Development and the Tolerance for Inequality

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Abstract

This paper tests the validity of the claim that inequality leads to political instability, as well as several other hypotheses about the tolerance for inequality. Using data from the Social Conflict in Africa Database, I examine macro-level implications of micro-level theories about grievances and collective action, complementing earlier research on the individual-level correlates of protest participation. I find that inequality is associated with more frequent protests about economic issues, as is the complexity of a country's economy. I also replicate the earlier findings that democracies are more protest-prone and that military repression or the threat of military repression discourages protests. Analyses do not support a set of hypotheses derived from classic theories about *urban bias,* the *tunnel effect,* and the *ostentation signaling effect.*

A major reason why economists and political scientists study inequality is that inequality supposedly leads to political instability (Lichbach 1989, 431). Because the poor resent the fortune of those better off, they may vote for redistribution—or merely threaten to do so—and thereby prompt political retaliation by the elite (Acemoglu and Robinson 2006). In autocracies, where citizens lack peaceful means of expressing their grievances, the poor might alternatively engage in protests, riots, and even revolutions (Alesina and Perotti 1996; Hibbs 1973; Gupta 1990). In turn, sociopolitical unrest threatens economic growth: "The participation of the poor in crime and other antisocial actions represents a direct waste of resources because the time and energy of criminals are not devoted to productive efforts. Moreover, the threats to property rights deter investment" (Barro 2000, 7).

But the poor do not always protest inequality. In the United States, which by most measures has significantly higher income inequality than other developed countries (Table 1), the level of redistribution and the popular demand for redistribution are relatively insignificant (Alesina and La Ferrara 2004). While one could argue that the United States is exceptional in these respects, scholars have noted tolerance for high degrees of inequality in countries as diverse as Russia and Brazil (Kelly and Evans 2009; Lambert et al. 2003; Ravaillion and Lokshin 2000). To the extent that recent protests in North Africa and the Middle East reflect grievances about inequality, they are long overdue if one considers the extreme inequality that has characterized these predominantly oil-producing states for decades. In general, however, social scientists have been more interested in explaining the causes of inequality than the tolerance for inequality, despite the fact that the latter fundamentally motivates their research.

The political implications of inequality are overlooked particularly in developing countries, although it is in those countries where inequality may be the most economically and politically consequential. The famous Kuznets theory proposes that inequality increases during the early stages of industrialization and then declines as incomes continue to rise and most of a society's population transitions from subsistence agriculture to wage labor. While empirical evidence for the Kuznets curve is mixed (due in part to the scarcity of data from Africa, Asia, and Latin America) (Piketty 2006), inequality is visible in industrializing regions and poised to spike in countries undergoing oil and natural gas exploration. Analyzing the relationship between inequality and development with data on roughly 100 countries from 1960 to 2000, Barro (2000 and 2008) finds that whereas inequality seems to help growth in rich countries through incentives to save and invest, it can be deleterious for poor countries, both by stoking civil disorder and by precluding the economic participation of a severely credit-constrained population majority. Given that many developing countries are presently experiencing political as well as economic transformations, what challenges might inequality and its effects on growth pose to processes such as state development and democratization? To answer this question, it is necessary to first understand why some people tolerate inequality whereas others protest against it.

The primary goal of this paper is to test the validity of the claim that inequality leads to political instability. To do so, I take advantage of the new Social Conflict in Africa Database (SCAD) by Hendrix and Salehyan (2010), along with the best available measures of inequality. Until now, the state of the art in studying the relationship between inequality and conflict has been to use rule of law to proxy for sociopolitical unrest (e.g.

Barro 2000). However, a statistical correlation between rule of law and inequality is not evidence that inequality motivates people to rise up against the status quo. SCAD is the most comprehensive source of data on riots, strikes, and protests in Africa (or in any region) and includes documentation about the issues around which each event unfolded—namely, whether the event centered on grievances about inequality. Hence, this database provides an unprecedented window into patterns of conflict beyond civil war, as well as the opportunity to systematically analyze the relationship between inequality and political disorder.

Second, this paper empirically investigates several classic theories about why Africans in particular do or do not protest inequality. These theories—including *urban bias*, the *tunnel effect*, and the *ostentation signaling effect*—may be unfamiliar to many students of inequality, because they stem from the mostly qualitative African politics and development literatures of the 1970s through 1990s. By bringing modern data and analytic methods to bear on older deductive theories of political behavior in Africa, the present study revives conceptual frameworks built on past scholars' extensive fieldwork and context-specific knowledge. My greater objective in reexamining these theories is to offer a model of how scholars who research inequality can incorporate Africa into their analyses.

The remainder of the paper proceeds as follows. I first review theories about the tolerance for inequality and protest behavior, along with three classic theories about inequality and protest in Africa. The first section also summarizes earlier findings and outlines testable hypotheses. In the second section I describe my data and statistical

methods. In the third section I report and interpret the main findings. The final section concludes and suggests avenues for future research.

1. THEORETICAL FOUNDATIONS

This paper addresses not only how people feel about inequality, but also whether they respond to inequality by engaging in protests, riots, and strikes. Put differently, the dependent variable is the *behavioral,* not merely the *emotional,* tolerance for inequality.[1] Hence, this paper speaks to two general areas of research: one about the tolerance for inequality, and the other about collective action. The former literature focuses on psychological grievances, i.e. people's subjective or "emotional" interpretations of their material circumstances in relation to the material circumstances of others. The latter takes grievances as given and emphasizes people's ability to overcome organizational challenges such as communication failures and free-riding. The following section reviews general theories about the psychological tolerance for inequality and about collective action dilemmas, as well as theories that apply specifically to Sub-Saharan Africa.

The Tolerance for Inequality

In contrast with econometric research about the causes of inequality, research about the tolerance for inequality is largely theoretical and concentrated in the field of political psychology. Noting that the predicted relationship between democracy and downward redistribution often does not obtain, Shapiro (2002) proposes several psychological reasons for why the poor might tolerate inequality:

[1] See Martin (1986) on this distinction.

- *Empathy Gulfs:* When inequality is especially high, people in lower socioeconomic strata find it impossible to imagine the wellbeing of those higher up. As a result, they do not envy the rich or aspire to upward mobility.
- *Physical Gulfs:* The poor are physically segregated from the rich—e.g. in agricultural hinterlands or urban slums—and hence ignorant about the extent of inequality.
- *Framing Effects:* The poor will tolerate inequality if they feel they are at least better off than they were in the past (*backward-looking framing effects*), if they blame themselves for their inferior status (*inward-looking framing effects*), or if they compare themselves to those even worse off (*downward-looking framing effects*).
- *Anecdotal Distractions:* The poor develop inflated perceptions of their prospects of upward mobility by focusing on the few poor people who have gone from rags to riches, such as lottery winners, rap artists, and professional ball players from underprivileged communities. In the United States, "Horatio Alger stories" (stories of people who have become affluent by dint of their hard work) are common anecdotal distractions.

Shapiro represents a tradition of scholarship focusing on subjective relative deprivation and "the distribution of individual anger in society" (Abell et al. 1971, 85; Gurr 1970). It is difficult, though, to systematically evaluate the validity of these psychological, individual-level mechanisms. As a result, research on the tolerance for inequality has been largely speculative, with a few notable exceptions.

Using data from the International Social Survey Program (ISSP), Osberg and Smeeding (2006) describe attitudes toward inequality in 27 countries and challenge the conventional wisdom that Americans have a greater affinity for inequality than people in other countries. However, their study omits Africa and most of the developing world and does not explore reasons for variation in the tolerance for inequality.

Kelley and Evans (2009) use aggregate data to impute estimates of socially acceptable levels of inequality for countries not included in the ISSP sample. They observe that poor countries prefer more inequality than rich countries and suggest—but do not systematically investigate—several possible reasons for this pattern: 1) the rich may eventually accept smaller income gains because of the diminishing marginal utility of income; 2) in complex economic systems it is hard to observe individuals' productivity, making it harder to justify large pay inequalities; and 3) apparent grievances about inequality are actually grievances about poverty, which diminish with higher per capita incomes.

Countering the idea that inequality causes sociopolitical instability, Lambert et al. (2003) find that countries with low objective inequality (as measured by the Gini coefficient) also have low tolerance for inequality. They find further associations between tolerance for inequality and female empowerment, public education expenditures, per capita income, economic growth, and population size. However, the *inequality aversion parameter* (Atkinson 1970) that they use as their dependent variable must be measured through indirect means—for instance, by inferring popular attitudes from government policies (Lambert 1989, 129).

To explain their main finding, Lambert et al. cite a theoretical article by Bénabou (2000) illustrating why more industrial democracies with greater income inequality like the United States redistribute less than more egalitarian countries like Sweden. Bénabou focuses on actual redistribution and not the demand for redistribution, arguing that in unequal societies the rich have disproportionate influence over the political process and hence block progressive policies and institutions. However, low levels of redistribution in highly unequal societies do not explain why the poor would or would not *demand* more redistribution, much less why they would or would not do so in poor autocracies. In contrast with research on countries of the OECD, most research on the relationship between inequality and protest in developing countries predicts that higher inequality will translate into violent demands for reform (e.g. Alesina and Perotti 1996; Barro 2000; Hibbs 1973; Gupta 1990).

While it may be impossible to study psychological phenomena like empathy gulfs or inward-looking framing effects with large sample sizes and outside clinical environments, there remain opportunities for systematic, country-level analyses of the tolerance for inequality. Information from the Social Conflict in Africa Database about the issues motivating civil disturbances makes it possible to more directly link country characteristics such as population size to aggregate attitudes about inequality and the behaviors that arise from those attitudes. These data can be used to test the following hypotheses derived from earlier research on the tolerance for inequality:

H_1: People are more likely to protest inequality in countries with higher levels of objective inequality.

H_2: People are less likely to protest inequality in richer countries.

H_3: People are more likely to protest inequality in countries with more complex economies.

Collective Action Theories

Collective action theories predict that rational people will not necessarily rebel against inequality, regardless of how severe their dissatisfaction with the status quo (Lichbach 1990). Africa seems to be unique in this regard: analyzing multi-regional data on ethnic minorities, Scarritt and McMillan (1995, 336) find that "the strong reciprocal linkage that exists between grievances and mobilization for protest on the global scale is largely absent in Africa." To further highlight this peculiarity, Table 2 juxtaposes Africans' attitudes toward inequality and propensity to protest issues related to inequality. Attitudes are measured using two rounds of nationally representative Afrobarometer surveys, which asked the following questions:

- *Round 1 (1999-2000):* Here are several pairs of statements. Please tell me whether you most agree with Statement A or Statement B?
    - A: People should be free to earn as much as they can, even if this leads to large differences in income.
    - B: Government should place limits on how much rich people can earn, even if this discourages some people from working hard.
- *Round 2 (2004):* Which of the following statements is closest to your view? Choose Statement A or Statement B.
    - A: It is alright to have large differences of wealth because those who work hard deserve to be rewarded.

- B: We should avoid large gaps between the rich and the poor because they create jealousy and conflict.

Table 2 reports the percentage of people who agreed with Statement A across both rounds. A potential problem with comparing attitudes over time is that the question wording changes slightly: Round 1 asks respondents to consider government limits on earnings, which is more extreme than simply asking whether society should avoid large differences in wealth. This change may have increased the reported tolerance for inequality in Round 1, exaggerating the decline in tolerance over time. However, the decline is so great in nearly all countries in the sample that it is possible that there were at least modest changes in attitudes toward inequality across the board. Most importantly, the decrease in the *emotional* tolerance for inequality was not accompanied by a commensurate increase in the *behavioral* tolerance for inequality (as measured by the frequency of protests about economic issues). In most countries, protest frequency remained the same or even declined.

What explains the lack of a connection between the emotional and behavioral tolerance for inequality? Mancur Olson (1965) popularized the idea that members of a group will "free-ride" if they expect others to bear the costs of mounting a social movement. If the collective goal is a public good such as social security or an increase in the minimum wage, a rational person will prefer to consume the good without shouldering any cost associated with obtaining it. If all members of the community are equally rational, then collective action never occurs. Only if group members receive selective incentives or are coerced into participating will a protest materialize. Hence, "contrary to relative deprivation theory, larger magnitudes of inequality and stronger

feelings of deprivation [may not be] not associated with greater willingness to engage in legitimate or illegitimate forms of collective behavior" (Martin 1984, 484).

An observable implication of collective action theories is that rural people will be less likely to assemble protests. First, rural people face cooperation problems: it is harder to police free-riders in large groups (Olson 1965), and farmers tend to be very large populations in most African countries.[2] Rural people also face coordination problems: they are geographically dispersed and excluded from technological or employment-based information networks.[3] Finally, rural people are geographically farther from protest targets (i.e. the government). Hence,

H_4: The more rural a population, the less likely a population is to protest inequality.[4]

Another observable implication is that protests will be more frequent when the communication infrastructure is more developed, as this too can help people overcome coordination problems:

H_5: The more developed a country's communication infrastructure, the more likely a population is to protest inequality.

Inequality and Protest in Africa

The Social Conflict in Africa Database provides a further opportunity to explore region-specific theories about the tolerance for inequality. Although Sub-Saharan Africa is socially and politically diverse, most African countries share several key

[2] Bates (1981) documents this phenomenon in Africa: Since smaller groups can more easily coordinate and overcome free-ridership than larger groups (through frequent interactions and monitoring), Africa's smaller, concentrated urban populations can more easily pressure politicians than large, dispersed farming populations can. Hence, African governments cater to urban interests.

[3] In addition to coordination effects, Rule (1988) proposes that physical proximity may affect protest propensity through emotional mechanisms: "The shared experience of reacting to a single source of stimulation, or sharing a strong emotion, almost irresistibly draws the exposed individual into the crowd state" (94).

[4] This hypothesis applies to non-African settings, as well. Bohstedt (1983) observes that riots in 18th-century England and Wales occurred almost exclusively in towns.

characteristics: they are mostly rural, they are divided along ethnic lines, and patron-client relations play prominently in economic and political affairs. The theories of *urban bias, the tunnel effect,* and *the ostentation signaling effect* were developed in the classic literatures on African politics and economic development. In the following sections I provide a brief overview of each, along with observable implications and testable hypotheses.

Urban Bias

Ceteris paribus, urbanites should be more likely than rural populations to protest inequality, because a) they have advantages in cooperation and coordination; and b) their proximity to elites (who in Africa tend to be members of the government) can overcome "physical gulfs," thereby intensifying resentment of inequality.

However, in his classic volume *Markets and States in Tropical Africa* (1981), Bates describes circumstances under which urbanites might nevertheless exhibit political quiescence. Government elites, knowing that urbanites pose a particular threat to their rule (and often to their physical security), "attempt to appease urban interests not by offering higher money wages but by advocating policies aimed at reducing the cost of living, and in particular the cost of food" (Bates 1981, 33). The policies that governments pursue to reduce urbanites' cost of living include setting food prices below market values and overvaluing exchange rates to make imports cheaper. Although these policies hurt domestic food producers, collective action dilemmas prevent farmers from challenging urban bias. These circumstances are prevalent in Sub-Saharan Africa, where a) the lack of an independent middle class concentrates wealth and political power in the "state class" (Kasfir 1984); b) the government is the country's main employer and therefore

reluctant to increase wages; and c) inherited colonial institutions such as marketing boards and government monopsonies allow the state class to strategically manipulate food prices and currencies (Bates 1981).[5]

Urban bias might account for why recent protests against rising food prices in Kenya and Uganda, while making headlines worldwide, were muted and small (drawing fewer than 100 participants). One Kenyan observer remarked, "Although it appears outwardly that our political class is constantly fighting, there is a basic underlying unity. Neither group is really interested in any kind of mass movement so that is certainly a disadvantage for those who want to organize public protests" (Ross 2011).

Presumably, though, some governments are better than others at forestalling urban unrest, due to variation in their capacities to control the economy or variation in their inherited colonial institutions. An observable measure of the extent of urban bias is the domestic price of food. Although weather shocks and international market prices might also affect food prices, the most effective government manipulations of domestic markets and exchange rates should in theory be able to overcome these factors. Strategic government interventions could explain why only Cameroon, Côte d'Ivoire, and Mozambique reported major food riots between 2005 and 2007 (Adam 2008), even though the inflation of staple food prices affected nearly all low-income countries (World Bank 2008, 2). In short,

H_6: The higher urban food prices, the more likely people are to protest inequality.

[5] Theoretically, urban bias should be prevalent mainly in autocracies, where the only outlets for expressing grievances are protests, riots, and strikes. In advanced democracies like the United States, where the legislature over-represents rural interests, farmers are often powerful and enjoy concessions like subsidized inputs. Although some autocracies feature nominally democratic institutions such as elections and legislatures that can provide alternatives to street politics (Gandhi 2008; Gandhi and Kim 2010), these institutions are generally weak in even democratic African countries.

Some governments might attempt to repress, rather than co-opt, would-be challengers. Noting that "Individual and group calculations about when to engage in rioting are conditional on people's expectations about the likely state response to rioters," Wilkinson (2004 and 2009) provides evidence that the incidence of religious riots in India depends on whether or not government authorities intervene in emerging violence. Likewise, referring to oil-producing "rentier states," Ross (2001) suggests that aggrieved citizens might abstain from challenging incumbents in the presence of a strong national security apparatus: "Citizens in resource-rich states may want democracy [or equality] as much as citizens elsewhere, but resource wealth may allow their governments to spend more on internal security and so block the population's democratic [or egalitarian] aspirations" (335). Even if authorities do not actively thwart uprisings, merely threatening to do so could be enough to deter potential demonstrators.

H_7: The stronger the national security apparatus, the less likely people are to protest inequality.

The Tunnel Effect

Hirschman and Rothschild (1973) argue that people will be less inclined to protest inequality if they expect their wellbeing to improve. To explain the intuition behind this idea, they use an analogy of a two-lane tunnel with all traffic heading in the same direction and slow to a standstill. The tunnel is so long that nobody can see to the end. If a driver suddenly notices cars beginning to accelerate in the next lane, she will not initially be bitter, but will instead take this as a sign that her lane might also start to move sometime soon. This acceptance of one's current suffering is called "the tunnel effect." However, if after a while the driver's lane does not begin to speed up, the driver will get

angry and switch lanes, possibly even despite signs prohibiting lane switching. Hirschman and Rothschild note that when the tunnel effect wears off, the immobile "experience the turnaround from hopefulness to disenchantment," a situation that "clearly contains much potential for social upheaval" and "might even qualify as a theory of revolution" (Hirschman and Rothschild 1973, 552). As long as people have prospects of upward mobility, though, they will be disinclined to protest the status quo. The mathematical appendix of Hirschman and Rothschild's paper and a later article by Bénabou and Ok (2001) use formal models to illustrate that the tunnel effect is compatible with rational choice.

However, no studies have tested a particular detail of Hirschman and Rothschild's theory, namely that the strength of the tunnel effect depends on the identities of mobile and nonmobile groups:

> "If, in segmented societies, economic advance becomes identified with one particular ethnic or language group or with the members of one particular religion or region, then those who are left out and behind are unlikely to experience the tunnel effect: they will be convinced almost from the start of the process that the advancing group is achieving an unfair exploitative advantage over them. The nonmobile group may thus make the prediction opposite to that implied in the tunnel effect: as a result of another groups' advance, it will expect to be *worse* off" (Hirschman and Rothschild 1973, 554).

The influence of social diversity on the tolerance for inequality may be especially strong in Sub-Saharan Africa. First, African countries are by several measures some of the most ethnically diverse in the world (Easterly and Levine 1997; Posner 2004). Second, most African countries have not undergone homogenizing processes that might

have increased their populations' tolerance for inequality. Hirschman and Rothschild propose that "the most effective homogenizing agent is perhaps an intensive historical experience that has been shared by all members of a group" (Hirschman and Rothschild 1973, 555). Not since independence, however, have most African countries undergone liberation struggles, interstate wars, or government-sponsored nation building programs.[6] Indeed, Africa's dearth of interstate wars and abundance of "ethnic" civil conflicts are exceptional among world regions (Herbst 1990). Therefore, ethnic identity remains politically salient in many African countries and could have implications for attitudes toward inequality.

In particular, the "have-nots" should be more tolerant of inequality if they share identity traits with the "haves." This is because they will assume that some aspect of the political system favors people like them or that people like them share certain traits that guarantee material success (Hirschman and Rothschild 1973). By implication, the tunnel effect will be stronger if members of the elite are more ethnically diverse, because this will allow a greater number of "have-nots" to see representatives from their identity groups among the "haves" and to feel reassured of their imminent upward mobility. This idea suggests the following hypothesis:

H_8: The tolerance for inequality is higher in countries where the elite is more ethnically diverse.

The Ostentation Signaling Effect

Wealth is a powerful signal, especially in information-scarce societies. Under the tunnel effect, observing someone's economic advancement signals to the poor that they

[6] A notable exception is Tanzania, which underwent an aggressive top-down nation-building program that diminished the political salience of ethnic identities (Miguel 2004).

too may eventually join the ranks of the rich (until the tunnel effect wears off and wealth begins to arouse envy and resentment). Alternatively, wealth can signal the potential for informal redistribution: conspicuous consumption among the rich helps the poor identify potential sources of patronage by generating common knowledge about a patron's access to material goods and need for clientelistic support. This phenomenon, which receives scattered references in the African politics literature,[7] I call the *ostentation signaling effect.*

Clientelism is a pervasive and widely recognized feature of African politics (Bayart 1989; Boone 1992; Joseph 1987; Médard 1982; van de Walle 2003).[8] Given widespread poverty—which makes the electorate cheaper to "buy" (Dixit and Londregan 1996)—and the absence of effective institutions for taxation and redistribution, elected officials and local "big men" earn popular support by informally delivering material benefits to members of their extended social networks. The relationship between patron and client is asymmetric, but reciprocal: although the patron's livelihood does not depend on the client's support (whereas patronage may be the client's main source of income), the patron must provide a benefit to the client in order to secure the client's loyalty. Patrons are often politicians hoping to buy votes (Finan and Schechter 2009; Schaffer 2007) or local elites who have become affluent through their community's collective investment in their upbringing and education (and who consequently face social pressure to return the favor). These archetypes recur in novels by African authors, such as Chinua

[7] See, for example, de Sardan (1999), Chabal and Daloz (1999 and 2003), Daloz (2002, 2003, and 2010), Hyden (2006), and Nugent (2007).

[8] Clientelism is common, but not universal. Recent studies suggest that in some of Africa's new democracies voters are increasingly resistant to clientelistic appeals (Lindberg and Morrison 2008; Vicente 2010; Young 2009).

Achebe's *Man of the People* (1988) and Nkem Nwankwo's *My Mercedes is Bigger than Yours* (1976).

Patrons and clients face a commitment problem wherein neither party can credibly pledge to uphold their end of the bargain. The literature on clientelism focuses mainly on the patron's access to information, especially the ability to monitor clients' voting behavior (e.g. Finan and Schechter 2010; Stokes 2005). However, clients also seek information about the willingness and ability of their patrons to deliver material benefits like farm inputs and cash transfers. Because clientelistic exchanges occur informally, patrons and clients must rely on informal means of gathering information about one another. Ostentatious behavior, such as making public appearances in expensive suits or touring rural villages in a Mercedes, signals the patron's ability to secure material goods for clients. It also advertises the patron's desire for clientelistic support and, hence, willingness to establish a "norm of reciprocity" and deliver goods at a future date (Finan and Schechter 2010). Conspicuous consumption turns private information about the patron's access to wealth into common knowledge. In sum, "Ostentation remains, and is likely to remain, one of the chief political virtues in Africa. Or to put it another way, it continues to be more important for political elites to display the right kind of ostentation (including redistributing resources to clients) than to demonstrate the potential achievement of the Protestant work ethic" (Chabal and Daloz 2003, 53).

The ostentation signaling effect is more similar to the tunnel effect, in that it increases the tolerance for inequality by reassuring the poor that they will eventually become better off. Under both effects, the poor may *prefer* inequality rather than protest against it. The key difference is that under the ostentation signaling effect the poor do not

identify with the upwardly mobile, but rather expect to benefit from the openhandedness of those better off.

Not all patron-client relationships feature an element of ostentation. The ostentation signaling effect is specific to information-poor and credit-poor patronage societies where wealth conveys not simply higher social status, but also the potential for redistribution.[9] It can last indefinitely, so long as the poor prioritize their short-term wellbeing above their long-term wellbeing. In Africa, where many people live at near subsistence levels, short time horizons predominate and help maintain socially sub-optimal equilibria such as vote buying, corruption, and extreme inequality. Another reason why the ostentation signaling effect is especially salient in Africa is because high-risk environments and weak financial institutions make it difficult for even wealthier Africans to obtain credit. Ostentation is a more meaningful signal of economic and political power if clients can safely assume that their patrons' lavish spending is not facilitated by loans.

In the existing literature, evidence for the ostentation signaling effect is almost entirely anecdotal. Daloz (2003) details how ostentation became indispensible for elites to maintain their status in Nigeria. He describes how "big men" vie for clients by attempting to outdo one another's extravagant consumption, especially by purchasing luxury cars. For Nigerian patrons, a car is both an object of utility and "an object for show" (43). Cars are "equipped with sirens, tinted windows, curtains, flag-holders or

[9] In rich societies, it is less likely that the poor will tolerate conspicuous displays of wealth. In his classic volume *Theory of the Leisure Class,* Thorstein Veblen notes that in the United States during the Great Depression it became no longer acceptable for the rich to display their wealth (Thorstein 1899, cited in Mason 1998). Whereas in developed countries people tend to flee poor areas once they become affluent, in Africa the rich commonly remain in their home communities to flaunt their success (Daloz 2002, 117). This tendency may have some roots in pre-colonial traditions, but is reinforced through the continued importance of strengthening patron-client ties (de Sardan 1999).

even stickers with the owner's effigy" (43). In addition to providing examples of ostentation, Daloz comments on the relationship between these displays of wealth and popular attitudes toward inequality:

> In Nigeria, a very dominated individual will generally feel closer to the Big Man from his district or village than with someone sharing his poor living conditions at the other end of the country. My empirical research, carried out over many years, has shown that inhabitants expect their respective leader to display external signs of power to compete with those representing other networks. One revels in the idea that the Big Man to whom one is linked through primordial or clientelistic solidarities possesses a bigger car of more impressive clothes than someone heading a rival faction, for these prestigious goods are in some way a credit to the whole community which identifies with him. In my view, this must be interpreted in terms of 'vertical symbolic redistribution […] which complements more concrete redistribution at the heart of patronage systems" (Daloz 2003, 48).

Although Daloz provides colorful examples of the ostentation signaling effect, it is impossible to tell from anecdotal evidence whether this effect exists outside Nigeria. A more broadly observable implication of the ostentation signaling effect is that societies with larger markets for "prestigious goods" like cars and jewelry are more tolerant of inequality.

H_9: The tolerance for inequality is higher in countries with higher consumption of luxury goods.

2. DATA AND METHODS

The present study examines macro-level implications of micro-level theories, complementing earlier research on the individual-level correlates of protest participation

in Africa (Mueller 2010). To test the above hypotheses, I analyze panel data on protests, strikes, and riots in all African countries from 1990 to 2009, excluding countries with very small populations. The unit of analysis is country-years; missing values for several key variables prevent me from analyzing changes in protest frequency within countries over time. The Social Conflict in Africa Database (SCAD) categorizes political disturbances by issue, e.g. elections, religious discrimination, human rights, etc. I narrow the dataset to only those 1,031 events that had to do with the economy and jobs. Although the event descriptions do not explicitly denote which political disturbances surrounded inequality specifically, the notes in the database often cite pay disputes and the involvement of labor unions, which are typically associated with grievances about relative (vs. absolute) deprivation. Nearly all of the recorded protests targeted the government and occurred in the capital city, which constitutes preliminary evidence that urban populations are more likely than rural populations to protest inequality. Table 3 displays several examples of issues included in the reduced dataset.

I construct my dependent variable by counting the number of political disturbances that occurred in each country in each year. There were zero disturbances in roughly half of the country-years, with one to three in most of the remaining country-years (Figure 1). The map in Figure 2 displays average annual protest frequencies from 1990-2009. The most protest-prone countries are, not surprisingly, the most populous: in 2001, Nigeria experienced 24 protests about economic grievances; in five out of seven years between 1994 and 2001, South Africa experienced over 10. However, population clearly does not explain all variation in the incidence of protests: populous Kenya, despite making headlines for its post-election riots, has experienced very little unrest surrounding

economic issues, while Niger, with a modestly sized population, has experienced frequent political disturbances. No particular years stand out as especially volatile: political disturbances are distributed fairly evenly throughout the approximately 20 years that the database covers.

Because nearly half the observations of protest frequency take a value of zero, the dependent variable could be considered a rare event. Therefore, I estimate a negative binomial regression model, which is tailored for count variables. This is a generalization of the standard Poisson model that accounts for overdispersion, i.e. violations of the assumption that the conditional variance equals the conditional mean.[10]

Explanatory Variables

My main explanatory variable is *Inequality*, measured by the Gini index. Although there are alternative measures of inequality such as the Theil index, the mean logarithmic deviation, and the variance of logged income, the Gini index is the most widely accepted and provides the best data availability. All measures of inequality use slightly different equations for calculating the disproportionality of income or consumption among individuals or households in a society. Although most studies about inequality focus on *income*, I use Gini indices based on *consumption* (measured at the individual level) for two reasons: first, most African countries have small formal economies, meaning that few people earn regular incomes and even fewer earn incomes that get recorded; second, consumption is arguably a better measure of how most Africans fare in their day-to-day lives, since "consumption-smoothing" (e.g. relying on social networks to provide informal credit and insurance) can allow the poor to withstand

[10] Goodness-of-fit tests (not shown) revealed that the Poisson model was inappropriate.

unemployment and income volatility (Banerjee and Duflo 2007; Deaton 2006). The Gini index ranges from zero to 100, with zero representing perfect equality (where all members of society consume the same amount) and 100 representing perfect inequality (where one person consumes everything).

Missing Gini values pose a significant limitation on the sample size. When I combine data from the World Bank's Africa Development Indicators (2010) and the UNU/WIDER World Income Inequality Database (2010), there are only 250 observations of inequality across roughly 50 countries over a 10-year period. One reason for the number of missing data is that many African governments keep poor records of income and consumption. Another is the fact that inequality changes very gradually over time, and so it makes little sense to record Gini indices on an annual basis. Thus, the number of missing observations overstates the amount of information actually missing.

The scatterplot in Figure 3 provides a first-shot look at the relationship between inequality and protest, as well as a rough test of the hypothesis that people are more likely to protest inequality given higher levels of objective inequality. Although there appears to be a positive relationship, this pattern may be driven by outliers such as South Africa and Nigeria. There is also much unexplained variation in protest propensity among countries with similar levels of inequality.

To help account for this variation and to test the remaining hypotheses, the models include the following additional variables:

- *Income*, which is the log of GDP per capita;
- *Inflation*, which is a measure of the extent to which governments manipulate currencies to subsidize urban consumers. Inflation serves as a proxy for urban food

prices, given the scarcity of food prices at the regional level. Because governments in the CFA currency zone have less control over the value of their currency (with the CFA tied to the Euro), I control for *CFA Zone Membership*. Although the prices of non-food commodities also contribute to inflation, governments that manipulate food prices could in theory manipulate the prices of other goods. The difference between food and non-food prices is not important in the present analysis; unlike Bates, who was interested in the effects of urban bias on the agricultural sector, I am concerned only with the cost of living and how this affects urbanites' propensity to protest. Nevertheless, inflation is admittedly a very rough measure of urban bias. To balance the tradeoff between a larger sample size and a more direct measure, I estimate additional iterations of the models using data on *Cereals Prices* from the Food and Agriculture Organization of the United Nations (2010);[11]

- *Export Concentration,* which I use to measure the complexity of a country's economy. This is an index from the United Nations Conference on Trade and Development calculated using the number and value of products that a country exports.
- *Urban,* which is the percent of the total population living in urban areas as defined by the World Bank;
- *Phones,* which is the number of telephone (mainlines and mobile phone) subscribers per 100 people and a measure of communication infrastructure development;

[11] Cereals (e.g. rice and wheat) are staple foods in most countries, and hence an appropriate basis for analyzing cross-country variation in food prices. Since not all countries consume the exact same combination of cereals or have equal data coverage, I calculate the average price of cereals for each country-year.

- Two measures of the strength of the state's coercive apparatus: *Military Expenditure* (as a percent of GDP); and *Military Personnel* (as a percent of the total labor force). I use both measures of state coercive strength to check the robustness of my results and because, as Ross (2001, 350) mentions, the *Military Personnel* variable helps control for cross-country variations in military wages and conscription laws;
- *Elite Fractionalization,* which is a measure from the Ethnic Power Relations Database (Cederman, Min, and Wimmer 2009) of ethnic fractionalization among political leaders included in state power, where fractionalization is the probability that two randomly selected leaders are from different ethnic groups. Inclusion in state power is a reasonable proxy for membership in the economic elite, because in many African countries joining the government is the main path to affluence. The authors of the Ethnic Power Relations Database define ethnicity as including ethno-linguistic, racial, and religious identities;
- *Ostentation,* which I operationalize as the log of the trade value of "prestigious goods" imports (in US dollars). Prestigious goods include "pearls, precious stones, metals, coins, etc.," as recorded in the UN Commodity Trade Statistics Database.

I also add the following control variables:

- *Growth* in GDP per capita;
- *Population Size,* including people ages 15 to 64;
- *Regime Type,* measured using the Polity IV Project's scale ranging from -10 to +10, with higher scoring countries being more democratic (Marshall and Jaggers 2010). Bratton and van de Walle (1997) and Scarritt et al. (2001) observe a positive relationship between democracy and protest in Africa, possibly because protest

provides a way for groups to establish their priority on the policy agenda (Bruhn 2008). Conversely, Gandhi and Kim (2010) find that countries with even nominally democratic institutions (e.g. legislatures) are less susceptible to protests, presumably because formal ways of expressing grievances provide an alternative to street politics;

- *Labor Participation Rate,* as a percent of the total population ages 15 and over.

Table 4 presents summary statistics and sources for all variables. Although Lambert et al. (2003) include female empowerment and education levels in their models, I omit these variables because of potential endogeneity problems and missing data.

3. RESULTS

Table 5 displays the complete regression estimates, along with standard errors clustered at the country level. *Inequality* has a robust and statistically significant positive relationship with protest frequency, suggesting that inequality does in fact promote civil disorder. The magnitude of this effect is not negligible: simulations using Clarify software estimate that a change in the Gini index from its minimum of 29.8 to its mean of 45 increases protest frequency by almost one protest (holding other variables at their mean values).

Consistent with previous research on countries outside of Africa*, Export Concentration, Population,* and *Regime Type* are also statistically significant in nearly every model. The effect of *Export Concentration* consistently has the largest magnitude: a one-unit increase in the export concentration index translates into at least a 0.87 net increase in the log of the expected protest frequency. The theoretical literature would interpret this finding to mean that people find it harder to justify inequality in more complex economies where it is difficult to observe individuals' economic contributions.

The fact that *Income* has no discernable effect on protest frequency suggests that the earlier finding of a negative relationship between national income and the tolerance for inequality were masking an important economic mechanism behind that correlation.

The second column of Table 5 adds variables for urbanization and communication infrastructure to the basic model in order to test hypotheses about collective action. Neither of these variables is statistically significant. The null finding for urbanization might stem from labor migratory patterns in Africa that make it hard to distinguish urban from rural dwellers.[12] It is worth noting that the number of telephone subscribers per 100 people has no apparent relationship with protest frequency; this suggests that coordination problems may be less of an obstacle to collective action than cooperation problems. However, the models are limited in their ability to estimate the effect of cooperation problems, because urbanization is an extremely rough gauge of the degree to which political entrepreneurs monitor protest participation and distribute selective incentives. The challenge of systematically observing people's ability to overcome cooperation problems means that omitted variable bias will invariably plague "large-n" analyses like this one. Ethnographic research will be helpful for better evaluating the role of political entrepreneurship in mobilizing protest participation.

Although most of the other hypotheses likewise find no support, the strength of the state security apparatus (as measured by *Military Personnel*) has a significant and robust negative relationship with the incidence of protest. This lends external validity to evidence from India that would-be protestors incorporate the potential for state repression into their decision calculus (Wilkinson 2004 and 2009). Although African governments

[12] To insure themselves against volatile agricultural yields and prices, farmers often relocate seasonally or have family members work in the city and send remittances (Lucas 1997).

are generally perceived to be weak and to lack a monopoly on the use of force (Jackson and Rosberg (1982), they have at times employed violence or the threat of violence to discourage protests. In 2005, for example, Zimbabwe's government announced Operation Murambatsvina, a campaign designed in part to deter urban protest through military and police intimidation (Bratton and Masunungure 2007). In 2007, Guineans faced military fire during a series of general strikes (Engeler 2008). When double-digit inflation prompted Uganda's opposition to denounce the high cost of living in April 2011, President Yoweri Museveni upheld a ban on protests and promised to suppress any attempted demonstrations with the police and the army (Ross 2011). The negative relationship between *Military Personnel* and protest frequency could also indicate that African governments offer military employment to mollify young men, who are the most likely to join protests (Mueller 2010, 15).

Elite Fractionalization has the opposite from predicted effect on protest frequency: as ethnic fractionalization among the elite increases, the expected number of protests also increases. This implies that elite fractionalization does not have a *tunnel effect*—whereby seeing co-ethnics in positions of power makes people more tolerant of inequality—but instead a *mobilization effect*—whereby members of the elite with economic grievances of their own mobilize members of their ethnic communities to protest the status quo (Scarritt et al. 2001). Supporting this suggestion, the Social Conflict in Africa Database indicates that many protest events that primarily surround economic

issues also involve ethnic issues. This does not necessarily mean that a tunnel effect does not exist, but rather that ethnic mobilization may trump it.[13]

Robustness and Limitations

To check the robustness of my results, I re-estimate all models while omitting South Africa and Nigeria. This ensures that the two most populous and conflict-prone countries are not driving the results. The new estimates differ little from the original ones, although the coefficients for *Export Concentration* and—as expected—*Population* are no longer statistically significant. Hypotheses about the effects of objective inequality, regime type, and repression still find support.

Although the above analyses replicate some earlier findings and provide a more detailed examination of the objective economic conditions that drive protests, they offer no evidence for the tunnel effect or the ostentation signaling effect. Estimates of the latter (shown in the last column of Table 5) rely on quite indirect measures and a very small sample size. It is also likely that elites acquire prestigious goods through the informal market, which the data would not reflect. These analyses constitute only a modest first attempt to empirically analyze classic theories about the tolerance for inequality in Africa, with the hopes of inspiring future work on the subject.

4. CONCLUDING REMARKS

This paper examined the relationship between inequality and protest, along with several hypotheses about the tolerance for inequality. Statistical analyses revealed that inequality is associated with more protests, although the complexity of a country's economy seems to have a greater positive effect on protest frequency. In contrast with

[13] One could argue that it is more theoretically consistent with the Tunnel Effect for models to include an interaction between elite fractionalization and inequality. In analyses not shown, this interaction term did not produce significant results.

past studies that found statistical correlations between inequality and general social upheaval, I observed a robust relationship between objective inequality and protests *specifically about economic grievances*. Knowing the issues around which protests unfold—which is possible given detailed event coding in the Social Conflict in Africa Database—makes it more reasonable to infer that the correlation between inequality and protest is causal.

This paper also revisited classic theories about the tolerance for inequality in Africa, including urban bias, the tunnel effect, and the ostentation signaling effect. However, even with significantly better data than was previously available, it is difficult to statistically test hypotheses about these theories. Future research might do better at exploring these topics by incorporating additional cross-national data (for example, on the consumption of prestigious goods) and ethnographic observations of protest mobilization and Africans' attitudes toward elites.

Table 1: Income Inequality in Rich Countries

Country	*Gini Index*[a]
Austria	25
Denmark	24
France	27
Germany	27
Italy	32
Netherlands	26
Spain	31
Sweden	23
United Kingdom	32
United States	46.4

[a]Most recent data from the UNU-WIDER World Income Inequality Database (2008).

Table 2: Emotional vs. Behavioral Tolerance for Inequality[b]

	Round 1		*Round 2*		*Change*	
Country	*Accept Inequality (%)*	*Protests*	*Accept Inequality (%)*	*Protests*	*Accept Inequality (%)*	*Protests*
Botswana	48	2	38	0	-10	-2
Ghana	70	3	43	1	-28	-2
Lesotho	59	1	54	1	-5	0
Malawi	72	1	41	0	-31	-1
Mali	65	1	46	0	-19	-1
Namibia	65	0	29	1	-36	+1
Nigeria	55	9	40	9	-15	0
South Africa	64	7	36	4	-28	-3
Tanzania	75	0	31	0	-44	0
Uganda	73	0	40	0	-34	0
Zambia	59	2	41	6	-18	+4

[b]Sources: Afrobarometer (1999-2004) and Hendrix and Salehyan (2010).

Table 3: Examples of Protest Issues

Country	*Year*	*Issue*
Angola	1995	1000 primary and secondary school teachers strike over pay.
Burkina Faso	2002	Nearly 2,000 striking workers take to the streets of Ouagadougou demanding higher wages to cope with hardships caused by Burkina Faso's structural adjustment program.
Côte d'Ivoire	1998	Telecom workers strike, protesting lower wages than expatriates.
Guinea	2008	Doctors strike, protesting their comparatively lower civil servant status.
Malawi	2005	About 4,000 civil servants block off access to government offices in Lilongwe on Friday at the launch of a strike to press demands for more pension benefits.
Mozambique	1999	Construction workers strike, demanding equal pay as South Africans.
Togo	1992	Police strike demanding better bonuses and special status.
Zambia	1996	Civil servants march, demanding a pay increase on 2/23. Police use tear gas. Over 120,000 civil servants strike over government refusal to pay them a salary increase.

Table 4: Summary Statistics

Variable	*Source*	*Min*	*Max*	*Mean*	*Std. Dev.*
Cereals Prices	United Nations (2010)	64.7	4046.4	277.2	230.8
Elite Fractionalization	Cedarman et al. (2009)	0	1	0.7	0.4
Export Concentration	United Nations (2010)	0.1	0.97	0.47	0.2
Income	World Bank (2010)	122.9	33872.9	2622.8	3822.5
Growth	World Bank (2010)	0	106.3	5.6	6.7
Inequality	UNU/WIDER (2010)	29.8	74.3	45.0	9.0
Inflation	World Bank (2010)	-11.7	24411.0	97.9	1209.2
Labor Participation	World Bank (2010)	45.7	91.6	69.2	11.4
Military Expenditure	World Bank (2010)	0	39.6	2.6	3.5
Military Personnel	World Bank (2010)	0	14.6	1.2	1.6
Ostentation	United Nations (2010)	110	1261467874	31656401	144532398
Phones	World Bank (2010)	0.04	125.7	9.23	18.0
Population Size	World Bank (2010)	56898	82027918	8351104	11953111
Regime Type	Marshall and Jaggers (2010)	-10	10	-0.4	5.5
Urban	World Bank (2010)	-10	10	-0.4	5.5

Table 5: Regression Analysis of Protest Frequency[d]

	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Inequality	0.06***	0.06***	0.06***	0.07***	0.03**	0.06***	0.01	0.03
	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.03)
Income (log)	-0.16	0.06	0.10	0.71	0.59	0.40	0.70	0.52
	(0.18)	(0.34)	(0.38)	(0.41)	(0.47)	(0.40)	(0.44)	(0.72)
Growth	0.00	0.01	0.01	0.04	0.03	0.03	0.04	0.01
	(0.04)	(0.04))	(0.04)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Export	1.10**	1.06**	1.14**	1.65**	0.78	0.87*	1.00**	2.32**
Concentration	(0.46)	(0.50)	(0.51)	(0.79)	(0.50)	(0.50)	(0.53)	(1.20)
Population (log)	0.32**	0.32**	0.35**	0.16	0.43***	0.53***	0.08	0.22
	(0.17)	(0.18)	(0.18)	(0.24)	(0.15)	(0.13)	(0.15)	(0.32)
Regime Type	0.06***	0.07***	0.07***	0.05*	0.05**	0.06***	0.07	0.00
	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)
Labor	-0.01	-0.01	0.00	0.01	-0.02	0.01	-0.04**	-0.04**
Participation	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.03)
Urban		0.00	0.00	-0.02	-0.01	-0.01	-0.02	-0.02
		(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)
Phones		-0.01	-0.01	-0.01	-0.02**	-0.01	-0.02	-0.01
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
Inflation			0.00		0.00	0.00	0.00	0.05
			(0.00)		(0.00)	(0.00)	(0.00)	(0.02)
CFA Member			0.12		-0.18	0.09	-0.66*	0.50
			(0.33)		(0.40)	(0.33)	(0.38)	(0.61)
Food Prices				0.00				
				(0.00)				
Military					-0.52***		-0.47***	0.07
Personnel					(0.21)		(0.16)	(0.39)
Military						-0.11		
Expenditure						(0.12)		
Elite							2.18**	2.18**
Fractionalization							(1.16)	(1.16)
Ostentation (log)							1.64***	0.20***
							(0.64)	(0.09)
Observations	166	164	163	139	157	157	129	68
Countries	38	36	35	23	35	33	32	22

[d]Negative binomial regression estimates with standard errors clustered at the country level in parentheses.
*Significant at 10%; **significant at 5%; ***significant at 1%.

Figure 1: Protest Frequency Distribution

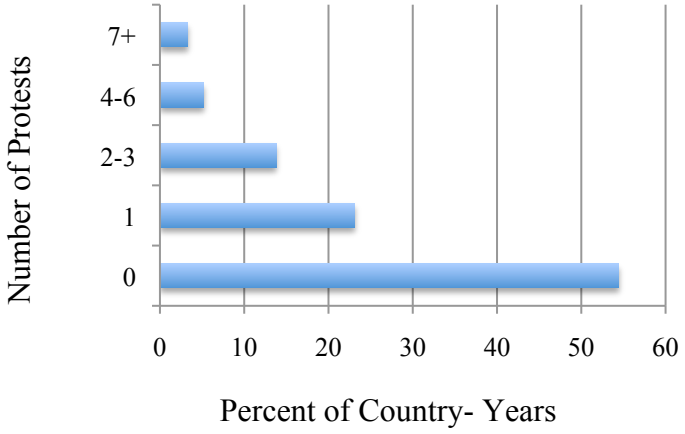
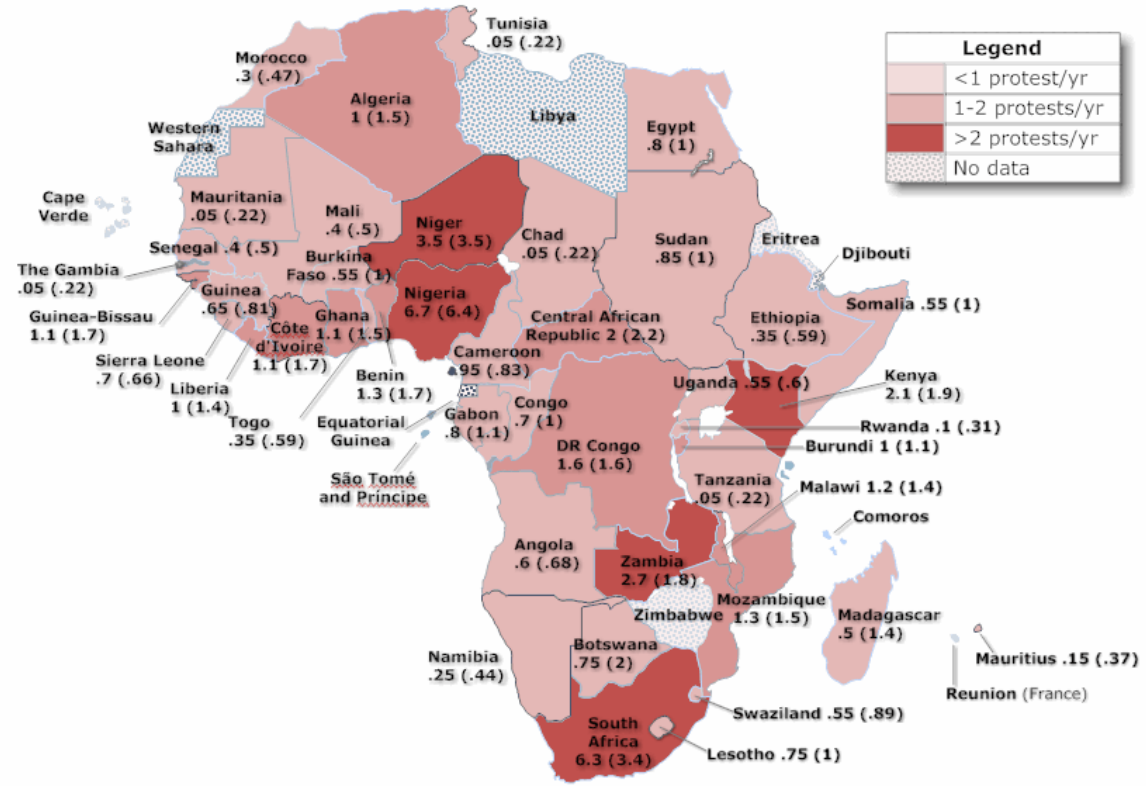
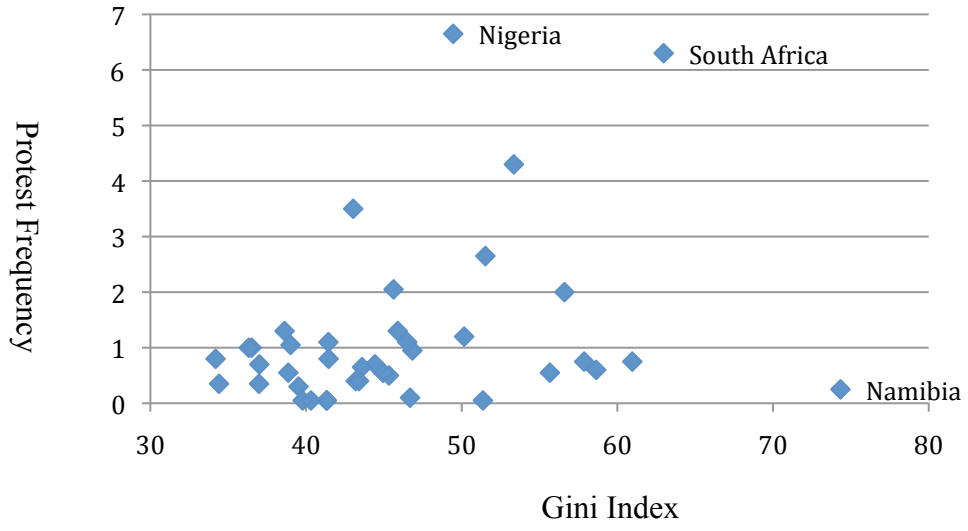


Figure 2: Average Annual Protest Frequencies, 1990-2009[c]



[c]Standard deviations in parentheses. Source: Hendrix and Salehyan (2010).

Figure 3: Protest Frequency by Gini Coefficient (1998-2008 averages)



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