Political Institutions and Ethnic Conflict Resolution: Dealing with the Endogenous Nature of Institutions[*]

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Abstract

It is often argued that political institutions such as the level of democratization, consociationalism, federalism or the electoral system are able to mitigate ethnic conflict. However, these institutions have often been adopted in many countries to overcome social conflicts. Therefore, their presence is part and parcel of the explanation of societal conflicts. Empirically, political institutions thought to mitigate conflict are often not exogenous but nevertheless are treated as such in empirical analyses. Relying on previous empirical work on ethnic conflicts that include political institutions, we demonstrate how dealing with the endogenous nature of institutions leads to substantive different conclusions for many research questions on "minorities at risk."

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1   Introduction

In the literature on civil wars and ethnic conflicts scholars have come to focus increasingly on the effect of political institutions. Researchers attempt to determine whether institutions affect the likely outbreak of civil wars, whether they influence the protest and rebellious behavior of societal groups, etc. Similarly, a whole set of scholars try to assess what institutions should be adopted in post-conflict settlements.

This considerable and increasing interest in the effects of institutions can hardly surprise if one considers Belmont, Mainwaring and Reynolds's (2002, 2) claim that "[i]n contrast [to most other factors influencing conflict], political institutions can be altered to increase the likelihood of managing conflict democratically." Hence, this focus on political institutions has a clear policy goal, since it is hoped that they might help mitigate societal conflicts, prevent civil wars, and help settle violent conflicts.

Policy advice, however, should be well grounded in theoretical and empirical findings showing, in this particular case, the causal effects specific of political institutions. Determining these causal effects is, however, in general not an easy task, as Przeworski (2004) convincingly alerts us to. The difficulty resides in the fact that we can hardly resort to experimental studies to assess the effects of particular institutions. In addition, quasi-experimental studies employed to elucidate these effects are in general and more specifically in work on conflicts hampered by the intertwined problems of endogeneity and selection bias.

In this paper we wish to discuss in more detail how the endogeneity problem manifests itself in studies attempting to study the effects of political institutions on societal and ethnic conflicts. While the problem stemming from endogenous institutions is obviously a very broad problem both in the more general comparative politics literature and the literature on civil wars and societal conflicts, we wish to focus here on the particular case where societal groups and their protest and rebellious behavior are in the center of attention. In the next section we review the main arguments on the beneficial or detrimental effects of particular institutions on intrastate conflicts. In section three we highlight how most of these largely empirically derived insights suffer potentially from the endogenous nature of political institutions. We discuss how this problem appears and how it can be addressed. In section four we illustrate in two analyses relying on the

"minorities at risk" data (Gurr, 1993*b*; Gurr, 1993*a*; Gurr, 1997; Gurr, 2000*b*) as used in two studies by Cohen (1997) and Regan and Norton (2005) how the endogeneity problem can be addressed. Substantially, despite the preliminary character of our analyses, we find that federal institutions are part and parcel of conflict situations. Hence, the endogenous nature of federalism clearly has to be addressed before more solid conclusions may be ventured. Section 5 concludes.

2 The effect of political institutions on intrastate conflicts

Clearly, a mainstay of political science is that institutions matter, also when it comes to societal conflicts.[1] An important debate in this realm concerns the effect of democracy and democratization. While is seems commonly agreed that democracies hardly if ever engage in war with other democracies, despite not being necessarily more peaceful, a debate "rages" whether democratization, or more precisely incomplete democratization, may increase the likelihood of violent conflict. The main proponents of this view are Mansfield and Snyder (1995*b*, 2002, and 2005) (see also Snyder, 2000), who focus mostly on interstate wars, but in at least one analysis also include intrastate conflicts and find similar effects (Mansfield and Snyder, 1995*a*).[2] Their implicit argument that incomplete democratic transitions heighten the likelihood of civil wars is supported by the analyses of Hegre, Ellingsen, Gates and Gleditsch (2001) and Regan and Norton (2005). Both sets of authors find that there is a curvilinear relationship between the level of democracy as measured by the well-known Polity-IV index and the onset of a civil war.

When it comes to more specific political institutions, which are mostly relevant in democratic settings, quite considerable disagreements exist between proponents of different views. Some scholars argue in favor of power-sharing arrangements mostly associated with consociational arrangements or types of consensus democracy (e.g., Lijphart, 1977; Cohen, 1997; Lijphart, 2002; Reynal-Querol,

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[1]Our goal here is not to review exhaustively the literature dealing with the effect of institutions on societal conflicts. Instead we will focus on work most closely related to the arguments that follow.

[2]Needless to mention that there are many critics of this view (e.g., Enterline, 1996; Thompson and Tucker, 1997; Ward and Gleditsch, 1998; Saideman and Lanoue, 2005).

2002). Others disagree and emphasize that power-sharing arrangements that require collaboration after elections are hardly adequate to bridge societal conflicts (e.g., Horowitz, 1985; Horowitz, 2002; Roeder, 2003; Roeder and Rothchild, 2005) With respect to electoral systems some argue forcefully for proportional representation (e.g., Cohen, 1997; Lijphart, 2002; Reynal-Querol, 2002), while others see advantages in majoritarian systems (e.g., Horowitz, 1985; Horowitz, 2002; Roeder, 2003). Finally, also regarding decentralization and regional autonomy diverging views exist.[3] Some argue that federalism or regional autonomy helps to mitigate societal conflicts with a territorial component (e.g., Cohen, 1997; Congleton, 2000; Gurr, 2000a), while others disagree. The latter argue that federalism either hardly helps (e.g., Lake and Rothchild, 2005)[4] or only in conjunction with other institutional arrangements (e.g., Ghai, 2002; McGarry and O'Leary, 2003; McGarry, 2004; Brancati, 2005).

The theoretical basis for these various claims, as the controversial nature of the debates underlines, are disputed if not largely absent. Hence, most of the authors mentioned above come to their conclusion on the basis of empirical observations. These empirical observations all attempt to infer something on the effects of particular institutions, be they democratic ones, different varieties of power-sharing, electoral systems or federal arrangements and the like. Przeworski (2004) alerts us, however, convincingly to the difficulties of this endeavor. Since studies on the effects of particular institutions almost by definition cannot rely on experiments, the only way open are quasi-experimental research designs. For the specific questions at hand, namely what institutions might best mitigate societal conflicts, this causes particular problems. More precisely, to have an unbiased assessment of the effects of particular institutions, they need to be exogenous to the analysis we wish to carry out. Why this is hardly the case can easily be illustrated in relation to the policy advice that many of the scholars

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[3]McGarry (2002, 7) relates some "quite remarkable claims" among them that "referring to western democracies [Von Beyme (1985, 121)] argued in 1985 that 'Canada is the only country in which federalism did not prove capable of solving . . . ethnic conflict.'

[4]Actually, Lake and Rothchild (2005, 120) suggest that federalism may be a signaling device in the immediate aftermath of a conflict. Interesting to note is, however, that these authors fail to find any cases in which civil wars have led to decentralization. Hoddie and Hartzell (2005, 88), on other hand, find that in 18 of 38 peace settlements some sort of territorial power-sharing institutions were adopted. These arrangements shortened, however, the length of the subsequent peace period and led to longer periods until the first election was held. Roeder (2005) reports similar negative findings, namely that in ethnic dyads territorial autonomy increases the likelihood of ethnonational crises, armed conflict, the latter's intensity and increases.

mentioned above advance based on their research. If any of their advice is or has been followed, it is quite clear that the adoption of particular institutions is related to the various elements of the research questions we wish to address. Even in the absence of such a happy event of policy advice from political scientists actually being adopted, there is still likely to be a problem of endogeneity. Most institutions mentioned above have been introduced to solve particular societal problems, and as a consequence the latter need to be taken into account when assessing the effect of particular institutions empirically.[5]

3   The endogenous nature of political institutions

Probably the easiest example to illustrate the problem of endogeneity is federalism. Numerous scholars have opined about what leads to the adoption of federal systems. Lijphart (1999, 195), for instance, offers some speculations about what might explain the presence of federal systems, namely that they are large and/or plural (see also Grofman and Stockwell, 2002).[6] Stepan (1999) criticizes the path-breaking work of Riker (1964) on federalism, especially the latter's emphasis on external threat to explain federal arrangements. He suggests that there are also other reasons for federal arrangements. Panizza (1999), based on a theoretical model, proposes that ethnic fractionalisation, the size of the country, economic development and the level of democracy should affect fiscal federalism.[7]

Quite clearly then, the presence of federal arrangements is influenced by aspects which are likely to affect societal conflicts. The following tables offer suggestive evidence for these problems. Based on the "minorities at risk" dataset we determined how federal arrangements relate to the presence of such minorities. To assess whether federal arrangements are present, we employ McGarry's (2002,

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[5]A related though in part different reason why we should be wary about assessing the effects of particular institutions for conflict management is nicely discussed by Wagner (2004).

[6]Results reported below and in tables 16 and 17 lend partial support to these claims. In democratic countries federalism seems to be associated with larger countries (table 16). Overall, however, larger countries seem to adopt national federal systems, while size actually decreases the likelihood that multinational federalism is adopted. Similarly ethno-linguistic fractionalization increases not surprisingly the likelihood of having multinational federalism and decreases the likelihood of national federalism.

[7]Parts of these arguments also appear in Hechter (2000).

2) classification of countries as national and multinational federal systems.[8] Combining this classification with the data used by Regan and Norton (2005), who use the "minorities at risk" dataset to generate a dataset with observations corresponding to country-years for all countries, including those with no "minorities at risk," allows us to study this relationship. Table 1 shows for the first year for which all the necessary information is available for Regan and Norton's (2005) analyses, namely 1980, the relationship between federal arrangements and the presence of "minorities at risk." Quite clearly, "minorities at risk" are much more frequently present in federal than in unitary states. Interesting enough this relationship, which is unlikely to be due to chance in 1980, becomes weaker and statistically insignificant if later years are considered.[9]

Table 2 reports a similar analysis distinguishing, however, only between national federal systems and all remaining countries. Not surprisingly, for this distinction a relationship fails to materialize. If, however, we distinguish between multinational federal systems and all remaining countries, the relationship reappears (Table 3). Quite clearly then, the relationship between federalism and the presence of "minorities at risk" is largely due to the multinational federal systems, while national federal systems hardly differ from unitary states, when it comes to "minorities at risk."[10]

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[8]McGarry (2002, 2) also gives information on the timing of adoption and cites Argentina (1853 -), Australia (1901 -), Austria (1920 -), Brazil (1891 -), Germany (1949 -), Mexico (1917 -), United Arab Emirates (1971 -), United States (1789 -), and Venezuela (1960 -) as examples of national federations, while Belgium (1993 -), Bosnia (1995 -), Burma (1948 -), Cameroon (1961 - 1972), Canada (1867 -), Czechoslovakia (1968 - 1992), Ethiopia (1992 -), India (1950 -), Malaya (1957 - 1963), Malaysia (1963 -), Mali 1960 - (1960), Nigeria (1960 -), Pakistan (1947 - 1971), Russia (1993 -), South Africa (1996 -), Soviet Union (1918 - 1991), St. Kitts-Nevis (1983 -), Switzerland (1848 -), West Indies Federation (1958 - 1962), Yugoslavia (1992 -), and Yugoslavia (former) (1953 - 1992) are multinational federations (see also McGarry and O'Leary (2003, 4)). The notion of multinational federal system appears very similar to Alemán and Treisman's (2005) notion of "ethnically mined" federations, since there is a large overlap of the cases covered under these two labels.

[9]One might wonder why we chose this type of tabular presentation. The reason is that the relationship between federalism (or other institutions) and the presence of "minorities at risk" is most likely not only due to the endogenous nature of institutions but also to possible selection biases in the "minorities at risk" dataset. Since we have discussed this issue in other work (Christin and Hug, 2003; Hug, 2003) we refrain from addressing it here, except when it is directly relevant for our argument.

[10]The relationship between federalism and the presence of "minorities at risk" also appears when we employ other indicators for federalism, for instance the measure on centralization of the Polity III dataset, the measure on local authority provided by Beck, Clarke, Groff, Keefer and Walsh (2001), or classifications of countries as federal and unitary by Elazar (1991) and Watts (1999) as reported in Lane and Ersson (1999, 82). We report some of these additional

Table 1: Minorities at risk and federalism (1980)[a][b]

	unitary % (n)	national + multinational federal % (n)	total % (n)
no minority at risk	37.29 (44)	11.11 (2)	33.82 (46)
minority at risk	62.71 (74)	88.89 (16)	66.18 (90)
total	100 (118)	100 (18)	100 (136)

[a]*Source:* McGarry (2002, 2)
[b]χ^2= 4.781 (p=0.029)

Table 2: Minorities at risk and national federalism (1980)[a][b]

	unitary+multinational federal % (n)	national federal % (n)	total % (n)
no minority at risk	34.65 (44)	22.22 (2)	33.82 (46)
minority at risk	65.35 (83)	77.78 (7)	66.18 (90)
total	100 (127)	100 (9)	100 (136)

[a]*Source:* McGarry (2002, 2)
[b]χ^2= 0.580 (p=0.447)

analyses in the appendix.

Table 3: Minorities at risk and multinational federalism (1980)[ab]

	unitary+national federal % (n)	multinational federal % (n)	total % (n)
no minority at risk	36.22 (56)	0.00 (0)	33.82 (56)
minority at risk	63.78 (81)	100.00 (9)	66.18 (90)
total	100 (127)	100 (9)	100 (136)

[a]*Source:* McGarry (2002, 2)
[b]χ^2= 4.926 (p=0.026)

Quite clearly then federal arrangements are part and parcel of societal conflict situations, and thus have to be considered to be endogenous. Hence, simple comparisons between federal and non-federal systems are not adequate, since most likely some elements affecting conflict, but which we cannot measure, will also affect the presence of federal institutions. If this is the case, a basic assumption of simple regression analyses is violated, namely that the error term be unrelated with any explanatory variables. The consequence of this violation of an assumption is that we estimate the effect of particular institutions with a bias.

In the presence of this problem there are a variety of ways how we can try to fix this problem. The main ones are models of selection bias, instrumental variables and matching methods.[11] In the present paper we will focus on the use of instrumental variables to address the problem of endogeneity. This approach consists of finding an "instrument" (or several), namely a variable (or variables) that is (are) correlated with the variable suspected to be endogenous, but uncorrelated with the error term of the equation that we wish to estimate.[12] The variable suspected to be endogenous is then regressed on this "instrument" and possibly additional exogenous independent variables of the equation we wish

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[11]Przeworski, Alvarez, Cheibub and Limongi (2000, 279-289) discuss the former two methods, while Persson and Tabellini (2003, 113-153) provide a very instructive discussion of all three methods in the context of very similar research questions. Acemoglu (2005) criticizes some of the latter's empirical strategies, to which we will come back later.

[12]Good introductions and overviews over "instrumental variables" appear in Angrist, Imbens and Rubin (1996), Angrist and Krueger (1999), Angrist and Krueger (2001), and Wooldridge (2002, 83-113).

to estimate. Adding the residuals of this equation to the one we wish to estimate allows for a simple test of endogeneity. If the residuals have no statistically significant effect on our outcome variable, we can reject the hypothesis of endogeneity (Hausman, 1978).[13] If we cannot reject this hypothesis, we can replace the endogenous variable with the predicted values of the auxiliary regression, and the coefficient for this predicted variable gives us under certain conditions a consistent estimate of the effect of our endogenous variable.[14]

Several problems may, however, affect the "instrumental variable" approach to solving the endogeneity problem. First of all, the instrument(s) have to be sufficiently strong predictors of the endogenous variable. As Bartels (1991) and Bound, Jaeger and Baker (1995) nicely show, weak instruments may fail to solve the problem and yield estimates which are even worse than those of the models neglecting to address the endogeneity problem. Second, while we can test whether our instruments statistically significantly affect our endogenous variable, we cannot determine whether our instruments are unrelated to the error term in the outcome equation. Similarly, the instruments employed should also be unrelated to any other variables possibly affecting the outcome variable.[15] Finally, there is also the problem of identification to be considered (e.g., Bollen, Guilkey and Mroz, 1995; Angrist and Krueger, 2001).

Given the considerable evidence that political institutions are endogenous, it is surprising how few studies dealing with their effects on societal conflicts and civil wars address this problem. Among the lone exceptions are the studies by Sambanis (2000), Elbadawi and Sambanis (2002), Brancati (2005), Reynal-Querol (2005), and Schneider and Wiesehomeier (2005). What many of these authors fail to acknowledge, however, are the problems related to weak instruments and the problem of identification. Often scholars fail report the results of the first-stage auxiliary regression, which would allow assessing whether these problems might

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[13]While Hausman (1978) developed this test in the context of the classical linear regression, Rivers and Vuong (1988) as well as Bollen, Guilkey and Mroz (1995) derive similar tests for addressing endogeneity problems in non-linear models with limited-dependent variable.

[14]It is important to emphasize here that the properties of estimates based on instrumental variables are asymptotic. Hence, we only know that when the sample size tends to infinity our estimates will tend toward the true values.

[15]In this context the dispute about whether good institutions affect economic growth is illustrative. Given the endogenous nature of good institutions Acemoglu, Johnson and Robinson (2001) instrument the latter with settler mortality and indigenous population density in 1500. These two variables, according to Glaeser, Porta, de Silanes and Shleifer (2004), are, however, also correlated with human capital, which should also affect economic growth.

exist.[16]

4 Political institutions and "minorities at risk"

In what follows we wish to illustrate the problem of endogenous institutions in the context of studies employing information on "minorities at risk." An increasing number of studies employ this important dataset in order to assess the effect of particular institutions. Cohen (1997), for instance, assesses how various political institutions affect the protest and rebellious behavior of minorities at risk. Saideman, Lanoue, Michael and Stanton (2002) as well as Brancati (2005) study how democracy and particular institutions influence conflict behavior, while Regan and Norton (2005) assess the effect of democracy on protest, rebellion and the onset of civil wars.

When using "minorities at risk" as units of analysis a potential problem is obviously, that we are in the presence of a selected subsample of relevant cases (e.g. Christin and Hug, 2003; Hug, 2003). When information on the presence of "minorities at risk" is aggregated to the country (or country-year) level, while countries with no "minorities at risk" are also included, the selection bias problem translates into a problem of systematic measurement error (Christin and Hug, 2004). In the case of a linear model, this obviously only affects the estimation of the constant term, provided the measurement error is not correlated with any other independent variables. In the context of nonlinear models, however, systematic measurement error in the dependent variable, even when unrelated to any other independent variables, affects all estimated coefficients as Hausman, Abrevaya and Scott-Morton (1998) nicely demonstrates (see also Hausman, 2001).

Nevertheless, given the prominence of this approach we will use as starting point two analyses using the "minorities at risk" data (Cohen, 1997; Regan and Norton, 2005) to assess the effect of a particular institution, namely federalism. While Cohen (1997) directly studies federalism and finds a positive effect on protest behavior but a negative one on rebellion in democratic countries, Regan and Norton (2005) do not consider this institution in their analyses of all states.

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[16]Reynal-Querol (2005), for instance, fails to report any information on the auxiliary regression. Given that in a related study Schneider and Wiesehomeier (2005) use almost identical instruments and similar variables and find r^2s barely exceeding 0.1, we may suspect that the instruments are not exactly well performing. This problem is also nicely addressed in Acemoglu's (2005) critique of Persson and Tabellini (2003).

For this reason we will start with analyses related to Cohen's (1997) study, namely his analyses of rebellions. Employing as dependent variable the 8-point scale (0-7) provided by the "minorities at risk" dataset he finds that both federalism and proportional representation reduces rebellious behavior by "minorities at risk," while multiparty systems increase this same behavior.

Given that we suspect that the analyses focusing on "minorities at risk" exclusively may suffer from selection biases (Christin and Hug, 2003) and to allow for comparisons with other analyses we present later in this paper, we aggregate a dataset reflecting Cohen's (1997) dataset[17] to the country-year level and combine it with information on countries having no "minorities at risk." Replicating analyses on this dataset yields largely similar results as the ones we were able to report in Christin and Hug (2003).[18]

In table 4 we report our results.[19] Model 1 replicates Cohen's (1997) analyses at the level of country-years. As in our replication at the level of group-years (Christin and Hug, 2003), we fail to find a significant effect for federal institutions. The remaining effects are very similar to the ones reported in Christin and Hug (2003) and support Cohen's (1997) claims. When introducing also the countries without "minorities at risk" (model 2) some coefficients and their standard errors change, but none of the substantive conclusions are affected. Federalism still fails to significantly affect rebellious behavior. In model 3 we exclude all first observations from each of the country-specific time series and still find largely similar effects.

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[17]Cohen (1997) no longer has the original dataset at hand, but only a partial one (personal communication). Analyses on the basis of this partial dataset largely confirm the results reported here (Hug, 2005).

[18]In the appendix we report these additional results. Given that Cohen (1997) uses several group-specific variables, we aggregated these to the maximum level for each country-year. For countries having no "minorities at risk" we set the corresponding values to the lowest levels where appropriate. This allows us to include all variables used by Cohen (1997) in our analysis with the exception of his subordination measure which is the result of a factor analysis. As analyses reported in the appendix show, however, omitting this variable fails to significantly affect any of the other estimates. Hence, we exclude this variable from our subsequent analyses.

[19]For the variables employed in this analysis as well as the remaining ones we report descriptive statistics in the appendix.

Table 4: Explaining rebellion: replication of Cohen (1997) (aggregated to country-year)

	model 1 b (s.e.)	model 2 b (s.e.)	model 3 b (s.e.)	model 4 b (s.e.)	model 5 b (s.e.)
Intragovernmental power distribution	-0.047 (0.094)	-0.067 (0.100)	-0.042 (0.102)	-1.463 (0.749)	
Electoral system	-0.260 (0.103)	-0.282 (0.112)	-0.266 (0.118)	-0.381 (0.132)	-0.374 (0.132)
Party system	0.084 (0.134)	0.115 (0.153)	0.216 (0.156)	0.320 (0.165)	0.349 (0.164)
Group cohesion index for 1980s	0.001 (0.112)	0.069 (0.123)	0.000 (0.127)	0.128 (0.143)	0.113 (0.143)
Group concentration index in 1980s	0.032 (0.074)	0.043 (0.079)	0.104 (0.083)	-0.043 (0.113)	-0.038 (0.113)
Proportionate group size (to size of country)	2.055 0.(492	1.818 0.529)	1.629 (0.542)	1.761 (0.544)	1.698 (0.542)
Country size in quartiles	0.156 (0.077)	0.190 (0.082)	0.149 (0.085)	0.317 (0.122)	0.316 (0.122)
Political system persistence	-0.002 (0.002)	-0.002 (0.003)	-0.002 (0.002)	0.008 (0.006)	0.008 (0.006)
Political system transition	-0.393 (0.241)	-0.600 (0.269)	-0.554 (0.288)	-0.788 (0.312)	-0.731 (0.310)
Residual federalism				1.447 (0.756)	
Prediction federalism					-1.455 (0.750)
Constant	0.938 (0.419)	0.789 (0.466)	0.550 (0.476)	2.504 (1.125)	2.406 (1.124)
see	1.265	1.287	1.271	1.264	1.264
n	308	377	255	255	255

To assess whether the results for the federalism indicator are possibly due to endogeneity bias, we need to propose instruments satisfying two conditions. First, they have to correlate with the variable they are supposed to be instrumenting for (i.e., federalism), and second they should be uncorrelated with the error term in the equation as reported on in model 2. Given that we have a time-series component in our data, namely observations every five year for several countries, we can rely on Greene's (2003, 79f) suggestion to use lagged values of our inde-

pendent variables.[20] Given that these lagged independent variables are likely to be considerably correlated with these same non-lagged variables, we also use the latter (provided they vary over time) in our auxiliary first-stage regression.[21]

In model 4 we introduce the residuals of this auxiliary regression. The estimated coefficient for this new variable is significantly different from zero, suggesting a problem of endogeneity. For the final model (5) we replace the federalism variable by the predicted values of the auxiliary regression and find a much stronger and statistically significant effect for federalism. This result is interesting, since it jibes with the one we found when replicating Cohen's (1997) analyses, while correcting for selection biases in the "minorities at risk" dataset.[22]

In tables 5, 6, and 7 we report the results of similar analyses on the effect of federalism in empirical models proposed by Regan and Norton (2005). These authors analyze three levels of escalation in societal conflicts, namely protest, rebellion and civil war. They employ for the explanation for each of these three onset variables the same set of independent variables. Given the time series component of their data and the dichotomous nature of their dependent variables, they follow Beck, Katz and Tucker's (1998) recommendation and introduce cubic-splines in addition to a counter measuring the number of years since the last onset.[23] We introduced in each of these three models as additional independent variables two dichotomous variables measuring whether a particular country had a national or multinational federal system (McGarry, 2002, 2).[24]

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[20]Obviously, this suggestion is not without problem in the presence of time-dependence. We neglect this problem here, and thus the results reported below have to be considered as a first cut.

[21]We report the results of all these first-stage regressions in the appendix. For the present analyses we find that the lagged independent variables (except federalism, since this variable hardly varies) have a jointly significant effect on the federalism variable (F=2.590, p=0.014).

[22]It has to be noted, however, that once we also corrected for rather serious problems of missing data, these effects were reduced and no longer statistically significant. Hence, even the results reported here need to be taken with a grain of salt, before we also address this missing data problem.

[23]Given the way this dataset is constructed, namely to match information on "minorities at risk" or the occurrence of civil wars with a dataset where the observation is a country, we suspect that the dependent variables will suffer from systematic measurement error. This is likely if for one reason or another not all "minorities at risk" or all civil wars were correctly identified. In the context of non-linear models this leads to biased estimated not only of the constant term, but of all the estimated coefficients. While we discuss ways to address this problem in another paper (Christin and Hug, 2004), we refrain from doing so here.

[24]We used these variables, since they appear to better reflect what we are concerned with than the centralization measure employed by Cohen (1997). We also carried out the analyses

Table 5: Explaining protest onset (Regan and Norton, 2005)

	model 1	model 2	model 3	model 4	model 5
	b	b	b	b	b
	(s.e.)	(s.e.)	(s.e.)	(s.e.)	(s.e.)
Discrimination	0.086	0.093	0.084	0.075	0.074
	(0.076)	(0.077)	(0.083)	(0.082)	(0.082)
Per capita income	-0.092	-0.113	-0.143	-0.103	0.047
	(0.172)	(0.183)	(0.179)	(0.177)	(0.231)
Repression$_{t-1}$	-0.249	-0.257	-0.230	-0.224	-0.229
	(0.131)	(0.132)	(0.136)	(0.136)	(0.136)
Extractables	0.076	0.044	0.134	0.148	-0.034
	(0.280)	(0.289)	(0.305)	(0.302)	(0.353)
Log population	-0.115	-0.130	-0.134	-0.105	0.039
	(0.090)	(0.093)	(0.099)	(0.096)	(0.173)
Democracy	-0.040	-0.038	-0.067	-0.063	-0.063
	(0.096)	(0.096)	(0.098)	(0.099)	(0.100)
Democracy^2	0.001	0.001	0.002	0.002	0.003
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Ethnolinguistic	-0.003	-0.002	-0.004	-0.004	0.006
fractionalization	(0.004)	(0.005)	(0.005)	(0.005)	(0.011)
National federalism		0.436	0.611		
		(0.484)	(0.513)		
Multinational federalism		-0.068	0.252	0.171	-2.921
		(0.436)	(0.466)	(0.460)	(3.122)
Peaceyears	-5.014	-4.998	-4.500	-4.488	-4.501
	(0.415)	(0.415)	(0.456)	(0.455)	(0.456)
Residual multinational					3.136
federalism					(3.127)
Spline1	0.434	-0.432	-0.380	-0.379	-0.379
	(0.044)	(0.044)	(0.049)	(0.049)	(0.049)
Spline2	0.093	0.093	0.081	0.080	0.080
	(0.012)	(0.012)	(0.013)	(0.013)	(0.013)
Spline3	-0.022	-0.022	-0.019	-0.019	-0.019
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Constant	5.552	5.917	6.256	5.502	1.864
	(1.976)	(2.167)	(2.186)	(2.114)	(4.195)
Log likelihood	-315.992	-315.527	-299.323	-300.065	-299.565
N	2019	2019	1888	1888	1888
LR chi^2	1809.26	1810.19	1688.33	1686.85	1687.85

For the onset of protest (table 5) we fail to find any statistically significant effect of the two federalism indicators (model 2), while none of the other estimated

reported in table 4 with the variables employed here and found largely similar results.

coefficients changes compared to the results obtained by Regan and Norton (2005) (model 1).[25] Nevertheless we regressed one of the federalism indicators, namely the one for multinational federalism on lagged values of the independent variables as well as all exogenous variables appearing in table 5. Model 5 of table 5 includes the residuals of this auxiliary regression[26] as additional regressor. Quite clearly the effect of these residuals on the onset of protest behavior is statistically not significant, which allows us to reject the hypothesis of endogeneity. Models 3 and 4 of this table reflect alternative specifications estimated on the same set of observations as the ones used in model 5.

In table 6 we report the results of similar analyses focusing on the outbreak of rebellions. As the results for model 2 suggests, contrary to the onset of protest behavior, rebellions are clearly affected by the presence of federal institutions. Notable is the fact that it is multinational federalism that decreases the outbreak of rebellions, but hardly national federalism. Carrying out again an auxiliary regression for this federalism variable we find that the residuals from this regression (model 6) have a statistically significant effect on rebellions. Replacing this federalism variable by the predictions of the auxiliary regression, we find a much stronger negative effect of this variable on the onset of rebellions. At the same time, some of the other estimated coefficients also change compared to the original results reported by Regan and Norton (2005) (model 1). As comparisons with models 4, 5, and 6 suggest this has as much to do with the changes in the size of the sample as with this correction for endogeneity.

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[25]Interestingly, also the institution that Regan and Norton (2005) use as independent variable, namely democracy, fails to have a significant effect. Even though democracy is not the main focus of our analysis we also tested for the endogeneity of this institution in the analyses by Regan and Norton (2005). We find some evidence for this, but given that addressing the problem of endogeneity of the democracy measure hardly affects the main conclusions drawn by Regan and Norton (2005), we only report these additional analyses in the appendix.

[26]The results of this auxiliary regression as well as all the ones referred to later in this text appear in table 17 in the appendix. One considerable shortcoming of the current specification of these auxiliary regressions is that they fail to address the problem of time dependency. Addressing this problem is left for future research.

Table 6: Explaining rebellion (Regan and Norton, 2005)

| | model 1 | model 2 | model 3 | model 4 | model 5 | model 6 | model 7 |
| | b | b | b | b | b | b | b |
	(s.e.)	(s.e.)	(s.e.)	(s.e.)	(s.e.)	(s.e.)	(s.e.)
Discrimination	0.507	0.511	0.460	0.466	0.468	0.472	0.465
	(0.048)	(0.048)	(0.050)	(0.051)	(0.051)	(0.051)	(0.051)
Per capita income	0.449	0.559	0.457	0.523	0.507	1.143	1.142
	(0.096)	(0.103)	(0.103)	(0.106)	(0.105)	(0.147)	(0.147)
Repression$_{t-1}$	0.138	0.142	0.124	0.110	0.108	-0.039	-0.037
	(0.066)	(0.066)	(0.070)	(0.071)	(0.071)	(0.075)	(0.075)
Extractables	0.052	0.074	0.006	-0.030	-0.045	-0.804	-0.812
	(0.146)	(0.147)	(0.157)	(0.160)	(0.159)	(0.202)	(0.202)
Log population	0.238	0.275	0.251	0.307	0.299	0.883	0.883
	(0.046)	(0.048)	(0.049)	(0.052)	(0.051)	(0.108)	(0.108)
Democracy	0.300	0.314	0.293	0.306	0.299	0.333	0.333
	(0.054)	(0.055)	(0.058)	(0.059)	(0.058)	(0.059)	(0.059)
Democracy^2	-0.011	-0.012	-0.011	-0.011	-0.011	-0.011	-0.011
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Ethnolinguistic fractionalization	0.008	0.011	0.006	0.010	0.010	0.051	0.050
	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	(0.007)	(0.007)
National federalism		-0.217		-0.234			
		(0.270)		(0.281)			
Multinational federalism		-0.732		-0.877	-0.856	-13.156	
		(0.223)		(0.260)	(0.259)	(1.949)	
Peaceyears	-0.759	-0.764	-1.318	-1.321	-1.323	-1.317	-1.316
	(0.097)	(0.098)	(0.161)	(0.162)	(0.162)	(0.164)	(0.163)
Residual multi-national federalism						12.563	
						(1.966)	
Prediction multi-national federalism							-13.215
							(1.948)
Spline1	-0.009	-0.009	-0.024	-0.024	-0.024	-0.024	-0.024
	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Spline2	0.001	0.001	0.011	0.011	0.011	0.012	0.012
	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Spline3	0.004	0.004	0.001	0.001	0.001	-0.001	-0.000
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Constant	-8.441	-10.051	-6.701	-8.234	-7.985	-22.957	-22.893
	(1.107)	(1.235)	(1.222)	(1.327)	(1.294)	(2.740)	(2.738)
log likelihood	-806.680	-801.011	-725.775	-719.637	-719.990	-697.906	-700.457
N	2019	2019	1888	1888	1888	1888	1888
LR chi^2	635.67	647.01	645.05	657.33	656.62	700.79	695.69

Finally turning to the explanation of civil war outbreak (table 7), we find that

national federalism has again a statistically significant negative effect, but that the effect for multinational federal systems is (again statistically significantly) positive. Regressing both of these variables on the same instruments as before we find that the residuals from this analysis significantly affect the outbreak of rebellions (model 5). Replacing the federalism indicators by the predicted values of the auxiliary regressions we find strong negative effects of largely similar magnitudes for both types of federal systems.[27]

Again we find that some of the remaining coefficients in the model undergo some changes, but this set of estimations comparisons with results of models 3, 4, and 5 suggest that it is not only the change in the sample size which explains these differences. We suspect that these rather considerable changes are in part due to the fact that both dichotomous indicators for federalism are instrumented for by exactly the same variables, which is likely to cause some problems.[28]

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[27]A log-likelihood ratio test of the hypothesis that the two estimates are identical yiels a χ^2 value of 0.10, which is obviously far from reaching statistical significance. Hence, we cannot reject the hypotheses that after correcting for endogeneity bias, both types of federalism have the same effect on the outbreak of civil wars.

[28]Acemoglu's (2005) critique of Persson and Tabellini (2003) also highlights such a problem in the latter's work.

Table 7: Explaining civil war (Regan and Norton, 2005)

	model 1	model 2	model 3	model 4	model 5	model 6
	b	b	b	b	b	b
	(s.e.)	(s.e.)	(s.e.)	(s.e.)	(s.e.)	(s.e.)
Discrimination	0.835	0.815	0.755	0.733	0.529	0.529
	(0.083)	(0.082)	(0.085)	(0.084)	(0.090)	(0.091)
Per capita income	-0.193	-0.163	-0.209	-0.093	1.534	1.412
	(0.139)	(0.151)	(0.150)	(0.154)	(0.272)	(0.270)
Repression$_{t-1}$	1.183	1.191	1.264	1.256	1.022	1.039
	(0.102)	(0.104)	(0.112)	(0.114)	(0.123)	(0.121)
Extractables	-0.454	-0.567	-0.590	-0.644	-0.808	-0.574
	(0.202)	(0.211)	(0.215)	(0.221)	(0.355)	(0.350)
Log population	0.523	0.565	0.524	0.580	1.885	1.795
	(0.074)	(0.078)	(0.077)	(0.084)	(0.201)	(0.192)
Democracy	0.082	0.117	0.075	0.131	0.411	0.355
	(0.084)	(0.088)	(0.088)	(0.091)	(0.112)	(0.110)
Democracy^2	-0.004	-0.006	-0.004	-0.007	-0.018	-0.015
	(0.004)	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)
Ethnolinguistic fractionalzation	0.013	0.009	0.013	0.011	0.043	0.038
	(0.004)	(0.004)	(0.004)	(0.004)	(0.012)	(0.012)
National federalism		-2.633		-2.861	-18.685	
		(0.934)		(1.076)	(4.004)	
Multinational federalism		0.505		0.020	-17.201	
		(0.286)		(0.319)	(2.945)	
Peaceyears	-0.937	-0.942	-1.166	-1.180	-1.072	-1.055
	(0.133)	(0.135)	(0.186)	(0.186)	(0.197)	(0.196)
Residual national federalism					16.086	
					(3.904)	
Residual multi-national federalism					18.044	
					(3.040)	
Prediction national federalism						-17.260
						(3.977)
Prediction multi national federalism						-15.575
						(2.815)
Spline1	-0.011	-0.011	-0.015	-0.016	-0.013	-0.012
	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)
Spline2	0.002	0.002	0.006	0.006	0.005	0.004
	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)
Spline3	0.005	0.006	0.004	0.004	0.004	0.004
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Constant	-10.905	-11.612	-9.762	-11.408	-45.216	-42.743
	(1.783)	(1.966)	(1.894)	(2.066)	(5.078)	(4.869)
log likelihood	-394.496	-385.547	-357.549	-351.199	-312.249	-320.033
N	2019	2019	1888	1888	1888	1888
LR chi^2	799.62	817.52	764.89	777.59	855.49	839.92

5 Conclusion

When analyzing the effects of political institutions on societal conflicts, many considerations should lead us to suspect that institutions are endogenous. Determining the latter's effect becomes consequently considerably more difficult than what most scholars implicitly assume in their analyses.

In the present paper we have proposed to study the effect of one specific institution, namely federalism on various forms of conflict behavior, from protest to civil wars. For this we relied on two datasets that glean their information on conflict behavior from the "minorities at risk" data. We find that when analyzing more conflictual behavior like rebellion or civil wars that federal institutions can hardly be considered as exogenous to the relationships we wish to study. More precisely, when analyzing the effect of federal institutions in democratic systems we find initially no effect of this institution on rebellions. We find, however, despite (or perhaps because of) a rather crude approach to finding instruments for our federalism measure, evidence supporting the idea that federal arrangements are clearly endogenous. When addressing this problem with instrumental variables, we find that federal arrangements appear to reduce rebellious behavior. We find similar results, however, only for multinational federal systems when we cover all countries and not only democratic ones.

When carrying out the same analysis for the outbreak for civil wars we initially find that in national federal countries the outbreak of civil wars is less likely, while multinational federalism spurs the outbreak of such wars. When addressing of possible endogeneity of these institutions we find that both types of federal arrangements have almost identical negative effects on the outbreak of civil wars.

Only in the analyses assessing the effect of federal arrangements on the onset of protest effects do we fail to find any indication supporting our contention that these institutions are endogenous. For the onset of protest we also fail, however, in finding any effect for these institutions.

Thus, our analyses suggest that for at least one often referred to institution affecting conflict behavior there are good reasons to be suspicious about the inferences of simple analyses. Federalism is likely to be introduced in relation with societal conflicts. Hence, to assess the effect of federalism or any other political institution on conflictual behavior we need to assess whether the former are endogenous to our analysis.

Appendix

In this appendix we provide information on the data employed in this paper and additional analyses referred to in the main text. In tables 8 and 9 we report the descriptive statistics for the analyses we report in the main text, except if they can be found in the papers by Cohen (1997) and Regan and Norton (2005). Both tables 10 and 11 report the relationship between federalism as measured by local authority by Beck, Clarke, Groff, Keefer and Walsh (2001) and the presence of minorities at risk, first for the full set of countries (table 10) as generated by MARGene (Bennett and Davenport, 2003) and then for the subset of countries analyzed by Regan and Norton (2005) (table 11). Tables 12 and 13 do the same thing, but while using the classification of federalism according to Watts (1999) as reported in Lane and Ersson (1999, 82).

Table 14 reports in the first column the results of our replication of Cohen's (1997) study using group-years as observations. In column 2 we report the results of estimating the same model, but omitting one variable which is impossible to derive for countries with no "minorities at risk," namely Cohen's (1997) subordination index. In column 3 the same model is estimated, including, however, all the cases for which the variable subordination has missing values, while in the last column also the countries with no "minorities at risk" are included.

Table 15 reports the results of exactly the same model, but estimated with data at the level of country-years instead of at the level of group-years. As is apparent, none of these changes affect any of the substantive conclusions obtained in the replication of Cohen's (1997) study reported in the first column of table 14.

Table 16 reports the results of the first stage auxiliary regressions for the analyses reported in table 4 in the main text. Table 17 reports on the auxiliary regressions performed for the analyses appearing in tables 5, 6, and 7 of the main text for the analyses of protest onset, rebellion and civil war. In table 18 we report auxiliary regressions for a variable employed by Regan and Norton (2005), namely the level of democracy. As the results reported in tables 19, 20, and 21 suggest, the level of democracy is endogenous for the analyses of rebellion and civil war.[29] For the analyses of protest onset we fail to find evidence for

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[29]In the case of rebellion both the residuals of the democracy variable and its square have a statistically significant effect, while for the analyses of civil wars, we obtain jointly significant

endogeneity (table 19). In the two remaining cases we find evidence for the endogenous nature of democracy. Given that addressing this problem fails to affect any major substantive conclusions discussed in Regan and Norton (2005) (tables 20 and 21), we refrain from reporting on these results in the main text and offer them here only for completeness' sake.

Finally in Table 22 we discuss how we attempted to reconstruct Cohen's (1997) dataset.[30]

Table 8: Descriptive statistics for reanalyses of Regan and Norton (2005)

Variable	Min	Mean	Max	Std. Dev.	Obs
Protest	0	0.294	1	0.456	1888
Rebellion	0	0.244	1	0.429	1888
Civil war	0	0.133	1	0.340	1888
Discrimination	0	2.065	4	1.688	1888
Per capita income	5.838	8.112	9.771	0.865	1888
$Repression_{t-1}$	1	2.388	9	1.146	1888
Extractables	0	0.289	1	0.453	1888
Log population	12.328	16.173	20.918	1.469	1888
Democracy	0	10.835	20	7.715	1888
$Democracy^2$	0	176.884	400	169.919	1888
Ethnolinguistic fractionalization	1	42.671	93	29.050	1888
National federalism	0	0.055	1	0.228	1888
Multinational federalism	0	0.077	1	0.266	1888

effects for the two residual-variables.

[30]A more detailed presentation has been presented in Christin and Hug (2003).

21

Table 9: Descriptive statistics for reanalyses of Cohen (1997)

Variable	Min	Mean	Max	Std. Dev.	Obs
Rebellion Index	0	1.007	7	1.365	277
Intragovernmental power distribution	1	1.567	3	0.860	277
Electoral system	1	2.090	3	0.857	277
Party system	1	2.549	3	0.598	277
Group cohesion index for 1980s	1	3.195	6	1.754	277
Group concentration index in 1980s	1	3.773	6	2.364	277
Proportionate group size (to country size)	0	0.093	0.967	0.178	277
Country size in quartiles	1	2.213	4	1.165	277
Political system persistence	-68	14.679	174	50.157	277
Political system transition	0	0.538	1	0.499	277

Table 10: Local authority[a] and minorities at risk (n=200)[b]

	no local authority % (n)	local authority % (n)	total % (n)
no minority at risk	40.8 (69)	22.6 (7)	38.0 (76)
minority at risk	59.2 (100)	85.7 (24)	62.0 (124)
total	100.0 (169)	100.0 (31)	100.0 (200)

[a]*Source:* Beck, Clarke, Groff, Keefer and Walsh (2001)
[b]χ^2= 3.702 (p=0.054)

Table 11: Local authority[a] and minorities at risk (n=163)[b]

	no local authority % (n)	local authority % (n)	total % (n)
no minority at risk	26.3 (35)	23.3 (7)	25.8 (76)
minority at risk	73.7 (98)	76.7 (23)	74.2 (124)
total	100.0 (133)	100.0 (30)	100.0 (163)

[a]*Source:* Beck, Clarke, Groff, Keefer and Walsh (2001)
[b]χ^2= 0.114 (p=0.736)

Table 12: Minorities at risk and federalism[a] (n=200)[b]

	unitary % (n)	federal % (n)	total % (n)
no minority at risk	40.8 (73)	14.3 (3)	38.0 (76)
minority at risk	59.2 (106)	85.7 (18)	62.0 (124)
total	100.0 (179)	100.0 (21)	100.0 (200)

[a]*Source:* Watts (1999) as reported in Lane and Ersson (1999, 82).
[b]χ^2= 5.601 (p=0.018)

23

Table 13: Minorities at risk and federalism[a] (n=163)[b]

	unitary % (n)	federal % (n)	total % (n)
no minority at risk	27.5 (39)	14.3 (3)	25.8 (42)
minority at risk	72.5 (103)	85.7 (18)	74.2 (124)
total	100.0 (142)	100.0 (21)	100.0 (163)

[a]*Source:* Watts (1999) as reported in Lane and Ersson (1999, 82).
[b]χ^2= 1.661 (p=0.197)

Table 14: Explaining rebellion: replication of Cohen (1997)

	model 1 b (s.e.)	model 2 b (s.e.)	model 3 b (s.e.)	model 4 b (s.e.)
Intragovernmental power distribution	-0.040 (0.082)	-0.034 (0.080)	-0.010 (0.060)	-0.008 (0.053)
Electoral system	-0.199 (0.097)	-0.199 (0.097)	-0.128 (0.077)	-0.142 (0.063)
Party system	0.144 (0.125)	0.138 (0.124)	0.060 (0.099)	0.079 (0.083)
Subordination index	0.032 (0.088)			
Group cohesion index for 1980s	0.043 (0.075)	0.029 (0.065)	0.001 (0.053)	-0.143 (0.041)
Group concentration index in 1980s	0.131 (0.038)	0.129 (0.038)	0.121 (0.027)	0.081 (0.024)
Proportionate group size (to country size)	1.927 (0.481)	1.996 (0.442)	2.011 (0.395)	1.790 (0.364)
Country size in quartiles	0.224 (0.072)	0.224 (0.072)	0.133 (0.056)	0.029 (0.046)
Political system persistence	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.001)	-0.003 (0.001)
Political system transition	0.251 (0.199)	0.262 (0.197)	0.137 (0.158)	-0.107 (0.138)
Constant	-0.938 (0.552)	-0.874 (0.523)	-0.473 (0.422)	0.831 (0.280)
see	1.247	1.245	1.150	1.070
n	345	345	474	578

Table 15: Explaining rebellion: replication of Cohen (1997) (aggregated to country-year)

	model 1 b (s.e.)	model 2 b (s.e.)	model 3 b (s.e.)	model 4 b (s.e.)
Intragovernmental power distribution	-0.106 (0.146)	-0.097 (0.135)	-0.042 (0.125)	-0.047 (0.094)
Electoral system	-0.256 (0.163)	-0.255 (0.163)	-0.296 (0.148)	-0.260 (0.103)
Party system	0.106 (0.217)	0.100 (0.214)	0.116 (0.196)	0.084 (0.134)
Subordination index	0.028 (0.175)			
Group cohesion index for 1980s	0.290 (0.155)	0.283 (0.148)	0.230 (0.140)	0.001 (0.112)
Group concentration index in 1980s	0.111 (0.109)	0.112 (0.109)	0.169 (0.092)	0.032 (0.074)
Proportionate group size (to country size)	2.097 (0.736)	2.163 (0.609)	2.060 (0.579)	2.055 (0.492)
Country size in quartiles	0.307 (0.116)	0.309 (0.114)	0.258 (0.099)	0.156 (0.077)
Political system persistence	-0.001 (0.003)	-0.001 (0.003)	-0.002 (0.003)	-0.002 (0.002)
Political system transition	0.091 (0.340)	0.094 (0.338)	0.180 (0.314)	-0.393 (0.241)
Constant	-1.602 (0.861)	-1.582 (0.850)	-1.601 (0.793)	0.938 (0.419)
see	1.502	1.498	1.471	1.265
n	190	190	204	308

Table 16: Auxiliary regression federalism (Cohen, 1997) (aggregated to country-year)

	b
	(s.e.)
Party system	0.135
	(0.136)
Group cohesion index for 1980s	0.104
	(0.086)
Political system persistence	0.023
	(0.029)
Political system transition	0.108
	(0.256)
Electoral system$_{t-1}$	-0.072
	(0.074)
Party system$_{t-1}$	-0.066
	(0.134)
Group concentration index in 1980s$_{t-1}$	-0.134
	(0.054)
Proportionate group size$_{t-1}$	0.098
	(0.340)
Country size in quartiles$_{t-1}$	0.115
	(0.055)
Political system persistence$_{t-1}$	-0.015
	(0.029)
Political system transition$_{t-1}$	-0.466
	(0.234)
Constant	1.479
	(0.345)
r^2	0.208
adj. r^2	.172
see	0.795
n	255

Table 17: Auxiliary regressions federalism (Regan and Norton, 2005)

	onset	rebel	civil war	
	model 1	model 2	model 3	model 4
	multinational federalism			national federalism
	b	b	b	b
	(s.e.)	(s.e.)	(s.e.)	(s.e.)
Discrimination	0.00	0.00	0.01	-0.01
	(0.01)	(0.01)	(0.01)	(0.01)
Per capita income	-0.13	-0.13	-0.13	-0.02
	(0.06)	(0.06)	(0.06)	(0.05)
Repression$_{t-1}$	-0.00	-0.00	-0.00	0.00
	(0.01)	(0.01)	(0.01)	(0.01)
Extractables	-0.06	-0.06	-0.06	0.05
	(0.01)	(0.01)	(0.01)	(0.01)
Log population	-2.75	-2.77	-2.72	2.56
	(0.58)	(0.58)	(0.58)	(0.52)
Democracy	-0.00	-0.00	-0.00	0.02
	(0.01)	(0.01)	(0.01)	(0.01)
Democracy^2	0.00	0.00	0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Ethnolinguistic	0.00	0.00	0.00	-0.00
fractionalizazion	(0.00)	(0.00)	(0.00)	(0.00)
Peaceyears	0.00	-0.00	-0.01	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Discrimination$_{t-1}$	-0.00	-0.00	-0.01	-0.00
	(0.01)	(0.01)	(0.01)	(0.01)
Per capita income$_{t-1}$	0.17	0.17	0.17	0.07
	(0.06)	(0.06)	(0.06)	(0.05)
Repression$_{t-2}$	0.00	0.00	0.00	0.01
	(0.01)	(0.01)	(0.01)	(0.01)
Log population$_{t-1}$	2.79	2.82	2.77	-2.52
	(0.58)	(0.58)	(0.58)	(0.52)
Democracy$_{t-1}$	0.00	0.00	0.00	-0.00
	(0.01)	(0.01)	(0.01)	(0.01)
Democracy$^2_{t-1}$	-0.00	-0.00	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Peaceyears$_{t-1}$	-0.01	-0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Constant	-1.01	-1.01	-1.03	-1.01
	(0.10)	(0.10)	(0.10)	(0.09)
r^2	0.2018	0.2014	0.2016	0.1399
adj r^2	0.195	0.195	0.195	0.133
Root MSE	.239	.239	.239	.213
N	1888	1888	1888	1888

Table 18: Auxiliary regressions democracy (Regan and Norton, 2005)

	onset model 1 Democracy b (s.e.)	rebel model 3 Democracy b (s.e.)	civil war model 5 Democracy b (s.e.)
Discrimination	-0.47 (0.21)	-0.29 (0.21)	-0.29 (0.21)
Per capita income	5.01 (1.46)	4.64 (1.44)	4.64 (1.44)
Repression$_{t-1}$	-1.21 (0.23)	-1.20 (0.23)	-1.20 (0.23)
Extractables	0.24 (0.35)	0.30 (0.34)	0.30 (0.34)
Log population	-82.04 (9.56)	-75.05 (9.44)	-75.05 (9.44)
Democracy			
Democracy^2			
Ethnolinguistic fractionalizazion	-0.03 (0.01)	-0.03 (0.01)	-0.03 (0.01)
Peaceyears	-0.08 (0.11)	0.12 (0.02)	0.12 (0.02)
Discrimination$_{t-1}$	0.70 (0.20)	0.45 (0.20)	0.45 (0.20)
Per capita income$_{t-1}$	-2.60 (1.46)	-2.31 (1.44)	-2.31 (1.44)
Repression$_{t-2}$	-0.99 (0.23)	-1.01 (0.23)	-1.01 (0.23)
Log population$_{t-1}$	82.38 (9.55)	75.43 (9.42)	75.43 (9.42)
Democracy$_{t-1}$			
Democracy$^2_{t-1}$			
Peaceyears$_{t-1}$	0.27 (0.12)	0.24 (0.03)	0.24 (0.03)
Constant	-7.64 (2.37)	-9.38 (2.34)	-9.38 (2.34)
r^2	0.3769	0.398	0.398
adj r^2	0.373	0.394	0.394
Root MSE	6.089	5.985	5.985
N	1919	1919	1919

Table 19: Explaining protest onset (Regan and Norton, 2005)

	model 1	model 2	model 3
	b	b	b
	(s.e.)	(s.e.)	(s.e.)
Discrimination	0.086	0.073	0.076
	(0.076)	(0.082)	(0.082)
Per capita income	-0.092	-0.098	0.104
	(0.172)	(0.175)	(0.301)
Repression$_{t-1}$	-0.249	-0.238	-0.395
	(0.131)	(0.136)	(0.215)
Extractables	0.076	0.140	0.136
	(0.280)	(0.289)	(0.288)
Log population	-0.115	-0.090	-0.055
	(0.090)	(0.093)	(0.099)
Democracy	-0.040	-0.052	-0.098
	(0.096)	(0.098)	(0.128)
Democracy^2	0.001	0.002	0.001
	(0.005)	(0.005)	(0.005)
Ethnolinguistic	-0.003	-0.004	-0.006
fractionalizazion	(0.004)	(0.005)	(0.005)
Peaceyears	-5.014	-4.508	-4.502
	(0.415)	(0.454)	(0.453)
Residual democracy			0.065
			(0.085)
Residual democracy^2			0.003
			(0.002)
Spline1	-0.434	-0.380	-0.381
	(0.044)	(0.049)	(0.049)
Spline2	0.093	0.081	0.081
	(0.012)	(0.013)	(0.013)
Spline3	-0.022	-0.019	-0.019
	(0.005)	(0.005)	(0.005)
Constant	5.552	5.230	3.977
	(1.976)	(2.009)	(2.395)
log likelihood	-315.992	-301.340	-300.657
N	2019	1919	1919
LR chi^2	1809.26	1718.13	1719.50

Table 20: Explaining rebellion (Regan and Norton, 2005)

	model 1 b (s.e.)	model 2 b (s.e.)	model 3 b (s.e.)	model 4 b (s.e.)
Discrimination	0.507 (0.048)	0.449 (0.050)	0.477 (0.051)	0.458 (0.049)
Per capita income	0.449 (0.096)	0.464 (0.101)	-0.765 (0.181)	-0.535 (0.182)
Repression$_{t-1}$	0.138 (0.066)	0.126 (0.070)	0.964 (0.129)	0.825 (0.130)
Extractables	0.052 (0.146)	0.033 (0.155)	0.099 (0.160)	0.078 (0.159)
Log population	0.238 (0.046)	0.249 (0.049)	0.013 (0.056)	0.066 (0.057)
Democracy	0.300 (0.054)	0.293 (0.057)	0.754 (0.086)	
Democracy^2	-0.011 (0.003)	-0.011 (0.003)	-0.012 (0.003)	
Ethnolinguistic fractionalizazion	0.008 (0.002)	0.007 (0.003)	0.021 (0.003)	0.018 (0.003)
Peaceyears	-0.759 (0.097)	-1.325 (0.159)	-1.385 (0.169)	-1.319 (0.166)
Residual democracy			-0.437 (0.055)	
Residuatl democracy^2			-0.006 (0.001)	
Prediction democracy				0.270 (0.085)
Prediction democracy^2				0.006 (0.002)
Spline1	-0.009 (0.004)	-0.024 (0.005)	-0.021 (0.005)	-0.020 (0.005)
Spline2	0.001 (0.004)	0.011 (0.005)	0.009 (0.005)	0.009 (0.005)
Spline3	0.004 (0.003)	0.001 (0.003)	0.002 (0.003)	0.001 (0.003)
Constant	-8.441 (1.107)	-6.722 (1.206)	0.966 (1.530)	0.521 (1.500)
log likelihood	-806.680	-739.333	-704.596	-736.784
N	2019	1919	1919	1921
LR chi^2	635.67	660.14	729.61	666.36

Table 21: Explaining civil war (Regan and Norton, 2005)

	model 1	model 2	model 3	model 4
	b	b	b	b
	(s.e.)	(s.e.)	(s.e.)	(s.e.)
Discrimination	0.835	0.760	0.550	0.645
	(0.083)	(0.084)	(0.079)	(0.084)
Per capita income	-0.193	-0.155	-0.672	-1.513
	(0.139)	(0.145)	(0.245)	(0.246)
Repression$_{t-1}$	1.183	1.224	1.256	2.045
	(0.102)	(0.108)	(0.174)	(0.175)
Extractables	-0.454	-0.570	-0.230	-0.710
	(0.202)	(0.211)	(0.223)	(0.220)
Log population	0.523	0.533	0.524	0.230
	(0.074)	(0.076)	(0.093)	(0.089)
Democracy	0.082	0.080	0.280	
	(0.084)	(0.087)	(0.116)	
Democracy^2	-0.004	-0.005	-0.009	
	(0.004)	(0.004)	(0.005)	
Ethnolinguistic	0.013	0.012	0.015	0.028
fractionalizazion	(0.004)	(0.004)	(0.005)	(0.005)
Peaceyears	-0.937	-1.164	0.379	-1.098
	(0.133)	(0.181)	(0.054)	(0.189)
Residual democracy			-0.161	
			(0.080)	
Residual democracy^2			-0.002	
			(0.002)	
Prediction democracy				1.009
				(0.162)
Prediction democracy^2				-0.031
				(0.009)
Spline1	-0.011	-0.015	0.025	-0.010
	(0.005)	(0.005)	(0.003)	(0.006)
Spline2	0.002	0.006	-0.032	0.001
	(0.006)	(0.006)	(0.005)	(0.007)
Spline3	0.005	0.004	0.023	0.006
	(0.005)	(0.005)	(0.005)	(0.005)
Constant	-10.905	-10.266	-12.132	-2.898
	(1.783)	(1.863)	(2.316)	(2.218)
log likelihood	-394.496	-369.360	-331.284	-336.396
N	2019	1919	1919	1921
LR chi^2	799.62	780.05	856.20	846.56
chi^2			76.15	
p			0.000	

Table 22: Reconstruction of Cohen's (1997) dataset

Variable	Definition, Sources and Coding
Rebellion	This variable indicates the level of rebellion of the group (per period). We rely on the variable constructed by Gurr (1997). This variable is continuous and ranges from 0 to 7. The coding is the following: 0 = "none reported;" 1 = "political banditry, sporadic terrorism;" 2 = "campaigns of terrorism;" 3 = "local rebellions: armed attempts to seize power in a locale;" 4 = "small-scale guerrilla activity;" 5 = "intermediate-scale guerrilla activity;" 6 = "large-scale guerrilla activity" and 7 = "protracted civil war."
Non Violent protest	is taken from the "minority at risk" (MAR) dataset. Groups are organized along a continuum from 0 to 6. Where 0 means "no violent protest reported;" 1 "verbal opposition;" 2 "symbolic resistance;" 3 "demonstration: participation below 10,000;" 4 "demonstration: participation below 100,000;" and 5 "demonstration: participation over 100,000."
Federalism	has been constructed from the Polity III data set (Gurr, Jaggers and Moore, 1989) which measures regime types and transition on a yearly basis. The original variable we are using is "intragovernmental power distribution." This variable ranges from 1 to 3, where 1 means "unitary system," 2 "compromise between federal and unitary" and 3 "federal system."
Electoral proportional representation	This variable has been constructed from Gorvin (1989), Interparliamentary Union (1986) and Laundy (1989). Our data refer to the mode of election to the Lower House. Again, because the MAR dataset's conflict measures are recorded on a 5 years basis from 1945-1989, we use the results of electoral proportional representation (PR) that correspond to each 5-year period. This variable ranges from 1 to 3, where 1 "majority," 2 "compromise between PR and majority/plurality" and 3 "proportional representation - PR."

32

Variable	Definition, Sources and Coding
Multipartism	is constructed based on Gorvin (1989) and Lijphart (1994)). Because Minority at risk data sets conflict measures are recorded on a 5 years basis from 1945-1989, we use the legislative election results in Gorvin (or Lijphart (1994)) that correspond to each 5-year period. The number of effective legislative parties was calculated with Lijphart (1984, 120). This number was rounded to the closer unit and any number greater than 3 was coded to the third category. This variable ranges from 1 to 3, where 1 means "one party system," 2 "two party system" and 3 "multiparty system." It should be emphasized that, like Cohen (1997) "one party system" does not imply that only one party is legal, but that one party is dominant.
Political system persistence	measures the length of absence of any fundamental regime change in the group's national system. We have used the information contained in Gurr's (1997) MAR data set. Like Cohen (1997) in order to measure political system persistence, we simply subtract the year of the last regime change by the first year of each period. Regime change is defined by a significant change in democracy or authoritarian score in polity III data set (Gurr, Jaggers and Moore, 1989). This variable ranges from -46 for Ethiopia (period 1945-1949) to 174 for the USA for the period 1985-1989.
system transition	is derived from political system persistence. It simply measures the presence or absence of a fundamental regime shift. Therefore, it is coded 0 if persistence is negative or 0. A code 1 is attributed to system transition if the political system persistence is positive.
Group size	is derived from the MAR dataset. It is the proportion of group size from country size. We calculate the proportion of each group population in 1990 divided by the country population
Country size	is taken from MAR dataset. We rely on the country population in the 1990 for MAR case and 2000 for cases without Minority at risk. We recoded this variable in quartile for all cases.

33

Variable	Definition, Sources and Coding
Group subordination	is a synthetic measure of objective discrimination. A principal component analysis was carried out with the following indicators: (1) the political difference index, (2) the political discrimination index, (3) the economic difference index, (4) the economic discrimination index, (5) the cultural difference index, (6) the ethnic difference index and (7) the demographic stress index.
Group Coherence	is simply measured by the coherence index in MAR dataset. It indicates to what degree the group is cohesive. A score has been attributed to each group in the data set. This variable ranges from 1 to 5, where 1 means "category," 2 "mosaic," 3 "fragmented identity," 4 "weak identity" and 5 "strong identity."
Group concentration	is defined by the geographical dispersion. It is simply measured by the concentration index developed by Gurr (1997) in the MAR data set. This variable ranges from 1 which means that the group is widely dispersed in the country to a maximum of 6 "High concentration of the group in one region of the country."
Fair and Free elections	is the selection criteria. It was constructed on the basis of the Polity III data set (Gurr, Jaggers and Moore, 1989). We simply considered to be fair-free a group in a country considered as democratic (democracy score higher than 4 or autocracy score lower than 5). Among the 2412 ethnic groups per time period 654 are considered as fair-free.

References

Acemoglu, Daron. 2005. "Constitutions, Politics and Economics: A Review Essay on Persson and Tabellini's "The Economic Effect of Constitutions"." NBER Working Paper Series 11235 March 2005.

Acemoglu, Daron, Simon Johnson and James A. Robinson. 2001. "The Colonial Origins of Comparative Development: An Empirical Investigation." *American Economic Review* 91(5):1369–1401.

Alemán, Eduardo and Daniel Treisman. 2005. Fiscal Politics in "ethnically Mined," Developing, Federal States: Central Strategies and Secessionist Violence. In *Sustainable Peace: Power and Democracy After Civil Wars*, ed. Philip G. Roeder and Donald Rothchild. Ithaca: Cornell University Press pp. 173–216.

Angrist, Joshua D. and Alan Krueger. 1999. Empirical Strategies in Labor Economics. In *Handbook of Labor Economics, Vol. 3A,*, ed. O. Ashenfelter and D. Card. Amsterdam: Elsevier.

Angrist, Joshua D. and Alan Krueger. 2001. "Instrumental Variables and the Search for Identification." *Journal of Economic Perspectives* 15(4):69–85.

Angrist, Joshua D., Guido W. Imbens and Donald B. Rubin. 1996. "Identification of Causal Effects Using Instrumental Variables." *Journal of the American Statistical Association* 91(434):444–455.

Bartels, Larry M. 1991. "Instrumental and "Quasi-Instrumental" Variables." *American Journal of Political Science* 35(3):777–800.

Beck, Nathaniel, Jonathan Katz and Richard Tucker. 1998. "Taking Time Seriously: Time-Series-Cross-Section Analysis with a Binary Dependent Variable." *American Journal of Political Science* 42(4):1260–1288.

Beck, Thorsten, George Clarke, Alberto Groff, Philip Keefer and Patrick Walsh. 2001. "New Tools in Comparative Political Economy: The Database of Political Institutions." *World Bank Economic Review* 15(1):165–176.

Belmont, Katharine, Scott Mainwaring and Andrew Reynolds. 2002. Introduction Institutional Design, Conflict Management, and Democracy in Divided Societies. In *The Architecture of Democracy: Institutional Design, Conflict Management, and Democracy in the Late Twentieth Century*, ed. Andrew Reynolds. Oxford: Oxford University Press pp. 1–11.

Bennett, D. Scott and Christian Davenport. 2003. "MARGene: Minorities at Risk Data Generation and Management Program." http://www.cidcm.umd.edu/inscr/mar/margene.htm.

Bollen, Kenneth A., D.K. Guilkey and T.A. Mroz. 1995. "Binary Outcomes and Endogenous Explanatory Variables: Tests and Solutions with an Application to the Demand for Contraceptive Use in Tunisia." *Demography* 32.

Bound, John, David A. Jaeger and Regina M. Baker. 1995. "Problems With Instrumental Variables Estimation When the Correlation between the Instruments and the Endogenous Explanatory Variable Is Weak." *Journal of the American Statistical Association* 90(JUN):443–450.

Brancati, Dawn. 2005. "Decentralization: Fueling the Fire or Dampening the Flames of Ethnic Conflict and Secessionism." Harvard University.

Christin, Thomas and Simon Hug. 2003. "Federalism and Conflict Resolution: Considering Selection Biases." Paper prepared for presentation at the Midwest Political Science Association Annual Meeting, April 3-6 Chicago.

Christin, Thomas and Simon Hug. 2004. "Methodological Issues in Studies of Conflict Processes." Prepared for delivery at the 2004 Annual Meeting of the American Political Science Association, Chicago, September 2 - September 5, 2004.

Cohen, Frank S. 1997. "Proportional Versus Majoritarian Ethnic Conflict Management in Democracies." *Comparative Political Studies* 30(5):607–630.

Congleton, Roger D. 2000. A Political Efficiency Case for Federalism in Multinational States: Controlling Ethnic Rent-Seeking. In *Competition and Structure: The Political Economy of Collective Decisions: Essays in Honor of Albert Breton*, ed. G. Galeotti, P. Slamon and R. Wintrobe. New York: Cambridge University Press pp. 365–397.

Elazar, Daniel J. 1991. *Federal Systems of the World: A Handbook of Federal, Confederal and Autonomy Arrangements*. Harlow, Essex: Longman.

Elbadawi, Ibrahim and Nicholas Sambanis. 2002. "How Much War Will We See? Estimating the Incidence of Civil War in 161 Countries." *Journal of Conflict Resolution* 46(3):307–334.

Enterline, Andrew. 1996. "Driving While Democratizing." *International Security* 21:183–196.

Ghai, Yash. 2002. Constitutional Asymmetries: Communal Representation, Federalism, and Cultural Autonomy. In *The Architecture of Democracy: Institutional Design, Conflict Management, and Democracy in the Late Twentieth Century*, ed. Andrew Reynolds. Oxford: Oxford University Press pp. 141–170.

Glaeser, Edward L., Rafael La Porta, Florencio Lopez de Silanes and Andrei Shleifer. 2004. "Do Institutions Cause Growth?" *Journal of Economic Growth* 9(3):271–303.

Gorvin, Ian, ed. 1989. *Elections since 1945. A Worldwide Reference Compendium.* Essex: Longman.

Greene, William H. 2003. *Econometric Analysis (Fifth Edition).* New York: Prentice Hall.

Grofman, Bernard and Robert Stockwell. 2002. Institutional Design in Plural Societies: Mitigating Ethnic Conflict and Fostering Stable Democracy. In *Economic Welfare, International Business and Global Institutional Change*, ed. R Mudambi, P Navarra and G. Sobrio. Cheltenham: Elgar.

Gurr, Ted Robert. 1993*a*. *Minorities at Risk. A Global View of Ethnopolitical Conflict*. Washington: United States Institute of Peace Press.

Gurr, Ted Robert. 1993*b*. "Why Minorities Rebel: A Global Analysis of Communal Mobilization and Conflict since 1945." *International Political Science Review* 14(2):161–201.

Gurr, Ted Robert. 2000*a*. "Ethnic Warfare on the Wane." *Foreign Affairs* 79(3):52–65.

Gurr, Ted Robert. 2000*b*. *Peoples Versus States: Minorities at Risk in the New Century*. Washington, DC: US Institute of Peace.

Gurr, Ted Robert, ed. 1997. *Minorities at Risk Phase III Dataset. Center for International Development and Conflict Management*. College Park: University of Maryland.

Gurr, Ted Robert, Keith Jaggers and Will H. Moore. 1989. *The POLITY II Codebook*. Boulder: University of Colorado at Boulder, Center for Comparative Politics.

Hausman, Jerry. 1978. "Specification Tests in Econometrics." *Econometrica* 46(6):1251–1271.

Hausman, Jerry. 2001. "Mismeasured Variables in Econometric Analysis: Problems from the Right and Problems from the Left." *Journal of Economic Perspectives* 15(4):57–67.

Hausman, Jerry, Jason Abrevaya and Fiona Scott-Morton. 1998. "Misclassification of the Dependent Variable in a Discrete-Response Setting." *Journal of Econometrics* 87:239–269.

Hechter, Michael. 2000. *Containing Nationalism*. Oxford: Oxford University Press.

Hegre, Håvard, Tanja Ellingsen, Scott Gates and Nils Petter Gleditsch. 2001. "Toward a Democratic Civil Peace? Democracy, Political Change, and Civil War, 1816-1992." *American Political Science Review* 95(1 (March)):33–48.

Hoddie, Matthew and Caroline Hartzell. 2005. Power Sharing in Peace Settlements: Initiating the Transition from Civil War. In *Sustainable Peace : Power and Democracy After Civil Wars*, ed. Philip G. Roeder and Donald Rothchild. Ithaca: Cornell University Press pp. 83–106.

Horowitz, Donald. 1985. *Ethnic Groups in Conflict*. Berkeley: University of California Press.

Horowitz, Donald L. 2002. Constitutional Design and the Problem of Adoption: Proposals versus Processes. In *The Architecture of Democracy: Institutional Design, Conflict Management, and Democracy in the Late Twentieth Century*, ed. Andrew Reynolds. Oxford: Oxford University Press pp. 15–36.

Hug, Simon. 2003. "Selection Bias in Comparative Research. The Case of Incomplete Datasets." *Political Analysis* 11(3):255–274.

Hug, Simon. 2005. "Institutions and Conflict Resolution. Dealing with Endogeneity." Paper prepared for presentation at the Mapping the Complexity of Civil Wars Conference, Zurich, September 16-17, 2005.

Interparliamentary Union. 1986. *Parliaments of the World. A Reference Compendium*. London: MacMillan Press.

Lake, David A. and Donald Rothchild. 2005. Territorial Decentralization and Civil War Settlements. In *Sustainable Peace : Power and Democracy After Civil Wars*, ed. Philip G. Roeder and Donald Rothchild. Ithaca: Cornell University Press pp. 109–132.

Lane, Jan-Erik and Svante Ersson. 1999. *The New Institutional Politics. Outcomes and Consequences*. London: Routledge.

Laundy, Philip. 1989. *Les Parlements Dans Le Monde Contemporain*. Lausanne: Payot.

Lijphart, Arend. 1977. *Democracy in Plural Societies*. New Haven: Yale University Press.

Lijphart, Arend. 1984. *Democracies. Patterns of Majoritarian and Consensus Government in Twenty-One Countries*. New Haven: Yale University Press.

Lijphart, Arend. 1994. *Electoral Systems and Party Systems. A Study of Twenty-Seven Democracies, 1945-1990*. Oxford: Oxford University Press.

Lijphart, Arend. 1999. *Patterns of Democracy: Government Forms and Performance in Thirty-Six Countries*. New Haven: Yale University Press.

Lijphart, Arend. 2002. The Wave of Power Sharing Democracy. In *The Architecture of Democracy: Institutional Design, Conflict Management, and Democracy in the Late Twentieth Century*, ed. Andrew Reynolds. Oxford: Oxford University Press pp. 37–54.

Mansfield, Edward D. and Jack Snyder. 1995*a*. "Democratization and the Danger of War." *International Security* 20(1):5–38.

Mansfield, Edward D. and Jack Snyder. 1995*b*. "Democratization and War." *Foreign Affairs* 74(3):79–97.

Mansfield, Edward D. and Jack Snyder. 2002. "Democratic Transitions, Institutional Strength, and War." *International Organization* 56(2):297–337.

Mansfield, Edward D. and Jack Snyder. 2005. *Electing to Fight. Why Emerging Democracies Go to War*. Cambridge: MIT Press.

McGarry, John. 2002. "Federalism (Federation) as a Method of Ethnic Conflict Regulation." Working paper to be presented at the Conference on From Power-sharing to Democracy: Post- Conflict Institutions in Ethnically Divided Societies, London, Ontario, November 9-10 2002.

McGarry, John. 2004. "Can Federalism Help to Manage Ethnic and National Diversity?" *Federations* 4(1):3–5.

McGarry, John and Brendan O'Leary. 2003. "Federation, Conflict-Regulation and National and Ethnic Power-Sharing." Paper presented at the annual meeting of the The American Political Science Association Philadelphia Mariott Hotel, Philadelphia, PA, 2003-08-27 2003-09-05.

Panizza, Ugo. 1999. "On the Determinants of Fiscal Centralization: Theory and Evidence." *Journal of Public Economics* 74(1):97–139.

Persson, Torsten and Guido Enrico Tabellini. 2003. *The Economic Effects of Constitutions (Munich Lectures in Economics)*. Cambridge: MIT Press.

Przeworski, Adam. 2004. "Institutions Matter?" *Government and Opposition* 39(4):527–540.

Przeworski, Adam, Michael E. Alvarez, José Antonio Cheibub and Fernando Limongi. 2000. *Democracy and Development: Political Institutions and Well-Being in the World, 1950-1990*. New York: Cambridge.

Regan, Patrick M. and Daniel Norton. 2005. "Greed, Grievance, and Mobilization in Civil Wars." *Journal of Conflict Resolution* 49(3):319–336.

Reynal-Querol, Marta. 2002. "Ethnicity, Political Systems, and Civil Wars." *Journal of Conflict Resolution* 46(1):29–54.

Reynal-Querol, Marta. 2005. "Does Democracy Preempt Civil Wars?" *European Journal of Political Economy* 21(2):445–465.

Riker, William H. 1964. *Federalism: Origin, Operation, Significance*. Boston: Little, Brown.

Rivers, Douglas and Quang H. Vuong. 1988. "Limited Information Estimators and Exogeneity Tests for Simultaneous Probit Models." *Journal of Econometrics* 39(3 NOV):347–366.

Roeder, Philip G. 2003. "Clash of Civilizations and Escalation of Domestic Ethnopolitical Conflicts." *Comparative Political Studies* 36(5):509–541.

Roeder, Philip G. 2005. Power Dividing as an Alternative to Ethnic Power Sharing. In *Sustainable Peace: Power and Democracy After Civil Wars*, ed. Philip G. Roeder and Donald Rothchild. Ithaca: Cornell University Press pp. 51–82.

Roeder, Philip G. and Donald Rothchild, eds. 2005. *Sustainable Peace: Power and Democracy After Civil Wars*. Ithaca: Cornell University Press.

Saideman, Stephen M., David J. Lanoue, Campenni Michael and Samuel Stanton. 2002. "Democratization, Political Institutions, and Ethnic Conflict: A Pooled Time-Series Analysis, 1985-1998." *Comparative Political Studies* 35(1, February):103–129.

Saideman, Stephen M. and David Lanoue. 2005. "The (Exaggerated) Perils of Democracy: Analyzing Democracys Influence on Different Forms of Communal Dissent." Paper presented at the annual meeting of the American Political Science Association, Washington, DC, September 1-4. 2005.

Sambanis, Nicholas. 2000. "Partition as a Solution to Ethnic War: An Empirical Critique of the Theoretical Literature." *World Politics* 52((July)):437–83.

Schneider, Gerald and Nina Wiesehomeier. 2005. "Rules That Matter. Political Institutions and the Polariziation-Conflict Nexus." Department of Politics and Managment, University of Konstanz.

Snyder, Jack. 2000. *From Voting to Violence: Democratization and Nationalist Conflict.* New York: Norton.

Stepan, Alfred. 1999. "Federalism and Democracy: Beyond the U.S. Model." *Journal of Democracy* 10(4):19–34.

Thompson, William R. and Richard Tucker. 1997. "A Tale of Two Democratic Peace Critiques." *The Journal of Conflict Resolution* 41(3):428–454.

Von Beyme, Klaus. 1985. *Political Parties in Western Democracies.* Aldershot: Gower.

Wagner, R. Harrison. 2004. Bargaining and Conflict Management. In *Multiple Paths to Knowledge in International Relations*, ed. Zeev Maoz, Alex Mintz, T. Clifton Morgan, Glenn Palmer and Richard J. Stoll. Lanham: Lexington Books chapter 2, pp. 39–72.

Ward, Michael D. and Kristian Skrede Gleditsch. 1998. "Democratizing for Peace." *American Political Science Review* 92(1):51–62.

Watts, Ronald L. 1999. *Comparing Federal Systems (2nd Edition).* Montreal: McGill-Queen's University Press.

Wooldridge, Jeffery M. 2002. *Econometric Analysis of Cross Section and Panel Data.* Cambridge: MIT Press.