

***Why Are There So Many Civil Wars in Africa?
Understanding and Preventing Violent Conflict***

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ABSTRACT

Contrary to popular belief, Africa's civil wars are not due to its ethnic and religious diversity. Using recently developed models of the overall prevalence of civil wars in 161 countries between 1960-1999, we draw lessons with special reference to Africa, showing that the relatively higher prevalence of war in Africa is not due to the ethno-linguistic fragmentation of its countries, but rather to high levels of poverty, failed political institutions, and economic dependence on natural resources. We argue that the best and fastest strategy to reduce the prevalence of civil war in Africa and prevent future civil wars is to institute democratic reforms that effectively manage the challenges facing Africa's diverse societies. To promote inter-group cooperation in Africa, specially tailored political governance and economic management institutions are needed and we advance some hypotheses on the nature of such institutions. We suggest that Africa's ethnic diversity in fact helps --it does not impede-- the emergence of stable development as it necessitates inter-group bargaining processes. These processes can be peaceful if ethnic groups feel adequately represented by their national political institutions and if the economy provides opportunity for productive activity.

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1. Introduction

Over the last 40 years nearly 20 African countries (or about 40 percent of Africa south of the Sahara (SSA)) have experienced at least one period of civil war. It is estimated that 20% of SSA's population now lives in countries which are formally at war and low-intensity conflict has become endemic to many other African states. This state of affairs has created stereotypes of Africa as a doomed continent with inescapable ethnic cleavages and violent tribal conflict. The more incidents of political violence we observe in Africa, the more support for this simplistic and negative perception.

However, careful analysis of the determinants of civil wars in Africa and a systematic comparison to other regions points to a more complex picture. Deep political and economic development failures --not tribalism or ethnic hatred-- are the root causes of Africa's problems. The implication is that political and economic development can effectively reduce or eradicate political violence in Africa. In this paper, we focus explicitly on such a comparison between Africa and other regions, drawing on a detailed and more technical empirical analysis of civil war that we have conducted elsewhere.¹

Our analysis is based on the concept of *prevalence* (or amount) of civil war and we try to model its determinants. The concept of war prevalence is equivalent to the concept of the overall amount of civil war that one might observe in a given period, regardless of whether or not the war started during that period or earlier.² We focus on

¹ Ibrahim A. Elbadawi and Nicholas Sambanis, 2000, "How Much War Will We See? Estimating the Prevalence of Civil War in 161 Countries," World Bank Working Paper. Henceforth Elbadawi and Sambanis (2000a)

² We define the probability of incidence of civil war at any given time (t) as a probability of two disjoint events. The first event is that war happens at time (t) conditional on the event that there was no war at time

overall prevalence rather than on war starts so that we can address the question of the overall amount of civil war in Africa and because it is often difficult to separate closely spaced war initiations in the same country. Based on the evidence we observe and analyze, we propose a broad strategy of war prevention.

Our empirical analysis is based on estimating an empirical model of the probability of observing an incident of civil war in any one of 161 countries between 1960-1999. We are able to show that the relatively high prevalence of civil war in Africa is not due to extreme ethno-linguistic fragmentation, but rather to high levels of poverty, heavy dependence on resource-based primary exports and, especially, to failed political institutions. Simulations of the effect of political liberalization and economic development on the probability of civil war show that the best --and fastest-- strategy to reduce the prevalence of civil war in Africa is to institute democratic reforms that effectively manage the socio-cultural diversity of African societies. We realize that civil wars in socially diverse societies represent an extreme failure of inter-group cooperation and argue that the best conflict prevention strategy is to build institutions for political governance and economic management. We assess the extent to which Africa's social diversity promotes or impedes this process and consider what type of institutions are capable of mitigating the potentially negative consequences of diversity.

In section 2 we discuss the causes of civil wars, presenting some stylized facts about their prevalence, intensity and duration as well as some basic data on related

(t-1). The second event is that war is observed at time (t), having been initiated at an earlier period. Thus, the probability of incidence of civil war is equal to the probability of war onset or initiation plus the probability that a war will last more than one period. This concepts unifies earlier literature, which focuses either on onset of new wars (e.g. Collier and Hoeffler, 1999) or duration of war (Collier, Hoeffler and Soderbom, 1998).

variables in Africa and other regions. We use our Elbadawi and Sambanis (ES) model (2000a) to explain the high prevalence of civil wars in Africa as compared to other regions. In section 3, we explore if and by how much improvements in political rights, standards of living and economic diversification influence the risk of civil war. The evidence from this exercise provides a basis for developing a strategy to war prevention. In the concluding section, we use our empirical analysis to make some policy recommendations. We argue that a prevention strategy would not be complete without a deep understanding of how political and economic governance institutions interact with social diversity. While we cannot enter into a full discussion of the nature of peacebuilding institutions, we point to the need for further research on the relationship between political institutions and violence in Africa.

2. Understanding the Causes of Conflicts in Africa

Africa has a high prevalence of civil wars and this is commonly attributed to the ethnic diversity of its countries. This inference seems self-evident to many, given that African rebel movements almost always are ethnically defined. Ethnic identities and hatred are thus seen as the cause of violent conflict. However, more systematic analysis of the causes of civil war suggests that Africa's civil wars conform to a global pattern that is better explained by political and economic factors as well as by the extent of ethnic, cultural and religious diversity in the society.³ Recent studies have found that the risk of civil war is reduced by the opportunity cost of rebel labor (proxied by indicators of

economic development, such as per capita GDP or educational attainment). Up to a certain range, natural resources are associated with higher risk of war, though for a substantial natural resource base the relationship is expected to turn negative. Natural resources provide easily “lootable” assets for “loot-seeking” rebel movements or convenient sources for sustaining “justice-seeking” movements (Collier and Hoeffler 2000). However, extremely plentiful resources may also provide sufficient revenues that the government can use to fund its army and "buy" popular support.

The literature on civil wars also suggests that social diversity can have several offsetting effects that may reduce the risk of large-scale violent conflict. This may happen because rebel cohesion may be a function of the degree of ethnic or religious diversity of the society; in highly diverse societies, the government may be more easily successful in dividing the rebels given that the rebels themselves may have a harder time in gaining support for their cause across a wider range of ethnic groups with potentially diverse preferences. Collier and Hoeffler (2000) find that ethnic diversity becomes problematic when it borders polarization --i.e. when an ethnic group accounts for 60-40% of the population and can dominate the others. In such polarized societies, it is easier to start and support a rebellion.

Given the above analytical literature, two key questions with profound policy implications could be asked: What explains the high prevalence of civil wars in Africa? And how effective are economic development and political reforms in reducing the risk of civil wars? We answer these questions in the rest of this paper.

³ See, for example, Collier and Hoeffler (1998, 1999); Collier (1999a); Collier, Hoeffler and Soderbom

2.1 *The Characteristics of Africa's Civil Wars*

Let us start by defining the concept of civil war. A civil war is an armed conflict that has (1) caused more than one thousand deaths; (2) challenged the sovereignty of an internationally recognized state; (3) occurred within the recognized boundaries of that state; (4) involved the state as one of the principal combatants; (5) included rebels with the ability to mount an organized opposition; and (6) involved parties concerned with the prospect of living together in the same political unit after the end of the war.⁴ This definition allows us to combine wars from several data sets.⁵ With this working definition in place, we can now turn to our analysis.

Elbadawi and Sambanis (2000a), using a random effects probit model, have estimated the likelihood of observing civil war during any 5-year period from 1960-1999 in 161 countries. Our model combines theoretical insights developed with reference to the onset (initiation) of war by Collier and Hoeffler (2000) with insights on the determinants of war duration (Elbadawi and Sambanis 2000b; Collier, Hoeffler, and Soderbom, 1999). We define the likelihood of civil war prevalence as the sum of two

(1999); and Elbadawi and Sambanis (2000a).

⁴ This definition is nearly identical to the definition of a civil war in J. David Singer and Melvin Small, *Correlates of War Project: International and Civil War Data, 1816-1992* (Ann Arbor, Mich.: ICPSR, 1994); idem, *Resort to Arms* (Beverly Hills, Calif.: Sage Publications, 1982); and Roy Licklider, "The Consequences of Negotiated Settlements in Civil Wars, 1945-1993," *American Political Science Review* 89 (September 1995). Unlike them, my coding of wars does not presume one thousand deaths per year, but rather uses the one thousand deaths as the threshold for the entire war. In fact, however, most of my cases have caused one thousand deaths annually. My coding decision was based on the arbitrariness of setting one thousand as the annual death criterion and on the lack of available data on annual deaths in the Correlates of War project. Indeed, the codebook of the ICPSR study, which includes the international and civil war data files for the Correlates of War Project, does not mention an annual death threshold and no annual death data are made available by the authors.

⁵ On the coding of civil wars, see Nicholas Sambanis, "Partition as a Solution to Ethnic War: An Empirical Critique of the Theoretical Literature," *World Politics* 52 (July 2000), 437-83. Our sources for coding these wars and details on that coding can be found at:

disjoint probabilities, the probability that civil war is initiated at time t and the probability that a civil war is ongoing at time $t+1$, having been initiated at time t .

We then estimate the prevalence of civil war as a function of political, economic, and social variables (regressors). Our dependent variable --AT_WAR-- is coded 1 for all observations during which war was ongoing and 0 otherwise. We select a set of proxies as explanatory variables, which broadly speaking measure levels of economic and political grievance and opportunity for war, as well as the ease of coordinating a rebel movement. We proxy the opportunity cost of rebel labor by the per capita real income level (RGDP).⁶ We proxy political rights by the openness of political institutions (POLITY), which is the average of an index of democracy (DEM) minus an index of autocracy (AUTO).⁷ The level of ethnic diversity is proxied by the index of ethno-linguistic fractionalization (ELF), which was measured in the 1960s and ranges from 0 (ethnic homogeneity) to 100 (extreme ethnic heterogeneity).⁸ We also use an index constructed by Collier and Hoeffler (1999) to measure religious diversity; we proxy

<http://www.worldbank.org/research/conflict/data/part2-app2.pdf>

⁶ Various sources were used, which cause some problems with the comparability of GDP data. Missing values are imputed from World Bank data on GDP at market values (measured at current US \$) and GDP per capita for 1960 and 1985 (World Bank data).

⁷ The source is the Polity98 data-set. DEM is the democracy index (from 1 to 10, with 10 being the highest). AUTO is the autocracy index (from 1 to 10, with 10 being the highest). POL is the democracy index minus the autocracy index and ranges from -10 (lowest rights) to 10 (highest rights).

⁸ The ELF index was created by Taylor and Hudson (1972); see also Mauro (1995). The reader should note that the ELF entered in the equation as a quadratic is intended to capture two effects: first, the negative effect of ethnic polarization (i.e. small levels of the index) which should increase the risk of war; and second, the positive impact of extreme heterogeneity (high levels of the index). For a careful analysis of the distinct impact of ethnic dominance, see Collier and Hoeffler (2000).

natural resource-dependence by the share of primary exports in GDP (PRIMX);⁹ and control for the size of the country's population in log form (LOGPOP).

Before explaining the causes of Africa's wars based on this statistical model, we present below some of the main characteristics of these wars and summarize the politico-economic fundamentals of African countries more generally, comparing these to other regions of the world. The two panels of Figure 1 present the mean number of five-year periods during which a war took place in each of six regions of the world for the periods 1960-98 and 1980-98, respectively. They also present relative indices of the mean war duration, war-related deaths, democracy level, and ethnic heterogeneity for these six regions.

Cursory inspection of the prevalence of civil war in Sub-Saharan Africa as compared to other regions reveals some telling characteristics of Africa's wars and points to some potentially important relationships. The two panels of Figure 1 show that Africa has the highest prevalence of civil war, especially if we combine the prevalence of war in Sub-Saharan and North Africa. Perhaps more to the point, the prevalence of war has increased in the last two decades in Africa, while it has fallen or remained stagnant in other regions (see the first column of panels 1 and 2, Figure 1). Wars in Africa are on average relatively short and they tend to be among the bloodiest (see columns 2 and 3 in panels 1 and 2, Figure 1). They are therefore the most intense civil wars (in terms of casualties per unit of time). Only Asia has seen more war-related deaths than Africa in

⁹ In a future version of this study we plan to measure the unemployment rate for males at the beginning of each five-year period (UNEMPL) to proxy the economic opportunity costs of rebellion for potential rebels (we use the male unemployment rate since rebels are typically males).

the last 40 years and this estimate need not include all civilian war-related deaths that were due to starvation, illness, and other disruptions caused indirectly by war in Africa.

Column 4 in panels 1 and 2 of Figure 1 also reveals a huge discrepancy in the democracy levels in Sub-Saharan and North Africa as compared to most other regions (Europe, North America, Latin America and the Caribbean, and Asia). Finally, column 5 panels 1 and 2 of Figure 1 reveal that Africa (especially Sub-Saharan Africa) includes the most ethnically diverse countries than any other region in the world. These fact lends itself to speculation concerning a positive association between ethnic heterogeneity and political violence in Africa. However, few analysts have tried to explore that relationship in depth and even fewer have considered the possible role of Africa's relative lack of political rights and its overall lower level of economic development in exacerbating any conflict that may result from its greater ethnic diversity.

In this paper, we look closely at precisely these relationships and we try to disentangle the effects of ethnicity from those of political and economic grievance on the probability of large-scale political violence. We turn first to some key results of global studies on civil wars and consider their implications for Africa and then focus more explicitly on a region-by-region analysis of the prevalence of civil war in the past 40 years.

2.2 *What Explains Africa's High Risk of Civil Wars?*

Using the random effects probit model described in the preceding section (see the statistical results in the appendix), we find that, for the median country, the risk of civil war in any five-year period is relatively high, at nearly 25% (see Table 1). We report the

point estimates of the variables in our model for the global sample (161 countries) in Table 1 and we then break down the countries into five regions, Europe/North America, Asia, Middle east and North Africa, Latin America and the Caribbean, and Sub-Saharan Africa. We then use the values for the median country in each of these regions to estimate the probability of an incident of civil war in each region using the coefficients from the global model. These median country values are reported for each region along with estimated probabilities in Table 1. Three important lessons with reference to Africa emerge from the findings presented in Table 1.

1. *The median African country faces a high risk of civil war.* Given its low level of economic development and lack of political rights, the median African country can be expected to experience a civil war in any five-year period with a probability of 0.11. This result derives from our model, which suggests that at any given year there should be about 8 African countries in civil war (which is fairly close to the number of African countries that actually experienced civil war during 1999, for example).

Africa's proclivity to internal large-scale political violence stands in sharp contrast to the realities of Europe, North America and South America and the Caribbean. In those regions, the median country's risk of civil war in any five-year period is minimal. However, the risk for the median country in the Middle East and North Africa was also high, where out of each 20 countries more than three are expected to be at war. East and South Asia is even more riskier than Africa, where four out of ten countries are expected to be fighting civil wars.

2. *Four factors drive Africa's propensity toward violent conflict.* First, Africa is highly dependent on natural resource exports, which may be looted by rebels to sustain

their rebellion. Other regions are also dependent on natural resources. However, since the relationship between natural resources and civil war-proneness is quadratic, what is important is the dispersion rather than the mean of this variable (isxp). We find that the standard deviation of African countries' resource-dependence is 46% smaller than the standard deviation of non-African countries. Thus, more African countries are closer to the peak of natural resource dependence, which maximizes the threat of war.¹⁰

More importantly, levels of per capita income in Africa are much lower than in the other three developing regions. Median per capita GDP in Africa accounts for less than one half that of Asia and less than one eighth the income level of Europe and North America. The fact that young men in Africa are very poor and not educated substantially increases the risk of civil conflict. Globally, young males are the best recruits for rebellion, and if they have little to lose they are more likely to enlist (on this finding, see Collier and Hoeffler 2000). Third, Africa's pronounced failure to develop strong democratic institutions has compounded other problems and significantly increased the risk of political violence in the continent (see the results for the P1p variable in the appendix).

3. *Africa's ethnic diversity is a deterrent rather than a cause of civil war.*

Paradoxically, Africa's high degree of ethnic diversity, which is widely blamed for causing violent conflict, is a source of safety for the most heterogeneous countries. Although Africa's economic and political indicators are generally lower than those of East and South Asia, some Asian countries have a greater risk of civil war and this may

¹⁰ We thank an anonymous referee for pointing this out to us.

be attributable to their ethnically polarized societies.¹¹ Globally, countries with homogeneous or highly diverse societies are significantly less prone to violent conflicts than polarized countries. This is probably because, as noted above, compared to polarized societies it is very difficult to organize or sustain a rebellion in either homogeneous or diverse societies. Hence, rebellions tend to be less frequent in societies divided into many small sub-groups by ethnicity or religion. Of course, where rebellions do occur in such societies, they will tend to be confined to a particular sub-group. This reason makes African conflicts take the form of sub-group rebellion. This has been mistakenly interpreted as ethnically- induced conflict.

Note, for example, the extremely high risk of civil war in Asia -- this is directly related to the extreme ethnic polarization that we observe in Asian countries. Improvements in Asia's political and economic indicators have led to a nearly 35% reduction in the risk of civil war during the last two decades (see Table 2) as compared to the entire period (see Table 1). Asia's still high risk of civil war can only be explained (in our model) by its ethnic polarization. By contrast, Africa's risk of civil war has increased in recent years (it is almost 50% higher in 1980-98 as compared to the entire period -- see Table 2). The mean level of political freedom has fallen in the last decades in Sub-Saharan Africa, while the level of economic development (proxied in our model by per capita real income and the level of natural resource-dependence) has remained stagnant at very low levels. By contrast, Asian countries have improved dramatically: on average, they have shown sure signs of democratization, they have diversified their economies and reduced by half their dependence of natural resources, and they have made significant

¹¹ Note that the risk of civil war in Asian societies is much greater in South-Central than in East Asia.

gains in per capita income. These improvements have allowed them to reduce their overall risk of civil war substantially.

3. Towards a Strategy for Preventing Civil Wars

The analytical framework developed in ES could be used to predict the prevalence of civil war given prevailing levels of social fractionalization, political rights, living standards and economic diversification. We engage in such an exercise in this section to explain the high prevalence of civil wars in SSA and Asia during the last forty years. The same model could be used to simulate the impact on the risk of war of changes in the levels of political rights, income and economic diversification for given levels of ethnic fractionalization. We present a set of simple simulations in Figures 2a-e and use these as the basis for our policy discussion of war prevention strategies.

Figure 2a reveals the significance of expanding political rights. We see that the probability of civil war at very high levels of POLITY (i.e. strong democracies) is near zero (see the triangle-studded line in Figure 2a). Further, this relationship is not significantly affected by the level of ethno-linguistic fractionalization, which suggests that political freedom is the way to neutralize the risk of political violence resulting from ethnic conflict. By contrast, at very low levels of democracy and in autocratic regimes (the circle-studded line in Figure 2a), the risk of civil war is higher overall and it is exponentially higher in ethnically polarized societies (ELF around 50). Thus, political freedom is extremely effective in managing polarized societies. This finding has extremely important implications for Africa, given the degree of ethnic fractionalization and suggests that models of political representation in Africa must be designed with a

view to neutralizing the explosiveness of political competition between polarized ethnic groups.

Figure 2b shows that the risk of civil wars declines as poverty levels also decline, since the economic opportunity costs of rebellion rise. This relationship is significantly influenced by the level of ethnic heterogeneity, however. Both at very low and very high levels of income per capita, we observe a strong parabolic relationship between GDP and the probability of war. The risk of war is greatest in polarized societies. At the same time, we observe that, even with ethnic polarization, there is a significant difference in the probability of civil war as we move from the bottom 10% to the top 10% of income per capita. Economic development therefore has a positive effect by reducing the risk of civil war, though that reduction is not as dramatic as that which we observe as a result of enhancing political freedom.

Figure 2c shows that economic diversification and a reduced reliance on natural resources reduces the risk of civil war (contrast the two lines with respect to the estimated probabilities of civil war). As in the previous figure, we observe a similar reduction in the risk of civil war in polarized societies as a result of economic diversification. Such diversification can be expected to occur as the result of economic growth and development, but it often takes time in countries with exceptionally rich natural resource endowments and low levels of education and technical expertise.

Finally, Figure 2d simulates the joint partial impact of expanding political rights and rising levels of income; while Figure 2e simulates the combined partial impact of a full package of economic development (rising income levels and deepening economic diversification). Both Figures suggest that considerable reduction in the risk of civil

wars is achieved, regardless of the nature of fractionalization in society. Since in most cases, countries that achieve high levels of income also happen to be the most diversified as well as the ones with the best functioning democracies, these countries are the least likely to experience civil wars. The opposite happens in the case of poor countries. However, these simulations also suggest that in the cases of countries with high natural resource endowment (and hence high income levels) but autocratic or dysfunctional democracies, the risk of wars may be high.

3.1 Ethnic Diversity and Economic Performance

Earlier empirical evidence on the relationship between economic policies, economic growth and ethnic diversity at first sight appear to support the view that ethnic diversity is a hindrance to good social policy. Easterly and Levine (1997), for example, established that ethnic diversity leads to both bad economic policy and slow growth. Indeed, they suggested that much of Africa's slow growth is attributable to its ethnic diversity. Ethnic diversity has also been shown to contribute to government dysfunction in several areas of economic policies, both in developed and in developing countries alike. For example, local or central governments in ethnically diverse societies tend to under-spend on public goods and education (e.g. Alesina, Baqir and Easterly, 1999; Goldin and Katz, 1999); produce low quality of services (e.g. Mauro, 1995; La Porta, Lopez de Silanes, Shleifer and Vishny, 1998); produce greater political instability (Mauro, 1995; Annett, 1999); or misuse foreign aid and divert it into corruption (Svensson, 1998)¹². Africa-centered literature, based on survey data, also finds evidence of dysfunction in government and civil society organizations. For example, Collier and

Garg (1999) find that employment in the public sector in ethnically diverse Ghana was determined by patronage, not merit. However, these authors fail to find similar evidence for the case of private sector employment. Also Miguel (1999) provides one more example from western Kenya, where he finds primary schools in ethnically diverse districts to be sharply under-funded and have bad facilities.

While more study is needed to fully understand the socio-economic impact of ethnicity, the macroeconomic strand of this literature has until now not taken fully into consideration the mediating role of political institutions. It is important to understand that ethnic antagonisms take place within the framework of political institutions and that these institutions have the capacity to prevent the escalation of ethnic conflict to the level of violence. Collier (1999c) has shown that societies with a high degree of ethnic diversity are much more in need of a functioning democracy than ethnically homogenous societies. In homogenous societies, he shows that the degree of political rights has no effect on the growth rate. By contrast, in societies which are highly diverse, dictatorships have much slower growth rates than democracies. Collier's results suggest that the combination of high ethnic diversity and dictatorship reduces the growth rate by a massive three percentage points compared with ethnically homogenous societies, whereas those ethnically diverse societies which have full democracy grow at the same rate as societies which are ethnically homogenous. Thus, democracy can completely remove the growth drawbacks otherwise associated with ethnic diversity. A similar argument is advanced by Easterly (2000), who uses a measure of institutional quality (measuring economic governance more than political governance) and shows that good quality

institutions significantly mitigate the negative effects of ethnic diversity on overall growth as well as on a wide range of macroeconomic policies.¹³ Similarly, Rodrik (1999) finds that high quality economic or political institutions tend to mitigate the influence of ethnic diversity on persistence of growth following external shocks. Finally, Elbadawi and Randa (2000) find ethnic fractionalization to have negative (positive) but non-monotonic effect on the level (variance) of growth and that its adverse effects on growth are effectively neutralized by economic and political institutions. This evidence from the available literature are highly consistent with the picture that emerged from our analysis. While some dangers may arise from ethnic division, political institutions can mitigate existing differences and support peaceful ways of solving disputes.

4. Policy Implications

Our empirical analysis leads us to argue that the strategy to prevent civil wars in Africa should be based on promoting political freedom and molding a governance framework that can accommodate Africa's social diversity. We base this position on the following considerations, deriving from the simulation results presented here as well as from complementary evidence from the literature on ethnic diversity, institutions and economic performance. First, the simulation evidence on the determinants of civil war make it clear that to significantly reduce the risk of civil wars via economic achievements, it is necessary to achieve very high standards of living and substantial

¹² See Easterly (1999, 2000) and Collier (1999b) for more detailed review of this literature.

¹³ Easterly (2000) constructs an index for quality of institutions, which is an average of Knack and Keefer's (1995) measures from the International Country Risk Guide of (a) freedom from government repudiation of contracts, (b) freedom from expropriation, (c) rule of law, and (d) bureaucratic quality.

economic diversification. Given Africa's initial conditions this may take long time to achieve. Second, the evidence also shows that political development is much more effective than economic factors in reducing the risk of violent conflict. Moreover, the spillovers from the globalization process may imply that the pace of political reforms toward and improved political rights could be accelerated. Third, improvements in the political front are prerequisites for stable economic growth and other developmental policies.

There appears to be a virtuous cycle emanating from the presence of the right political institutions, which improve opportunities for good economic management, which in turn can generate high growth and economic diversification, ensuring peaceful coexistence among various social groups. Our analysis leads us to argue that increased political freedom and improved institutions for economic management should be the centerpiece of Africa's strategy of war prevention. More research and policy debate is needed to determine precisely what type of institutions are appropriate for Africa, given its socio-cultural characteristics.

Promoting Inter-group Cooperation and Developmental States

As an attempt to touch on this important policy question, we put forth two suggestions that warrant further research. First, we suggest that Africa's ethnic diversity in a context of an "appropriately" molded democratic system would in fact facilitate the formation of effective institutions for economic management and promote stable growth-oriented states. Second, we suggest that the "appropriateness" of democratic institutions required for promoting inter-group cooperation in Africa depends on the degree to which

these institutions embody the principles of participation, inclusion and consensus-building among ethnically-defined social groups.

Successful state formation is governed by the evolution of inter-group bargaining process, which under certain conditions could lead to the creation of growth-oriented state.¹⁴ Under more demanding conditions, the latter could be transformed into a development-oriented state which ensures that economic growth is sufficiently equitably distributed to reduce poverty.¹⁵ The question that arises is how Africa's high ethnic diversity would affect the potential to reach a bargaining equilibrium in the process of institution-building? This question has been addressed to some extent by Collier and Binswanger (1999). Before turning to their arguments, we must identify the broad conditions associated with bargaining processes that may promote economic development.

Bargaining is important in forming a stable, non-coercive, development-oriented state. It occurs in democratic and less-democratic settings and its importance lies in the resultant order which determines the distribution of economic and other rewards. Bargaining can create numerous new claims on the state: power sharing, and cooperation in state programs such as taxes to raise state revenue, pension, payments to the poor, public education, city planning, rural and agricultural development, and much more.

¹⁴ The inter-group bargaining process could, over prolonged periods of time, lead to a growth-oriented state. Such a state takes policy and resource allocation decisions which create the incentives and effective institutions which will lead to private and public investments, productivity growth, and growth of per capita income. It avoids decisions, which undermine such growth.

¹⁵ Development-oriented state emerges when, in addition to taking decisions which enhance growth, the state also consistently takes decisions which lead to widely shared growth. These include improvements in the welfare of all social groups, and which ensure the economic and environmental sustainability of that growth.

Bargaining occurs under the following conditions: (1) a political decision is being made which affects a large number of people; (2) the preferred outcome of the decision is different for different participants; (3) those participating in the decision-making have a high degree of potential power either as leaders of interest groups or as office holders, and (4) the participants have various intensities of desire regarding the outcome.

Ethnic groupings can be the basis of the bargaining process. As with civil war, Africa's ethnic diversity is usually seen as a menace, making bargaining more difficult because it is assumed that ethnic groups cannot agree on a single political solution. However, ethnic balancing can occur as ethnic groups form cross-cutting alliances and trade concessions across issues. Following this line of reasoning, Collier and Binswanger (1999) also argue that ethnic diversity may be a potential asset to Africa, if a coordination to a bargaining equilibrium is reached.

One of the essential features of a bargaining process is that groups with different interests but equal power should oppose each other, thus forcing a compromise on the growth-inducing policies from which all could profit. The major obstacle to such an outcome in a democracy --especially in Africa-- is that some groups such as small farmers, face greater difficulties in organizing themselves into a lobby. However, ethnic loyalties can provide a more easily accessible basis for political organization. Different ethnic groups are likely to have somewhat different economic interests, if only because they will be drawn from different parts of the country and may specialize on different economic activities (Horowitz 1985). They may produce different crops, and they will have different interests in the location of public expenditure. Not all types of democracy

are equally likely to produce a bargaining equilibrium. The ideal is for groups to be proportionately represented so that governments can only be formed by coalitions across ethnic groups. For such coalition politics a high degree of ethnic diversity is a great advantage. A society divided into only say two ethnic groups, one somewhat larger than the other, in which the political contest is between the two groups, will find a development-orientated bargaining equilibrium more fragile than one in which each of many groups has its own party.

Collier and Binswanger argue that given Africa's ethnic diversity actually helps, rather than impedes, the formation of stable development-promoting coalition, formalization of ethnic affiliation into the political process might enhance the efficiency and credibility of political governance institutions in Africa. Admittedly this might seem as a rather drastic idea. However, we would like to argue that it should merit consideration, given the reality of African politics. In most countries that attempted competitive multiparty elections (South Africa included) there was close association between ethnic loyalty (broadly defined) and party affiliation. Moreover, there is clearly a mismatch between the ethnic expression of the African voter and constitutional structures that fail to take account of it constructively. Therefore, this calls for a radical change of attitudes in order to adopt suitable ethnically-inclusive local systems, as in the case of Namibia in 1989, Zimbabwe in 1980, and especially South Africa where such change has been achieved with relative success (Collier and Binswanger).

Two proposals for mitigating the effect of social diversity in Africa

A cursory review of African experiences with state formation (see, e.g., Chege 1999) would suggest that political elites in several African countries have attempted to

build the kind of inclusive and participatory politics called for by African social diversity. However, these experiences have been reversible and in most cases short-lived. How then can these states escape this dilemma? Does improved understanding of the role of ethnic diversity in economic development offer any guidance for further refinements to the broad principles of political governance? Using recent evidence from survey level data, Collier and Binswanger propose two areas, where strategic actions by the state and redrawing of the boundaries of economic activities in favor of the private sector could mitigate economic dysfunction due to social diversity.

Kin groups are networks of reciprocal obligation. This was their original function, to enable the insurance needs of the society to be met and, as such, the kin groups have been and continue to be highly beneficial. However, when the same reciprocal obligations are transposed into the modern economy, they become dysfunctional. A large modern organization depends upon a employment hierarchy in which merit is rewarded and slacking penalized. These rewards and penalties provide the incentive for employees to work effectively. They are administered by an assessment of performance done by managers. For this system to function, it is essential that managers be impartial. Yet in Africa, managers are subject to pressures of group loyalty. These pressures are not simply notional. Kin groups are highly robust, long-lasting institutions that have themselves developed rewards and penalties to ensure compliance. Hence, managers face one set of pressures to administer a modern organization on the principles of meritocracy, and another to dispense patronage to their own group. To the extent that they administer patronage to their group this undermines the incentive for employees to perform and so undermines the performance of the organization. On the other hand, due to the rigor of

competition in the market place, country evidence suggests that patronage is much more limited in the private sector. Hence, the boundary between public and private activity should tend to be more in favor of private provision than in other regions.

Governments should invest in creating indigenous entrepreneurial classes. One characteristic of Africa is that non-agricultural private business tends to be dominated by non-indigenous ethnic minority groups such as Asians in East Africa and Lebanese in West Africa. This partly reflects the exclusion of such groups from land ownership. Hence, the typical indigenous kin group will have a large majority of its members in agriculture, whereas the typical minority kin group will have a large majority of its members in non-agricultural enterprises. This inadvertently places minority groups at an advantage in non-agricultural enterprise because the typical member of a minority will have a large network of kin in the same activity whereas the typical indigenous business person will have only a few other kin group members in the same activity. Public action can, however, level the playing field between ethnic groups. Ethnically diverse societies thus need an effective state to mitigate the negative effects of ethnic diversity on this area by helping with the creation and expansion of indigenous entrepreneurial classes. This issue has dominated the discussions on the political economy of privatization in Africa, and is likely to have important implications for the capacity of Africa to achieve politically sustainable economic transformation in the 21st Century.

The analysis in this paper suggests three important pointers for informing a strategy for avoiding civil wars in the future. The first is that Africa's ethnic diversity is not a cause of the recent rise in the prevalences of civil wars that impacted the region. Indeed, other things equal Africa is inherently safer than other region because of its social

diversity. Second, however, before Africa can turn its ethnic diversity into an asset for preserving peace it must achieve better levels of political freedom, much higher standards of living and diversified economies. Third, to achieve economic development and hence contribute to prevention of future wars, both “appropriate” political governance (i.e. functioning democracy) and high quality institutions for economic management would be required for mitigating possible adverse economic consequences of social diversity.

However, a meaningful prevention strategy should also attempt to address the question as to whether Africa’s social diversity impede or enhances the emergence of the kind of political and economic institutions required for the success of a strategy for the prevention wars in the future? Taking the view that civil wars are the extreme case of non-cooperation among social groups, this paper has argued that, under the right conditions, Africa’s ethnic diversity would actually enhance development efforts by promoting positive inter-group interactions. A pre-condition for this is the “appropriate” political framework which focuses on participation, inclusion and consensus-building among social and especially ethnic groups.

Moreover, effective institutions of economic management required for enhancing the sustainability of the bargaining process, through reducing economic dysfunction, would require a more focused but active role for the state. First, the evidence reviewed by this paper suggest that the quality of service delivery by the state in ethnically diverse societies are likely to be low. This is because survey evidence indicates that hiring in the public sector is at least partially influenced by patronage along ethnic affiliation. However, private sector employment appears to be mainly determined by merits. To the extent that this evidence is generalizable, avoiding economic dysfunction would require

that the sphere of government activities in Africa should, perhaps, be more limited than in other homogenous societies. Second, however, the government would be required to be more active in other spheres. One example is that the state in Africa should undertake strategic actions to level the playing field for the emergence of indigenous entrepreneurial class. Among other things, such measures should enhance the process of economic diversification in Africa and hence directly contribute to reduction of risks of civil wars in the future. Moreover, an expanded private sector base dominated by indigenous population would provide the political cover for meaningful privatization, which has so far eluded most African reformers.

Figure 1 (2 Panels)

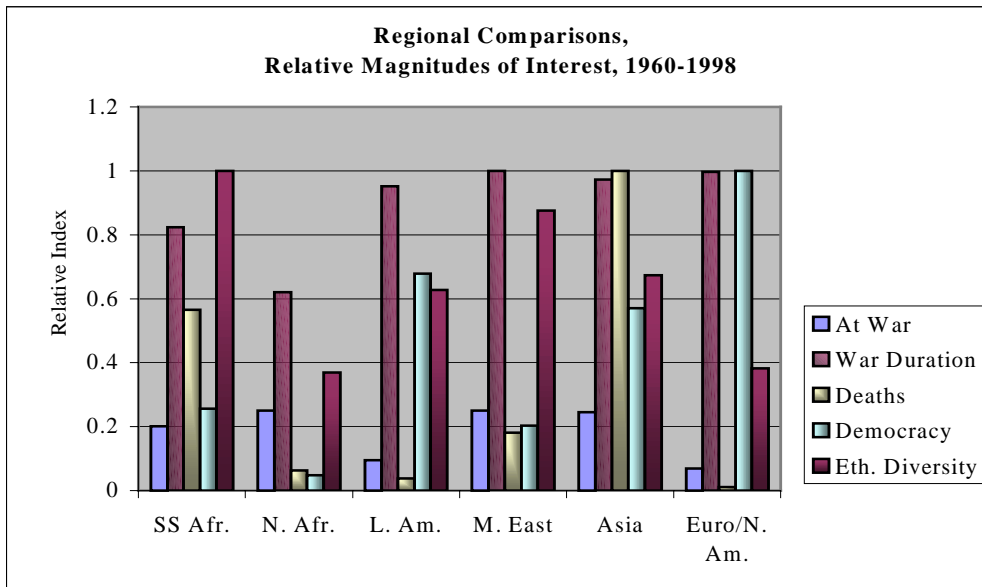
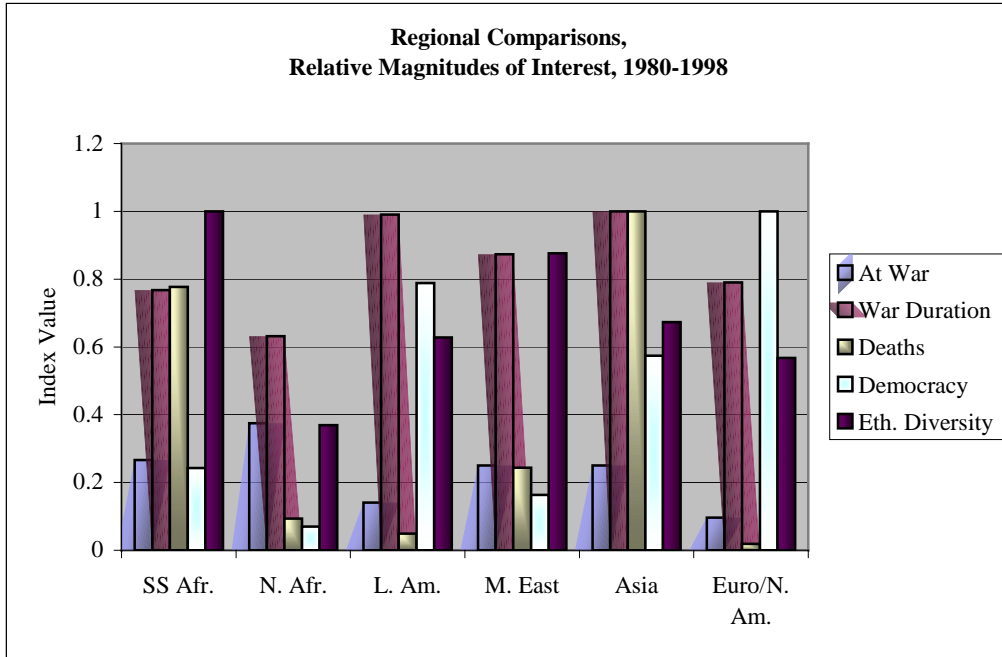


Table 1: The Probability of Civil War In and Out of Africa (1960-98)

<i>Independent Variables at Regional Medians:</i>	<i>Ethno-Linguistic Division Index (ELF)</i>	<i>Square Of ELF Index</i>	<i>Covariate of Religious Diversity & ELF</i>	<i>Per Capita Real GDP (PPP – adjusted)</i>	<i>Polity Index: Democracy minus Autocracy</i>	<i>Primary Exports (% GDP)</i>	<i>Square Of Primary Exports (% GDP)</i>	<i>Natural Log of Population</i>	<i>Estimated Probability of an Incident of Civil War</i>
Estimated Coefficients (global model):	.1553	-.00134	-5.89e-08	.000196	-.10629	7.976	-16.599	.99618	.2483
Regions:									
Europe & North America	15.5	240.25	55558.26	6999.5	10	.094	0.0088	16.08	.0046
Asia (South & East)	47	2209	2827410	1630	-2	.142	0.020	16.42	.5624
Middle East & North Africa	18	324	14535.66	2892	-8	.170	0.0289	15.44	.0205
Latin America & Caribbean	17.5	306.25	84059.2	2565	0	.167	0.0278	14.85	.0048
Sub-Saharan Africa	72	5184	1.62e+07	812.5	-7	.159	0.0253	15.23	.1119

Notes:

This Table is based on regression results from Elbadawi and Sambanis (2000a). The appendix presents the statistical results for the core model.

The coefficients reported in the second row are estimated using a random effects probit model of the probability of an incident of civil war, which should be distinguished from the probability of war initiation and from war duration. We estimate the probability of an event of civil war during a five-year period in 161 countries between 1960-1999.

The dependent variable in that model measures whether or not the country was at war during any five-year period between 1960-98. The explanatory variables are: primary exports as percent of GDP (and their square) with imputed missing values; real GDP per capita (lagged), adjusted for purchasing power parity (PPP); the ethnolinguistic fractionalization index and its square (this is a 0-100 index, where 100 denotes maximum heterogeneity and 0 maximum homogeneity; the index measures the probability that any two randomly selected people from different ethnic groups will speak a different language); the natural log of the population size; and a polity index (lagged twice), ranging from -10 to 10, where -10 denotes a complete autocracy and 10 a perfect democracy (the indices are based on the Polity98 data-set (Gurr and Jagger 1995; 1998). We have endogenized the polity index in Elbadawi and Sambanis (2000a). In a different version of this model, which produces consistent results, we used a twice-lagged Polity index to avoid endogeneity.

The last column reports estimated probabilities of a civil war event during a five-year period in each of the regions in our sample. The probability is estimated by multiplying the estimated global coefficients with the median levels of the explanatory variables for each region.

Estimated probabilities are adjusted by an add factor of .00468612, representing the difference between the predicted and actual probability of an incident of civil war during the base-period of 1970-74. We have used this as our base period, because we have lagged our core explanatory variables and, as a result, this is the first period for which we have predicted probabilities of civil war.

Table 2: The Probability of Civil War In and Out of Africa (1980-98)

<i>Independent Variables at Regional Medians:</i>	<i>Ethno-Linguistic Division Index (ELF)</i>	<i>Square Of ELF Index</i>	<i>Covariate of Religious Diversity & ELF</i>	<i>Per Capita Real GDP (PPP – adjusted)</i>	<i>Polity Index: Democracy minus Autocracy</i>	<i>Primary Exports (% GDP)</i>	<i>Square Of Primary Exports (% GDP)</i>	<i>Natural Log of Population</i>	<i>Estimated Probability of an Incident of Civil War</i>
Estimated Coefficients (global model):	.1553	-.00134	-5.89e-08	.000196	-.10629	7.976	-16.599	.99618	
Regions:									
Europe & North America	15.5	240.25	55558.26	10658.5	10	.068	.004	16.11	.0046
Asia (South & East)	47	2209	2827410	1850	4.1	.097	.009	16.65	.313
Middle East & North Africa	18	324	14535.66	3230.5	-7	.171	.029	15.65	.022
Latin America & Caribbean	17.5	306.25	84059.2	2900.5	8	.164	.026	15.03	.0047
Sub-Saharan Africa	72	5184	1.62e+07	824	-6	.153	.023	15.56	.155

Notes: As for Table 1, this table is also based on regression results from Elbadawi and Sambanis (2000a). The appendix presents the statistical results for the core model. Here we concentrate on a shorter time period. The dependent variable and regressors are the same as for Table 1.

Simulations of the Probability of Civil War

Figure 2a: Probability of Civil War at Low/High Levels of Political Rights and Variable Ethno-Linguistic Fractionalization

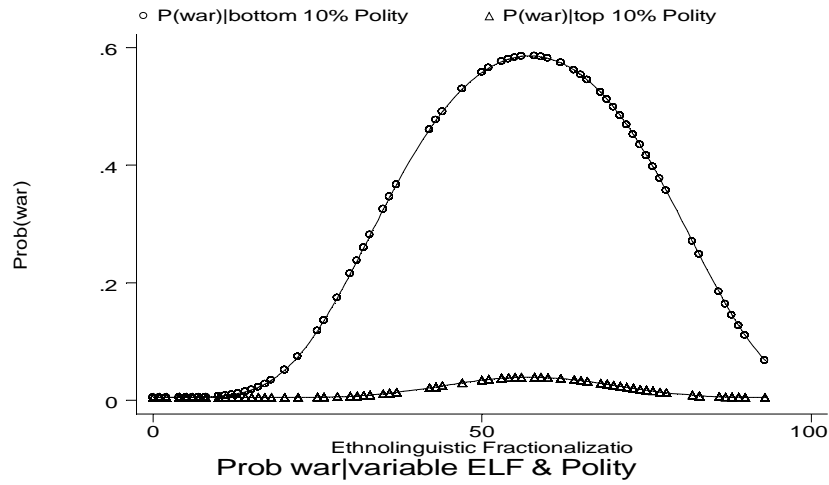


Figure 2b: Probability of Civil War at Low/High Levels of Income and Variable Ethno-Linguistic Fractionalization

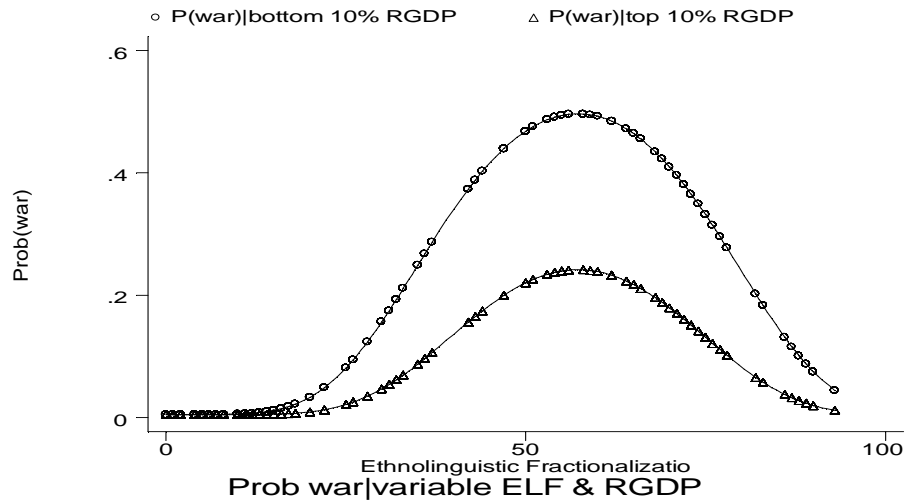


Figure 2c: Probability of Civil War at Low/High Levels of Natural Resource-Dependence and Variable Ethno-Linguistic Fractionalization

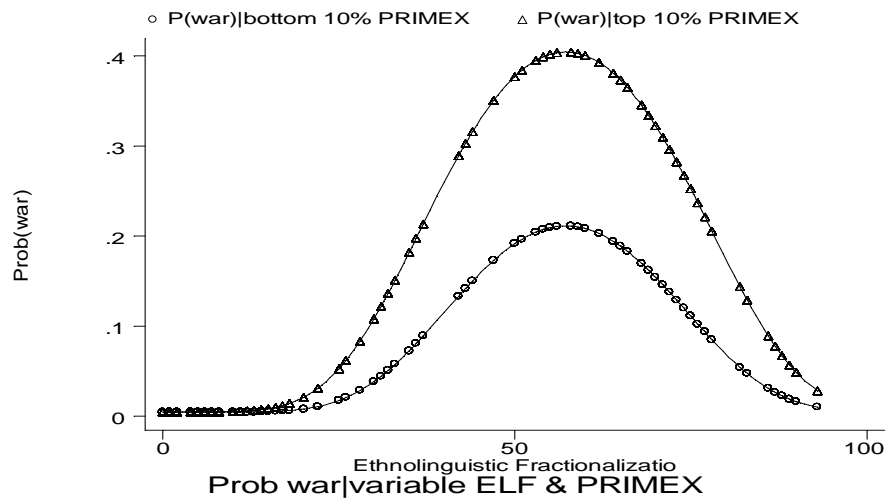


Figure 2d: Probability of Civil War at Low/High Levels of Democracy & Income and Variable Ethno-Linguistic Fractionalization

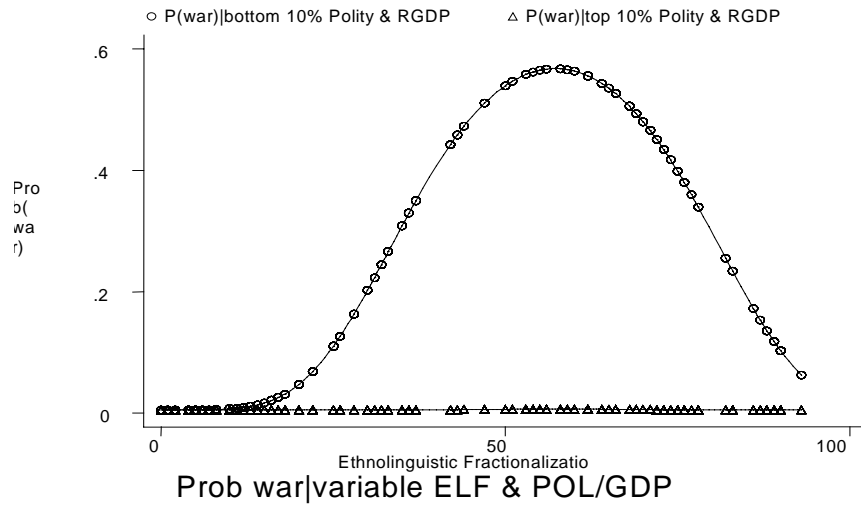
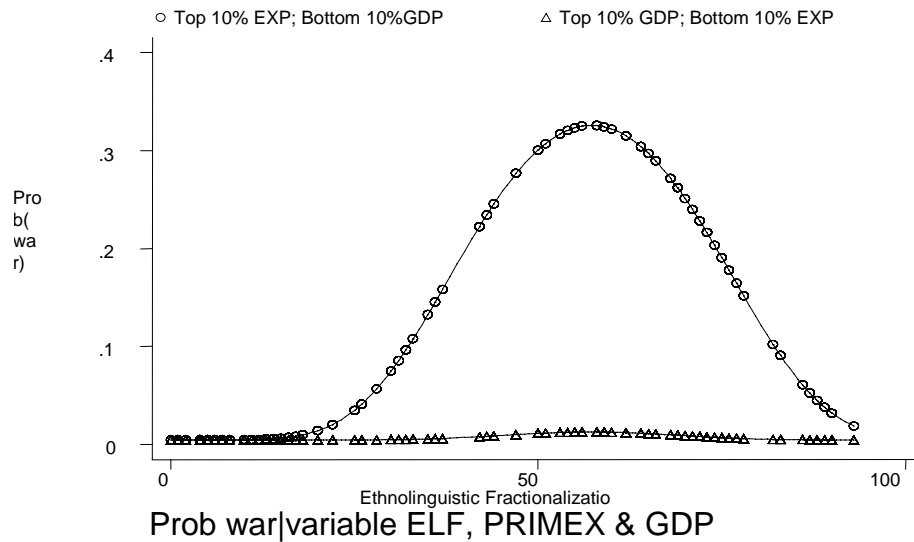


Figure 2e: Probability of Civil War at Low/High Levels of Income & Resource-Dependence and Variable Ethno-Linguistic Fractionalization



Notes:

These figures are based on the model in the appendix. The probability of civil war is estimated using a random effects probit and a 5-year panel data-set of 161 countries from 1960-99. Polity is a measure of political rights, ranging from -10 (minimum) to 10 (maximum). RGDP is real per capita GDP, purchasing power parity-adjusted. ELF is the ethno-linguistic fractionalization index discussed in the text (ranging from 0 in homogeneous societies to 100 in heterogeneous societies). PRIMEX measures natural resource-dependence, proxied by primary exports as percent of GDP. The appendix presents the statistical results for the core model.

Appendix -- ES Model of the Prevalence of Civil War, 1960-1999¹⁶

Random-effects probit model
 Number of observations: 516
 Group variable (i): id
 Number of groups: 110
 Wald chi2(8) = 55.29
 Log likelihood = -180.59474
 Prob > chi2 = 0.0000

Dep. Var:						
at_war	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
isxp	7.976133	3.375191	2.363	0.018	1.36088	14.59138
isxp2	-16.59914	6.77496	-2.450	0.014	-29.87781	-3.320459
rgdplag	-.0001964	.000073	-2.691	0.007	-.0003395	-.0000533
P1p	-.1062943	.0289255	-3.675	0.000	-.1629872	-.0496013
elf	.1553903	.0284056	5.470	0.000	.0997163	.2110644
elf2	-.001357	.0002831	-4.794	0.000	-.0019118	-.0008023
elf2rf2	-5.89e-08	2.50e-08	-2.354	0.019	-1.08e-07	-9.86e-09
logpop	.9961812	.1564587	6.367	0.000	.6895277	1.302835
cons	-21.04392	3.03628	-6.931	0.000	-26.99492	-15.09292
lnsig2u	2.095158	.2827181	7.411	0.000	1.541041	2.649275
sigma_u	2.850741	.402978				
rho	.8904317	.0275829				
Likelihood ratio test of rho=0: chi2(1) = 110.86 Prob > chi2 = 0.0000						

¹⁶ This model is used to produce the parameter estimates reported in Tables 1 and 2. For a detailed discussion, including robustness and specification tests as well as for a discussion of the process of endogenization of the polity index, see Elbadawi and Sambanis (2000a). We also estimated a model dropping the religious diversity and ethnic diversity covariate and where we do not endogenize the polity index, but rather laggs it twice and the results are highly consistent across the two models. The process of endogenization of the polity index is based on estimating a reduced form system of equations and obtaining predicted values for the Polity index. There are minor efficiency losses associated with these estimates, but the point estimates are consistent.

References

- Alesina, Alberto, Reza Baqir, and William Easterly, 1999a, "Public Goods and Ethnic Divisions", *Quarterly Journal of Economics*, November.
- Annett, Anthony. "Ethnic and religious division, political instability, and government consumption," IMF mimeo, March 1999.
- Chege, Michael. "Politics of Development: Institutions and Governance," A background paper prepared for Africa in the 21st Century Project. World Bank, Washington DC (1999).
- Collier, Paul. "Ethnicity, Politics, and Economic Performance," World Bank mimeo (1999).
- Collier, Paul. "On the economic consequences of civil war" *Oxford Economic Papers*; 51:168-83, January 1999
- Collier, Paul and Anke Hoeffler. "On economic causes of civil war," *Oxford Economic Papers* 50 (1998), 563-573.
- Collier, Paul and Anke Hoeffler. "Greed and Grievance in Civil War," World Bank Working Paper 2355 (May 2000).
- Collier, Paul, Anke Hoeffler and Mans Soberdom. "On the Duration of Civil War" World Bank, unpublished mimeo, February 1999.
- Collier and Hans Binswanger (1999). "Ethnic Loyalties, State Formation and Conflict" A background paper prepared for Africa in the 21st Century Project. World Bank, Washington DC
- Easterly, William. "The Middle Class Consensus and Economic Development." Mimeo, World Bank, 1999.
- Easterly, William. "Can Institutions Resolve Ethnic Conflict," unpublished mimeo, World Bank (January 2000).
- Easterly, William and Ross Levine. "Africa's Growth Tragedy: Policies and Ethnic Divisions," November 1997, *Quarterly Journal of Economics*. CXII (4), 1203-1250.
- Elbadawi, Ibrahim and Nicholas Sambanis. "How Much War Will We See? Estimating the Likelihood and Amount of War in 161 Countries, 1960-1998." Mimeo, The World Bank (January 2000).
- Elbadawi, Ibrahim and Nicholas Sambanis (2000b). "External Interventions and the Duration of Civil Wars," World bank Working Paper.
- Elbadawi, Ibrahim and John Randa (2000). "Social fractionalization and Economic Growth," unpublished mimeo, World Bank.
- Goldin, Claudia and Lawrence Katz, "Why the United States led in education: lessons from secondary school expansion, 1910 to 1940," NBER Working paper 6144, August 1997.
- Horowitz, Donald. *Ethnic Groups in Conflict*. Berkeley: University of California Press, 1985.
- Knack, Stephen, and Philip Keefer. "Institutions and Economic Performance: Cross-Country Tests Using Alternative Institutional Measures," *Economics and Politics*, VII (1995), 207-227.
- La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Schleifer, and Robert Vishny. "The quality of government," NBER Working Paper Series 6727, September 1998.
- Licklider, Roy. "The Consequences of Negotiated Settlements in Civil Wars, 1945-1993," *American Political Science Review* 89 (September 1995).
- Mauro, Paolo. "Corruption and Growth," *Quarterly Journal of Economics*, CX (1995), 681-712.
- Michael, Ted. "Ethnic Diversity and School Funding in Kenya," mimeo, Harvard University (1999).
- Rodrik, Dani. "Where Did All the Growth Go? External Shocks, Social Conflict and Growth Collapses," *Journal of Economic Growth*, Volume 4, Issue 4, December 1999 pp. 385-412.
- Sambanis, Nicholas. "Partition as a Solution to Ethnic War: An Empirical Critique of the Theoretical Literature," *World Politics* 52 (July 2000), 437-83.
- Singer, J. David and Melvin Small. *Correlates of War Project: International and Civil War Data, 1816-1992* (Ann Arbor, Mich.: ICPSR, 1994);
_____. *Resort to Arms*. (Hills, Calif.: Sage Publications, 1982).
- Svensson, Jakob. "Foreign aid and rent-seeking," World Bank Working paper 1880 (1998).
- Taylor, Charles, L. and Michael Hudson. *World Handbook of Political and Social Indicators*. 2nd edition, New Haven, CT: Yale University Press, 1972.