

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

Ibrahim Elbadawi¹ and Nicholas Sambanis
World Bank

Contrary to popular belief, Africa's civil wars are not due to its ethnic and religious diversity. Using recently developed models of the overall incidence of civil wars in 161 countries between 1960 and 1999, we draw lessons with special reference to Africa, showing that the relatively higher incidence 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 incidence 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 – rather than impedes – 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.

1. Introduction

Over the last 40 years nearly 20 African countries [or about 40% of Sub-Saharan Africa (SSA)] have experienced at least one period of civil war. It is estimated that 20% of SSA's population now live in countries which are formally at war and low-intensity conflict has become

¹ The authors can be contacted at: ielbadawi@worldbank.org and nsambanis@worldbank.org. The opinions expressed in this paper are the authors' and do not necessarily represent the World Bank or its Executive Directors.

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 (Elbadawi and Sambanis, 2000a).

Our analysis is based on the concept of *incidence* (or amount) of civil war and we try to model its determinants. The concept of war incidence 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 overall incidence 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 analyse, 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 and 1999. We are able to show that the relatively high incidence of civil war in Africa is due not 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

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 ($t - 1$). 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 concept unifies earlier literature, which focuses either on onset of new wars (e.g., Collier and Hoeffler, 2000) or duration of war (Collier *et al.*, 1999).

liberalisation and economic development on the probability of civil war show that the best – and fastest – strategy to reduce the incidence of civil war in Africa is to institute democratic reforms that effectively manage the socio-cultural diversity of African societies. We realise 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 stylised facts about their incidence, intensity and duration, as well as some basic data on related variables in Africa and other regions. We use our Elbadawi and Sambanis (2000a) (ES) model to explain the high incidence of civil wars in Africa as compared with 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 for 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 incidence 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 (see, e.g., Collier and Hoeffler, 1998,

2000; Collier, 1999a; Collier *et al.*, 1999; Elbadawi and Sambanis, 2000a). 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, greater 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 polarisation – i.e., when an ethnic group accounts for 40–60% of the population and can dominate the others. In such polarised 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 incidence 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.

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 (i) caused more than 1000 deaths; (ii) challenged the sovereignty of an internationally recognised state; (iii) occurred within the recognised boundaries of that state; (iv) involved the state as one of the principal combatants; (v) included rebels with the ability to mount an organised opposition; and (vi) involved parties concerned with the prospect of living together in the same political unit after the end of

the war.³ This definition allows us to combine wars from several data sets.⁴ 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 to 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 (Collier *et al.*, 1999; Elbadawi and Sambanis 2000b). We define the likelihood of civil war incidence as the sum of two 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 incidence 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 is 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).⁵ 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).⁶ The

³ This definition is nearly identical to the definition of a civil war given by Singer and Small (1982, 1994) and Licklider (1995). Unlike them, my coding of wars does not presume 1000 deaths per year, but rather uses the 1000 deaths as the threshold for the entire war. In fact, however, most of my cases have caused 1000 deaths annually. My coding decision was based on the arbitrariness of setting 1000 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.

⁴ On the coding of civil wars, see Sambanis (2000). Our sources for coding these wars and details on that coding can be found at: <http://www.worldbank.org/research/conflict/data/part2-app2.pdf>

⁵ 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).

⁶ 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).

level of ethnic diversity is proxied by the index of ethno-linguistic fractionalisation (ELF), which was measured in the 1960s and ranges from 0 (ethnic homogeneity) to 100 (extreme ethnic heterogeneity).⁷ We also use an index constructed by Collier and Hoeffler (1999) to measure religious diversity; we proxy natural resource-dependence by the share of primary exports in GDP (PRIMX);⁸ 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 summarise 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 5 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.

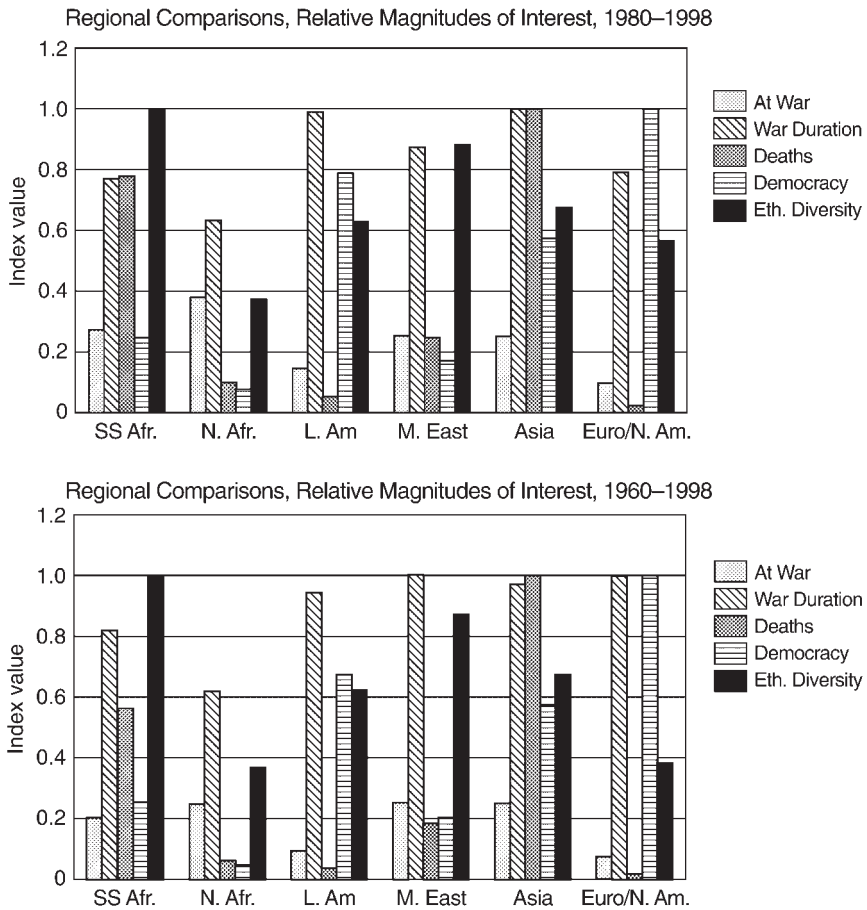
Cursory inspection of the incidence of civil war in SSA as compared with other regions reveals some telling characteristics of Africa's wars and points to some potentially important relationships. The two panels of Figure 1 show that Africa has the highest incidence of civil war, especially if we combine the incidence of war in SSA and North Africa. Perhaps more to the point, the incidence 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 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 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 discrep-

⁷ 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 polarisation (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).

⁸ In a future version of this study we plan to measure the unemployment rate for males at the beginning of each 5 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).

Figure 1: War Incidence by Region



ancy in the democracy levels in SSA and North Africa as compared with 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 SSA) includes the most ethnically diverse countries in the world. This 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 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 incidence 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 5 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 then break down the countries into five regions, Europe/North America, Asia, Middle East and North Africa, Latin America and the Caribbean, and SSA. 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 5 year period with a probability of 0.11. This result derives from our model, which suggests that in any given year there should be about eight 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 5 year period is minimal. However, the risk for the median country in the Middle East and North Africa is also high, where out of each 20 countries more than three

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

Independent variables at regional medians:	Ethno-linguistic division index (ELF)	Square of ELF index	Covariate of religious diversity & ELF	Per capita real GDP (PPP-adjusted)	Polity index: democracy minus autocracy	Primary exports (% GDP)	Square of primary exports (% GDP)	Natural log of population	Estimated probability of an incident of civil war
Estimated coefficients (global model):	0.1553	-0.00135	-5.89e-08	-0.000196	-0.10629	7.976	-16.599	0.99618	0.2483
Regions:									
Europe & North America	15.5	240.25	55558.26	6999.5	10	0.094	0.0088	16.08	0.0046
Asia (South & East)	47	2209	2827410	1630	-2	0.142	0.020	16.42	0.5624
Middle East & North Africa	18	324	14535.66	2892	-8	0.170	0.0289	15.44	0.0205
Latin America & Caribbean	17.5	306.25	84059.2	2565	0	0.167	0.0278	14.85	0.0048
SSA	72	5184	1.62e+07	812.5	-7	0.159	0.0253	15.23	0.1119

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 5 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 5 year period between 1960 and 1998. 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 ethno-linguistic fractionalisation 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 endogenised the polity index in Elbadawi and Sambanis (2000a). In a different version of this

are expected to be at war. East and South Asia is even more riskier than Africa, where four out of 10 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 maximises the threat of war.⁹

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 of that of Asia and less than one-eighth of 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). Thirdly, 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).

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 5 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 0.00468612, representing the difference between the predicted and actual probability of an incident of civil war during the base-period of 1970–4. 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.

⁹ We thank an anonymous referee for pointing this out to us.

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 be attributable to their ethnically polarised societies.¹⁰ Globally, countries with homogeneous or highly diverse societies are significantly less prone to violent conflicts than polarised countries. This is probably because, as noted above, compared with polarised societies it is very difficult to organise 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 polarisation 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 with the entire period (see Table 1). Asia's still high risk of civil war can only be explained (in our model) by its ethnic polarisation. By contrast, Africa's risk of civil war has increased in recent years (it is almost 50% higher in 1980–98 as compared with the entire period – see Table 2). The mean level of political freedom has fallen in the last decades in SSA, 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 democratisation, they have diversified their economies and reduced by half their dependence of natural resources, and they have made significant gains in per capita income. These improvements have allowed them to reduce their overall risk of civil war substantially.

¹⁰ Note that the risk of civil war in Asian societies is much greater in South-Central than in East Asia.

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

Independent variables at regional medians:	Ethno-linguistic division index (ELF)	Square of ELF index	Covariate of religious diversity & ELF	Per capita real GDP (PPP-adjusted)	Polity index: democracy minus autocracy	Primary exports (% GDP)	Square of primary exports (% GDP)	Natural log of population	Estimated probability of an incident of civil war
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Middle East & North Africa	18	324	14535.66	3230.5	-7	0.171	0.029	15.65	0.022
Latin America & Caribbean	17.5	306.25	84059.2	2900.5	8	0.164	0.026	15.03	0.0047
SSA	72	5184	1.62e+07	824	-6	0.153	0.023	15.56	0.155

As for Table 1, this table is 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.

3. Towards a Strategy for Preventing Civil Wars

The analytical framework developed in the ES model could be used to predict the incidence of civil war given prevailing levels of social fractionalisation, political rights, living standards and economic diversification. We engage in such an exercise in this section to explain the high incidence of civil wars in SSA and Asia during the last 40 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 fractionalisation. We present a set of simple simulations in Figure 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

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

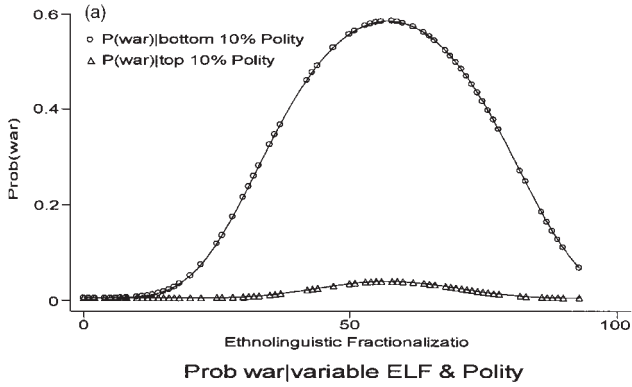


Figure 2b: Probability of Civil War at Low/High Levels of Income and Variable Ethno-linguistic Fractionalisation

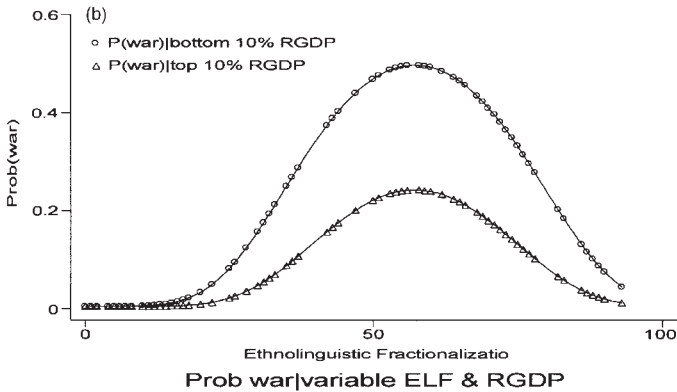


Figure 2a–e is based on the model in the appendix. The probability of civil war is estimated using a random effects probit and a 5 year panel data-set of 161 countries from 1960 to 1999. Polity is a measure of political rights, ranging from -10 (minimum) to 10 (maximum). RGDP is real per capita GDP, purchasing power parity-adjusted. ELF is the ethnolinguistic fractionalisation 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.

Figure 2c: Probability of Civil War at Low/High Levels of Natural Resource-dependence and Variable Ethno-linguistic Fractionalisation

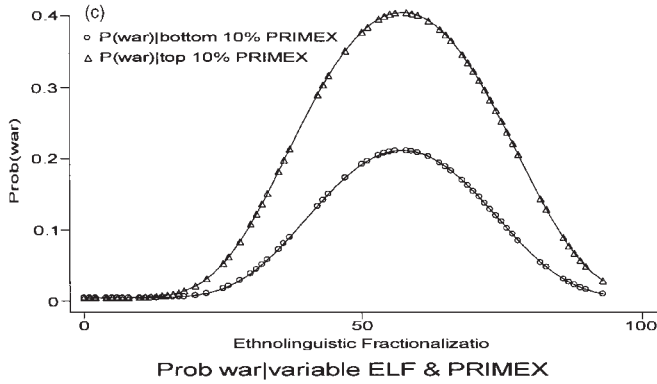
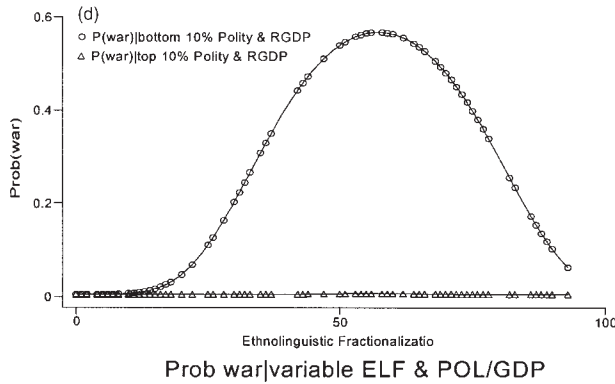
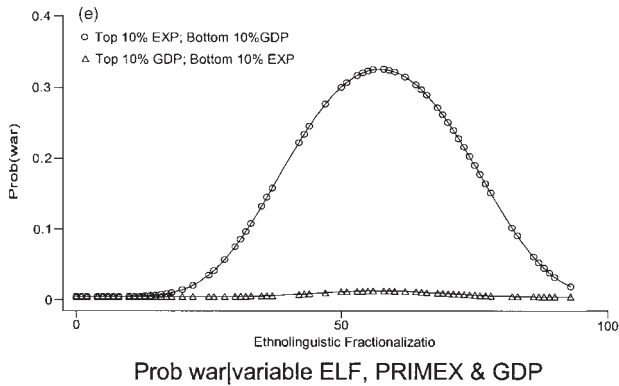


Figure 2d: Probability of Civil War at Low/High Levels of Democracy and Income and Variable Ethno-linguistic Fractionalisation



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 fractionalisation, which suggests that political freedom is the way to neutralise 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 is exponentially higher in ethnically polarised societies (ELF around 50). Thus, political freedom is ex-

Figure 2e: *Probability of Civil War at Low/High Levels of Income and Resource-dependence and Variable Ethno-linguistic Fractionalisation*



tremely effective in managing polarised societies. This finding has extremely important implications for Africa, given the degree of ethnic fractionalisation, and suggests that models of political representation in Africa must be designed with a view to neutralising the explosiveness of political competition between polarised 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 polarised societies. At the same time, we observe that, even with ethnic polarisation, 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 polarised 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 fractionalisation 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 appears 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, in both developed and developing countries alike. For example, local or central governments in ethnically diverse societies tend to underspend on public goods and education (e.g., Alesina *et al.*, 1999; Goldin and Katz, 1997); produce low quality of services (e.g., Mauro, 1995; La Porta *et al.*, 1998); produce greater political instability (Mauro, 1995; Annett, 1999); or misuse foreign aid and divert it into corruption (Svensson, 1998; for more detailed reviews see Collier, 1999b; Easterly, 1999, 2000). Africa-centered literature, based on survey data, also finds evidence of dysfunction in government and civil society organisations.

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. Elbadawi and Sambanis (2000a) have shown that societies with a high degree of ethnic diversity are much more in need of a functioning democracy than ethnically homogeneous societies. In homogeneous societies, they show 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 homogeneous societies, whereas those ethnically diverse societies which have full democracy grow at the same rate as societies which are ethnically homogeneous. 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.¹¹ 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 fractionalisation to have a negative (positive) but non-monotonic effect on the level (variance) of growth and that its adverse effects on growth are effectively neutralised 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

¹¹ 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 (i) freedom from government repudiation of contracts; (ii) freedom from expropriation; (iii) rule of law; and (iv) bureaucratic quality.

and moulding 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 makes 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 economic diversification. Given Africa's initial conditions, this may take a long time to achieve. Secondly, 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 globalisation process may imply that the pace of political reforms and improved political rights could be accelerated. Thirdly, 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 centrepiece 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.

4.1 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 the context of an 'appropriately' moulded democratic system would in fact facilitate the formation of effective institutions for economic management and promote stable growth-oriented states. Secondly, 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 an inter-

group bargaining process, which under certain conditions could lead to the creation of a growth-oriented state.¹² 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.¹³ 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 programmes such as taxes to raise state revenue, pension, payments to the poor, public education, city planning, rural and agricultural development, and much more. Bargaining occurs under the following conditions: (i) a political decision is being made which affects a large number of people; (ii) the preferred outcome of the decision is different for different participants; (iii) those participating in the decision making have a high degree of potential power either as leaders of interest groups or as office holders; and (iv) 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

¹² 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.

¹³ A 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, which ensure the economic and environmental sustainability of that growth.

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 organising themselves into a lobby. However, ethnic loyalties can provide a more easily accessible basis for political organisation. 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 specialise in 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, say, only two ethnic groups, one somewhat larger than the other, in which the political contest is between the two groups, will find a development-oriented bargaining equilibrium more fragile than one in which each of many groups has its own party.

Collier and Binswanger (1999) argue that, given Africa's ethnic diversity actually helps rather than impedes the formation of a stable development-promoting coalition, formalisation of ethnic affiliation into the political process might enhance the efficiency and credibility of political governance institutions in Africa. Admittedly this might seem 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 have attempted competitive multiparty elections (South Africa included) there has been a 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, 1999).

4.2 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 (1999) propose two areas where strategic actions by the state and redrawing of the boundaries of economic activities in favour 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, they 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 organisation depends upon an employment hierarchy in which merit is rewarded and slacking penalised. 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 organisation 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 organisation. 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 privatisation in Africa, and is likely to have important implications for the capacity of Africa to achieve politically sustainable economic transformation in the twenty-first 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 incidences of civil wars that impacted the region. Indeed, other things being equal, Africa is inherently safer than other region because of its social diversity. Secondly, 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. Thirdly, to achieve economic development and hence contribute to the 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 impedes or enhances the emergence of the kind of political and economic institutions required for the success of a strategy for the prevention of 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, the effective institution 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. The evidence reviewed by this paper suggests 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 merit. To the extent that this evidence is generalisable, avoiding economic dysfunction would require that the sphere of government activities in Africa should, perhaps, be more limited than in other homogeneous societies. 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 an indigenous entrepreneurial class. Among other things, such measures should enhance the process of economic diversification in Africa and hence directly contribute to the reduction of risks of civil wars in the future. Moreover, an expanded private sector base dominated by the indigenous population would provide the political cover for meaningful privatisation, which has so far eluded most African reformers.

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Appendix: ES Model of the Incidence of Civil War, 1960–99

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 endogenisation 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 endogenise the polity index but, rather, lag it twice, and the results are highly consistent across the two models. The process of endogenisation 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.

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	-0.0001964	0.000073	-2.691	0.007	-0.0003395	-0.0000533
P1p	-0.1062943	0.0289255	-3.675	0.000	-0.1629872	-0.0496013
elf	0.1553903	0.0284056	5.470	0.000	0.0997163	0.2110644
elf2	-0.001357	0.0002831	-4.794	0.000	-0.0019118	-0.0008023
elf2rf2	-5.89e-08	2.50e-08	-2.354	0.019	-1.08e-07	-9.86e-09
logpop	0.9961812	0.1564587	6.367	0.000	0.6895277	1.302835
cons	-21.04392	3.03628	-6.931	0.000	-26.99492	-15.09292
Insig2u	2.095158	0.2827181	7.411	0.000	1.541041	2.649275
sigma_u	2.850741	0.402978				
rho	0.8904317	0.0275829				

Likelihood ratio test of rho = 0: chi2(1) = 110.86 Prob > chi2 = 0.0000
