop variable	0.07 (0.67)	0.61 (0.97)	0.32 (0.95)
Number of peace years since last conflict	0.13 (0.26)	0.21 (0.34)	0.20 (0.33)
Constant	-9.96*** (1.17)	-6.52*** (1.78)	-5.40* (2.19)
N	7630	7630	7570

*p < .05, ** p < .01, *** p < .001, for a two-tailed test

Additionally, the primary independent variables in each model remain highly significant across multiple specifications of both models, and in the case of rebellion, the excluded population is the single strongest predictor of conflict (see Tables 3 and 4).

Table 3. Factor Increase in the Relative Risk of Significant Variables in the *Rebellion Model*¹⁶

Size of excluded pop. (+)	16.1
GDP per capita, lagged (-)	0.02
Size of pop., lagged (+)	13.96
Linguistic fractionalization (+)	0.01

In the case of infighting, however, while the number of included groups remains significant and influential in multiple models, removing outlying cases in the number of groups variable significantly reduces the relative strength of the variable (see Table 4).¹⁷ A further discussion of the relative

¹⁶ $Pr(Y = 1|X = max) / Pr(Y = 1|X = min)$

¹⁷ Robustness checks for several specifications of the model reveal no substantive changes. An exception, however, involves treatment of outlying cases in the *infighting* model (panel III of Table 2). Since the logit coefficients of some of the variables changes more than a couple decimal points, Table 4 includes the relative risk of significant variables when excluding India in parentheses (moving from maximum to minimum values, while all other variables are held at their means). Further analysis of the computed probabilities of the primary independent variable is provided in Figures 1 and 2.

influence of significant variables will follow the discussion of significance below.

Table 4. Factor increase in the relative risk of significant variables in the *infigting* model (India excluded)

# of included groups (+)	50.9 (7.1)
GDP per capita, lagged (-)	0.00 (12.0)
Size of pop., lagged (-)	0.03 (0.02)
Mountainous terrain (+)	6.5 (6.6)
% yrs of a colonial past (+)	13.07 (17.2)

That imperial past becomes both significant and a strong predictor of conflict (see Table 4) in the infighting model suggests something of the dynamics of competitive power sharing.¹⁸ The literature on how colonialism has shaped national politics in former imperial territories is extensive, and a number of researchers have linked an imperial past to an increased likelihood of experiencing political violence such as coups and civil war.

¹⁸ The imperial past variable remains significant across a number of specifications of the model, including those which drop India, a country with a mean of 13.5 for number of power sharing groups, and a mean of 81.8% for number of years spent under colonial rule.

That it is significant in the infighting model suggests that in such cases the relationships between power sharing groups are particularly important predictors of conflict. A lack of shared democratic norms coupled with a fragmented polity promotes illiberal strategies for gaining relative political advantages. Additionally, when India is dropped from the model (see Table 4), imperial past becomes the single most influential variable in the model, while the number of power sharing groups drops significantly in its relative impact on the likelihood of conflict (see Figures 1 and 2).

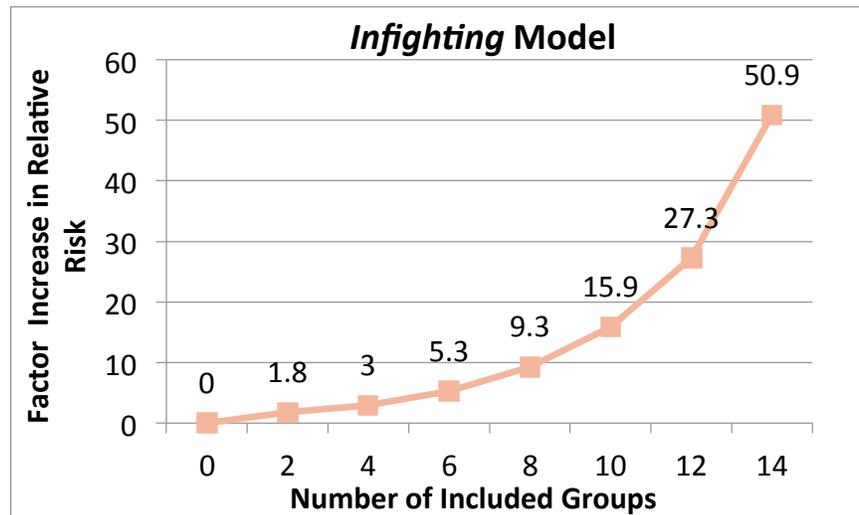


Figure 1. Incremental increase in the relative risk of onset of conflict by included groups given the number of groups included in the polity, all other variables held at their means. India included.

India has a particularly strong influence on the number of included groups variable because it is the only country in the data set with more than 8 groups, and all observations of India include 13 or 14 groups included within the polity. Thus, dropping India brings the range of the number of groups variable from 1-14 to 1-8.

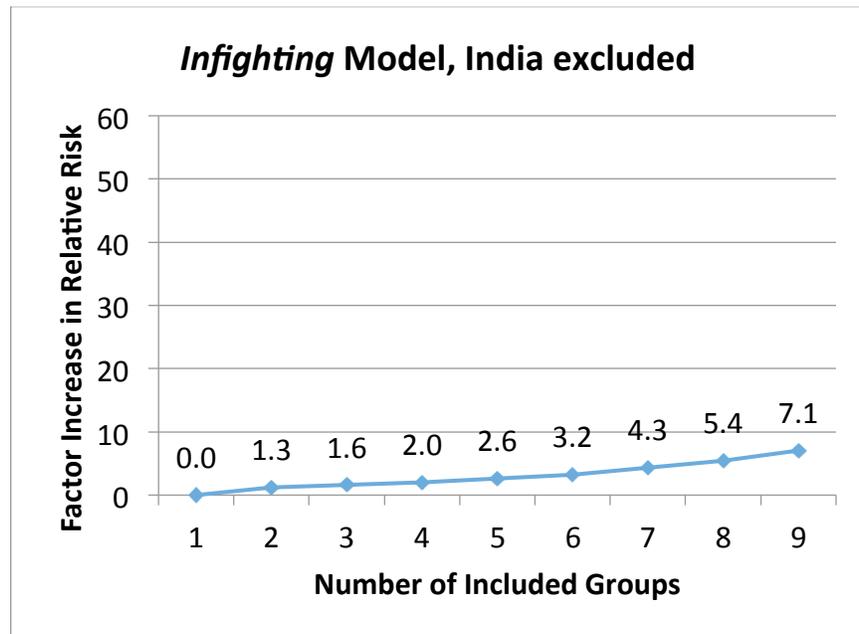


Figure 2. Incremental increase in the relative risk of the onset of conflict by included groups given the number of groups included in the polity, all other variables held at their means. *India excluded.*

As well, GDP per capita has a much greater negative effect on conflict when India is dropped, suggesting further support for the hypothesis that incentives to take up arms are reduced when leaders are governing a state with strong economic assets. The negative

impact of coups on a country's GDP is well documented, and would-be leaders may prefer to share strong assets than preside unchallenged over a deteriorating economy.

However, it is perhaps more likely the case that well-functioning economies suggest a propensity for better government, as the democratization literature suggests. In such cases, it may be that economic interests supersede the desire to consolidate power. That is, poorer countries which had long been under colonial rule are also less likely to have a long history of effective democratic self-governance, whereas richer countries are more likely to have established effective governmental regulation over the private sector through functional relationships among diverse political actors.

Figures 1 and 2 reveal the influence India has on the overall findings of the *infigthing* model. Omitting India from the infigthing model significantly reduces the relative influence of the number of groups on the predicted onset of conflict. However, since the Indian polity is highly fragmented, displaying no less than 13 groups for each observation, it does provide information congruent with the theoretical and observed relationship between the number of groups competing for power and the likelihood of conflict. That is, as the number of groups competing for power increases, the probability of conflict increases exponentially. In contrast, the increase in the likelihood of conflict moving from the minimum to maximum values of the excluded population variable (see Figure 3) provides nearly identical results when accounting for outlying cases.¹⁹

¹⁹ In order to test for influential outliers in the rebellion model, standard onset of conflict by excluded groups is regressed logistically on each of the independent variables in order to graph the standardized residuals against the excluded population variable. Delta-Beta influence statistic is then used to determine that Lebanon is the only influential outlier in the primary dependent variable. Dropping Lebanon from the rare events logit model and recalculating

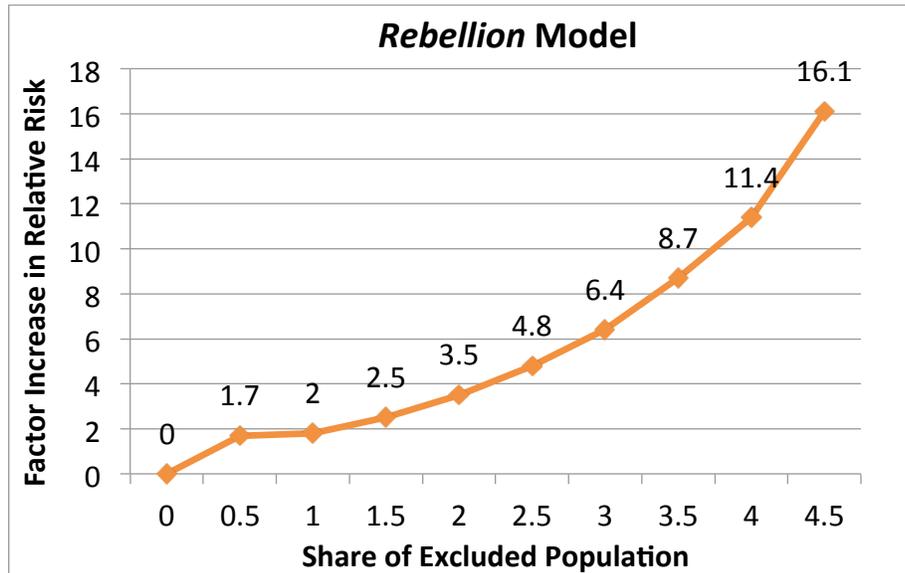


Figure 3. Incremental increase in the relative risk of onset of conflict by excluded groups given the share of the excluded population, all other variables held at their means

Policy Implications

Overwhelmingly, the most common type of ethnic conflict against the state observed in the past six decades is rebellion, which represents 80% of all ethnic conflicts in the data set employed for

the relative risk results in a less than 2 percent change in the likelihood of conflict when moving from the minimum to maximum values of the excluded population variable when all other variables are held at their means. Additionally, all variables retain their significance levels as computed in the rare events logit including Lebanon.

this study. This form of conflict occurs when a large portion of ethnic, religious, linguistic, or cultural groups are denied participation in government. While the size of the general population is also a significant predictor of conflict, it is a structural variable unamenable to strategies constructed to reduce instability. However, it is possible that when large excluded populations are more or less geographically separated—such as in Israel or Syria—partitioning the state may reduce instances of conflict.

Additionally, while GDP per capita has a negative effect on rebellion, its effects are quite small. Similarly, linguistic diversity increases the likelihood of conflict only by the smallest margins. Thus, the conclusions for policy makers should be that the exclusion of ethnic groups is a primary factor contributing to domestic instability and that even non-democratic regimes should attempt to include a number of ethnic groups within the polity. Inclusion within the central government likely acts as a pressure valve for the discontent of groups that would otherwise resort to violent means. Thus, the promotion of more inclusive governments worldwide may reduce instances of conflict.

While it may seem contradictory that both exclusion and high degrees of inclusion result in an increased likelihood of conflict, it is important to recognize a number of points. First, overall, ethnic groups are much less likely to take up arms when included in the central government. Second, other factors become more important when the form of conflict is initiated by included groups. While fragmentation of the polity due to many groups competing for power is important, the relationship between the groups in power and a country's economy become more important for determining a state's susceptibility to armed conflict. Poor countries with a short history of self-governance are much more prone to conflict than those which have established norms of governance and are possessive of robust economies. Thus, a global strategy for reducing instances of conflict should pursue two key objectives: (1) the promotion of inclusive

governments that emphasize democratic norms, and (2) the economic development of the country as a whole.

Both the democratization literature and the global shift since the 1990s in the number of public, private, and non-profit/non-governmental actors engaged in conflict reduction strategies support the robustness of these conclusions. These findings can support those efforts as they suggest that explicit efforts to promote stability might be more effective in some contexts over others. For example, in countries characterized by high degrees of exclusion, providing more funding to civil society groups and emphasizing political participation might be a more effective strategy than economic development initiatives. For inclusive post-colonial countries, economic development strategies and a focus on promoting executive-level power sharing through cross-cutting negotiations and agreed adherence to constitutions written by representative committees may be a more effective means to enhance global stability.

The durability of ethnic conflict globally has occupied scholars for decades, and the daily news serves as a reminder of the impact of ethnically defined struggles. Tragedies in Rwanda, the Darfur region of Sudan, Chechnya, and most recently in Syria, are only a few salient examples of the scope of human loss that can result from conflicts of this nature. While Huntington famously argued that the ideological binary that fell along with Soviet communism would be filled with cultural conflicts as civilizations collided with one another, others have proposed more pragmatic explanations. While both state strength and grievance-based theories offer something to the scholarship, the more nuanced approach of examining the impact of government structure on specific forms of conflict may allow for more tailored approaches to conflict prevention. However, this approach is still relatively new, and the scholarship would benefit from future studies that expand the scope of the present study to include other aspects of government. Rather than looking simply at

the central government, exclusion from or inclusiveness within parliamentary systems may help explain how forms of hierarchy impact conflict. As well, more time-specific studies (such as time-to-event analyses) would provide actionable information and portable insight into a number of conflicts by adding another dimension of inquiry.

Though the field has developed significantly, sadly there is much fodder for future studies. However, in continuing to pursue understanding in the daunting arena of global ethnic conflict, where a constellation of variables hardly seems sufficient explanation, the hopes of living in a more peaceful world is sustained.

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