Ethnicity, Political Systems, and Civil Wars

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The effect of ethnic division on civil war and the role of political systems in preventing these conflicts are analyzed, using the importance of religious polarization and animist diversity to explain the incidence of ethnic civil war. Findings show that religious differences are a social cleavage more important than linguistic differences in the development of civil war, and being a consociational democracy significantly reduces the incidence of ethnic civil war.

Social and ethnic conflicts are recurrent phenomena affecting many countries. Ethnicity is at the center of politics in divided societies. The most important tensions in the world could be found, among others, in Lebanon, Israel, Algeria, Nigeria, Sudan, Ethiopia, India, and Yugoslavia during the 1990s.

In the study of the social and political causes of civil war, a crucial issue is the distinction between ethnic and revolutionary civil wars. In this study, we concentrate on ethnic civil wars and argue that the main causes of them are social and political characteristics. First, we claim that religiously divided societies are more prone to intense conflict than countries where people have conflicting claims to resources based on interest groups or language divisions. This is because religious identity is fixed and nonnegotiable. Disputes among identity groups based on their religious nature are particularly difficult to negotiate, raising the odds of violence.

Second, we use indices of polarization based on rent-seeking models of conflict, instead of traditional fragmentation indices, to capture the level of religious conflict. We argue that polarization indices are more suitable to proxy latent religious conflicts. We show empirically that religious polarization and animist diversity are the most important factors to explain the incidence of ethnic civil war. Therefore, the results suggest that religious divisions are more important than language divisions and natural resources to explain social ethnic conflicts.

However, not all ethnically divided societies evolve into civil war. There are also experiences of good relationships among individuals of different cultures within a country. For instance, after the violent riots of 1969, there has been a reasonable relationship between Chinese and Muslims in Malaysia. Although there is a latent tension

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between these two communities, the proportional system introduced in 1970 has helped to avoid more violent riots. This suggests that violent conflicts can be attenuated by alternative institutional incentives.

The question of the best political environment to reduce the likelihood of armed conflicts in potentially conflictive societies is not a new issue. However, the solution proposed on many occasions is to enhance political rights and civil liberties, even though the empirical evidence that supports this is weak. We show that the combination of political system and democracy level has a high explanatory power over the probability of ethnic civil war. Moreover, we find empirically that the establishment of consociational democracies—proportional representation systems that produce coalition politics—can prevent ethnic civil wars generated because of religious differences.

This article is divided into six sections. The first is this introduction. The second section presents a brief review of the literature on the causes of civil wars. The third section concentrates on the social and political causes of ethnic conflicts. The fourth section presents an empirical investigation of the causes of ethnic civil war. The final section concludes the study.

THE CAUSES OF CIVIL WARS

Studying social conflict has been considered an issue of political science for decades. Yet we are recently observing an increasing number of contributions from economics. Part of this literature has studied the effect of economic and social factors on the probability of civil war. Collier and Hoeffler (1998) investigate the generic causes of civil wars with special emphasis on economic factors. Using the index of ethnolinguistic fragmentation (ELF), they find that more fragmented societies are not more prone to civil war than the rest, but the danger of civil war increases when society achieve midlevel values of the index ELF. However, after those initial findings, Collier and Hoeffler (2000) argue that conflicts are far more likely to be caused by economic opportunities than by grievance. However, the study of the causes of civil war deserves additional studies, especially on the ethnic and political issues that may influence the incidence of civil war. Our analysis, based on these previous studies, is focused on the ethnic and political causes of civil war, using a theoretically based index of latent conflict and giving special importance to the religious dimensions of ethnicity, using a new data set that tries to overcome the common criticism of the *World Christian Encyclopedia* (Barret 1982) data. Moreover, most of the literature has considered democracy the only political variable that may affect the probability of civil war. Here we argue that the level of inclusiveness of the system, together with the level of democracy, matters. These results clarify the role of democracy itself. Elbadawi (1999), based on the analysis of the results of some comparative static experiments, finds that ethnically polarized societies have a higher risk of suffering a civil war. Ellingsen (2000) finds that the different aspects of multiethnicity (the size of the largest group, the number of groups, the size of the minority group, and ethnic affinities) are important in explaining domestic conflicts. Her results give an important role to political regimes and socioeconomic variables to reduce the level of conflict.

However, not all civil wars are of the same nature. For this reason, it makes sense to separate the study of their determinants as functions of the type of war. Recently, Sambanis (2001) analyzed the causes of ethnic civil war, separating the ethnic war from the revolutionary/ideologic war. He finds that ethnic civil wars are predominantly due to political rather than economic grievances. Our analysis also corroborates the importance of sociopolitical variables in explaining the incidence of ethnic civil war. Reynal-Querol analyzes the political causes of revolutionary civil war and finds that a presidential system with a low level of democracy is the most important political cause of an ideological civil war. Finally, the low level of inclusiveness of the political system, represented by a presidential system, explains why Latin American countries have a higher incidence of revolutionary civil wars. In this study, we concentrate on the determinants of ethnic conflicts.[1]

SOCIOPOLITICAL FACTORS AND ETHNIC CONFLICTS

THE ROLE OF RELIGION, ETHNICITY, AND IDEOLOGY

Many conflicts related to religious differences arise every day. Even though economists have not paid special attention to the issue of religion to explain civil wars, many researchers in political science have emphasized the importance of religious differences as a cause of ethnic conflicts.

The theory of Samuel Huntington (1996) about the cultural fragmentation of the world initiated a large debate. Samuel Huntington proposed a model to interpret the new reality of the world, based on the fact that the explanatory factors are not ideological but cultural. Following Huntington, we have to grant religions a fundamental role in world politics. In the modern world, religion is a central and, in many situations, the primary force that motivates and moves humans. In such situations, what counts is not political ideology or economic interests. Faith and family, blood and beliefs are the aspects with which people identify themselves, the characteristics for which they fight and die. People belonging to different religions have different versions of many relations among individuals and authorities. Following Huntington, one of the most important causes of future conflict among civilizations is that their characteristics and differences are less mutable and, therefore, more difficult to reach agreements and solve than political and economic differences. More than ethnicity, religion discriminates and differentiates humans in a sharp and exclusive way, even more than belonging to a country would do. A person can be half French and half Saudi Arabian and, at the same time, be a citizen of both countries. However, it is difficult to be half Catholic and half Muslim.

Following Horowitz (1985), in plural societies in Asia, Africa, and the Caribbean, parties tend to be organized along ethnic lines. Most of them in Africa belong to animist religions. In Western Europe and North America, religion, social class, and lan-

1. The complete version of this article includes an examination of the causes of revolutionary civil wars.

guage are the basic dimensions of a political party. Lijphart (1984) found, in a sample of 22 democratic regimes, that the two dimensions that most frequently differentiate systems are the socioeconomic and the religious.

These authors, among others, claim that religious differences are more important than language differences as a social cleavage that can develop into a conflict. There are two basic reasons why religious differences can generate more violence than other social cleavages. First, there is no doubt of the exclusivity of religion. One can speak two or more languages, but you can have only one religion. Religion can be used as a sign of identity, stronger than language in the sense that you exclude those from other religions, whereas speaking two languages diffuses the division line among groups. Second, religious differences, which are the basis of differences among civilizations, imply different ways of understanding the world, social relationships, and so on. Even if different groups speak different languages, they could share the same way of understanding the world and relationships if they belong to the same civilization. However, this is more difficult for people of different religions.

HOW TO CAPTURE SOCIAL CONFLICT

To show the importance of ethnic diversity in ethnic civil wars, at least two important aspects have to be addressed. First, it is necessary to clarify the concept of ethnicity to select the variables that capture ethnic diversity and analyze which of these dimensions of ethnicity are more important to explain social conflict. Following Horowitz (1985), the inclusive conception of ethnicity covers differences identified by skin color, language, religion, or some other attribute of common origin. Because of data restrictions, in this study we deal with religion and language differences. Moreover, as shown in the previous section, religion is the most important ethnic dimension in explaining social conflict.

Second, we have to summarize the information from each of these dimensions in one synthetic index. The most important issue is the appropriate procedure to use to summarize in an index the concept of social conflict. Is it social fragmentation or social polarization that makes ethnic tensions stronger? There is no easy answer to this question. First, we need to study the mechanism through which these groups interact and analyze in which situations tensions arise more easily. Second, the three variables that define ethnicity (language, religion, and color) can work in different ways. For instance, the tensions caused by language differences and the loss of communication that they generate can emerge in a situation very different from those generated by religion.

The measures used regularly in the empirical literature to quantify ethnic characteristics are fragmentation indices, even though there is no theoretical support for these kinds of indices. However, rent-seeking models suggest that polarization measures are more appropriate than fragmentation indices to capture social conflict. Any index of polarization points out that the situation that leads to the point of maximum tension is when there are two social groups with the same size. These kinds of measures differ from an index of fragmentation because the index of polarization captures to what

extent it is the distribution of the groups from a bimodal distribution. However, the fragmentation index increases monotonically with diversity.

The commonly used measure of linguistic differences is the so-called index of linguistic fragmentation of Taylor and Hudson (1972). In fact, this index is considered the only measure of ethnic diversity by many authors. This indicator captures the probability that two randomly selected individuals in a country will belong to different ethnolinguistic groups. However, we follow the literature on rent seeking[2] that shows that social conflict is higher if the underlying distribution of the individual characteristics is bimodal. We apply two simple indices of polarization: the one proposed by Reynal-Querol (2001a) and an application of Esteban and Ray's (1994) well-known index of polarization.

The index of polarization of Reynal-Querol[3] (2001a). This index takes the following form:

$$\mathrm{IRC1} = 1 - \sum_{i=1}^{N} (0.5 - \pi_i)^2 \pi_i / 0.25, \tag{1}$$

where π_i is the proportion of each religion and N is the number of religions.

This index provides a ranking order of the different distributions of the population. It is an index of polarization with the usual properties of these indices' properties (see the appendix). As a matter of fact, the properties of the index proposed above are similar to those in the measure of conflict in Esteban and Ray (1999).

Observe that IRC1 can be written as

$$\mathrm{IRC1} = \sum_{i=1}^{N} [1/N - 4(1/2 - \pi_i)^2 \pi_i] = \sum_{i=1}^{N} f(\pi_i).$$

The behavior of the index critically depends on the properties of the f function. By differentiation, one can compute f' and f'':

$$f' = [-3\pi_i^2 + 2\pi_i - 1/4]4 \qquad f'' = 6[1/3 - \pi].$$

The f function reaches a minimum for $\pi = 1/6$ and a maximum for $\pi = 1/2$. It is convex for $\pi < 1/3$ and concave for $\pi > 1/3$ (see Figure 1).

Understanding the shape of the function, it is crucial to understand the properties of the proposed polarization index. The intuition behind this is clear and simple. If we transfer population from one group to another, the effect on the conflict level is different depending on the size of the groups. Imagine a population composed of three groups distributed in the following way (0.5, 0.25, 0.25). If we transfer population from one small group to the other, the conflict increases. We are in the concave part of the function. However, if the distribution is (0.45, 0.45, 0.1), and we transfer population from one big group to the other, the conflict decreases. This is because we are in

2. A basic reading is Esteban and Ray (1999).
3. To check the polarization properties of the index, see Reynal-Querol (2000a).

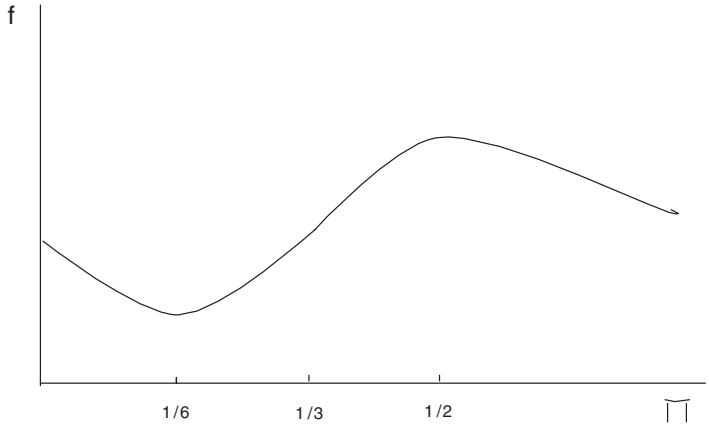

Figure 1

the convex region. What is the intuition behind this result? In the first case, even that transfer implies that the distribution is more unequal in the new situation: one of the small groups is larger in respect to the big group, which means that we are closer to polarization. In the second case, the transfer implies that one of the big groups became smaller, and therefore the new situation is less polarized. Notice that the results imply that this index does not satisfy the properties of the Lorenz curve about concavity. In a Lorenz curve, this effect of moving people between small or big groups is the same. It is important to notice another difference compared with the Lorenz curve dominance: our measure is global and the Lorenz curve is not. Although the Lorenz criteria establish the impact on inequality of a local transfer independently of the shape of the rest of the distribution, in our case, the effect on polarization of the transfer of population from one group to another cannot be established without knowing the entire distribution. This is a property that also has the measure of polarization proposed by Esteban and Ray (1994).

Esteban and Ray (1994) index of polarization. To show that the results obtained in the regression analysis are robust to other polarization measures, we compare the index IRC1 to an application[4] of religions to an existing measure proposed by Esteban and Ray (1994).[5]

$$P^*(\pi) = K \sum_{i=1}^{n} \sum_{j=1}^{n} \pi_i^{1+\alpha} \pi_j d = \text{IRC2},$$

where $d = 1$ if $i \neq j$ and $d = 0$ if $i = j$.

4. The original polarization measure proposed by Esteban and Ray (1994) is $P^*(\pi, Y) = K \sum_{i=1}^{n} \sum_{j=1}^{n} \pi_i^{1+\alpha} \pi_j |y_i - y_j|$ for some constant $k > 0$ and $\alpha \in (0, \alpha^*]$, where $\alpha^* \simeq 1.6$, y_i is income per capita, and π_i is the relative size of the group.

5. The religious distribution of a society satisfies the feature that says any distribution should be satisfied to apply the index.

Using this application, the index can be written in the following way: $IRC2 = \sum_{i=1}^{n} \pi_i^{1+\alpha}$, which is a strict convex function for $\alpha > 1$. For each possible α, there is a different polarization function. In practice, we will choose $\alpha = 1.5$.[6] The fact that α is not determined from the theoretical model makes the use of this second polarization index just a matter of comparison with respect to the Reynal-Querol (2001a) index.[7] The major difference between these two indices is in the form of the function; whereas IRC1 has a convex and concave part as explained above, IRC2 is strictly convex for $\alpha > 1$.

THE ROLE OF POLITICAL INSTITUTIONS

This study also analyzes the political characteristics that can prevent or promote civil wars. The literature has considered only repression as a political characteristic that can affect not only economic development but also civil wars. Collier and Hoeffler (2000), Sambanis (2001), Hegre et al. (2001), and Ellingsen (2000) find that midlevel democracies are more prone to civil war than high-level democracies and high-level autocracies. Reynal-Querol (2001b) shows theoretically and empirically how countries with alternative political systems have different probabilities of experiencing a civil war. She develops a simple theoretical model that captures the basic relationship between the political system and rebellion. According to the model, the proportional system turns out to have a lower probability of rebellion than the majoritarian system. The intuition behind this result is that in the proportional system, the opportunity cost of rebellion is higher than in a majoritarian system. The main idea is that the more inclusive the political system, the higher the opportunity cost of rebellion, and therefore the lower the probability of rebellion. From the empirical analysis, she shows how the structure of a political system is an important mechanism that can affect the probability of civil war in a democratic system. The result clarifies the role of democracy itself. She observes that some countries with high levels of democracy suffer periods of violence; therefore, having high levels of civil liberties and freedom does not seem to protect them against violence. She argues that the representation system of the voters in government is more important than the level of democracy per se. Empirically, she finds that the more inclusive the system, the smaller the probability of civil war.

Moreover, the level of repression also influences the opportunity cost of rebellion. The more political rights and civil liberties the country has, the higher the opportunity cost of rebellion, and therefore the lower the probability of groups to rebel. However, a little freedom is needed to let groups organize. This is the intuition that justifies the findings that midlevel democracies are more prone to suffer civil wars.

6. This value comes to be in the range of feasible values for α.
7. However, it would be interesting to analyze empirically whether the arguments about polarization can be applied to language groups. Because of data restrictions, this will be done in future research.

ETHNIC DIVERSITY AND POLITICAL SYSTEMS: PLURALITY VERSUS CONSOCIATIONALISM

Ethnic conflict in plural societies and how to control it often have been examined in the political science literature. However, there is no agreement about which system promotes or reduces this conflict in a potentially conflictive society. Not all ethnically fragmented societies evolve into violence. Therefore, the question is whether the democratic system can affect social behavior in heterogeneous societies.

There are two main theories in the literature. The first, defended by Horowitz (1985), argues that in plural societies, the majoritarian system is better than the proportional system because it motivates the creation of coalitions among minorities or the smallest group. On the other hand, Lijphart (1984) argues that in such plural societies, the proportional system is better than the majoritarian system because it allows the formation of segmented parties, and it does not artificially force the establishment of larger but less representative parties.[8]

Empirical work on the importance of political systems in explaining civil wars is scarce, and, as pointed out before, there is a puzzle in the political science literature about which system is better to implement in ethnically divided societies to reduce social conflict. For this reason, in this article, we also consider the representation of voters, captured by the political system, as a factor that can reduce the effect of social cleavages in promoting civil wars. We should mention the endogeneity problem of the political systems that can exist when analyzing this problem. It may be that countries where the proportional system is able to persist for any length of time will tend to have a low level of polarization. However, some countries with a high level of polarization implement proportional systems after periods of violence and achieve peaceful periods that do not break down, as in the case of Malaysia or South Africa. However, we will control for this problem in the empirical analysis, introducing an interaction term. Therefore, if it is the case that countries with low polarization tend to implement proportional systems, then the interaction terms will be 0.

EMPIRICAL ANALYSIS

THE DATA

For the purpose of the empirical investigation, and given the determinants discussed earlier, we need to obtain data on civil wars and their type, level of democracy, political systems, natural resources, level of development, linguistic fragmentation, and religious polarization. For the definition of civil war, we use data from Doyle and Sambanis (2000). This definition is nearly identical to the definition of Singer and Small (1994; Small and Singer 1982) and Licklider (1993, 1995). Data on the type of

8. Moreover, he argues that "in a political system with clearly separate and potentially hostile population segments, virtually all decisions are perceived as entailing high stakes, and strict majority rule places a strain on the unity and peace of the system" (Lijphart 1984, 28).

civil war come from the state failure data set.[9] An ethnic war is defined as an episode of violent conflict between governments and national, ethnic, religious, or other communal minorities (ethnic challengers) in which the challengers seek major changes in their status.

There are different sources of data on the level of democracy. The Freedom House data source, usually referred to as Gastil's index of democracy, has been the most commonly used among economists. The disadvantage of this source is that it does not provide data before the 1970s. A more recent work on levels of democracy data is provided by the Polity III project.[10] Even though the criteria for the construction of these data sets are different, they look very similar, and the correlation among them is about 0.9.

To capture the characteristics of the political system, we use as the basic source of information data in Colomer (2000). He takes data for 123 attempts at democratization and major democratic institutional changes in 84 countries with more than 1 million inhabitants during the 125 year-period from 1894 to 1999. He distinguishes the following categories of democratic institutional formulas: parliamentary-majoritarian, presidential and semipresidential, and parliamentary-proportional representation. The countries included are the ones considered to be free by the Freedom House database. Using this study, we generate a time series of cross sections for 138 countries from 1960 to 1995, organized in 5-year periods.[11] We capture the democratic rule of the countries at the beginning of each period using these data. Moreover, for the nonfree countries, we used data from the Freedom House and Polity III data sources. Therefore, we obtain five possible categories that define five dummy variables: not free, partially free, parliamentary-majoritarian, presidential and semipresidential, and parliamentary-proportional.

To proxy the loot of rebellion, we use, as do Collier and Hoeffler (2000), the share of natural resources exports in gross domestic product (GDP). The data on primary exports come from the World Development Indicators (WDI). To proxy the opportunity cost, we take data on income per capita from the Penn World Table (PWT56) (Summers and Heston 1991). The education data come from Barro and Lee (1996) and represents the average years of schooling in the total population. The data on linguistic fragmentation come from the index of Taylor and Hudson (1972), and the data on religious fragmentation come from Barro (1997), who uses the same index as the linguistic fragmentation but with religious data.[12]

To capture religious polarization, we use data from Reynal-Querol (2001a). The data are constructed using essentially the information contained in *L'Etat des religions dans le monde*, which takes part of the data from the *World Christian Encyclopedia* (Barret 1982) but uses also national sources and *The Statesman Year's Book of 1987*.[13] In some countries, there may be conflict inside a religious group. We consider three

9. Data and definitions of ethnic and revolutionary civil war are available at http://www.bsos.umd.edu/cidcm/dtfail/.

10. See http://www.colorado.edu/IBS/GAD/spacetime/data/Polity.htm.

11. These data are summarized in Reynal-Querol (2001a).

12. The inclusion of other variables such as growth rate or indices of income inequality do not alter the main results we find.

13. For a complete description of the data, see Reynal-Querol (2001a).

cases: the animists, the Christians, and the Muslim groups.[14] The index of animist diversity (AD) captures the number of followers of animist cults in each country.[15] To avoid the level effect generated by this variable, the regressions that include this index consider also as an explanatory variable the total population of the country.

There are some differences between the data on religions used by Barro (1997) and Reynal-Querol (2000a). Barro's data set, which comes from the *World Christian Encyclopedia* (Barret 1982), has the advantage of being a time series, providing information for 1970, 1975, and 1980. However, this source has several shortcomings. First, and probably the most important, the data do not consider the possibility of double practice, very common in sub-Saharan Africa and Latin America countries. Comparing this to the other sources of information, we realize the data are biased toward the Christian religion. A clear example is the case of Zaire, where the distribution of religions is considered to be similar to Spain or Italy. The distribution of religious groups between 1970 and 1980 does not change in many countries. There are only approximately 17 countries that record changes in proportions. But those changes occur in countries where there is double practice, and they usually imply an increase in the percentage of Christians and a reduction in the size of animist followers. Moreover, Barro's data do not represent with sufficient detail all the religions. We have observed in the *World Christian Encyclopedia* (Barret 1982) that there is too much inertia in the growth rate of some religions, mainly Catholicism.

These shortcomings makes the use of Barro's (1997) data somehow problematic. However, the literature used Barro's data set to compute measures of religious fragmentation. Therefore, we also consider Barro's data when comparing the results. Because of these shortcomings, we use data in Reynal-Querol (2001a) to construct the index of religious polarization.

We wanted to use alternative ethnic variables, as in Vanhaven (1999), mainly because they capture the three dimensions of ethnicity. However, there are two important shortcomings in the use of these data. First, they do not differentiate among Christians and animist cults, which are very typical in African countries. Second, even though he reports the percentage of the biggest ethnic group, he does not provide data on the size of the other small groups, which makes the construction of a polarization measure impossible.

Another source of data we would like to use is Ellingsen (2000). However, like Vanhaven (1999), she reports the percentage of the biggest ethnic group but does not provide data on the size of the other smaller groups, which makes the construction of a polarization measure impossible.

14. We do not consider other religions because they do not have the features that make these three groups internally problematic. For the Muslims and the Christians, we apply the same measure of polarization, IRC1. We use the proportions of different kind of Christians for the polarization measure of Christians and data on the votes for Muslim political parties to calculate a polarization measure for the Muslim group.

15. The animist groups are different. They include a variable number of traditional religions typical of primitive societies. Religion in these societies pervades all social domains. Therefore, the argument of the interaction between religions explained by the rent-seeking models does not work. The existence of so many different kinds of organizations based on different beliefs makes the communication across these groups more difficult. The degree of communication loss depends on the number of animist cults. See Reynal-Querol (2000a) for a complete description of the treatment of animist cults.

THE ECONOMETRIC SPECIFICATION

Given the nature of the data, the econometric specification should accommodate a discrete variable with the panel data structure. For this purpose, a reasonable choice is the logistic model with individual effects. To analyze the effect of ethnicity and political systems on ethnic civil war, we adopt a general specification derived from the looting and justice-seeking model, including alternative explanatory variables to show the generality of our findings.

The dependent variable is the incidence of ethnic civil war, rather than onset ethnic civil wars, following other studies such as Elbadawi and Sambanis (forthcoming). Some authors have argued that it would be better to analyze the onset of ethnic civil war to avoid the analysis being influenced by time dependence. Therefore, we also do the same analysis, changing the dependent variable of the onset of ethnic civil war to corroborate the results we find using the incidence of ethnic civil war. We do not report the results because there are no important changes in our findings and conclusions. Moreover, to check that our results are also robust to other estimation procedures, we do the same analysis but exploit the panel characteristics of the data. We use a random-effects estimation and find that the results are qualitatively the same. Finally, we also compare the results assuming a logit and probit estimation for the probability function. The results presented in this study are robust to the use of all the different estimation procedures explained here.

For all the empirical exercises, we consider a sample of 138 countries and data from 1960 to 1995, organized in periods of 5 years. All the independent variables are taken at the beginning of the period. The dependent variable is a dummy that takes a value of 1 if the country experiences an ethnic civil war during the period and 0 otherwise.

The results presented here are the ones when using a logit pool estimation specification. Notice that even though Collier and Hoeffler (2000) never include the level of GDP per capita and the level of education together, we decide to include both variables at the same time because this formulation corresponds to the usual specification of the new growth literature. When both variables are included together, they have a poor explanatory power. If we include them separately, as Collier and Hoeffler do, they turn out to be significant. A surprising result is the poor explanatory power of the proxy for natural resources, which is opposite to the findings in Collier and Hoeffler (1998, 2000). They find that natural resources are an important variable in explaining the incidence of civil war. This difference in the results could be caused by the different sample we used and also the different data set on civil wars. Notice that we restrict the analysis to ethnic civil wars. Moreover, it is interesting to mention that even though we do not present the results, we find natural resources to be a very important variable in explaining the incidence of ideological/revolutionary civil war and other kinds of political violence such as coups or revolutions. Some of the reasons for these results could be that in ethnic civil wars, the justice motivation prevails over the looting motivation, but in ideological civil wars, the looting for resources can be strong enough to start a revolution. When the society is not clearly divided, then the motivation for fighting could come from looting for resources, and the existence of natural resources can be an important cause. However, in ethnically divided societies, the exclusion of social

groups is enough to evolve into a civil war without the need of natural resources in the country. These results suggest that if we want to study the causes of civil wars, we should probably analyze these two types of civil war separately to distinguish the different causes. To show the robustness of our results, we control for other variables. The economic variables added are the investment share of GDP and the consumption share of GDP, which are not directly related to the looting and justice-seeking model. The idea behind the inclusion of these variables is that, probably if the country is using the resources for investment and consumption, the opportunity cost of the resources dedicated to support violence is higher. In other words, if the country can invest and people can consume and therefore increase their utility, the opportunity cost of fighting is higher.

The polarization measures are constant across time. We include in all regressions a dummy variable for each religion that participates in the construction of the polarization index to avoid that the significance of the index comes from the types of religions rather than from their polarization. In this way, we try to ensure that the index captures only religious polarization independently of which religions exist in the country.

To control for the region, we introduce dummy variables for sub-Saharan, Asian, and Latin American countries. Many of the ethnic civil wars take place in Africa; therefore, by including these variables, we want to see if there is still some effect that is not captured by the fact of being an African country.

Moreover, we noticed that the inclusion of primary exports reduces the number of observations because of missing data. Therefore, to see if our findings are robust to more observations, we also did the analyses without including this variable, and the results are even stronger than the ones presented here.

REGRESSION RESULTS

Religious Polarization and Ethnic Civil War

In Table 1, we analyze the effect of religious polarization and animist diversity on the incidence of ethnic civil war. We show the results of the logit-pooled estimation using the specification described in the previous section. The most important result is the importance of religious polarization and animist diversity in explaining the incidence of ethnic civil war.

In column 2, we find a positive and significant effect of animist diversity on the incidence of ethnic civil war. This result shows the importance of the existence of animist cults, which are very typical in sub-Saharan countries. Moreover, this also suggests that the most common sources of data used in the literature, which do not consider the animist cults, are usually included together with the Christians and miss an important dimension of religious diversity. The results in columns 3 and 4 show a positive and significant effect of religious polarization in explaining the incidence of ethnic civil war. This result is robust to the use of different polarization measures. It contrasts with recent results in the literature on the causes of civil war that claim that economic factors are more important than ethnic characteristics. In regressions 5 and 6, we include

TABLE 1
Logit Pool Estimation for the Incidence of Ethnic Civil War from 1960-1995: Religious Polarization and Animist Diversity

Model	*1*	*2*	*3*	*4*	*5*	*6*
Constant	–13.32	–22.00	–23.7	–25.44	–26.77	–29.78
	(–2.3)	(–2.84)	(–3.11)	(–3.26)	(–3.38)	(–3.61)
Lpop	0.77	0.43	0.64	0.72	0.37	0.39
	(3.76)	(1.68)	(2.78)	(3–16)	(1.53)	(1.65)
Lgdp	0.87	1.48	1.19	1.32	1.52	1.67
	(1.67)	(2.11)	(1.87)	(2.07)	(2.26)	(2.51)
Educ	–0.21	–0.29	–0.34	–0.36	–0.27	–0.28
	(–1.26)	(–1.32)	(–1.56)	(–1.73)	(–1.24)	(–1.31)
Ex	0.10	0.13	0.11	0.13	0.11	0.10
	(1.04)	(1.07)	(0.98)	(1.16)	(0.91)	(0.83)
Ex2	–0.00	–0.00	–0.00	–0.00	–0.00	–0.00
	(–1.1)	(–1.03)	(–0.96)	(–1.02)	(–0.93)	(–0.87)
I	–0.14	–0.14	–0.08	–0.10	–0.11	–0.11
	(–3.23)	(–2.84)	(–1.69)	(–2.14)	(–2.1)	(–2.29)
C	–0.01	0.01	–0.00	–0.00	0.02	0.02
	(–0.34)	(0.52)	(–0.00)	(–0.02)	(0.55)	(0.80)
IRC1			5.7		5.15	
			(3.27)		(3.08)	
IRC2				8.02		8.52
				(2.93)		(2.95)
Trib		7.38			6.26	6.75
		(3.11)			(2.78)	(3.07)
Democ	0.78	0.68	0.59	0.58	0.69	0.71
	(3.51)	(2.54)	(2.36)	(2.37)	(2.52)	(2.59)
Democ2	–0.09	–0.09	–0.07	–0.07	–0.08	–0.08
	(–3.54)	(–2.72)	(–2.45)	(–2.53)	(–2.55)	(–2.65)
Safrica	–0.38	–1.4	–1.34	–1.22	–2.48	–2.49
	(–0.54)	(–1.26)	(–1.23)	(–1.11)	(–1.93)	(–1.91)
Asiae	1.46	3.85	4.5	4.46	4.76	4.82
	(2.04)	(2.71)	(3.17)	(3.14)	(3.16)	(3.16)
Laam	–0.58	–0.38	–1.02	–0.62	–0.77	–0.57
	(–0.95)	(–0.39)	(–0.97)	(–0.64)	(–0.68)	(–0.51)
R^2	0.3279	0.4075	0.4066	0.3888	0.4518	0.4442
Number	403	369	374	374	369	369

NOTE: Numbers in parentheses are *t* statistics. In all the regressions, I include religious dummy variables. Educ = average years of schooling in the total population; Lpop = log of the population at the beginning of the period; Lgdp = log of the real gross domestic product (GDP) per capita of the initial period (1985 international prices); Ex = share of primary exports in GDP; Ex2 = square of ex; I = investment share of GDP; C = consumption share of GDP; Democ and Democ2 = democracy level from Polity III data source; IRC1 = religious polarization (Montalvo and Reynal-Querol 2000); IRC2 = religious polarization (Esteban and Ray 1994); Trib = animist diversity; Safrica = dummy variable for sub-Saharan countries; Asiae = dummy variable for Asian countries; Laam = dummy variable for Latin American countries.

religious polarization and animist diversity together. We find that even if we include them together, they still have a positive and significant effect on the probability of an ethnic civil war. This result is opposite to the findings of Collier and Hoeffler (2000),

who report no effect of polarization. The difference in the results is due to the fact that they analyze the causes of all civil wars; moreover, the data they use on religions come from Barro (1997), which, as we mentioned before, have important shortcomings. Moreover, Sambanis (2001), using Vanhaven (1999) data, finds that ethnic heterogeneity is linearly and positively correlated with the onset of ethnic civil war. However, because the variable he uses captures the inclusive definition of ethnicity, it is difficult to compare the results he finds with the effect of religious polarization found here.

The results in Table 1 show the importance of the religious composition of the society as an important social cleavage that affects the incidence of ethnic civil war.[16] These results are important for three reasons. First, we consider polarization measures instead of fragmentation measures to capture latent conflicts, following the results of the rent-seeking literature. Second, we use the religious dimension of ethnicity instead of the linguistic one, as an important cause of conflict, following some political scientist theories. Finally, we consider animist diversity, very typical in sub-Saharan countries, as a special case of religious conflict.

Religious Polarization versus Linguistic Fragmentation

The literature that studies the ethnic causes of social conflict has limited ethnicity only to linguistic fragmentation and, in some cases, to religious fragmentation. Collier and Hoeffler (2000) found no effect of polarization, but greater social fractionalization actually reduces the risk of conflict. Collier, Hoeffler, and Soderbom (1999) and Elbadawi and Sambanis (forthcoming) find empirical evidence that ethnic diversity, measured by linguistic fragmentation, increases the probability of civil war at low levels but then reduces it at higher levels. In this section, we analyze the effect of linguistic fragmentation on ethnic civil war and compare this effect when we include religious and linguistic fragmentation together. Table 2 shows the result of this analysis. In columns 1 and 2, we find a positive and significant effect of linguistic fragmentation on ethnic civil war. The results found here corroborate the implicit theories behind the use of linguistic fragmentation indices, based on the idea that communication problems increase with diversity, and this can cause conflict. However, these findings are very sensitive to the inclusion of other ethnic variables. Columns 3 and 4 show how the effect of language fragmentation disappears when religious characteristics of a society are included, whereas the effect of religious polarization and animist diversity remains positive and significant no matter which polarization index we use.[17]

These results suggest that religious differences in a country are more important than linguistic differences as a social cleavage that can develop into civil war. Moreover, they support the claims of Huntington (1996) about the importance of religious differences in the explanation of domestic conflicts.

16. We also analyze the effect of Christian polarization and Muslim polarization. We find a significant and positive effect on the incidence of ethnic civil war.

17. We also analyze the interaction of both variables. However, we do not report the results because we find that religious tensions, captured through religious polarization and animist diversity, affect ethnic/religious civil war more than linguistic fragmentation does, and the presence of both social characteristics in a country does not imply a higher probability of conflict.

TABLE 2
Logit Pool Estimation for the Incidence of Ethnic Civil War from 1960-1995: Religious and Linguistic Fragmentation

Model	*1*	*2*	*3*	*4*
Constant	–10.1 (–2.40)	–19.24 (–2.83)	–36.24 (–3.68)	–40.50 (–3.75)
Lpop	0.61 (3.68)	0.67 (2.97)	0.35 (1.30)	0.36 (1.37)
Lgdp	0.08 (0.17)	0.79 (1.14)	2.22 (2.16)	2.50 (2.37)
Educ	–0.01 (–0.05)	–0.1 (–0.44)	–0.35 (–1.20)	–0.37 (–1.32)
Ex	0.07 (0.72)	0.19 (1.58)	0.22 (1.53)	0.19 (1.37)
Ex2	–0.00 (–0.88)	–0.01 (–1.41)	–0.01 (–1.40)	–0.01 (–1.25)
I		–0.61 (–1.14)	–0.08 (–1.15)	–0.09 (–1.34)
C		0.04 (1.22)	0.04 (0.88)	0.05 (1.12)
Elf60	2.75 (2.84)	4.25 (3.14)	2.31 (1.53)	2.41 (1.61)
IRC1			5.73 (2.75)	
IRC2				9.75 (2.66)
Trib			6.10 (2.46)	6.41 (2.57)
Democ	0.77 (3.41)	0.63 (2.67)	0.48 (1.61)	0.49 (1.65)
Democ2	–0.1 (–3.65)	–0.08 (–2.67)	–0.06 (–1.68)	–0.06 (–1.73)
Safrica		–0.91 (–0.95)	–2.24 (–1.65)	–2.12 (–1.60)
Asiae		1.13 (1.34)	5.82 (3.12)	6.07 (3.16)
Laam		0.64 (0.77)	0.12 (0.09)	0.42 (0.32)
R^2	0.3369	0.3880	0.4832	0.4777
Number	374	374	345	345

NOTE: Numbers in parentheses are *t* statistics. In all the regressions, I include religious dummy variables. Educ = average years of schooling in the total population; Lpop = log of the population at the beginning of the period; Lgdp = log of the real gross domestic product (GDP) per capita of the initial period (1985 international prices); Ex = share of primary exports in GDP; Ex2 = square of ex; I = investment share of GDP; C = consumption share of GDP; Elf60 = linguistic fragmentation; Democ and Democ2 = democracy level from Polity III data source; IRC1 = religious polarization (Montalvo and Reynal-Querol 2000); IRC2 = religious polarization (Esteban and Ray 1994); Trib = animist diversity; Safrica = dummy variable for sub-Saharan countries; Asiae = dummy variable for Asian countries; Laam = dummy variable for Latin American countries.

Religious Polarization versus Religious Fragmentation

To show not only the importance of the religious characteristics of a society but also the importance of the mechanism through which social cleavage works, we compare religious polarization to religious fragmentation.[18] Table 3 shows the results. In columns 1 and 2, we observe that the religious fragmentation measure has no significant effect on ethnic civil war. We test the robustness of this effect with the inclusion of religious polarization (columns 3 and 4) and find three important results: religious polarization and animist diversity have a positive and significant effect on civil war no matter which polarization measure we use. Also, religious fragmentation does not have a significant effect on ethnic civil war. However, the effect of religious fragmentation is significant at the 10% level. This is important because it gives us some intuition about

18. When using religious fragmentation data, we report the results using Barro's (1997) data because the literature has used these data when computing an index of religious fragmentation. We find similar results when using Reynal-Querol (2001a) data and the fragmentation index.

TABLE 3
Logit Pool Estimation for the Incidence of Ethnic Civil War from 1960-1995: Religious Polarization versus Religious Fragmentation

Model	*1*	*2*	*3*	*4*
Constant	–14.41 (–2.18)	–35.85 (–3.32)	–27.58 (–2.58)	–34.43 (–3.15)
Lpop	0.93 (3.58)	0.28 (0.92)	0.31 (0.77)	0.32 (0.84)
Lgdp	0.92 (1.46)	2.68 (2.90)	1.97 (2.19)	2.28 (2.51)
Educ	–0.39 (–1.79)	–0.61 (–2.19)	–0.11 (–0.36)	–0.13 (–0.44)
Ex	0.09 (0.80)	0.20 (1.32)	0.19 (1.26)	0.13 (0.89)
Ex2	–0.00 (–0.70)	–0.01 (–1.19)	–0.01 (–1.24)	–0.00 (–0.96)
I	–0.14 (–2.75)	–0.13 (–2.26)	–0.11 (–1.78)	–0.12 (–2.02)
C	–0.02 (–0.82)	0.05 (1.45)	–0.00 (–0.13)	0.01 (0.25)
Rff	–1.45 (–0.76)	3.08 (0.99)	–9.85 (–1.89)	–9.82 (–1.98)
IRC1			10.75 (3.13)	
IRC2				19.13 (3.30)
Trib		8.78 (2.92)	7.06 (2.34)	7.95 (3.05)
Democ	0.64 (2.48)	0.69 (2.47)	0.59 (1.98)	0.62 (2.09)
Democ2	–0.08 (–2.52)	–0.08 (–2.59)	–0.07 (–1.94)	–0.07 (–2.07)
Safrica	0.08 (0.07)	–1.59 (–1.23)	–1.71 (–1.13)	–1.64 (–1.11)
Asiae	2.51 (2.48)	6.6 (3.33)	5.33 (3.01)	5.80 (3.22)
Laam	–1.07 (–1.24)	0.87 (0.65)	–3.43 (–1.63)	–2.74 (–1.51)
R^2	0.3556	0.4343	0.5029	0.4986
Number	323	310	310	310

NOTE: Numbers in parentheses are *t* statistics. In all the regressions, I include religious dummy variables. Educ = average years of schooling in the total population; Lpop = log of the population at the beginning of the period; Lgdp = log of the real gross domestic product (GDP) per capita of the initial period (1985 international prices); Ex = share of primary exports in GDP; Ex2 = square of ex; I = investment share of GDP; C = consumption share of GDP; Democ and Democ2 = democracy level from Polity III data source; IRC1 = religious polarization (Montalvo and Reynal-Querol 2000); IRC2 = religious polarization (Esteban and Ray 1994); Trib = animist diversity; Safrica = dummy variable for sub-Saharan countries; Asiae = dummy variable for Asian countries; Laam = dummy variable for Latin American countries.

the effect of religious diversity on ethnic civil war. It seems that the fragmentation of the society on religious groups is preventing countries from violence rather than inducing them to conflict. When analyzing the causes of civil wars, Collier and Hoeffler (2000) also find evidence that religious fragmentation makes countries safer. Moreover, Elbadawi and Sambanis (forthcoming) find a quadratic interaction term of religious and ethnic diversity that is negatively associated with the incidence of civil war.

Political Causes of Ethnic Civil War

In this section, we analyze the effect of political rights and civil liberties on the incidence of ethnic civil war after controlling for the social effects analyzed in the previous sections. The results are reported in Table 4. We use data from the Polity III data set (columns 1 to 4) and from the Freedom House data set (columns 5 to 6). We find what

other authors have predicted. Countries with a midlevel democracy have a higher probability of suffering a civil war.[19] These findings are consistent with Collier and Hoeffler (2000), Sambanis (2001), Hegre et al. (2001), and Ellingsen (2000). The intuition behind these results is that some level of freedom is needed to let people organize to start a civil war.

We have shown that democracy seems not to be a sufficient condition to prevent countries from getting involved in a civil war. We now introduce the institutional variables created in Reynal-Querol (2001b). We define autocracy (AUTO), partial freedom (PF), majoritarian system (MAJO), presidential system (PS), and proportional representation (PR). In the first step, we analyze the effect of the different institutional systems by using dummy variables. However, because there is no country that has a proportional system and has experienced an ethnic civil war during the next 5 years, the prediction power of this dummy is perfect. This fact makes the logit panel a badly defined specification. Therefore, to avoid this problem, we construct, as Reynal-Querol (2001b) did, variables that order the different systems according to the level of inclusiveness of their voting rules. For the political institution, we try to summarize in one variable the information contained in the five dummies referred to earlier. We order the five dummies with respect to the inclusiveness of their systems. The most inclusive rule is unanimity. We know that nonfree systems are less inclusive than nonauthoritarian countries, and plurality systems are less inclusive than proportional representation systems. A number of countries have presidential systems. The theory does not incorporate this directly. However, there is a sense that societies with a presidential system and a proportional system in the assembly are more inclusive than pure majoritarian systems. By definition, the election of a president is by majority rule; therefore, what makes a difference with respect to the presidential system is the voting rule followed in the assembly. It would be ideal to have data that distinguish between the kind of presidential systems in terms of their different level of inclusiveness, depending on the voting rule followed in the assembly. However, we are not aware of the existence of such a data set. Therefore, if we order the systems by the level of inclusiveness, presidential systems are less inclusive than proportional representation and equal or more inclusive than majoritarian rule systems, depending on the voting rule that is followed in the assembly elections. Therefore, we create a variable called INCV, which has value of 0 if the system is not free, 1 if it has a majoritarian system, 2 if it has a presidential system, and 3 if it has a proportional system. Alternatively, mainly because following this order is difficult to ensure that presidential systems are more inclusive than majoritarian, we have created another variable, called INCV1, that has a value of 0 if the country is not free, 1 if it has a majoritarian or presidential system, and 2 if it has a proportional system.

We report the results in Table 5. In columns 1 and 2, we analyze the effect of the political system, controlling for the democracy level and using the two variables that capture the level of inclusiveness, INCV and INCV1. We find that the level of inclusiveness of the political system has a negative and significant effect on the incidence of

19. However, when including the square of the autocracy, column 4, the effect of this variable remains not significant.

TABLE 4
Logit Pool Estimation for the Incidence of Ethnic Civil War from 1960-1995: Political Rights and Civil Liberties

Model	*1*	*2*	*3*	*4*	*5*	*6*
Constant	–25.79	–24.85	–26.77	–26.68	–25.87	
	(–3.33)	(–3.27)	(–3.28)	(–3.49)	(–3.13)	
Lpop	0.38	0.32	0.37	0.31	0.51	
	(1.57)	(1.30)	(1.53)	(1.29)	(1.94)	
Lgdp	1.26	1.23	1.52	1.37	1.26	
	(1.95)	(1.98)	(2.26)	(2.18)	(1.85)	
Educ	–0.33	–0.33	–0.27	–0.31	–0.29	
	(–1.55)	(–1.58)	(–1.24)	(–1.47)	(–1.26)	
Ex	0.09	0.09	0.11	0.15	0.11	
	(0.85)	(0.86)	(0.91)	(1.25)	(0.89)	
Ex2	–0.00	–0.00	–0.00	–0.00	–0.00	
	(–0.87)	(–0.88)	(–0.93)	(–1.19)	(–0.92)	
I	–0.09	–0.08	–0.11	–0.08	–0.09	
	(–1.76)	(–1.67)	(–2.10)	(–1.64)	(–1.70)	
C	0.01	0.01	0.01	0.01	0.01	
	(0.42)	(0.36)	(0.55)	(0.29)	(0.22)	
IRC1	5.28	5.53	5.15	5.42	4.34	
	(3.18)	(3.33)	(3.08)	(3.31)	(2.71)	
Trib	6.38	6.50	6.26	6.55	5.80	
	(2.73)	(2.77)	(2.78)	(2.84)	(2.50)	
Democ	0.02		0.69			
	(0.19)		(2.52)			
Democ2			–0.08			
			(–2.55)			
Autoc		–0.07		0.36		
		(–0.87)		(1.21)		
Autoc2				–0.05		
				(–1.51)		
Freedom					–1.02	
					(–1.34)	
PF					0.24	
					(0.33)	
Safrica	–1.96	–2.03	–2.48	–2.16	–1.89	
	(–1.54)	(–1.62)	(–1.93)	(–1.81)	(–1.44)	
Asiae	5.48	5.61	4.76	5.94	5.45	
	(3.78)	(3.84)	(3.16)	(3.91)	(3.60)	
Laam	–0.03	–0.10	–0.77	–0.14	–0.00	
	(–0.03)	(–0.09)	(–0.68)	(–0.13)	(–0.00)	
R^2	0.4248	0.4276	0.4518	0.4365	0.4297	
Number	369	369	369	369	346	

NOTE: Numbers in parentheses are *t* statistics. In all the regressions, I include religious dummy variables. Results do not change if we control for other social variables. Educ = average years of schooling in the total population; Lpop = log of the population at the beginning of the period; Lgdp = log of the real gross domestic product (GDP) per capita of the initial period (1985 international prices); Ex = share of primary exports in GDP; Ex2 = square of ex; I = investment share of GDP; C = consumption share of GDP; Democ and Democ2 = democracy level from Polity III data source; IRC1 = religious polarization (Montalvo and Reynal-Querol 2000); trib = animist diversity; Autoc and Autoc2 = autocracy level from Polity III data source; PF = dummy variable for partially free countries (Freedom House data source); Freedom = dummy variable for free countries (Freedom House data source); Safrica = dummy variable for sub-Saharan countries; Asiae = dummy variable for Asian countries; Laam = dummy variable for Latin American countries.

TABLE 5
Logit Pool Estimation for the Incidence of Ethnic Civil War from 1960-1995: Political System

Model	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
Constant	–30.07	–29.39	–27.54	–26.33	–29.10	–28.37	–25.89	–25.24
	(–3.58)	(–3.50)	(–3.41)	(–3.26)	(–3.50)	(–3.42)	(–3.30)	(–3.18)
Lpop	0.57	0.55	0.46	0.42	0.55	0.52	0.44	0.41
	(2.20)	(2.11)	(1.75)	(1.59)	(2.11)	(2.00)	(1.68)	(1.54)
Lgdp	1.81	1.79	1.61	1.57	1.74	1.72	1.61	1.65
	(2.48)	(2.46)	(2.41)	(2.37)	(2.39)	(2.37)	(2.40)	(2.42)
Educ	–0.29	–0.30	–0.31	–0.32	–0.22	–0.26	–0.29	–0.32
	(–1.25)	(–1.33)	(–1.44)	(–1.50)	(0.92)	(–1.07)	(–1.31)	(–1.41)
Ex	0.23	0.21	0.20	0.19	0.23	0.21	0.18	0.19
	(1.56)	(1.51)	(1.52)	(1.45)	(1.51)	(1.47)	(1.39)	(1.36)
Ex2	–0.01	–0.01	–0.01	–0.01	–0.01	–0.01	–0.01	–0.01
	(–1.39)	(–1.35)	(–1.36)	(–1.32)	(–1.35)	(–1.32)	(–1.26)	(–1.25)
I	–0.18	–0.17	–0.13	–0.12	–0.21	–0.19	–0.15	–0.14
	(–3.03)	(–2.91)	(–2.37)	(–2.23)	(–3.30)	(–3.10)	(–2.59)	(–2.48)
C	0.00	0.01	–0.00	0.00	–0.00	–0.00	–0.00	–0.00
	(0.15)	(0.21)	(–0.02)	(0.02)	(–0.11)	(–0.03)	(–0.17)	(–0.18)
IRC1	5.33	5.23	5.39	5.29	5.58	5.42	5.57	5.67
	(3.25)	(3.18)	(3.35)	(3.30)	(3.27)	(3.21)	(3.38)	(3.37)
Trib	6.17	6.04	6.35	6.23	6.33	6.22	6.70	6.78
	(2.82)	(2.84)	(2.84)	(2.87)	(2.75)	(2.77)	(2.89)	(2.98)
Democ	1.01	0.99			0.87	0.86		
	(3.34)	(3.29)			(2.76)	(2.76)		
Democ2	–0.09	–0.09			–0.05	–0.05		
	(–2.89)	(–2.85)			(–1.39)	(–1.41)		
Autoc			–0.07	–0.10			–0.48	–0.64
			(–0.21)	(–0.29)			(–1.17)	(–1.51)
Autoc2			–0.02	–0.02			0.01	0.02
			(–0.58)	(–0.52)			(0.31)	(0.57)
Incv	–1.46	–2.51	–1.28		0.02		–2.07	
	(–2.88)	(–2.83)	(–2.55)		(0.03)		(–3.16)	
Incv1				–2.30		–0.42		–4.28
				(–2.60)		(–0.37)		(–3.44)
Demincv					–0.35			
					(–2.49)			
Demincv1						–0.54		
						(–2.35)		
Autincv							0.29	
							(2.53)	
Autincv1								0.61
								(3.16)
Safrica	–3.78	–3.63	–2.77	–2.72	–4.52	–4.37	–3.10	–3.16
	(–2.62)	(–2.57)	(–2.16)	(–2.16)	(–2.75)	(–2.71)	(–2.28)	(–2.33)
Asiae	5.93	5.73	6.76	6.55	5.62	5.40	6.53	6.55
	(3.58)	(3.52)	(4.20)	(4.10)	(3.35)	(3.27)	(4.14)	(4.06)

(continued)

TABLE 5 Continued

Model	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
Laam	–0.65	–0.73	–0.08	–0.19	–0.67	–0.78	–0.17	–0.26
	(–0.54)	(–0.62)	(–0.07)	(–0.17)	(–0.50)	(–0.60)	(–0.14)	(–0.22)
R^2	0.4877	0.4875	0.4644	0.4666	0.5140	0.5094	0.4811	0.4933
Number	369	369	369	369	369	369	369	369

NOTE: Numbers in parentheses are *t* statistics. In all the regressions, I include religious dummy variables. Educ = average years of schooling in the total population; Lpop = log of the population at the beginning of the period; Lgdp = log of the real gross domestic product (GDP) per capita of the initial period (1985 international prices); Ex = share of primary exports in GDP; Ex2 = square of ex; I = investment share of GDP; C = consumption share of GDP; Democ and Democ2 = democracy level from Polity III data source; Autoc and Autoc2 = autocracy level from Polity III data source; IRC1 = religious polarization (Montalvo and Reynal-Querol 2000); Trib = animist diversity; Incv and Incv1 = level of inclusiveness of the political system; Demincv = democ • incv; Demincv1 = democ • incv1; Autincv = autoc • incv; Autincv1 = autoc • incv1; Safrica = dummy variable for sub-Saharan countries; Asiae = dummy variable for Asian countries; Laam = dummy variable for Latin American countries.

ethnic civil war. Controlling for the level of autocracy instead of democracy (columns 3 and 4), we find the same results on the effect of INCV and INCV1.[20] These findings show the importance of the level of inclusiveness of the political system in preventing ethnic civil war.

We include in the regression the interaction between the level of inclusiveness and the democracy level (columns 5 and 6 of Table 5) and the level of inclusiveness with the autocracy level (columns 7 and 8). Columns 5 and 6 show that the level of inclusiveness of the political system in democratic countries has a negative and significant effect on the incidence of ethnic civil war. Moreover, this result indicates that the higher the democratic level of a country, the larger the effect of the level of inclusiveness on ethnic civil war. These results are corroborated when using the level of autocracy instead of democracy (columns 7 and 8).

These findings suggest that we need to control not only for the level of democracy but also for the type of political system. Not all political institutions work in the same way, and the level of representation of the population is a key element if we want to prevent countries from ethnic civil war. This inclusiveness can be achieved by applying consociational democracies rather than majoritarian systems.

Policy Implications

In this section, we analyze whether in religiously polarized and animist diverse societies, the existence of a political system with a high level of representation of the population reduces the effect of this latent conflict on the incidence of ethnic civil war. Table 6 shows the results of this analysis.

20. If we do the same analysis but without including the square of the democracy and autocracy variables, we find that democracy has no significant effect on the incidence of ethnic/religious civil war, but the autocracy level has a negative and significant effect. The level of inclusiveness continues to have a negative and significant effect.

In columns 1 and 2, we include the IRC1 measure together with the level of democracy, the level of inclusiveness, INCV, and their interaction. We find that in religiously polarized countries, the effect of polarization on the incidence of ethnic civil war is reduced by the effect of having a political system with a high level of inclusiveness. These results are robust to the use of different variables that capture the level of inclusiveness (column 2) and to the inclusion of the square of the democracy variable (columns 3 and 4). Moreover, they are also robust to the use of different polarization measures (columns 5 and 6). In regression 7 of Table 6, we analyze whether the political system can help to reduce the effect of animist diversity on ethnic civil war. The results show that the level of inclusiveness does not help in reducing the risk of a war caused because of animist diversity. In column 8 of Table 6, we analyze all these effects together. We find the same results as when we analyze these effects separately.

Because of this result, we test one of the arguments of Horowitz (1985). He argues that in ethnically divided societies, the plurality rule system is a mechanism that promotes the creation of multiethnic parties, which helps to reduce ethnic tensions. We analyze whether systems with plurality rule help to reduce the effect of animist diversity on the incidence of ethnic civil war. In column 9 of Table 6, we find that the effect of animist diversity on ethnic civil war is reduced by the establishment of majoritarian systems. We analyze in column 10 of Table 6 all the effects together. From these results, we conclude that the inclusion of consociational democracies is an important measure that significantly reduces the incidence of ethnic civil war generated by religious polarization, and the effect of animist diversity on ethnic civil war is reduced by the establishment of majoritarian systems.

On one hand, the empirical evidence seems to corroborate the arguments of Lijphart (1977, 1984) on which political system is better to reduce ethnic conflict because consociational democracies reduce the effect of religious polarization on the incidence of ethnic civil war. On the other hand, the evidence also supports part of the argument by Horowitz (1985) because the conflict generated by animist diversity cannot be reduced by applying consociational democracies but by applying majoritarian systems.

Therefore, in societies with a high degree of religious polarization and animist diversity, it will be necessary to design new political systems that consider, on one hand, a majoritarian system to institutionalize the relationship among the different animist groups and, on the other hand, a proportional system to manage the relationship between all the animist groups and the other groups in the society.

We test this implication in the case of a country with a significant amount of animist groups and another religious group. Therefore, the majoritarian system works in line with Horowitz's (1985) theories, helping to promote the creation of multiethnic parties. In this context, the animist groups are very different from the other religious groups, and their common elements can provide an incentive for the creation of multiethnic parties. The results therefore apply when a significant number of ethnic groups compete for power with other religions. The differences between the ethnic groups and other large religions imply the need for cohesion among the animist or ethnic groups to defend their own identities against larger religions such as Christianity or Islam. How-

TABLE 6

Logit Pool Estimation for the Incidence of Ethnic Civil War from 1960-1995: Political Systems with a High Level of Inclusion and Representation

Model	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Constant	–13.29	–12.65	–11.52	–11.51	–12.32	–11.77	–7.24	–13.53	–13.57	–17.07
	(–3.12)	(–2.98)	(–2.68)	(–2.69)	(–2.86)	(–2.74)	(–1.89)	(–3.07)	(–2.74)	(–3.20)
Lpop	1.04	1.06	1.00	1.02	1.01	1.02	0.67	0.84	0.76	0.93
	(6.37)	(6.56)	(6.06)	(6.24)	(6.38)	(6.54)	(4.40)	(4.87)	(4.09)	(4.57)
Lgdp	–0.03	–0.09	–0.11	–0.14	–0.13	–0.18	–0.38	–0.06	0.25	0.30
	(–0.08)	(–0.23)	(–0.28)	(–0.34)	(–0.33)	(–0.45)	(–0.96)	(–0.15)	(0.53)	(0.63)
Educ	–0.39	–0.39	–0.39	–0.39	–0.36	–0.37	–0.25	–0.37	–0.39	–0.43
	(–2.76)	(–2.74)	(–2.63)	(–2.60)	(–2.58)	(–2.59)	(–1.81)	(–2.49)	(–2.38)	(–2.51)
I	–0.07	–0.07	–0.07	–0.07	–0.06	–0.07	–0.06	–0.06	–0.07	–0.08
	(–2.18)	(–2.28)	(–2.40)	(–2.43)	(–2.18)	(–2.22)	(–2.15)	(–1.94)	(–2.11)	(–2.31)
C	–0.04	–0.04	–0.04	–0.04	–0.04	–0.04	–0.03	–0.03	–0.03	–0.04
	(–1.97)	(–2.04)	(–2.21)	(–2.16)	(–2.10)	(–2.12)	(–1.72)	(–1.58)	(–1.37)	(–1.69)
IRC1	3.80	3.68	3.48	3.52				3.31		3.45
	(3.89)	(3.69)	(3.54)	(3.50)				(3.34)		(2.76)
IRC2					4.99	4.80				
					(3.08)	(2.88)				
Trib							6.12	5.18	6.08	4.37
							(3.19)	(2.61)	(3.15)	(2.38)
Democ	0.17	0.22	0.70	0.69	0.17	0.22	0.15	0.17	0.64	0.79
	(2.76)	(3.33)	(3.59)	(3.55)	(2.81)	(3.36)	(2.42)	(2.66)	(2.99)	(3.36)
Democ2			–0.6	–0.05					–0.07	–0.06
			(–2.84)	(–2.55)					(–2.81)	(–2.39)
Incv	–0.38		–0.44		–0.54		–1.01	–0.36		
	(–1.06)		(–1.09)		(–1.52)		(–2.98)	(–0.98)		
Incv1		–1.06		–1.03		–1.35				–0.78
		(–1.75)		(–1.57)		(–2.21)				(–0.98)

CfIndem	–0.29		–0.29					–0.32		
	(–2.23)		(–2.00)					(–2.11)		
CfIn1dem		–0.47		–0.45						–0.59
		(–2.33)		(–2.12)						(–2.41)
Cf2Indem					–0.48					
					(–1.99)					
Cf2In1dem						–0.70				
						(–2.01)				
LtIndem							0.23	0.64		
							(0.50)	(1.18)		
LtIn1dem									–0.13	0.59
MAJOc									(–0.17)	(0.63)
Ltmaj									–142.21	–144.36
									(–2.28)	(–2.21)
R^2	0.3771	0.3877	0.3964	0.4031	0.3616	0.3728	0.3704	0.4008	0.4290	0.4788
Number	606	606	606	606	606	606	596	596	555	555

NOTE: Numbers in parentheses are *t* statistics. In all the regressions, I include religious dummy variables and regional dummy variables. Educ = average years of schooling in the total population; Lpop = log of the population at the beginning of the period; Lgdp = log of the real gross domestic product (GDP) per capita of the initial period (1985 international prices); I = investment share of GDP; C = consumption share of GDP; Democ and Democ2 = democracy level from Polity III data source; IRC1 = religious polarization (Montalvo and Reynal-Querol 2000); IRC2 = religious polarization (Esteban and Ray 1994); Trib = animist diversity; Incv and Incv1 = level of inclusiveness of the political system; CfIndem = conf1 • demIncv; CfIn1dem = conf1 • demIncv1; Cf2Indem = conf2 • demIncv; Cf2In1dem = conf2 • demIncv1; LtIndem = ltrib • demIncv; LtIn1dem = ltrib • demIncv1.

ever, these results cannot be generalized when societies are divided by animist/ethnic groups because in this case, the differences among them appear to be stronger.

CONCLUSIONS

This study has analyzed the social and political causes of ethnic civil war. Three important findings are robust for the use of different estimation procedures and specifications.

The first is the importance of religious polarization and animist diversity in explaining the incidence of ethnic civil war no matter what other measures are included. These results corroborate the results of the literature on rent-seeking models that study social conflict and the importance of the distribution of the groups in a country as a key element for understanding the causes of social conflicts. Second, we find that religious polarization is more important as a social cleavage that can develop into civil war than are linguistic differences. This result corroborates what Huntington (1996) claims about the importance of religious differences to explain domestic conflicts. Third, we find that a consociational democracy is a political system that significantly reduces the incidence of ethnic civil war. Mainly, it reduces the probability of ethnic civil war generated by religious polarization.

The study of the causes of civil war deserves additional studies, especially of the ethnic and political issues that may influence the incidence of civil war. Our analysis—based on the study by Collier and Hoeffler (2000), who argue that conflicts are far more likely to be caused by economic opportunities than by grievance—is focused on the ethnic and political causes of civil war. We use a theoretically based index of latent conflict and give special importance to the religious dimensions of ethnicity, using a new data set that tries to overcome the common criticism to the *World Christian Encyclopedia* (Barret 1982) data. Moreover, here we argue that what matters are the level of inclusiveness of the system and the level of democracy instead of the level of democracy per se.

These results are important for four reasons. First, we consider polarization measures instead of fragmentation measures to capture latent conflict. Second, we use the religious dimension of ethnicity instead of the linguistic one as an important cause of conflict. Third, we consider animist diversity, very typical in sub-Saharan countries, as a special case of religious conflict. Finally, most of the literature has considered democracy as the only political variable that may affect the probability of civil war, and even the empirical evidence about this is very week. We argue that we need to control not only for democracy but also for the political system. The results clarify the role of democracy itself.

APPENDIX

Property 1: It attains its maximum at the bipolar symmetric distribution.

Property 2: Suppose we start with the population equally distributed over two groups. Let us transfer x from each original group to two newly created groups. Then the index is nonmonotonic with respect to x, and it reaches its minimum at four equal-sized groups.

Property 3: Consider the population divided into N groups of size $1/N$. Polarization decreases with N.

Indeed, the index is as follows:

$$\mathrm{IRC1} = 1 - \sum_{i=1}^{N} (0.5 - \pi_i)^2 \, \pi_i \big/ 0.25 = 1 - 4N(1/2 - 1/N)^2(1/N) = 1 - 4(1/2 - 1/N)^2.$$

Clearly, the index is strictly decreasing in N.

Property 4: If we start with a uniform distribution over N groups, any merging of k adjacent groups will increase polarization.

This is a direct corollary of property 3.

Property 5: There are two groups with size π_1 and π_2. Take any one group and split it into $m \geq 2$ groups in such a way that $\pi_1 = \tilde{\pi}_1 \geq \tilde{\pi}_i \; \forall_{i=2,\ldots n+1}$, where $\tilde{\pi}$ is the new vector of population sizes, and clearly $\sum_{i=2}^{n+1} \tilde{\pi}_i = \pi_2$. Then polarization under $\tilde{\pi}$ is smaller than under π. (See Reynal-Querol 2001a for the proofs.)

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