

# The Effect of Democratic Political Institutions on Political Violence in Different Societal Settings

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## Abstract

We test three central claims in the consociationalist literature: that in ethnically divided societies, conflict can be reduced by adopting (1) proportional representation over majoritarian electoral rules, (2) parliamentary over presidential or semi-presidential arrangements, and (3) a federal over a unitary system. Previous research on these questions has suffered from two major flaws: a poorly-designed measure of “divided society,” and model specifications that do not take into account the conditional nature of institutional effects. Correcting these flaws produces estimates that undercut much of the previous empirical support for consociationalist arrangements in divided societies. In particular, the combination of PR, parliamentarism, and federalism appears to be a uniquely bad choice when ethnic fragmentation and regional concentration are high and income cross-cuttingness is low.

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# 1. Introduction

Since 2003, the United States has been deeply engaged in nation-building projects in Afghanistan and Iraq. These initiatives together have absorbed a tremendous amount of America's political, financial, and military resources, and the returns for the national interest so far have been dishearteningly mediocre. Despite the sacrifice of more than 8000 American lives and a trillion dollars in financing, violence remains endemic and political stability elusive. The development of robust political institutions capable of solving deep-seated ethnic, sectarian, and geographic divisions is a central task in the efforts to stabilize both countries. So it is disconcerting to see arguments that the new constitutional arrangements in Iraq and Afghanistan, both of which were designed with major input from western advisors, were far from ideal for countries with such fissiparous societies. One prominent argument to this effect is by Arendt Lijphart (2004) in an article in the *Journal of Democracy* which sets forth a series of concrete recommendations for constitutional designers to follow in ethnically divided societies. Lijphart's recommendations imply that democracy in both countries would be more likely to survive under significantly different institutional arrangements..<sup>2</sup>

Lijphart's vision of appropriate institutional design in divided societies, which he has termed *consociationalism*, is well known in the field of comparative politics (Lijphart 1968, 1977a, 1977b, 1981, 1985, 1994, 1996, 2001, 2002; Daalder

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<sup>2</sup> Among other institutional decisions that Lijphart argues against, Afghanistan adopted a strong presidency and uses SNTV to elect the lower house of its bicameral legislature, and Iraq adopted a semi-presidential system with executive power divided between a president and prime minister.

1974; Hauf 1980, 1983; Milne 1981; Jarstad 2001; O’Leary and McGarry 2004). The consociational approach is based on the belief that deep social divisions within a country’s population are best addressed through two practices: (1) *power-sharing*, or including representatives of all relevant social groups in the executive decision-making process, and (2) *group autonomy*, or allowing all relevant groups considerable say over the affairs of their own communities with minimal interference from the agents of the central state. Consociational institutional arrangements can take a number of forms but share a core package of institutional features: pure parliamentarism rather than presidentialism, an electoral system that uses proportional representation rather than majoritarian rules, and meaningful federalism that devolves considerable resources and autonomy to constituent sub-units of the larger state.

In presenting a set of recommendations for constitutional design, Lijphart claims that there is a “strong scholarly consensus” in favor of consociational arrangements for divided societies, and that there is “solid empirical evidence” of their superior efficacy in mitigating ethnic divisions (2004: 107). We think both of these claims are overstated, to put it mildly. There is a spirited and vocal group of scholars who find fault with one or more elements of the consociationalist vision on solid theoretical grounds, among which we count ourselves (Barry 1975; Horowitz 1985, 1991, 1993, 2002, 2004; Reilly 2001, 2002; Snyder 2000; Woodward 1999; Chandra 2001, 2004, 2005; Selway 2009). And despite assertions to the contrary, the empirical evidence that parliamentarism, PR, and federalism perform better

than alternatives in a wide array of social settings is very far from “solid” (Clark et al. 2009: 737-738).

The consociationalist vision stands apart in the literature as a coherent, well-reasoned, comprehensive package of institutional arrangements explicitly designed to prevent ethnic divisions from tearing countries apart. Its simplicity and apparently universal applicability give it a special allure. But the very comprehensiveness of its recommendations should give practitioners pause. Not all ethnically divided societies are created equal—social divisions come in many different flavors and distributions, and we have barely begun as a profession to scratch the surface of how institutional arrangements may interact with these divisions to affect political outcomes (Reilly 2001, Chhibber and Nooruddin 2004, Chandra 2005, Selway 2009). On both theoretical and empirical grounds we are deeply skeptical of Lijphart’s claim that a core package of institutions is consistently superior to any other in all manner of divided societies.

The rest of this paper develops this argument in more detail. The next section reviews the chief empirical findings in the literature on the association between social structures, institutional arrangements, and domestic political turmoil, which are far from conclusive. A major flaw shared by most of this research, we argue, is the failure to recognize and account for important variation *within divided societies* in the kinds of challenges posed by the social cleavage structure that institutions should be designed to mitigate. Large-N empirical studies have usually treated all these societies as instances of the same

phenomenon, without paying attention to whether the relevant cleavages are cross-cutting or reinforcing. In the third section we present our own measure of social cleavage structures, which we argue does a better job than any other currently in use at capturing the critical distinctions within ethnically heterogeneous societies. The proper question to be addressed, then, is whether certain institutional arrangements appear to perform consistently better at mitigating political conflict *conditional on the specific social structure*. We review some of the counterarguments to consociationalist theory about how three fundamental institutional choices—PR versus majoritarian, presidential versus parliamentary, and federal versus unitary arrangements—should affect the incidence of political conflict under different patterns of social heterogeneity, and we discuss previous empirical findings. The third section describes in more detail our measure of ethnic “cross-cuttingness”—the degree to which ethnic cleavages are reinforced or cross-cut by income and geography. The fourth section describes our data sources and specifies the empirical model to be tested. The fifth section tests the expectations of the consociationalist literature on a large set of democracies from 1972 to 2003, and discusses the findings. In the conclusion, we discuss the broader implications of our findings for the consociationalist remedy for ethnic divisions and the practice of institutional engineering.

## 2. Literature Review

The findings and recommendations in the literature on ethnic conflict in divided societies are much less clear-cut than Lijphart asserts. Neither the theoretical debate nor the empirical findings suggest a strong consensus in favor of any particular type of institutional arrangement.

### 2.1. Theoretical Debates

On the theoretical side, there are in fact still strong outstanding questions about the relative efficacy of three of the central recommendations in the consociational vision: the use of closed-list PR over any kind of majoritarian system, including plurality rule or alternative vote in single-member districts; the use of a pure parliamentary system over a presidential or semi-presidential one; and the use of strong rather than weak federal or unitary arrangements.

First, the view that electoral institutions should be designed to promote moderation over representation of diverse views is not an isolated one, as Lijphart claims (2004: 100). There are several well-known drawbacks to the closed-list proportional representation system favored by the consociationalist prescription. One is that PR systems can facilitate the presence of extremist parties—for instance, anti-system parties that seek to overthrow the regime, or single-issue parties that take rigid ideological stances far from the median voter in the electorate (Powell 1982: 92-96). There has long been broad scholarly agreement that extremist parties, if present for an extended period of time in a country, threaten democratic stability

(Duverger 1954: 419-20; Huntington 1968: 412; Sartori 1976: 140). In one of the earliest statistical investigations of the question, Powell (1982) finds a strong positive association between political party extremism and the incidence of riots, and that extremist parties are particularly likely to win seats in countries that are both socially heterogeneous and employ PR electoral rules—precisely the combination that the consociationalist vision advocates.<sup>3</sup>

In addition, there is good reason to believe that PR increases the incentives for parties to pursue centrifugal campaign strategies—that is, the optimal strategy is to court voters whose views are relatively extreme rather than moderate (Cox 1990). Parties that represent only one ethnic group not only can gain representation in parliament in proportion to the size of that group, they also have an incentive to engage in ethnic outbidding (Rabushka and Shepsle 1972, Horowitz 1985). In other words, PR in divided societies creates incentives for political parties to play up ethnicity and harden ethnic divisions at election time, rather than to build cross-ethnic electoral coalitions (Horowitz 1985, Reilly 2001).

Finally, PR along with power-sharing requirements can also lead to government paralysis in the face of difficult issues by increasing the need to include many parties in the governing coalition—there is a built-in bias in favor of the

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<sup>3</sup> Powell finds a weaker but still positive association between extremist parties and political deaths. He also finds a negative association between PR and both riots and political deaths, which he apparently estimated without controlling for the greater presence of extremist parties. In other words, the PR effect appears to swamp the extremist party effect in his analysis. As we argue below, this result is likely a consequence of the inclusion of many quite ethnically homogenous countries in the analysis—Powell's results indicate that ethnic heterogeneity is associated with higher vote share for extremist parties. Because Powell does not estimate the conditional effect of PR on ethnic heterogeneity, he does not in fact test whether PR is positively or negatively associated with riots and political deaths *in ethnically heterogeneous societies*, but rather on *all* societies.

status quo in such regimes (Tsebelis 2002). Effective government is frequently the overriding concern in new, fragile democracies emerging from long periods of deep-seated social conflicts, such as in Liberia, Eritrea, Congo, Angola, or Mozambique (Norris 2008: 111). One wonders whether creating institutions that privilege the status quo is really a wise thing to do in countries as poor and crisis-prone as these, which have long suffered from a weak and ineffectual central state.

The scholarly “consensus” in favor of parliamentary regimes over presidential ones in divided societies is not as strong as Lijphart would have us believe, either (cf. Norris 2008: 132-33). Shugart and Carey (1992) note that presidential regimes exhibit a great variety of institutional powers and roles, challenging the claim that all presidential regimes are prone to instability. Mainwaring (1993) argues that only presidential regimes combined with a multi-party party system are clearly problematic. And Cheibub and Limongi (2002) speculate that presidentialism is more prone to regime instability only because it is associated with more centralized policy-making. All these arguments point in the same direction: that it is not presidentialism per se that creates problems for democracy, but presidentialism *in combination with something else*.

Finally, the argument for federal arrangements in ethnically divided societies is not straightforward, either. Lijphart claims that in divided societies with geographically concentrated ethnic groups, “a federal system is undoubtedly an excellent way to provide autonomy for these groups” (2004: 104). What Lijphart leaves unstated is the assumption that such autonomy will improve the chances for

democratic consolidation of the larger state—a claim that is far from self-evident. Several studies have suggested that adopting federal arrangements in these circumstances might actually increase secessionist tendencies, by reinforcing territorially-based ethnic identities (Hardgrave 1993; Kymlicka 1998). By creating subunits around regional groups, federal arrangements give both legitimacy to their claims to be distinct and privileged in the larger state, and resources to act on aspirations for greater autonomy (Roeder 1991; Bunce 1999; Leff 1999; Hechter 2000; Snyder 2000; cf. Clark et al. 2009: 738-742). In addition, even if one accepts the potential benefits of federalism in the abstract, much depends on the details of the federal arrangements. Lijphart suggests separating ethnic groups into distinct units as much as possible, so that constituent states of the federation are quite homogenous even if the country as a whole is not. But there are good reasons to be wary of even this prescription. For one, drawing state borders this way prioritizes and reinforces ethnic identities at the expense of others. By shifting considerable autonomy to the state level, federal arrangements also make redressing the inequalities that often drive such inter-regional tensions more difficult. Finally, there are not obvious benefits of strong federal arrangements along ethnic lines if ethnic groups are geographically dispersed, i.e. citizens typically live in ethnically mixed communities. In such circumstances, the federal prescription may end up sparking or accelerating a kind of Balkan-style conflict (the partition of Indian states also comes to mind) with groups making competing claims over the same

land and seeking to redraw borders to include clusters of co-ethnics (Hardgrave 1994, Woodward 1999).

At its heart, the consociational vision rests on a controversial assumption—that in divided societies, ethnic identities are the *most* salient of all divisions, that they are pre-existing and immutable, and that institutional designers should take them as given and build around them. An alternative vision is that ethnic identities are socially constructed and malleable, and that many individuals in heterogeneous societies can have multiple, competing identities. In other words, ethnicity is but one among many ways for political entrepreneurs to carve up a polity, and one should not assume that it is the most politically advantageous (Chandra 2005). If one accepts this latter view, then ethnic identity is *endogenous to the political institutions themselves*. The nature of the political rules and the way borders are drawn affect which identities matter, and how much. By assuming that certain ethnic identities are fixed and giving them primacy in institutional design, consociationalism effectively precludes efforts to depoliticize those identities. In our view, the theoretical case for the consociationalist approach is far from convincing.

## 2.2. Empirical Findings

In addition to the series of theoretical objections to the consociationalist logic described above, the empirical evidence either for or against the efficacy of any particular institutional arrangement in divided societies is inconsistent and quite

limited as well. Despite Lijphart's claims to the contrary, studies that systematically test the causal claims of consociationalism—that the combination of PR rules, parliamentarism, and federalism will reduce or eliminate ethnic-based conflict in heterogeneous societies—are few and far between.<sup>4</sup> Much more commonly, scholars present evidence from a handful of their favorite cases that support their preferred view.

The earliest attempt at systematic evaluation of consociationalist claims is by Powell (1982), who attempts to measure correlations between institutional types and political instability, measured as riots and violent political deaths per year per country. Using observations from a set of 29 democracies from 1958-1976, Powell finds a small but consistent positive relationship between political deaths and both presidentialism and majoritarian electoral rules, although only presidentialism is significant at the 10% level, and only for the decade 1958-67. The results for riots do not show a clear pattern one way or the other. And he does not attempt to measure the effects of federalism. Powell summarizes his findings cautiously, asserting that “representational constitutions” tend to perform better in maintaining political order, but that “most of the advantages of the representational systems...seem to be artifacts of the location of these systems in more economically developed societies” (71).

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<sup>4</sup> One of the few is Lijphart's (1999) own influential cross-national study. He finds “few statistically significant correlations” between institutional type and a democratic regime's macroeconomic performance or its ability to control violence—which he then spins into an argument *for* consociationalist arrangements, since “the conventional wisdom is clearly wrong in claiming that majoritarian regimes are the better governors” (1999: 274).

Although ground-breaking in both its ambition and technique, Powell's study suffered from a number of drawbacks. For one, Powell used ordinary least squares (OLS) to identify the relationships between counts of riots and deaths and various explanatory variables. Krain (1998) argues that a more appropriate way to deal with such data is through the use of event counts models, and he replicates Powell's study using the latter type of model. His results are largely similar: like Powell, he finds a significant positive association between presidential regimes and both political riots and deaths. However, he also finds a positive association between majoritarian electoral laws and riots, but no association with political deaths—exactly the opposite of Powell's results. Krain's study suggests that the links between presidentialism and higher numbers of riots and political deaths is robust in Powell's sample, while those between majoritarian rules and both outcomes are much more tenuous.

The inferences drawn by Powell and by Krain's replications are limited by the use of a rather small sample of only 29 countries and a limited time period of at most two decades. At the time Powell conducted his analysis, he identified only 20 countries that had been continuously democratic over the entire period of 1958-1976, with another 9 having suffered strict limits to or the suspension of democracy (1982: 5). Powell's sample is large enough to uncover some meaningful associations between measures, but on the key variables of interest to us—the effects of institutions in divided societies—there are only a handful of cases in several of the key categories. The association of presidentialism with political violence, for

instance, rests on observations of only six countries, three of which were democratic for only part of the relevant period. In addition, nearly half of the countries in the analysis (14 of 29) were European, raising the possibility that some effects attributed to institutional arrangements were in fact due to region-specific factors.

Happily, as is now well known, the number of democracies in the world dramatically expanded in subsequent years, giving scholars a much larger set of countries and a longer period of observations on which to test Powell's conjectures. As a result, a number of other comparative studies have attempted to take advantage of this expansion to test some of the consociationalist claims on a larger and more diverse set of cases. The most consistent finding in these studies is support for the proposition that PR reduces ethnic conflict in divided societies (Cohen 1997; Reynal-Querol 2002; Saideman et al. 2002, Norris 2008). By contrast, the evidence that presidentialism is associated with higher levels of ethnic conflict or that conflict is higher in unitary than federal states is more mixed (*ibid.*). Overall, there is good reason to be cautious of most of these findings, because none test the precise causal story that in divided societies, consociationalist institutions reduce otherwise high levels of political violence (Clark et al. 2009: 737). Many of the analyses are problematic in a number of other ways as well. For instance, using Gurr's Minorities at Risk database, both Cohen and Saideman et al. find that both federalism and PR are associated with a lower incidence of rebellion, but are actually positively related to violent protest (although the coefficient estimates are insignificant and small in the latter case). Neither analysis, though, interacts the

institutional variables with social structure variables. The claim of both Lijphart and critics is that the effects of institutions are *conditional* on social structure, but neither model is specified in a way that actually allows them to test this claim.<sup>5</sup> Moreover, using the Minorities at Risk database introduces considerable sample bias into the analysis—religious, linguistic, and regional minorities are systematically excluded if they have been successfully integrated into a larger society (cf. Norris 2008: 41).

Of all the previous studies of the association between institutional arrangements and political violence in ethnically diverse societies, Norris (2008) is by far the most comprehensive. She includes observations from a much broader set of democracies and looks separately at all three institutional choices we raised questions about above: PR versus majoritarian, parliamentary versus presidential, and federal versus unitary arrangements. However, her analysis differs from some of the others in the outcome of interest—democracy—rather than narrower measures of political conflict such as riots, political deaths, or outbreaks of rebellion or civil war. She conducts separate analyses using four distinct measures of democracy—what she terms Liberal Democracy (Freedom House), Constitutional Democracy (Polity IV), Participatory Democracy (Vanhanen), and Contested Democracy (Cheibub and Gandhi)—and she finds consistent support for the

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<sup>5</sup> In addition, there are other reasons to be wary of Cohen's results in particular. He appears to use standard OLS when he should use logit—his main dependent variable is an index from 0-6, and most observations on DV are 0 (1997: 624-5). He includes no term to capture autocorrelation even though it seems probable that minorities experiencing ethnic conflict in year  $t$  are likely to have a heightened risk of experiencing conflict in year  $t+1$  as well. Finally, he does not include economic variables as potential controls, nor does he include a variable for presidential versus parliamentary regimes.

democracy-enhancing effects of all three institutional variables—PR over majoritarian rules, parliamentarism over presidentialism, and federal over unitary arrangements.

Norris' analysis is clearly the widest-reaching and most exhaustive study of the associations between political institutions and democratic performance, and she asserts that her results provide broad support for consociationalist arguments. However, we find fault with at least three features of her approach. The first is that the outcome of interest—level of democracy—is rather removed from the claims that consociationalist institutions “perform better” in divided societies. Measurements of political order such as those used by Powell appear to us to be much more direct implications of the consociationalist argument. Indeed, Lijphart has implied that lower levels of contestation or participation, such as those which occurred during long periods of rule by single multi-ethnic coalitions in Malaysia, Singapore, and India, are actually preferable to greater mass participation and more frequent alternation in power that lead to higher scores in some of the measures of democracy that Norris employs. Second, Norris uses as her measure of “divided societies” the Alesina et al. ethnic fractionalization index. As we describe in more detail in the next section, we think this is a problematic way to identify “divided societies.” Finally and most critically, like all other empirical work on this question that we are aware of, she does not use the appropriate model specification to test the precise causal claim of the consociationalist literature, that PR, parliamentarism, and federal arrangements should reduce manifestations of ethnic

conflict conditional on a society being ethnically divided. Norris' estimates test only whether there is an independent association of these institutions with less violence, not whether in countries sharing a similar underlying social structure, conflict is systematically more severe under some arrangements than others.

Overall, virtually all the empirical work testing the effects of power-sharing institutions in divided societies suffers from two fundamental problems that have thus far gone unrecognized and unaddressed. First, the conventional approach is to measure the "severity" of divisions in society by the degree of ethnic fractionalization, and assume that higher fractionalization corresponds to more "deeply divided" societies. The task then becomes to identify the appropriate institutional "cure" for the "disease" of ethnic fragmentation. But what this approach misses is that ethnic diversity by itself is not a specific enough category to accurately describe what ails the patient. Some patterns of ethnic heterogeneity are much more deadly than others—specifically, those in which ethnic differences are reinforced by geography, income, occupation, language, religion, and other salient social cleavages. A highly ethnically fragmented society is much less deeply "divided" if these cleavages cross-cut each other than one which is mostly a single ethnic group but has a minority group whose differences are reinforced by many other cleavages. In this instance, the heterogeneity of the first society is in fact much less dangerous than the second. Most research on institutions in divided societies has been akin to testing the efficacy of chemotherapy on a sample of the entire adult population—on healthy individuals as well as sick ones, and on every

kind of cancer from melanomas to brain tumors. Rather than asking whether presidential or parliamentary regimes are “better” in divided societies, the more appropriate question is whether a certain *kind* of ethnic divide is more effectively treated by one institutional solution over another. Failure to differentiate between different patterns of ethnic diversity means most large-N research on the links between ethnicity and democratic performance is flawed.

The second problem in previous empirical work is that none directly tests the causal story of consociationalism, which is a *conditional one*. Consociational institutions are supposed to reduce violence in societies that are already deeply divided—but all previous studies have tested whether institutions have an independent association with lower violence in *all* democracies, or worse, *all countries* (e.g. Reynal-Querol 2002). By not conditioning institutional variables on countries’ ethnic structure, they in effect perform the analysis on the wrong sets of cases. The proper model specification in these tests is one which interacts social structure with each institutional variable—only then can we assess directly whether the data on political violence are consistent with consociationalist arguments.

### 3. Defining and Measuring Cross-cuttingness

As noted above, existing studies of political violence that have included social structure as an additive control variable have almost all used a measure of ethnic fractionalization—the number and relative size of ethnic groups (Powell

1982, Krain 1997, Norris 2008). There is little consensus among scholars concerning at which levels of ethnic fractionalization political violence should be most likely. However, logical arguments with supporting empirical examples have been made separately for various levels of ethnic fractionalization: high fractionalization, or many ethnic groups (Burma, Indonesia and Yugoslavia); ,medium fractionalization in the form of,two equally-sized ethnic groups (Northern Ireland, Sri Lanka); and low fractionalization in the form of a dominant ethnic group with a small minority (Philippines, Spain, Thailand).

Part of the confusion over ethnic fractionalization is due to its mis-specification in previous studies. However, addressing this methodological issue would only get us part way in properly testing the consociationalist argument since ethnic diversity entails much more than the number and relative size of ethnic groups. Accordingly, we add two new measures of diversity—ethno-income cross-cuttingness (EIC) and ethno-geographic dispersion (EGD)—both of which are two-dimensional characteristics of a country’s ethnic structure based on a measure of cross-cuttingness that we present below. While scholars have long recognized the shortcomings of the uni-dimensionality of ethnic fractionalization (Laitin and Posner 2001), the lack of data has forestalled a serious effort at carefully defining two-dimensional characteristics. Indeed, incorporating the second cleavage is not just a matter of including another variable additively in the model. Rather, cross-cuttingness is multi-dimensional in that it describes how two (or more) cleavages<sup>6</sup>

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<sup>6</sup> A cleavage is a “division on the basis of some criteria of individuals, groups, or organizations [between] whom conflict may arise” (Lane and Ersson 1994).

are structured in relation to each other. Similar to there being a variety of single-dimensional characteristics such as *fractionalization* and *bipolarization*, there are a number of possible multi-dimensional characteristics of which cross-cuttingness is just one (Selway 2007). Cross-cuttingness, being just one of these possible single-dimension characteristics, captures the degree members of groups<sup>7</sup> on one cleavage are identically distributed among groups on another cleavage.<sup>8</sup> In the remainder of this section, then, we define and measure cross-cuttingness more precisely.

In the 1960s and 1970s, a number of political scientists were pre-occupied with cross-cuttingness.<sup>9</sup> The term was generally understood to mean the extent to which two or more cleavages divide society into *different* groups of people. The antonym of cross-cuttingness is reinforcingness, the extent two or more cleavages divide society into the *same* groups of people. Precise definition and measurement, however, was elusive.<sup>10</sup> All scholars seem to agree on the definition of minimum cross-cuttingness (maximum reinforcingness): where each ethnic group belongs to its own religion. Confusion seems to be at the maximum level of cross-cuttingness.

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<sup>7</sup> A group is a category of identity/membership within a single cleavage, such as Christian and Muslim within the religion cleavage.

<sup>8</sup> Of course, cross-cuttingness is not confined to the ethnic and religious cleavages. Indeed, political scientists who have used the concept (Lipset, Rae and Taylor) have often been concerned with other cleavages such as party membership and socio-economic class. Rather than telling us which cleavages a researcher wants to consider (indeed this choice is entirely the researcher's), cross-cuttingness instead captures the strength of relationship between cleavages.

<sup>9</sup> These scholars used a variety of terms to refer to this concept. These include: cross-cutting cleavages, cross-cutting circles, criss-cross pattern of cleavage structure, intersection of cleavages. The antonym (reinforcing) has also been referred to as overlapping cleavages, cumulative cleavages, consolidation of cleavages, superimposition of lines of differentiation, correspondence of cleavages.

<sup>10</sup> Rae and Taylor (Rae and Taylor 1970), who give the most detailed treatment of the concept in the political science literature, even seem to conflate concepts in the presentation of their measure of cross-cuttingness.

Selway (2007) usefully distinguishes between multi-dimensional characteristics by focusing on the ways groups on a first cleavage  $x$  are distributed amongst groups on a second cleavage  $y$ . This distinction leads Selway to identify, separate, conceptualize, and measure several different characteristics that have masqueraded as cross-cuttingness. He concludes that a measure of *pure cross-cuttingness* should not be sensitive to other characteristics of social structure, such as the number and relative size of groups.<sup>11</sup> Here, we explain the measure in more detail. For simplicity, we focus the explanation on a society having only two salient cleavages.

Selway defines cross-cuttingness as the extent members of different groups on cleavage  $x$  are identically distributed among groups on cleavage  $y$  (and vice-versa). At the maximum level of cross-cuttingness, then, knowing an individual's group identity on  $x$  tells you nothing about what group she belongs to on  $y$ . This is exactly the concept of statistical independence. To make the cross-cuttingness measure (CC) comparable regardless of the size of the contingency table, Selway suggests the normalization of the chi-square statistic given by Cramer:

$$CC = 1 - \sqrt{\left[ \sum \frac{(O - E)^2}{E} \right] / N \times \max\{(c - 1), (r - 1)\}} \quad (1)$$

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<sup>11</sup> Rae and Taylor (1970) propose a measure for cross-cuttingness that is sensitive to the number and relative size of groups. Selway (2007) identifies this as a unique characteristic and renames it cross-fragmentation.

Where  $\left[ \sum \frac{(O-E)^2}{E} \right]$  is the chi-square statistic of independence,  $N$  is the number of observations, and the term  $\max\{(c-1), (r-1)\}$  is the larger of either the number of columns ( $c$ ) minus one or the number of rows ( $r$ ) minus one. CC ranges from zero to one, where one represents maximum cross-cuttingness.

### 3.1 Constructing Cross-Country Indices of CC

Ideally we would use country census data to calculate CC. Unfortunately, many countries do not collect such information, and for those that do the data are often not detailed enough to be useful. An alternative strategy is to extract the same information from nationally representative surveys, such as public opinion surveys, which collect information about social heterogeneity. Selway (2007) uses this approach, creating a cross-cuttingness index by compiling data from seven sources: The World Values Survey (WVS), The Eurobarometer (EB), the Afrobarometer (AFB), the Latin American Public Opinion Project (LAPOP), the Asian Barometer (AB), the Comparative Study of Electoral Systems (CSES), and the World Health Organization (WHO).<sup>12</sup> Each of these are nationally representative public opinion surveys.<sup>13</sup>

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<sup>12</sup> In compiling the cross-cuttingness scores for each country, all ethnic and religious group categories appearing in the survey were included, taking advantage of the survey designers in-depth local knowledge. An alternative strategy of eliminating any group under 1% is troublesome due to expected measurement error in sampling.

<sup>13</sup> A fuller description of the index can be found in Selway (2007).

	SELF	EFEA	ERQ	EAL	LAL
SELF	1.00				
EFEA	0.64	1.00			
ERQ	0.68	0.68	1.00		
EAL	0.64	0.63	0.53	1.00	
LAL	0.59	0.81	0.78	0.53	1.00

Table 2. Correlation of Ethno-linguistic fragmentation indexes with SELF

To allay fears of survey measurement error, and to assess the validity of the index, Selway calculates measures of ethnic and religious fractionalization from the same surveys and compares them to existing single-cleavage measures of social structure. Since we also use Selway's fractionalization indices we present the correlation between these indices as they appear in the dataset used for this study. Specifically, we compare Selway's ethnic and religious fractionalization scores to the following existing measures: Reynal-Querol's (2002) ethnic (ERQ) and religious (RRQ) fractionalization indexes, Fearon's (2003) Ethno-linguistic-religious fractionalization index (EFEA), and Alesina et al.'s ethnic (EAL), linguistic (LAL), and religious (RAL) fractionalization indexes (2003).

Table 2 shows the correlation between the indexes of ethnic fractionalization. Selway's ethno-linguistic fragmentation index (SELF) and Reynal-Querol's (ERQ) account for both racial and linguistic differences. Fearon's measure also does, but additionally accounts for religious differences in some countries. Lastly, Alesina et al. separate out racial and linguistic dimensions. SELF is highly correlated (>.60) with all the other indices of ethnic fractionalization. Its correlation with these

indices, moreover, is similar to the correlation among the existing indexes. For this and other reasons, we are confident in the validity of the index of cross-cuttingness we use in terms of capturing the appropriate groups.<sup>14</sup>

	SRF	RRQ	RAL
SRF	1.00		
RRQ	0.05	1.00	
RAL	0.74	0.06	1.00

Table 3. Correlation of Religious fragmentation indexes with SRF

Table 3 displays similar bivariate correlations for indices of religious fragmentation. The correlation between Selway’s religious fragmentation index (SRF) and Alesina’ et al.’s (RAL), .74 is quite high. Somewhat surprisingly, the correlation between RRQ and ours and Alesina et al.’s is quite low (.05) in this sample, most likely because of the latter’s inclusion of animist religions, and this should be kept in mind for the final analysis.

## 4. Model Specification

We are concerned with the effect of political institutions (electoral rules, the degree of fusion between the executive and legislature, and decentralization) on political violence in different types of society, which we differentiate based on a country’s ethnic structure—measured by three characteristics: EF, EIC and EGD.

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<sup>14</sup> See Selway (2007) for a more in-depth analysis of this and other cross-cuttingness indices.

We present our hypotheses on the effect of each political institution along four society types (low CC/low EGD, low CC/high EGD, high CC/low EGD, high CC/high EGD).

#### 4.1. Model Specification

The fully-specified socio-institutional model for the sixteen hypotheses above is as follows:

$$\begin{aligned}
 PV = & \beta_0 + \beta_1 EF + \beta_2 EIC + \beta_3 PR + \beta_4 Pres + \beta_5 Fed + \beta_6 EF \times EIC + \beta_7 EF \times PR \\
 & + \beta_8 EF \times Pres + \beta_9 EF \times Fed + \beta_{10} EIC \times PR + \beta_{11} EIC \times Pres + \beta_{12} EIC \times Fed \\
 & + \beta_{13} EF \times EIC \times PR + \beta_{14} EF \times EIC \times Pres + \beta_{15} EF \times EIC \times Fed + \mathbf{X} + \epsilon \quad (2)
 \end{aligned}$$

We estimate this model in a split sample at the mean of EGD, which is .7761. Note there is no interaction term between any of the institutions. While Brambor, Clark and Golder (2006) would argue against the exclusion of these constituent terms without strong theoretical priors, their inclusion makes the interpretation very difficult, producing over a hundred potential hypotheses in order to account for all the moving parts. We do concede, however, that their exclusion introduces bias into the model. We know from the party systems literature, for example, that the effects of electoral rules are conditioned by the presence of presidentialism (Neto and Cox 1997; Golder 2006; Hicken 2009), and we have good reason to think they would differ in federal and non-federal systems too (Chhibber and Kollman 2004; Brancati

2006). We believe that, given the current methodological tools we have, the number of interaction terms we include in our model pushes the limit of substantive usefulness. In addition, when we include all the constituent interactions, the statistical-analysis software we use is unable to calculate the time-series logit; several constituent terms also drop out due to collinearity using a normal logit model. Given this, we opt to include only the interaction terms between our social structure variables and the separate institutional variables. We think this is still a substantial enrichment over previous studies, providing valuable theoretical insight.

The marginal effect of each institutional variable on political violence takes the following form:

$$\frac{\partial PR}{\partial Ethnic} \beta_3 + \beta_7 EF + \beta_{10} EIC + \beta_{13} EF \times EIC \quad (3)$$

$$\frac{\partial Pres}{\partial Ethnic} \beta_4 + \beta_8 EF + \beta_{11} EIC + \beta_{14} EF \times EIC \quad (4)$$

$$\frac{\partial Fed}{\partial Ethnic} \beta_5 + \beta_9 EF + \beta_{12} EIC + \beta_{15} EF \times EIC \quad (5)$$

## 4.2 Data and Variables Description

We test our model on a sample of 57 countries representing 76 regimes between 1972-2003, where a regime is defined as a change in any of the institutional variables. Because we do not expect the political institutions to take immediate effect we impose a threshold for inclusion of five consecutive elections.

Our dependent variable is taken from the Arthur Banks Cross-National Time-Series Database and takes on a value of 1 (zero otherwise) if any of the following events occur in a given year: riots, guerilla warfare or revolutions.

Our social structure variables are all taken from the Cross-National Indices of Multi-dimensional Measures of Social Structure, or CIMMSS (Selway under review) as described in Section 3.

Our institutional variables come from several sources. Electoral rules are coded by International IDEA (2004) as either PR, which takes the highest value of 3, majoritarian (1), or combined (2). Combined regimes are varied, but combine elements of both majoritarian and PR rules, hence the intermediary coding. Presidentialism is also taken from the Banks dataset and is binary in nature, 1 for Presidential regimes, else 0.<sup>15</sup> Lastly, our measure of federalism comes from Watts (1998), except we re-code all hybrid federations as non-federal. Federal systems are coded as 1, and all else as 0.

We also control for several variables common in past studies. First, we take the log of a country's population (*logpop*). Larger population sizes have been linked with higher odds of political violence. We also take the log of GDP per capita (*loggdp*) as a measure of a country's level of development. The wealthier a country, the lower the likelihood of political violence. This, of course, further depends on the level of income inequality (*incineq*) in a country, which we measure using gini coefficients from the UNU-WIDER World Income Inequality Database (WIID).<sup>16</sup>

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<sup>15</sup> Semi-presidential regimes are coded to their nearest variant.

<sup>16</sup> We coded missing years as averages of gini coefficients either side.

Higher gini values indicate more inequality, so we would expect a positive coefficient on *incineq*. Next, we include a measure of democracy (*democ*) relying on the Polity IV dataset. Since higher values indicate more democracy, we expect a negative coefficient on *democ*. Finally, we include a lag of the dependent variable (*lagpv*), although our results are robust to its exclusion.

### 4.3 Estimation Strategy

Since the dependent variable is binary, we estimate our model using time-series logit. Past studies have used OLS (Powell 1982) or event count models (Krain 1997). Neither of these past approaches takes into account the time-series nature of the data. Event-count models, especially, assume independent events, which is often unrealistic for incidences of political violence since riots in one year lead to tensions that can easily boil over again the following year.

## 5. Results

### 5.1. Analysis without Interactive Effects

In Model 1 of Table 1 (see Appendix), we replicate Powell's purely additive model. All the control variables have the expected signs and are statistically significant at the .05 level or above, except for economic inequality which takes the expected sign but is insignificant. PR has a positive coefficient and is significant at the .10 level, contrary to Powell's findings, suggesting that previous findings may have been due to the small number of democracies included in those models. We

will see this is true and why in later models. Presidentialism takes on a negative coefficient and is significant at the .10 level; federalism has a positive coefficient, but is statistically insignificant. Lastly, ethnic fractionalization takes on a positive coefficient, but it is also not significant. We thus see that, in this larger sample of democracies (twice as many as previous studies), only the consociationalist result on presidentialism holds, the results on federalism and ethnic fractionalization take the same sign but are insignificant, while the result on PR is entirely the opposite.

Model 2 includes ethnic fractionalization in the model multiplicatively with each of the institutional variables. Figures 1a-1c show the marginal effect of PR, presidentialism and federalism, respectively, along values of ethnic fractionalization (horizontal axis). We see that the result on PR from Model 1 (increases political violence) only holds where ethnic fractionalization is about .5 and above. The negative marginal effect of presidentialism on political violence likewise only holds at certain levels of ethnic fractionalization: less than about EF=.4. The marginal effect of federalism is positive and insignificant, similar to Model 1.

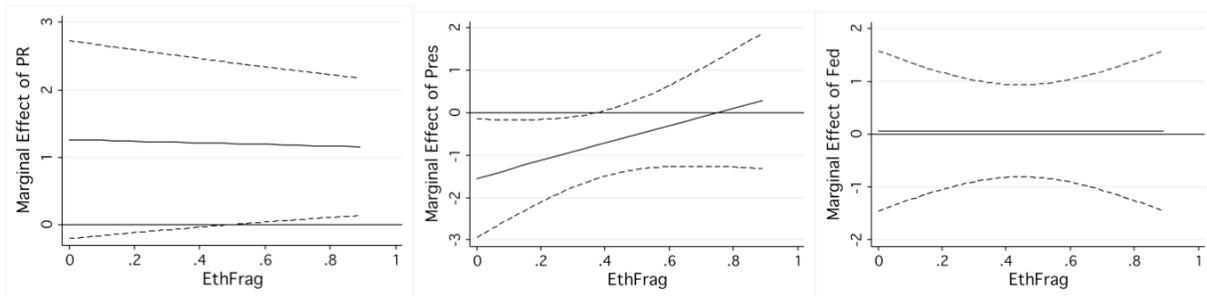


Figure 1a-1c. The Marginal Effect of PR, Presidentialism and Federalism on Political Violence

While the results from Model 2 are interesting, they still (1) fail to explain why Powell, Lijphart, and others have found PR to reduce political violence, and (2)

may be misleading since we are measuring ethnic diversity simply by the number of ethnic groups. We thus turn to Model 3, our full model, which adds our two new social-structure characteristics: ethnic-income cross-cuttingness and ethno-geographic dispersion. These two characteristics, as well as ethnic fractionalization, are interacted with the institutional variables. We are thus able to assess the marginal effects of PR, presidentialism and federalism in various types of societies, where we expect they should have differing effects.

## 5.2. The Marginal Effect of PR

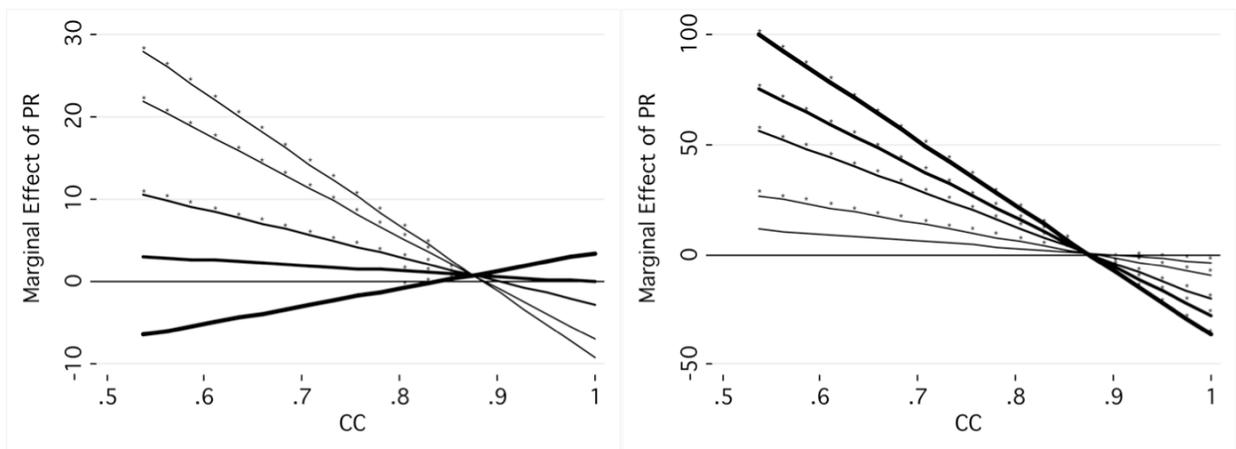


Figure 2a&b. The Marginal Effect of PR where ethnic groups are concentrated and dispersed, respectively.

First, when ethnic groups are dispersed and cross-cuttingness is high (right-hand-side of Figure 2b), PR has a negative marginal effect, depicted by the lines falling beneath the zero line.<sup>17</sup> Moreover, this effect is statistically significant, as

<sup>17</sup> PR also has a negative marginal effect where ethnic groups are concentrated and cross-cuttingness is high (right-hand-side of Figure 2a), but this effect is not statistically significant, hence the lack of stars.

illustrated by the stars. Interestingly, these types of societies are characteristic of long-standing democracies in Western Europe and North America, which made up the bulk of countries in the samples in most previous studies. Figure 2b also tells us that in such societies, PR has the largest reductive effect on political violence at high levels of ethnic fractionalization, depicted by the thickness of the effect lines (the thickest being  $EF=.84$ , the sample's max). We can thus see why Powell and Lijphart reached their conclusions on PR; we find that PR appears to operate as they theorized, but this result holds only in the types of societies they were studying. Finally, we find that as cross-cuttingness decreases, i.e. as ethnicity becomes more salient, that the violence-reducing effect of PR diminishes.

In contrast to previous studies, we find that PR has a positive marginal effect on political violence when ethnic-income cross-cuttingness is low (below the mean) regardless of whether ethnic groups are concentrated or dispersed. This finding is of crucial importance to both scholars and policymakers. In societies where ethnicity is most salient (i.e. reinforced by other cleavages), PR is associated with more political violence. PR does appear to operate somewhat differently in highly-salient societies depending on whether ethnic groups are concentrated or dispersed. Note that the thickness of lines trend in opposite directions between Figures 2a and 2b. Thus, we find that when ethnic groups are geographically concentrated, PR has a larger escalating effect on political violence in societies that are not as fractionalized. This effect may be related to the greater likelihood that extremist parties can gain a presence in countries using PR—less ethnic diversity means that

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extremist parties are increasingly likely to resort to ideological rather than ethnic appeals to win votes. In contrast, where ethnic groups are geographically dispersed, PR has a larger escalating effect on political violence in societies that are highly fractionalized. This finding is consistent with the ethnic outbidding argument (Chandra 2005)—in highly fractionalized societies, office-seekers have to build cross-ethnic coalitions to win seats in majoritarian systems, but they need only appeal to their own group in PR systems. Nevertheless, regardless of whether ethnic groups are concentrated or dispersed, we find that as cross-cuttingness increases the violence-enhancing effect of PR diminishes.

### 5.3 The Marginal Effect of Presidentialism

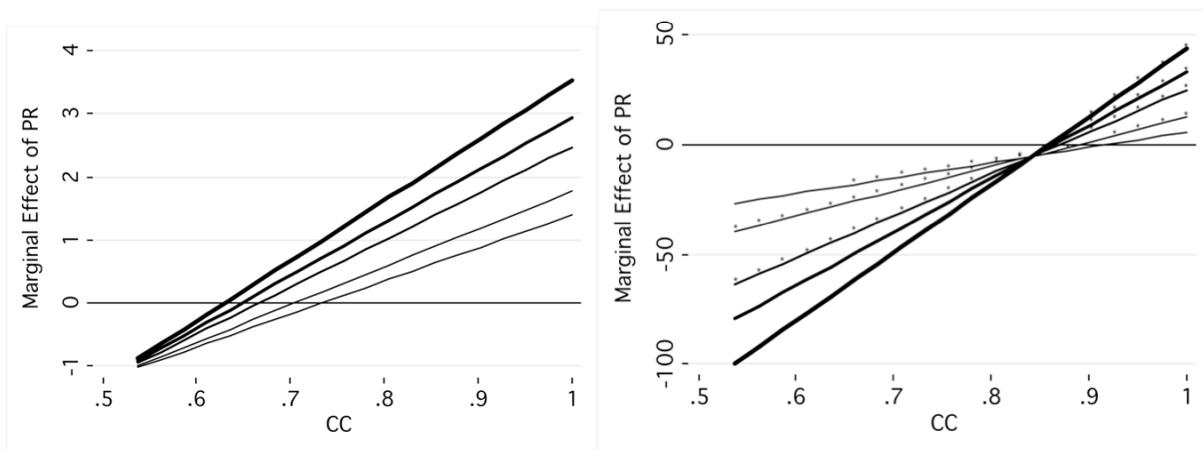


Figure 3a&b. The Marginal Effect of Presidentialism where ethnic groups are concentrated and dispersed, respectively.

Figure 3a shows that presidentialism has no significant effect in societies where ethnic groups are geographically concentrated. This result is consistent with the argument that presidentialism leads to national party systems, which in turn

help weaken (or at least do not increase) separate regional identities (Cox 1999, Brancati 2007, Hicken 2009). Figure 3b shows the effect of presidentialism where ethnic groups are geographically dispersed. In agreement with Lijphart, presidentialism has a positive marginal effect on political violence where cross-cuttingness is high, with the magnitude of the effect increasing with the level of ethnic fractionalization. Nevertheless, we see that the effect of presidentialism is clearly conditional on the underlying social structure. Figure 3b suggests that presidentialism can actually reduce the likelihood of political violence in countries where cross-cuttingness is low, the effect increasing the more fractionalized the society, which is the exact opposite of what Lijphart argues,

#### 5.4. The Marginal Effect of Federalism

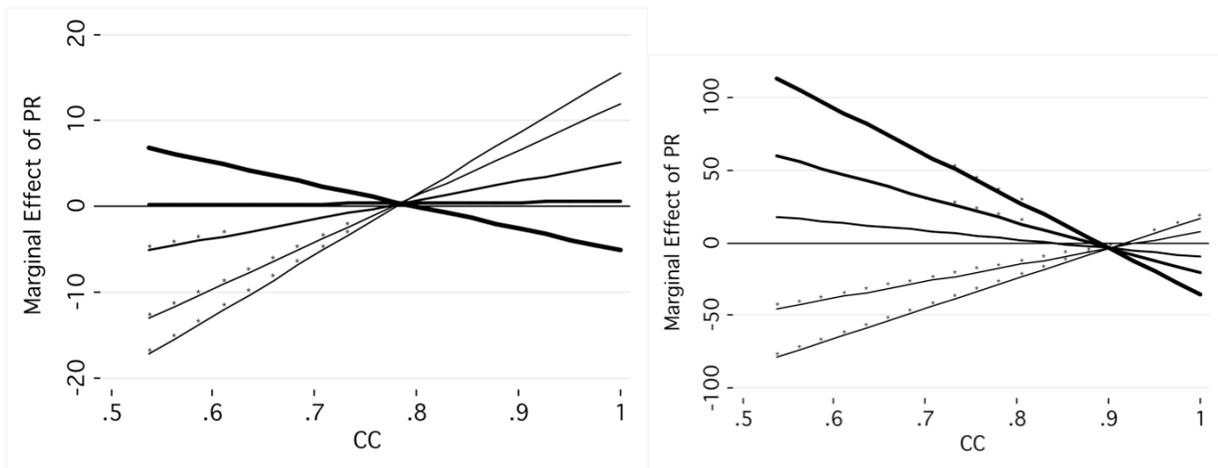


Figure 4a&b. The Marginal Effect of Federalism where ethnic groups are concentrated and dispersed, respectively.

Finally, we turn to federalism. In societies where ethnic groups are geographically concentrated, where Lijphart expected federalism to have the biggest

reductive effect, the hypothesis is supported: federalism has a negative and significant effect where cross-cuttingness is low. Interestingly, the effect is only significant where ethnic fractionalization is low, which suggests that the consociationalist prescription—federalism in all divided societies—is too simplistic. One possible explanation is that this result is capturing some systematic pattern in how boundaries are drawn—it is easiest to meet minority grievances through federal arrangements when an ethnic group is both distinct and geographically concentrated. When there are many groups, however, the same prescription may lead to greater conflict, both through a contagion effect in which other groups also demand their own homelands, and through the dominance of local institutions by the constitutionally recognized group in that region or state to the marginalization of groups that are minorities there.

## 6. Conclusion

The results presented in the previous section support our major objection to Lijphart's consociational approach: the effects of institutions on the propensity for conflict in divided societies are subtler than has generally been recognized. Our key findings are as follows. First, PR is generally associated with *higher* levels of violence, in contrast to what most other studies have found. There is one exception, however: when ethnic groups are dispersed and cross-cuttingness is high, the relationship switches—PR is associated with *lower* levels of violence than majoritarian rules. One way to reconcile other research with our finding is that the

countries which employed PR included in these studies also tended to have highly cross-cutting societies—the one situation in which we find PR to be advantageous. Second, we find that presidentialism is generally associated with higher levels of political violence, but again, this association is strongest when ethnic groups are dispersed and cross-cuttingness is high. As ethnic groups become more concentrated, the association between presidentialism and violence becomes weaker, and as cross-cuttingness declines, the effect actually reverses—at low levels of cross-cuttingness, and especially when ethnic groups are dispersed, presidentialism is associated with *lower* levels of violence. Third, we find that federalism is associated with lower levels of violence, but only when ethnic fractionalization is low. At higher levels the association is not significant.

Overall, these results generally do *not* provide strong support for Lijphart's institutional recommendations. In particular, the most dangerous combination of the three social-structural variables—high ethnic fragmentation, high regional concentration, and low cross-cuttingness—appears to be a very bad situation in which to adopt PR, parliamentarism, and federalism. Yet it is precisely these kinds of societies, Lijphart argues, in which democracy is most strengthened by adopting consociationalism. Our analysis suggests the opposite.

## Appendix

BanksExec1	-0.6910332	0.4174899	-1.66	0.098	-1.509298	0.1272319
EorL	0.4857484	0.8574692	0.57	0.571	-1.19486	2.166357
Elecfam72_04	0.3918237	0.2062245	1.9	0.057	-0.0123689	0.7960164
Watts4	0.2328886	0.4655537	0.5	0.617	-0.6795799	1.145357
Logpop	1.169201	0.3735252	3.13	0.002	0.4371052	1.901297
logGDP_UN	-0.7193933	0.3516995	-2.05	0.041	-1.408712	-0.030075
polity2	-0.1466417	0.0648929	-2.26	0.024	-0.2738294	-0.019454
WIIDgini	0.0321151	0.0180777	1.78	0.076	-0.0033166	0.0675468
banks_~1_lag	1.404895	0.2138465	6.57	0	0.9857635	1.824026
_cons	-4.932179	2.010225	-2.45	0.014	-8.872147	-0.9922106
N	926					
# Countries	57					
Model 1						

elecf~4_EorL	1.265238	0.7476252	1.69	0.091	-0.2000802	2.730557
EorL	-3.175037	2.110689	-1.5	0.133	-7.311912	0.9618369
Elecfam72_04	-0.1209846	0.3486714	-0.35	0.729	-0.804368	0.5623989
BanksExec1	-1.545095	0.7154709	-2.16	0.031	-2.947393	-0.1427981
Banks~1_EorL	2.053262	1.4725	1.39	0.163	-0.832785	4.939309
Watts4	0.0580977	0.7745519	0.08	0.94	-1.459996	1.576192
Watts4_EorL	0.0066932	1.429814	0	0.996	-2.79569	2.809076
Logpop	1.295153	0.3599908	3.6	0	0.5895839	2.000722
logGDP_UN	-0.7596838	0.3399633	-2.23	0.025	-1.426	-0.093368
polity2	-0.1321475	0.0639593	-2.07	0.039	-0.2575054	-0.0067895
WIIDgini	0.0244012	0.0178494	1.37	0.172	-0.010583	0.0593854
banks_~1_lag	1.412235	0.2134237	6.62	0	0.9939324	1.830538
_cons	-3.567928	2.010033	-1.78	0.076	-7.50752	0.3716649
N	926					
# Countries	57					
Model 2						

Elecfam72_04	28.03361	17.72527	1.58	0.114	-6.70728	62.77449
EorLInc	45.44586	59.98394	0.76	0.449	-72.12051	163.0122
EorL	-523.5967	320.5555	-1.63	0.102	-1151.874	104.6805
Elecfam720~c	-31.44938	19.28785	-1.63	0.103	-69.25287	6.354117
elecf~4_EorL	273.9576	141.0575	1.94	0.052	-2.509908	550.4252
EorLInc_EorL	595.4653	363.269	1.64	0.101	-116.5289	1307.459
elecf~c_EorL	-313.4471	160.6321	-1.95	0.051	-628.2802	1.385975
BanksExec1	-63.81371	34.26406	-1.86	0.063	-130.97	3.342612
BanksExec1~c	69.47793	37.88845	1.83	0.067	-4.782063	143.7379
Banks~1_EorL	-240.0077	179.7773	-1.34	0.182	-592.3648	112.3493
Banks~c_EorL	284.9712	203.6813	1.4	0.162	-114.2367	684.1791
Watts4	-191.7582	60.41981	-3.17	0.002	-310.1788	-73.3375

Watts4_Eor~c	208.3979	65.34821	3.19	0.001	80.31775	336.478
Watts4_EorL	564.7062	200.6274	2.81	0.005	171.4837	957.9286
Watts~c_EorL	-626.3703	223.9511	-2.8	0.005	-1065.306	-187.4342
Logpop	0.7401728	0.5171964	1.43	0.152	-0.2735136	1.753859
logGDP_UN	-1.070633	0.531739	-2.01	0.044	-2.112822	-0.0284433
polity2	0.055353	0.0895818	0.62	0.537	-0.1202241	0.2309301
WIIDgini	-0.0053629	0.0293209	-0.18	0.855	-0.0628308	0.052105
banks_~1_lag	1.473239	0.3024483	4.87	0	0.8804511	2.066027
_cons	-41.62876	54.72253	-0.76	0.447	-148.883	65.62544
N	534					
# Countries	29					

Model 3a EorLGeo&gt;.7761

Elecfam72_04	71.54944	30.31818	2.36	0.018	12.1269	130.972
EorLInc	203.4557	98.63904	2.06	0.039	10.12675	396.7847
EorL	265.8957	124.375	2.14	0.033	22.12526	509.6662
Elecfam720~c	-80.75101	35.06135	-2.3	0.021	-149.47	-12.03201
elecfc~4_EorL	-106.2129	44.49091	-2.39	0.017	-193.4134	-19.01228
EorLInc_EorL	-304.995	144.2123	-2.11	0.034	-587.646	-22.34398
elecfc~c_EorL	121.2932	52.11031	2.33	0.02	19.15889	223.4275
BanksExec1	-3.838582	22.43283	-0.17	0.864	-47.80613	40.12896
BanksExec1~c	5.221117	26.69836	0.2	0.845	-47.1067	57.54893
Banks~1_EorL	-2.604997	34.29907	-0.08	0.939	-69.82994	64.61995
Banks~c_EorL	5.157562	40.70371	0.13	0.899	-74.62023	84.93536
Watts4	-55.69931	24.14199	-2.31	0.021	-103.0167	-8.38188
Watts4_Eor~c	71.40547	32.072	2.23	0.026	8.54551	134.2654
Watts4_EorL	90.54515	39.20516	2.31	0.021	13.70445	167.3859
Watts~c_EorL	-115.2295	51.91942	-2.22	0.026	-216.9897	-13.46927
Logpop	2.380181	0.7271705	3.27	0.001	0.9549528	3.805409
logGDP_UN	0.4171092	0.6779093	0.62	0.538	-0.9115686	1.745787
polity2	-0.3713297	0.1167632	-3.18	0.001	-0.6001814	-0.1424781
WIIDgini	0.0310302	0.0281803	1.1	0.271	-0.0242021	0.0862625
banks_~1_lag	1.118745	0.2678992	4.18	0	0.5936722	1.643818
_cons	-192.1315	87.17904	-2.2	0.028	-362.9993	-21.2637
N	392					
# Countries	28					

Model 3b EorLGeo&lt;.7761

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