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# Ethnic Politics, Risk, and Policy-Making

## A Cross-National Statistical Analysis of Government Responses to HIV/AIDS

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What explains country policy responses to the AIDS pandemic? The author highlights ethnic politics as a negative influence on AIDS-related expenditures and other policies. When societies are ethnically divided and fragmented, elites are less likely to mobilize around the idea of risk from a stigmatized condition, fearing that their group will suffer reputational consequences. They are more likely to emphasize that the risks are contained within other groups, or that the threat is exaggerated. In turn, governments are less likely to provide policies because of lower demand and the potential for political resistance to actions viewed as unwelcome and/or unnecessary. A series of cross-national statistical analyses consistently reveal negative effects of ethnic fractionalization on AIDS policy. As compared with analogous analyses, it is possible to rule out the potential endogeneity concern that ethnic political competition might be a consequence as much as it was a cause of bad public policy and underdevelopment.

**Keywords:** *ethnicity; public policy; HIV/AIDS; health; risk; development*

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Influential and long-standing research programs in the fields of political science and economics have advanced the theory that ethnic heterogeneity poses significant political barriers to the provision of development-enhancing public goods. Several monographs investigating the sources of underdevelopment in postcolonial Africa identified the persistence of ethnic loyalties (e.g., Ekeh, 1975; Young, 1994). Easterly and Levine's (1997) seminal article on the causes of low economic growth in Africa also established a precedent for including a measure of ethnic diversity in cross-country regressions of development policies and outcomes. While adding various nuances, most subsequent econometric studies have confirmed that ethnic diversity is associated with low levels of growth, human development, and/or with bad public policies (e.g., Alesina, Baqir, & Easterly, 1999; Alesina, Devleeschauwer, Easterly, Kurlat, & Wacziarg, 2003; Filmer & Pritchett, 1999; Ghobarah, Huth, & Russett, 2004; McGuire, 2006; Posner, 2004).

Despite the consistency of the findings, empirical and theoretical shortcomings remain: First, most empirical analyses have focused on policies and public goods provided over very long periods of time and/or outcomes shaped through a long course of development. If we assume the conventional scholarly wisdom about the nature of ethnic identities—that they are not merely given but rather socially constructed and mobilized, often in response to material conditions—this raises the question of causal order. It is possible and even likely that bad public policies and underdevelopment have increased incentives for ethnic mobilization and decreased the prospects for nation-building. As Fearon (2003) points out, “If Botswana seems more ethnically homogeneous than Somalia does at this point, it may be that this is in part a result rather than a cause of economic growth” (p. 199). Where central states managed to build roads and schools, citizens may have relinquished narrow identities in favor of larger national ones.

Important questions can also be raised about theoretical models. The causal mechanisms hypothesized to link ethnicity to the underprovision of good public policies have been slightly distinctive across the aforementioned studies, but they include the following: the preponderance of rent-seeking behavior on the part of ethnic elites; heterogeneous preferences across ethnic groups; the broadcasting of ideas that other ethnic groups will disproportionately benefit from distributive policies; and relatedly, discrimination against ethnic minorities. To a degree, these are certainly plausible explanations of a consistent phenomenon, but they are incomplete in several respects. First, why would the potential beneficiaries of a public good,

such as an ethnic group in power, oppose its provision simply to deprive other ethnic groups of that good? Why would financing of public goods by donors be relatively lower in ethnically divided societies? The problem may not be excess demand for other goods, but low demand for or even resistance to particular policies. In short, materialist explanations of ethnic group behavior fail to unearth much of the dynamic that leads to suboptimal policy outcomes for all ethnic groups in a divided society.

Our incomplete understanding of the effects of ethnic division can be seen in stark relief when we consider the problem of explaining variation in government responses to HIV/AIDS—arguably the most significant challenge to development in the past decade and one that persists until the present day. In several countries, ethnic group competition has obviously figured within the politics of AIDS policy, but not in the ways suggested by the theories described above. For example, in a study of AIDS policy in the United States, where infection rates have been much higher among African Americans than among Whites, Cohen (1999) identifies African American leaders' underwhelming response to the problem. Although White discrimination against Blacks may be part of the reason for weak AIDS policies, her study also reveals a lack of expressed demand by those with "objective" needs. In another study, South Africa's weak response was explained in terms of long-standing racial boundaries, as data and rumors about HIV transmissions were consistently reported along ethnic lines, generating competition and charges of conspiracy (Gauri & Lieberman, 2006). But again, weak policy was not because of *ex ante* heterogeneous preferences or a government being reluctant to distribute resources to opposition groups. In fact, when a Black majority came into political power, Black infection levels were soaring above those of other groups, and yet leaders were still quite slow to act, relative to otherwise comparable but ethnically homogeneous countries.

Nigeria is divided along religious lines—roughly as Muslims in the north and Christians in the south—and along linguistic differences. Such divisions have proven to be important fault lines for conflicts around AIDS policy. Various news reports have highlighted patterns of northern Muslims' blaming of the epidemic on southern Christians, whereas Christian leaders and followers in the southeast (where HIV prevalence is quite high) have actively denied the risks of the problem (Smith, 2004). In turn, Nigeria's government response to AIDS has been quite weak, and the factors cited as constraining a national government response in one assessment were "low perception of risk among policymakers and the general population" and

“conservative social values, and regional religious and cultural differences” (TvT Associates/Synergy Project, 2002, p. 3). Finally, more than a decade ago, it was observed that even as the epidemic spread more widely within Tanzania, “Because AIDS has continued to be stigmatized as a ‘Haya Disease,’ people have been reluctant to take it seriously, and the government has been slow to step up its campaign” (Hyden & Lanegran, 1993, p. 59).

By contrast, more homogeneous countries or those with less sharp ethnic divisions or boundaries, such as Botswana, Senegal, and Brazil, have responded to the epidemic quite aggressively, further supporting the intuition that ethnic politics has a negative effect on policy.

To explain these patterns, this article details a theory that highlights the important role of group esteem and the social construction of risk in the political process of identifying and addressing new policy problems. In the context of strong ethnic boundaries, groups are less likely to assess their risks as shared, and because of social psychological inclinations to promote the status of their own group, elites and citizens may discount the indirect benefits of policies targeted toward other groups. Moreover, in such contexts, groups are less likely to publicize their own social problems, even when such denial may imperil group members. These dynamics are exacerbated under conditions of increased ethnic fractionalization, measured as the likelihood that any two randomly drawn individuals from a population will be from different ethnic groups.

To test the generalizeability of the claims, I conducted a series of cross-national statistical analyses of the effects of ethnic fractionalization on government AIDS policies, and I find substantively and statistically significant negative effects. The contribution is unique, particularly when compared with analyses of other long-standing policy concerns such as education, growth, and health care more generally, because we can treat the HIV/AIDS epidemic as a “shock”—largely exogenous to the main explanatory variable of interest. The research design draws on Peter Gourevitch’s (1986) seminal work on the politics of policy-making—*Politics in Hard Times*—in which he argues that the incidence of major transnational shocks and crises provide unique opportunities for comparative political analysis:

(They) are to countries what reagents are to compounds in chemistry: they provoke changes that reveal the connections between particularities and the general. If the comparativist can find countries subject to the same stresses, it then becomes possible to see how countries differ or converge and thereby to learn something about cause and effect. (p. 221)

## Theory: Ethnicity and the Construction of Risk

Policy-making is often a response to perceptions of risk, and patterns of ethnic division are likely to shape understandings of risk within politics and society. Such a perspective is useful for considering more general problems of political authority and the state's attempts to gain uniform conformity with policies such as taxation, military conscription (e.g., Levi, 1988, 1997), and certain public health policies that demand a measure of material, physical, and/or psychic sacrifices. To build strong states and to improve the general welfare, it is often necessary for leaders to convince people to accept new ideas and to engage in behaviors they would prefer to avoid. The collective fear of bad outcomes is an important motivation.

The proposal for such new policies is often related to the appearance of novel threats to society and/or to the development of novel solutions to existing threats. Within the political arena, the question for policy makers is whether people's fears about unaddressed dangers or risks are more pressing than the perceived psychic and/or material costs of what any policy solutions may entail. If we were to believe that risk perceptions were merely a matter of technical or scientific information, predictions about policy adoption would be fairly straightforward: Where objective dangers were high, we would expect increasing acceptance of the proposed policies. However, as several scholars have convincingly explained, risks are themselves social and political constructions (Douglas, 1992; Slovic, 1999; Slovic, Finucane, Peters, & MacGregor, 2004). Nathanson (1996) argues that "adoption and implementation of public health policies require culturally credible constructions of risk to the public's health" (p. 611). The dissemination of ideas about risk are easily politicized, and may gain momentum or be derailed, depending on underlying social and political conditions. Particularly to the extent that objective dangers can be observed directly, such information is important, but it is still mediated by influential actors and institutions.

I build on theories of risk construction by suggesting how the quality of a country's ethnic make-up and ethnic relations ought to provide a critical foundation for the interpretation of risk. Ethnic groups are collectivities in which membership is primarily through descent (Chandra, 2006; Fearon, 2003), but extend beyond a single family, and are often, though not always, defined in terms of a shared sense of culture (Horowitz, 1985). I include race and indigenous groups in this broader conception of "ethnic," and for analytic purposes, am interested in those groups that are sufficiently large and self-consciously organized to be recognizable in public debates about

policy. A society is ethnically fragmented when many different ethnic groups can be identified as distinct units of the society, and a society is ethnically divided when most people in a society assume those groups to be largely endogamous and with conflicting interests. To the extent that other types of groups form, practice endogamy, and members believe themselves to be cohesive and distinctive units with long time horizons, similar arguments should hold. However, nonethnic groups with these characteristics are not widely found in the developing world.

When societies are ethnically divided and increasingly fragmented, it becomes extremely difficult to develop a sense of shared risk across groups, particularly for problems that may be identified in particular locales and/or ethnic groups. When accurate information about the danger and efficacy of the proposed solutions is low, to the extent that ethnic identities are salient in politics and society, these provide convenient labels and reference points for processing information. Preferences and strategies are more likely to be shaped along such lines, and political leaders are likely to seize on these labels and to claim that risks facing other groups depend heavily on their behavior and (lower) sense of morality and decency. When societies are ethnically divided, intergroup contacts and exchanges are likely to be limited, but more important, there is likely to be widespread perceptions of low interethnic contact. To the extent that the state asks questions about group identity and reports information or frames policies in terms of such groups, citizens soon believe that social conditions and associated policies will affect them as members of those groups, which in many cases suggests that they will not be affected by the problem or the associated policy. Even when problems do not in fact map directly onto ethnic groups, ethnically divided societies will routinely use group heuristics to understand social problems.

Ethnic division is likely to do much more than simply create identifiable subpopulations, however. When considering how needs emanating from perceived risks get articulated in the political arena, a consistent finding from social identity theory (Tajfel & Turner, 1986) must be taken into account—namely, that people strive to maintain a positive social identity, particularly through favorable comparisons with relevant and proximate “outgroups.” Because of this in-group bias, people will either try to leave their group or try to find a more positive identity for the group when identities are not favorable, and ethnic political leaders will act to promote these interests. There may be long-term material rewards such as better jobs and opportunities for groups with good reputations, so both emotional and material incentives are likely to be at work.

Under conditions of group competition, leaders and citizens are likely to interpret various risks, costs, and benefits, and in ways that strive to increase the esteem of certain groups to the detriment of others. Group leaders will attempt to avoid shame and to allocate blame to other groups. When ethnic divisions are strong, policies that may directly or inadvertently emphasize social problems or pathologies are more likely to be resisted by those groups and their leaders to avoid the shame of association.

These dynamics are exacerbated by the increasing fragmentation of society into larger numbers of smaller ethnic minorities through mechanisms of pride and risk perception. Bisin and Verdier (2000) present a formal model and draw on existing empirical evidence to make the plausible argument that minority groups will search more intently for homogamous marriage. Assuming a desire to transmit one's own cultural traits to children, minorities will prefer endogamy, because in heterogamous marriages, external social pressures will lead to more transmission of the majority group's traits. If true, this implies that in increasingly ethnically fragmented societies, there will be greater efforts among a larger share of the population to practice endogamy, as a larger share of the population is from a minority group. Moreover, to the extent that social problems are perceived to be transmitted through close personal contacts, strong norms of endogamy—particularly among relatively small groups (the condition of ethnic fractionalization)—will exacerbate tendencies to imagine oneself and one's community as insulated from risks identified elsewhere or not known to be problematic among one's own group. This will tend to weaken the chances of gaining political support for policies that address such risks.

## **As Applied to HIV/AIDS**

The politics of policy-making in response to the AIDS pandemic has been highly vulnerable to the particular dynamics of ethnic competition described above. The route of viral transmission is through bodily fluids, especially blood, which is a standard component for myths of shared ethnic identity. Almost everywhere since its discovery, it has been a highly stigmatized condition, with connotations of immoral behavior, such that even association with the virus can be extremely costly for citizens as individuals or as members of groups. Even setting aside the use of public funds for providing AIDS policies, many policies have been received as intrinsically undesirable by target populations: The policies require that people alter their sexual activities and engage in a number of otherwise unappealing

practices of getting tested for the infection, subjecting themselves to a great deal of information about the dangers of disease and death, as well as information about safe sex that they may find embarrassing. Without a deep sense of imminent risk, citizens are prone to dislike such policies, and governments are loath to enact them because they are unpopular. Beyond those policies that are personally demanding, citizens and community leaders may object to the enactment and implementation of AIDS policies more generally, because they may interpret such policies as unnecessarily connecting their community to the epidemic. Even drug treatment policies, which seem to resemble ordinary distributive policies, have important symbolic implications to the extent that AIDS is a stigmatized condition. Whereas an ethnic leader might typically make strong and even exaggerated claims of the need for schools, roads, and jobs for his community, this is less likely to be the case for AIDS treatment, because it would require a highly public claim that the ethnic group is afflicted with the stigmatized problem. In line with social identity theory, ethnic leaders are likely to claim that such policies are not needed, simply to avoid loss of status.

If the theory discussed above holds, in the context of ethnic fragmentation, influential political actors are likely to minimize the relevance of reported risks of infection and to calculate the costs of accepting AIDS policy as higher than in societies where ethnic group differences are less well institutionalized or nonexistent. In more homogeneous (or less ethnically divided) societies, risks are more easily understood as pooled or shared, and although blame and shame may remain problematic for a stigmatized condition, these tendencies will be more diffuse and they will not reinforce existing conflicts. Citizens and elites are less likely to resist and are more likely to accept or even demand such policies.

Of course, ethnic division is not the only determinant of how risks will be understood within society. Outside actors, domestic activists, technical experts, levels of education, development, and capacity may all play central roles in policy-making (e.g., Patterson, 2005). Nonetheless, when a society is in the habit of framing social problems in terms of ethnic groups, the implications can be powerful, as it tends to be assumed that membership is defined at birth and that shared interests and behaviors are social givens. If a particular danger is associated with potentially immoral or impure behavior, as many social problems are, mobilized ethnic politics are likely to lead to less generalized perceptions of risk and higher levels of blaming and shaming.

The central hypothesis emanating from the foregoing discussion is that where societies are divided or fractionalized along ethnic lines, we ought to see an underprovision of policies that address new risks or dangers, even when controlling for objective measures of danger and the technical and

financial capacity to respond. The proposition is not conditional on the extent to which ethnic groups in power face objectively lower or higher dangers, particularly when such dangers could imply group culpability.

## Research Design and Data

I test this hypothesis by assessing the relationship between ethnic fragmentation and divergent policy responses to the threat of HIV/AIDS across countries, and this provides an opportunity to learn about politics and policy-making in developing countries in just the manner Gourevitch (1986) describes. The spread of the HIV, and the widespread fears of human destruction it has engendered, constitutes a clear case of international crisis, the first major epidemic of the era of globalization. Cases have been detected in nearly every country in the world since the disease was isolated in the early 1980s. In total, the developing countries contain more than 90% of the world's approximately 40 million HIV-positive people. In some countries, life expectancy has halved due to young adult and childhood AIDS-related mortalities. The AIDS pandemic has produced really hard times indeed.

One might conjecture that government responses to AIDS could be explained by variations in government awareness of the problem or technical capacity to identify and address it, except for the important fact that particularly by the early 1990s, a set of international actors were actively working in countries throughout the developing world to convince governments to adopt a widening menu of policies. However, much like country-level responses to economic stagnation, developing country governments have varied in their take-up of expert advice (Van de Walle, 2001).

Because there are qualitative differences between the developed and developing countries in terms of available resources, financing flows, and overall capacities, it does not make sense to analyze both sets of countries within a common framework. Relevant and comparable cross-country data are much more widely available for the developing countries, because of their coordination by international agencies and the fact that more than 90% of infections are located in the developing world. The analysis includes countries with per capita income less than US\$8,000.<sup>1</sup> Although the statistical analysis is essentially a cross-sectional one, where time-varying data are available, I pool those data to gain analytical leverage from additional observations, allowing us to assess the effects of ethnic fractionalization relative to other determinants of AIDS policies across countries and over time. I present descriptive statistics of all variables in Table 1.

**Table 1**  
**Summary Statistics of Variables Contained in the Statistical Analysis**

Variable	M	Min	Max	N	SD
Ethnicity					
Ethnic Fractionalization Index (Alesina, Devleeschauwer, Easterly, Kurlat, & Wacziarg, 2003)	0.521	0.002	0.930	104	0.243
Language Fractionalization Index (Alesina et al., 2003)	0.461	0.002	0.923	102	0.300
Religious Fractionalization Index (Alesina et al., 2003)	0.432	0.003	0.860	105	0.236
Ethno-Linguistic Fractionalization Index (Roeder, 2001)	0.526	0.003	0.984	103	0.267
Cultural Fractionalization Index (Fearon, 2003)	0.333	0.000	0.733	102	0.219
Politically-Relevant Ethnic Group Fractionalization Index (Posner, 2004)	0.391	0.000	0.800	37	0.238
AIDS policies <sup>a</sup>					
Government expenditure per capita \$US, 1996-2006	1.5	.00009	93	348	6.2
Donor expenditure per capita \$US, 1996-2006	1.3	.00039	55	156	6.2
Mentions of HIV/AIDS in the budget speech, 1994-2006	5.7	0	35	83	9
Antiretroviral drug therapy coverage, 2004-2005	0.27	0	1	183	0.27
AIDS Policy Index, 2003	61	35	82	53	12
Adult HIV prevalence, mid-point of estimates, 1993, 1998, 2003 (UNAIDS, 2004)	4.2	0.05	30	184	7.2
Adult HIV prevalence, point estimate, 2001 (UNAIDS, 2006)	4.1	0.1	38	94	7.5
GDP per capita, 1993-2003 (World Bank, 2006)	1,522	57	7,998	1,197	1,659
Polity2 score, 1993-2003, 5-year rolling average (Marshall & Jaggers, 2003)	1.1	-10	10	959	6.2
Urbanization, 1993-2003 (World Bank, 2006)	45	5.7	92	1,076	21
Government effectiveness, 1995-1999, 2000-2004 averages (Kaufman, Kraay, & Mastruzzi, 2005)	-0.38	-1.9	1.3	234	0.6
Public health spending divided by GDP, 1996-2006, 5-year average (World Bank, 2006)	2.7	0.35	9.6	1,068	1.5
Overseas Development Assistance (less AIDS) divided by GDP, 1996-2006 (World Bank, 2006)	7.1	0.0037	99	1,050	9.4

a. Sources discussed in text.

*Ethnic fractionalization.* Although ethnic tensions can be quite palpable within societies, the task of identifying appropriate quantitative indicators remains a great challenge for scholars carrying out related empirical research. Various attempts have been made to develop quantitative measures of the extent of ethnic diversity and/or conflict, and each is marked by various advantages and disadvantages. I consider multiple measures to gain additional leverage over the types of ethnic variables that matter the most by comparing their effects.

All of the measures used are fractionalization indexes, based on a Herfindahl index, and are generally interpreted as the likelihood that any two randomly selected people will be from different ethnic groups. I use the ethno-linguistic fractionalization measure used in Easterly and Levine's (1997) article, as well as the separate ethnic, language, and religion fractionalization indices calculated by Alesina et al. (2003). In addition, two indicators combine a measure of ethnic diversity with greater attention to social and/or political salience, and this provides a better estimate of the effects of ethnic politics in the manner described by the theory above. Fearon's (2003) cultural fractionalization index pays greater attention to social salience based on a set of coding rules and subjective judgments about whether or not people with identifiably common ethnic traits are recognized by themselves and others as groups, and by weighting groups according to the degree of cultural dissimilarity, using taxonomies of primary languages from the field of linguistics. The cultural fractionalization index reflects greater diversity (higher numbers) when groups' languages are structurally different. Posner's (2004) "politically relevant ethnic group fractionalization index" (PREG), currently available only for countries in sub-Saharan Africa, is similar in that it identifies ethnic groups deemed to have some political salience. If no ethnic groups are identified as politically salient, then the ethnic landscape is characterized as equivalent to that of an ethnically homogeneous society (PREG = 0). Of all of the indicators considered, cultural fractionalization combines the widest geographic coverage, with the most deliberate attention to social and political salience.

*AIDS policies.* I consider several measures of AIDS policy that are likely to be comparable across all countries and reflect broadly on aggressiveness. I consider two forms of AIDS-related expenditures: those from government revenue accounts and those from donors. Government use of its own scarce and limited financial resources is obviously a strong indicator of policy aggressiveness. The donor expenditures described here are limited only to those funds that in some way flow through and are reported by governments

themselves. And although levels of donor expenditure might seem to be completely donor-driven, donors face inducements and constraints on aid in terms of the receptivity of recipient countries. Particularly early in the epidemic, many government leaders in developing countries rejected offers of financial assistance on HIV/AIDS, as they denied there was a significant problem within their borders, whereas others were quite receptive to aid. The relationship between domestic politics and donor-provided expenditure is an empirical question I consider in the analysis. Expenditures include all moneys spent on AIDS-specific prevention and treatment programs. Most of the expenditure data are from UNAIDS reports<sup>2</sup> and various SIDALAC studies,<sup>3</sup> but I have also gathered additional expenditure data from various government documents and secondary sources, including submissions to the Global Fund for AIDS, tuberculosis, and malaria, to gather as many observations as possible. All data are analyzed as log values on a per capita basis using official \$US exchange rates.<sup>4</sup>

To capture the government's commitment to AIDS policies, I use a slightly different measure related to the budget: the word content of budget speeches. That is, I sought out as many budget speeches as was reasonably possible for countries within the dataset and counted the number of times the words "HIV" or "AIDS" (and their language equivalents, such as "SIDA") were mentioned in the text of the speech and reported that total. Regardless of the population or size of the economy, we can compare central government aggressiveness in terms of the discourse of the chief financial officers of the government. To the extent that they discuss HIV/AIDS, we can be fairly confident about the government's general commitment to the problem in both financial and nonfinancial terms. Obviously, if governments do not "put their money where their mouths are," we would expect very different results from analyses of government expenditures.

Another way to consider policy aggressiveness is to compare the coverage of particular policies; and one critical policy has been to provide access to anti-retroviral (ARV) drugs. The advent of specialized drug therapies designed to mitigate the effects of HIV in the 1980s initially marked a milestone in the history of the epidemic, but one that was available almost exclusively to wealthy individuals and/or individuals living in wealthy countries. Owing to the pressures of activists and various international organizations, the price of ARV drugs came down dramatically, and various funding agencies began to promote the distribution of these drugs. But as suggested above, the likelihood of extensive provision of drug treatment at the country level is also likely to have been affected by domestic political factors. As part of the World Health Organization-sponsored "Three by

Five” initiative (to get 3 million people on treatment by the year 2005), governments and donors began to collect data on the numbers of people on ARVs as well as the number of people in need (according to World Health Organization benchmarks). The ratio of those two factors is generally reported as the degree of coverage—with 100% signifying that everyone in need is receiving ARVs within a given country. I consider the data from the end of 2004 and the end of 2005, which mark the target date for the “3 by 5” campaign (UNAIDS, 2006; World Health Organization, 2005).

Finally, I consider a summary policy measure developed by a set of international AIDS organizations, including UNAIDS, USAID, the World Health Organization, and the Policy Project of the Futures Group. They developed an elite survey instrument—the AIDS Program Effort Index (API)—to measure national effort. Their 2003 survey thoughtfully combines yes/no questions on 167 items, combined with subjective evaluations scores on each of 10 components of the overall index. As such, the final score, averaged between both objective and subjective measures, and scaled to 100, provides a reasonable indicator of policy effort. On average, 16 respondents were interviewed for each country. They were “not meant to be a representative sample but were carefully selected for their professional and in-depth knowledge” (UNAIDS, USAID, World Health Organization, and the Policy Project, 2003, p. 5). The method and questionnaire appear sensible, and the scores for the country cases plausibly distinguish levels of aggressiveness. Although Uganda—the country much heralded for its action on HIV/AIDS—does score in the top quartile of African countries rated by the API index, its score of 77 out of 100 places it behind Burkina Faso (82), Rwanda, Malawi, Botswana, and Senegal, which cuts somewhat against the conventional wisdom of Uganda being the model case. Nonetheless, the classification of this group of countries as “high” on aggressiveness makes sense in light of other studies and reports I have consulted. The bigger problem with this measure, however, is the incomplete nature of the data in terms of country coverage: There is a strong bias toward countries with significant AIDS epidemics (the mean HIV prevalence of included countries was 6.6% as compared with a prevalence of 1.8% for developing countries not included). As a result, a few countries that have been extremely aggressive and successful in combating AIDS (such as Cuba) were left out of the analysis but are contained in the other analyses.

*Control variables.* To estimate the effects of politics on policy-making, it is important to control for both the relative size of the threat and capacity to act on the problem, which I have attempted to do through estimates of HIV prevalence and GDP/capita. To avoid potential endogeneity concerns,

I lag these variables.<sup>5</sup> Moreover, with the exception of Uganda, early patterns of infection shaped the dynamics of the epidemic for the period considered: Logged values of available adult HIV prevalence estimates from 1993 are correlated with 2001 estimates at  $R = .91$ .<sup>6</sup> I also include regional dummy variables (Africa and Latin America/Caribbean, leaving Asia as the control group), which capture important regional differences in the size of the threat, as well as differences in the regional administration and influences of international organizations.

I am aware of very few cross-country statistical analyses of the determinants of national government AIDS policies (exceptions include Bor, 2007; and Natrass, 2006), and none to my knowledge has considered the effects of ethnic fractionalization. I test for the effects of leading alternative explanations discussed in those studies as well as other studies of AIDS policy, health policy, and human development (e.g., Boone & Batsell, 2001; Filmer & Pritchett, 1999; McGuire, 2006; Patterson, 2005), including regime type, urbanization, overall state capacity, and public health spending—though I do not present analyses of several explanatory variables found to have no effects on the outcomes.<sup>7</sup> To estimate a model of donor-funded AIDS expenditures, I control for Overseas Development Assistance (ODA) divided by GDP, excluding AIDS expenditures.

*Analysis.* Regression estimates of government and donor expenditures and the frequency of HIV and AIDS word counts in budget speeches are presented in Table 2. Because the error terms are serially correlated for countries with repeated observations across years, I calculated (country) clustered standard errors, an estimation strategy Bradley, Huber, Moller, Nielsen, and Stephens (2003) use for an analogous problem of analyzing an unbalanced panel with few observations over time.<sup>8</sup> This model requires few assumptions about the nature of the error term: It provides valid estimates even in the presence of within-unit clusters (countries) but assumes that errors are not correlated across clusters. To control for the effects of simultaneous time-varying influences across all countries, such as new information or international lobbying efforts, I include a “year” variable in the analyses.<sup>9</sup>

Columns 1 through 3 and 5 present estimates of spending from government sources, and column 4 presents estimates of donor-sourced expenditures. In column 1, I estimate a trimmed model, and in columns 2, 3, and 5, I add a fuller battery of control variables, including regional dummies. In column 3, the data are analyzed as 5-year averages to check that the findings are not being driven by outlying years or data availability for particular

**Table 2**  
**Estimates of Effects of Ethnic Fractionalization on AIDS Expenditure (1996-2005)**

Dependent Variable	Government Expenditure \$US Per Capita (ln)		Donor Expenditure \$US Per Capita (ln)		Mentions of HIV, AIDS in Budget Speech	
	(1)	(2)	(3)	(4)	(5)	(6)
Model	Minimum Controls	Additional Controls	Additional Controls, 5-Year Averages	Additional Controls	Additional Controls and Model 4 Residuals	
Cultural fractionalization	-1.869** (0.71)	-2.403** (0.67)	-1.513** (0.68)	-2.561*** (0.90)	-2.364*** (0.64)	-2.079*** (0.24)
HIV prevalence, ln	0.603*** (0.091)	0.242 (0.15)	0.242 (0.16)	0.511*** (0.14)	0.249* (0.15)	0.444*** (0.066)
GDP per capita, ln	1.055*** (0.113)	0.842*** (0.30)	1.085*** (0.24)	0.919*** (0.30)	0.831*** (0.29)	0.128*** (0.048)
Year	0.212*** (0.039)	0.308*** (0.049)	0.0978* (0.049)	0.179*** (0.050)	0.315*** (0.048)	0.0420* (0.025)
Democracy (Polity2)		0.0308 (0.034)	0.0629*** (0.022)	0.00209 (0.032)	0.0291 (0.032)	
Urbanization		-0.0219 (0.015)	-0.0259** (0.012)	-0.0375*** (0.0095)	-0.0210 (0.014)	
Government effectiveness		0.952*** (0.34)	0.745** (0.29)	0.835* (0.47)	0.970*** (0.32)	
Public health expenditure divided by GDP		-0.0222 (0.073)	-0.109 (0.25)	0.148** (0.072)	-0.0236 (0.072)	

(continued)

**Table 2 (continued)**

Dependent Variable	Government Expenditure \$US Per Capita (ln)		(3)	Donor Expenditure \$US Per Capita (ln)		Mentions of HIV, AIDS in Budget Speech
	(1)	(2)		(4)	(5)	
Model	Minimum Controls	Additional Controls	Additional Controls, 5-Year Averages	Additional Controls	Additional Controls and Model 4 Residuals	
Africa		1.982*** (0.71)	2.326*** (0.79)	-0.0817 (0.59)	1.938*** (0.68)	-0.00644 (0.33)
Latin America and Caribbean		1.730*** (0.61)	1.316** (0.63)	-0.843 (0.59)	1.715*** (0.57)	-1.834*** (0.44)
Residuals from Model 4 <sup>a</sup>					0.389*** (0.14)	
Overseas Development Assistance divided by GDP - ln				0.618*** (0.17)		
Countries	71	68	68	62	68	20
Observations	297	253	104	134	253	80
R-squared	0.57	0.62	0.68	0.62	0.64	

Note: Models 1-5: OLS with robust cluster (country) standard errors; Model 6: Poisson regression; robust standard errors in parentheses; Constants not reported.

\*\*\* $p < .01$ , \*\* $p < .05$ , \* $p < .1$ .

a. Or zero for observations with missing data.

**Table 3**  
**Estimates of Effects of Ethnic Fractionalization on AIDS Policies**

Dependent Variable	Model 1	Model 2	Model 3
	ARV Drug Treatment Coverage 2004, 2005 (ln)	AIDS Policy Index 2003	AIDS Policy Index 2003 (Excluding Lesotho)
Cultural fractionalization	-0.788* (0.47)	-8.727 (6.47)	-12.63** (5.88)
HIV prevalence 2001, ln	-0.0582 (0.093)	-1.051 (1.42)	-0.00750 (1.30)
GDP per capita, ln	0.291** (0.12)	-1.587 (1.96)	-2.161 (1.76)
Government effectiveness	0.495** (0.19)	10.93*** (3.33)	12.05*** (2.99)
Public health expenditure divided by GDP	-0.0178 (0.17)	9.513*** (2.96)	6.569** (2.78)
Democracy (Polity2)	-0.00637 (0.023)	0.307 (0.30)	0.317 (0.27)
Africa	0.513 (0.45)	11.33* (5.70)	9.334* (5.12)
Latin America and Caribbean	0.930*** (0.29)	-4.336 (5.14)	-5.203 (4.60)
Year	0.539*** (0.10)		
Constant	-1084*** (205)	64.78*** (14.8)	74.36*** (13.5)
Countries	85	50	49
Observations	151	50	49
R-squared	0.49	0.47	0.55

Note: Ordinary Least Squares Estimates; standard errors in parentheses; in Model 1, robust cluster (country) standard errors reported.

\*\*\* $p < .01$ . \*\* $p < .05$ . \* $p < .1$ .

countries.<sup>10</sup> Column 6 reports the analysis of the budget speech data. Because such data are “event count” data, with the modal count being zero, or no mentions of HIV or AIDS, I use Poisson regression to estimate the effect of ethnic boundaries on the outcome.

Analyses of the determinants of specific AIDS policies are reported in Table 3, and in Table 4, I compare the effect of the six different summary measures of ethnic fractionalization on government expenditure for the full sample and for the African subsample.

**Table 4**  
**Estimates of AIDS Expenditures (1996-2005) Using Various Ethnic Indicators As Regression Coefficients**

Fractionalization Indicator	Coefficient Estimates		Model Summaries	
	Full Sample	Africa Only	<i>N</i>	<i>R</i> -Squared
Cultural	-1.87** (.71)	-3.44*** (1.14)	297, 147	.57, .60
Politically-relevant ethnic group	—	-2.20** (.97)	—, 145	—, .56
Ethno-linguistic	-.98 (.56)	-2.26** (1.02)	291, 147	.55, .56
Language	-1.39** (.60)	-2.84*** (1.03)	288, 144	.58, .57
Ethnic	-.92 (.82)	-2.91*** (.99)	296, 141	.54, .56
Religion	-.88 (.90)	-1.45 (2.044)	302, 147	.55, .54

Note: Cells in the columns “Coefficient Estimates” present the parameter estimate for the ethnic indicator indicated based on the model specified in Table 2, column 1; robust cluster standard errors are in parentheses.

\*\*\* $p < .01$ . \*\* $p < .05$ . \* $p < .1$ .

## Results and Discussion

Collectively, the various analyses provide strong confirmation of the central hypothesis—that ethnic fractionalization has had a negative effect on government AIDS policies. In the estimates of expenditure flows, the impact of the cultural fractionalization indicator of ethnic diversity is consistently negative and statistically significant at the .05 or .01 level for all five models, even after controlling for per capita income and several of the variables that other scholars had concluded were already negatively influenced by ethnic fractionalization. I interpret the negative effects of cultural fractionalization on donor expenditure in a similar light as expenditure from general revenue accounts, because donors have tended to be more aggressive where they have been welcomed by governments already demonstrating commitment to AIDS. A key example is the case of (ethnically homogeneous) Botswana, where major donors funded a government that clearly wanted to tackle this problem.

The substantive effects of cultural fractionalization on AIDS policy are striking. In one analysis, I simulated the expected government expenditures of a hypothetical and high-prevalence African country in the year 2005, setting all of the control variables to their means relative to the larger sample of countries in the dataset, while allowing cultural fractionalization to vary so I could estimate its effect<sup>11</sup>: A shift from the extreme of the most

fractionalized to the least fractionalized is associated with a shift in expected government expenditure of \$.42 to \$2.22. In fact, these may be conservative estimates of the effect of cultural fractionalization, because they do not take into account either the indirect effects on level of development or the effects on donor expenditure.

Analysis of the budget speech data provides strong confirmation of the actual expenditure results, demonstrating the effects through the political process. Because the theoretical model assumes that policy-making is driven by the perceived (un)popularity of particular policies, we should expect that aggressive governments will speak loudly about their actions and that passive ones will say relatively little about the issue. When countries are more ethnically fragmented—all else being equal—the finance minister or other government official is less likely to emphasize the problem of HIV/AIDS in the budget speech. Because there tend to be normative biases against ethnically charged language, there are no explicit references to ethnic groups in terms of HIV or AIDS within the budget speeches, which is why we must make inferences from underlying fractionalization data. Although the number of clusters or countries included in the analysis of the budget speech data is significantly smaller than in the analyses of the actual expenditures (21 as compared with at least 68), there is no reason to believe that the availability of data is correlated with any of the variables of interest, which might lead to selection bias.

It is also useful to consider specific policies, because of the closer proximity to substantive outcomes and as a more thoroughgoing test of the central hypothesis. Of particular importance, as shown in Table 3, ARV treatment coverage is substantially lower in ethnically fractionalized countries. Based on the estimated parameters, and setting all other variables to their means, moving from the highest to the lowest level of cultural fractionalization would shift the expected value for treatment coverage in an African country from 16.2% to 29.5%.

In the analysis of the AIDS policy index—although the parameter estimate is negative as expected—the sharply outlying case of Lesotho (which, based on additional investigation, appears to be a measurement error) significantly raises the size of the standard error in this relatively small sample analysis. When this single case is excluded from the analysis, the estimate becomes statistically significant at the .10 level. It is more difficult to interpret the substantive effects of the policy index, but the analysis simply lends additional support to the central hypothesis.

Nearly all of the analysis presented above has been conducted using the cultural fractionalization indicator, which based on its properties of

combining attention to ethnic salience with wide geographic coverage, was well suited for estimating the effects of interest. But how do the other measures of ethnic politics compare in terms of their impact on AIDS policy? And to what extent are the effects consistent across regions?

In every single model specification—regardless of the indicator used or the scope of the sample—the estimated effects for ethnic fractionalization are negative, as predicted, and reported in Table 4. In the full sample of developing countries, only in the estimates of cultural fractionalization and language were the standard errors small enough to meet conventional standards of statistical significance. The African subsample possesses a wide range of variation in terms of ethnic diversity, and it is the region where the AIDS epidemic has been most severe. Parsing out this region allows us to identify the extent to which the general results are being driven by the African cases and/or if intra-African variation in the extent of fractionalization can explain diversity within the continent. In the African subsample, five of the six indicators were statistically significant. Only in the case of religious fractionalization was none of the estimates statistically significant, and this echoes prior research findings that religious diversity may better reflect a tolerant society than a divided one (Alesina et al., 2003, p. 158); and thus the same types of theorized effects do not hold.

More than anything, the analyses point to the general robustness of the results, suggesting that they are not wildly sensitive to particular decisions about measurement or classification of ethnic groups, and as presented earlier, the effects hold across a range of AIDS policy indicators. The particularly strong results for the cultural fractionalization and politically relevant ethnic group indicators highlight that the effects of ethnic politics, at least for HIV/AIDS policy, can be identified most clearly when we focus on the degree to which particular groups are socially and/or politically salient. Moreover, the consistent effects of the cultural fractionalization and language fractionalization indicators suggest that, at least for HIV/AIDS, language communities are likely to imagine themselves as largely endogamous, and so divisions among linguistically defined ethnic groups seem to have a particularly strong impact on politics and policy. Indeed, this finding may be specific to a more limited set of policies addressing social problems understood to be transmitted through intimate contact, but this finding ought to be explored in future research.

Comparative analysis of AIDS policies provides a strong research design for estimating the direction, magnitude, and consistency of causal effects and is less vulnerable to concerns about endogeneity. Although it is almost certainly true that HIV was present in humans in the 1950s or even earlier,

it was not until the 1980s that the AIDS virus was identified and the epidemic became apparent. When viewed from a fairly broad historical perspective, and certainly when compared with responses to the challenges of long-term economic growth, education, and health needs, the global AIDS pandemic was experienced as something of a shock. Because I use measures of ethnic fractionalization based on data from the 1980s and early 1990s, we can be fairly certain that they were not affected by AIDS policies in any direct or indirect way, as no such policies were previously in existence. Moreover, I find no statistical relationship between estimates of 1988 HIV prevalence and ethnic fractionalization, so we can safely conclude that there are not even problems of selection bias in terms of the countries facing the most significant AIDS epidemics.

Over the longer term, AIDS-related illness and death and AIDS policies will almost surely affect both ethnic demographics and ethnic politics across countries. Because my ethnic fractionalization data are not time varying, I cannot estimate the effects of HIV prevalence or AIDS policy as a feedback, but it is extremely unlikely that AIDS-related illness or mortality had any substantive effects on relevant ethnic variables. Although I cannot completely exclude this possibility, particularly in the 1980s and early 1990s, the extent of AIDS policies in most developing countries were so minimal that it is unlikely they would have had much of an impact on our results, even if we could estimate those effects. In any case, when the statistical analyses are restricted to just the earlier periods in the dataset, allowing us to isolate out most conceivable feedback effects, the estimates are basically unchanged.

## **Analysis of Controls and Alternative Explanations**

Although the focus of this article concerns the effects of ethnic politics, the analyses provide us some opportunities to explore additional questions about the determinants of AIDS policy. As one might expect, (lagged) HIV prevalence levels have a consistently positive effect on spending in most of the estimates, highlighting that objective dangers do affect how societies and governments respond. However, in the case of treatment coverage, HIV prevalence has a negative albeit statistically insignificant relationship. This likely reflects at least two central dynamics: Countries that have provided treatment aggressively are likely to have been aggressive earlier on prevention and so may have smaller epidemics, and it is obviously easier to cover a greater share of people in need when the underlying problem is less severe.

Government capacity also has a generally positive effect. In most estimates, countries with higher per capita income and ratings of government effectiveness spent more on and said more about AIDS. In the case of the API measure, when both variables are included in the model, the parameter estimate of per capita income becomes negative, but with large standard errors, suggesting little in the way of a consistent effect

Collectively, the analyses provide mixed support for the effects of political regimes—on average, more democratic countries spend more, but the substantive impact is minor and the size of standard errors is highly sensitive to model specification. Contrary to expectations, governments in more urbanized countries spent less on AIDS, but the effects are not dramatic. African and Latin American/Caribbean countries spent and have done more on AIDS using their own resources relative to Asian countries, whereas donors have been more sensitive to the size of country-level epidemics within regions. However, we should be cautious in our interpretation of regional dummy variables as direct indicators of regional responsiveness on the part of governments or favoritism or bias on the part of donors. Rather, these variables capture a range of regional pressures, which are otherwise unmodeled, because we simply lack the degrees of freedom and data necessary to parse out each of these effects.

Contrary to the idea that foreign aid crowds out spending (e.g., Moore, 1998), my analyses suggest that government spending seems to be reinforced by such aid and certainly is not negatively affected by aid. I calculated excess donor effort on AIDS by taking the residuals from the estimates of donor expenditure (from column 4) as a function of the other variables influencing government expenditures and overall levels of ODA. As reported in column 5 of Table 2, such effort has a positive effect on government spending.

## Conclusion

The research presented here provides a novel test of the more general proposition that ethnic fractionalization leads to the underprovision of public goods and/or development-enhancing public policies. It goes beyond previous studies by considering the effects of ethnic politics in the context of a relatively new problem, such that we can be confident of the direction of causality when interpreting observed statistical relationships. Where societies have been ethnically divided, the government response to the AIDS pandemic has been much weaker.

It is important to reiterate that the findings reflect only the determinants of policy and additional research is needed to assess the determinants of implementation and behavior change, all of which are substantively important but shaped by quite distinctive social and political processes that may or may not be as sensitive to the broader context of ethnic division. Moreover, the theory and the interpretation of the findings presented here should be understood as probabilistic, not deterministic. Ethnic considerations may not always figure within AIDS politics, and of course, other factors shape policy responsiveness. In the case of Uganda, for example, the nation is ethnically fractionalized and yet the government managed to respond aggressively to the epidemic.

The article also specifies an alternative mechanism that links cause to effect—namely, the mediating effects of ethnic fragmentation on the social construction of risk. Because generalized perceptions of risk garner political support for government leaders to introduce new policies that may divert resources from other goods and/or demand particular sacrifices from within society, it is important to learn how notions of risk are affected by underlying social and political structures. Although the statistical evidence presented here cannot, on its own, point us to the precise mechanism(s) that generate the observed effects, the case study evidence and logical reasoning presented in the introduction are highly suggestive that the theorized relationship is at work. These mechanisms are likely to affect a wider range of policies affected by perceptions of risk, including threats of war, other public health policy problems, and particularly stigmatized conditions that could be interpreted as the product of the irresponsible and/or immoral behavior of a particular social group. Much of the political discourse between ethnic groups tends to be concerned with issues of morality, purity, and reputation more generally, and scholars ought to recognize the degree to which these sorts of dynamics have an effect on policies.

Despite the clear role of political concerns in AIDS policy, and public health epidemics more generally, only recently have scholars of comparative politics begun to systematically investigate their causes and consequences. More research is necessary before any strong policy implications can be drawn. But at the very least, the findings presented above suggest that policy interventions that credibly promote the idea that risks are shared across ethnic groups and/or that reduce the overall salience of ethnic difference in societies may lead to greater political support for and implementation of AIDS policies. In turn, this could have important implications for curbing the effects of the global pandemic.

## Notes

1. Because of data availability, country cases with populations less than 500,000 or located outside the world regions of Africa, Asia, Latin America, and the Caribbean are largely excluded from analyses of expenditure data.

2. Ernberg et al., 1999; UNAIDS 2006.

3. SIDALAC is the regional AIDS initiative for Latin America and the Caribbean, a multiorganization partnership implemented by the Mexican Health Foundation. Reports are available at <http://www.sidalac.org.mx/>

4. The availability of national AIDS account frameworks and the role of international actors provide some basis for confidence in the comparability of findings, and UNAIDS (2006) has published much of these data as a metric for measuring country progress in responding to the pandemic.

5. In the case of adult prevalence, I use the estimate from the prior 5-year period, and for GDP per capita, I use a 5-year average, lagged 3 years. None of the estimates is particularly sensitive to the specifics of these choices, and I made choices to minimize case exclusion based on missing data.

6. Incidentally, this is not evidence that AIDS policies are ineffective, because such policies may prolong the lives of those living with HIV in addition to averting new infections. Successful AIDS policies may have little net impact on prevalence (the percentage of population infected).

7. Bor (2007) finds that the Gini index measure of income inequality has a negative and statistically significant effect on the “political support” component of the AIDS Program Effort Index. However, that finding is based on imputed data, and using available data, I find no relationship with any of the outcome variables presented in this article. In an investigation of the effects of income inequality, Natrass (2006) also found no statistical relationship with ARV coverage. These analyses are available in a technical appendix from the author.

8. Posner (2004) also uses this approach.

9. The results presented are robust to quite a large number of estimation procedures—restrictions and expansions of the universe of cases included—and the inclusion and exclusion of various other analytic controls. For example, similar estimates are generated when using FGLS and time-series cross-sectional regression with random effects (reported in a technical appendix available from the author). Fixed effects models are inappropriate, because the explanatory variable is time invariant for the periods considered

10. I do not use a full 10-year average because of the unbalanced nature of the panel: Some countries have observations for only the earliest years, and some for only the most recent years, and these are not really comparable without controlling for over-time variation in HIV prevalence and period effects associated with international attention to the epidemic.

11. Using the CLARIFY macro (King, Tomz, & Wittenberg, 2000), I generated 1,000 simulated observations based on the regression estimates presented in Model 5 from Table 4 and calculated expected values based on the distribution

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