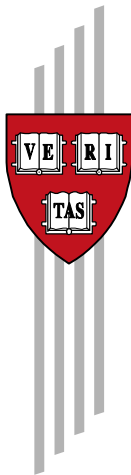


# **Institutions and Development**

Robert H. Bates, Avner Greif, Macartan Humphreys,  
Smita Singh

CID Working Paper No. 107  
September 2004

© Copyright 2004 Robert H. Bates, Avner Greif, Macartan  
Humphreys, Smita Singh and the President and Fellows of  
Harvard College



## **Working Papers**

Center for International Development  
at Harvard University

# Institutions and Development<sup>+</sup>

Robert H. Bates  
Harvard University

Avner Greif  
Stanford University

Macartan Humphreys  
Columbia University

Smita Singh  
Hewlett Foundation

## I Introduction

This paper addresses the political foundations for economic development in Africa and does so by exploring two basic themes: political accountability and political order. We say that political elites are accountable when, in order to retain office, they must employ power to serve the interests of those whom they rule. By political order we mean the extent to which people employ coercion to protect property rights rather than to trespass upon them. Where there is accountability, many hold, then those with power make policies that enhance the welfare of private citizens, as by rendering them more prosperous (e.g. World Bank 1991). And where there is political order, then there is security for property rights, rendering it in the interests of private agents to invest, to labor, and to generate higher levels of income (North and Thomas 1973).

---

<sup>+</sup> This paper was originally prepared for presentation at the Plenary Session of the Bi-Annual Meetings of the African Economic Research Consortium, Nairobi, November 2003. I wish to thank Jean-Paul Azam and Augustin Fosu for comments, as well as an anonymous referee. The paper draws extensively from Robert Bates, Avner Greif, and Smita Singh (2002) "Organizing Violence" *Journal of Conflict Resolution* October: 1-65 and Macartan Humphreys and Robert Bates, "Political Institutions and Economic Policy: Lessons from Africa," (forthcoming) *British Journal of Political Science*. Research for this paper was supported by the Africa Economic Research Consortium, the Center for International Development of Harvard University, The United States Institute of Peace and the National Science Foundation. None is responsible for the contents of this article.

The paper provides data about the trajectory of political reform and political order in contemporary Africa and their significance for the behavior of governments. It demonstrates the limited impact of political reform upon public policy, documents the relationship between reform and conflict, and posits the existence of a political “trap” that limits Africa’s development.

## **II Political Accountability**

In the latter decades of the last century, those championing economic development in Africa championed as well political reform. They attributed the failure of development to government policies, including the tendency for rent seeking and the adoption of macro-economic policies that distorted market signals and thereby weakened incentives to invest and efficiently to manage Africa’s scarce resources (Ake 1996; van de Walle 2001).

In seeking to promote political accountability in Africa, reformers championed the introduction of competitive elections (Diamond and Plattner 1995; Oyugi, Odhiambo et al. 1998). The desire for economic betterment imparted added impetus to these efforts.

When searching for the factors that account Africa’s low growth rates over the period 1960-1994, for example, Ndulu and O’Connell (1999) assign fully two-thirds of Africa’s shortfall to the “slow growth in the residual” (p. 45). In interpreting this finding, they stress the impact of authoritarian rule (p. 45) and thereby joined the chorus of scholars and intellectuals (e.g. Ake 1996, Achebe 1987) who associate authoritarian government with economic decline in Africa.<sup>1</sup>

---

<sup>1</sup> The World Bank also came to posit political causes for Africa’s poor economic performance. An illustration comes from World Bank, W. (1991). Governance and Development. Washington DC, The World Bank.

In the following section, we present a model of political accountability that, by formalizing the links between political institutions and policy choice, renders explicit the logic underlying reformist arguments. We then test the model using data from both an Africa and global sample. Formalization provides a test of logical rigor. Data analysis provide a check on empirical validity. The data come from 46 African countries over a 26-year period, 1970-1995 (see Table 7).

## II.1 The Model

To capture the incentives created by rendering governments accountable, we explore a game in which the government,  $G$ , derives its utility from the rents it may extract, if maintained in office by a selectorate,  $M$ . The selectorate can be narrow – e.g. a general or chief of staff – or broad – e.g. a legislature or an electorate. Absent the existence of a commitment technology, the selectorate rationally doubts the willingness of the government to keep its promises. The selectorate therefore adopts a punishment strategy: should the performance of the economy in a given period fail to meet a pre-determined cut point, then they will “fire” the government. Given the government’s desire to remain in office, the selectorate’s choice of strategy creates incentives for the government to refrain from the consumption of public revenue and instead use them to generate benefits for those who mediate its chance to remain in office. As do Ferejohn (1986), Barro (1973) and Persson and Tabellini (2000), we thus treat the problem of accountability as an issue in contract theory and address it as a principal agent problem.

In this model, there are three phases of play. In a first each citizen unilaterally selects a minimum satisfaction level,  $\varpi^j$ . In the second, the government formulates public policy. In the third, citizens choose whether or not to return the government to

office.<sup>2</sup> If  $M$  citizens approve, the government returns to office. If fewer than  $M$  citizens support the government, it loses power with probability  $1-q$  ( $q \in (0,1)$ ). The government is then dismissed and a new one installed. Play then returns to the first phase in which the citizens choose criteria by which to evaluate the government's performance in office.

## II.2 Analysis

In exploring the capacity of citizens to tie the hands of governments, we search for the conditions under which citizens employ a retrospective voting rule with cutoff points  $\{\bar{\omega}^j\}$  while the government undertakes actions that are feasible; that meet the demands of some set of  $M$  principals; and that leave no incentive for any principal to alter her strategies. In such an equilibrium, the government is said to be accountable: it becomes an agent of the principals. It is constrained from consuming public revenues in the form of rents and instead provides some non-zero level of public goods in order to return to power.

In "Political Institutions and Economic Policy," Humphreys and Bates (forthcoming) isolate the conditions under which such an equilibrium can exist. They thereby establish that political accountability *can* induce governments to employ its power in ways that are not purely self-interested.

The logic of this model also suggests that the degree to which governments elicit private benefits from the power to tax declines with:

- 1) The discount rates of the government. Should the government not place a high value on future terms of office, it will be more willing to run the risk of alienating its selectorate, and therefore be more willing to behave opportunistically.

---

- 2) The nature of the decisive coalition. The larger the number of veto points within the institutions of government, the more inclusive the decisive coalition. The more resources, then, the government must expend in order to return to office, and the more appealing a strategy based on the provision of public goods.
- 3) The structure of the economic base. When the tax base is highly elastic, the level of taxes will be lower and their “price” higher, in terms of the necessity of refraining from the private consumption of public revenues.

Formal analysis thus suggests that the arguments of the reformers are both consistent and compelling: in order to retain the benefits of office, governments must consume fewer private benefits than they might otherwise prefer and instead channel their revenues into the creation of public benefits. In addition, further implications of the model provide further opportunities for testing the logic it provides that links political accountability to the choices of governments.

### **II.3 Empirical tests**

To assess the validity of these arguments, we assembled data on political institutions and economic structures in Africa and from a global sample of countries. As is standard, we fully capitalize the variable names; their definitions appear in Table 1.

**Table 1: Definitions and sources**

Variable and Variable Label	Definition	Source	Units	Range	Mean
QUALITY	See Text	PRS, ICRG data	Index	-2.5-1.5	0
CPIA	See Text	World Bank	Index	1-5	2.86
COMPETITION (Executive Scales)	See Text	Ferree and Singh, <i>Institutional Change and Economic Performance in Africa, 1970-1995</i> ; and Beck, Clarke, Groff, Keefer and Walsh, 'New Tools and New Tests in Comparative Political Economy: The Database of Political Institutions'.	Categorical	1-7	4.56
CHECKS	For presidential systems this is the sum of 1 (if there is a competitively elected legislature), 1 (for the president), and the number of relevant legislative chambers. However, if closed list =1 <i>and</i> the president's party is the 1st government party, then the relevant legislative chambers are not counted. For parliamentary systems, this is the sum of 1 (if there is a competitively elected legislature), 1 (for the PM) and the number of parties in the coalition. If there is a closed list <i>and</i> the PM's party is the 1st government party, then this sum is reduced by one. If there is no competitively elected legislature, then CHECK1 gets a "1".	Beck, Clarke, Groff, Keefer and Walsh, 'New Tools and New Tests in Comparative Political Economy: The Database of Political Institutions'; (CHECKS1)	Count	1-14	2.55
PROBLEM	State Failure Task Force Problem Country Indicator	J. Goldstone et al., <i>State Failure Task Force Project, Phase III Report</i> McLean VA: SAIC, 2003.	Binary	0-1	.18
AGRICPOP	Share of population engaged in agriculture	Constructed from FAO agricultural population data and State Failure Task Force Population Data	Share	0-1	.47
OIL GDP per capita	The share of the value of domestic oil production in GDP per capita, constant 1995 prices international \$US. (thousands)	Multiple Source: See text. World Bank: World Development Indicators	Share Constant	0-1 .22-43.62	.05 5.06
WDIGDPAG Literacy	Growth rate of per capita GDP Based on WDI Illiteracy measure: Adult illiteracy rate is the share of adults aged 15 and above who cannot, with understanding, read and write a short, simple statement on their everyday life.	World Bank: World Development Indicators World Bank WDI 2000	Percentage Percentage	-50-85 .2-94.3	3.69 34.5
Government Consumption	General Government Consumption as a percentage of GDP	World Bank: WDI 2000	Percentage	0.89-76.20	15.54
Gross Domestic Investment	Gross Domestic Investment as a share of GDP	World Bank: WDI 2000	Share	-.08 - 2.15	.24
Log of Life Expectancy	Natural log of life expectancy	World Bank: WDI 2000		3.44 - 4.39	4.09

To study the impact of institutions on policy choices, we employed two measures. Both reflect the assessments of informed observers. The first comes from the International Country Risk Guide (ICRG) produced by Political Risk Services (PRS)<sup>3</sup> and is derived from scores given by a panel of international investors. Each year, the panel rates governments on a series of dimensions, each capturing elements of political, economic and financial risk. For each country, our measure, QUAL (for the quality of public policy), combines ratings of the government's propensity to engage in corruption and the government's likelihood of engaging in expropriation. To produce the measure, we weight these two ratings by the loadings derived from principal components estimation. The resulting factor score provides a measure of the tendency to adopt distributive policies and to make opportunistic use of public power.

We also employ the World Bank's Country Policy and Institutional Assessment (CPIA), an annual evaluation of the conduct of governments that have loans outstanding with the Bank. The CPIA provides a measure of the World Bank's evaluations of governments' efforts to generate a sustainable macro-economic environment, free of major policy distortions. We use it to measure the extent to which the government provides publicly regarding policies. The Bank's rating covers the policy performance of the government in twenty specific areas, grouped into four major categories (see Table 2). Scoring the country's performance in each area from 1, for low, to 5, for high, the Bank calculates an aggregate score, or CPIA, which is the un-weighted average of the rating in each of the twenty areas.

---

<sup>3</sup> <<http://www.countrydata.com/wizard/>>.



**Table 2: Country Policy and Institutional Assessments (CPIA)**

**Disaggregated Elements of CPIA Index**

**I. Macroeconomic Management**

1. General macroeconomic performance
2. Fiscal policy
3. Management of external debt
4. Macroeconomic management capacity
5. Sustainability of structural reforms

**III. Policies for sustainable and equitable growth**

1. Trade policy
2. Foreign exchange regime
3. Financial stability and depth
4. Banking sector efficiency and resource mobilization
5. Property rights and rule-based governance
6. Competitive environment for the private sector
7. Factor and product markets
8. Environmental policies and regulations

**II. Public sector management**

1. Quality of budget and public investment process
2. Efficiency and equity of resource mobilization
3. Efficiency and equity of public expenditures
4. Accountability of the public service

**IV. Policies for reducing inequalities**

1. Poverty monitoring and analysis
2. Pro-poor targeting of programs
3. Safety nets

**Rating scale:** 1 = low; 5 = high

**Source:** Country Policy and Institutional Assessments, *Report on 1998 Ratings* Washington DC: The World Bank.

The CPIA measures deviation from the set of policies that make up the so-called Washington Consensus (Williamson 1990; Williamson 1994). It is important to realize that the CPIA, while informative, is flawed.<sup>4</sup> In addition, the extent to which the measures capture policies deemed of “social benefit” is open to challenge: while the World Bank may believe that these policies generate public benefits, these views are not universally shared (Easterly 2001; Stiglitz 2002).<sup>5</sup>

In Table 3, we demonstrate the relationship between our measures of policy choice—QUAL and CPIA—and growth for our sample. By combining a Barro-like growth regression (which includes the policy ratings) with an empirical model of policy choice (which includes a measure of growth) into a single system of equations, we employ three stage least squares to generate measures of the relationship between policy to growth that are partially corrected for endogeneity. These results indicate that variation in our measures of policy choices are associated with large differences in growth rates, a one standard deviation shift in QUAL and CPIA is associated with a shift of approximately 1.2 and 1.3 percentage points in growth rates, respectively.

---

<sup>4</sup> Regressing the aggregate score against measures of macro-economic balances -- levels of government consumption, fiscal deficits, inflation and so on -- shows the measure to yield highly significant relationships with objective measures of policy choices and enhances our confidence in the measure. There are however some technical concerns with the measure: It mixes assessments of policies with outcomes; it assigns equal weights to each policy; and the policies in Category IV are largely irrelevant to the arguments of this paper. The measure is both bounded and categorical, resulting in a distribution of errors that could complicate statistical inference. Furthermore, there is evidence that the criteria for determining the score has varied over time. Note that while the CPIA index is based in part on assessments of institutions, (a) these assessments constitute but a minor portion of the total rating and (b) were the Bank raters inclined to give higher ratings to countries that exhibited higher levels of political accountability then this would bias us towards finding such a positive correlation in the data whereas our findings, contrary to what we in fact find (see below) .

<sup>5</sup> There is less doubt, of course, concerning the desirability of expropriation. The simple correlation between the two dependent variables is .56.

**Table 3: Growth and Policy Choice**

	SYSTEM 1		SYSTEM 2	
Dependent Variables:	Growth	QUALITY	Growth	CPIA
<b>QUALITY</b>	1.248			
<b>CPIA</b>	[3.12]***		1.757	
<b>GDP growth (annual %)</b>		0.085	[2.52]**	0.09
		[7.20]***		[8.21]***
Per capita GDP (lagged)	-1.682	0.105	-2.132	0.186
	[5.54]***	[10.67]***	[6.48]***	[10.05]***
Gross Domestic Investment as a Share of GDP	12.045		8.327	
	[7.88]***		[7.34]***	
Life Expectancy (logged)	11.037		13.597	
	[4.41]***		[5.54]***	
Literacy Rate	-0.019		-0.026	
	[2.09]**		[2.86]***	
Literacy * GDP	0		0	
	[2.80]***		[3.39]***	
General government consumption (% of GDP)	-0.075		-0.085	
	[3.44]***		[3.41]***	
Sub-Saharan Africa	1.027		1.455	
	[2.04]**		[2.88]***	
COMPETTITIVENESS		0.031		-0.024
		[3.58]***		[2.34]**
CHECKS		0.023		0.054
		[1.83]*		[3.49]***
AGRIPOP (Lag)		-0.225		0.359
		[1.94]*		[2.69]***
PROBLEM (Lag)		-0.195		-0.07
		[5.50]***		[1.64]
OIL		-0.442		-1.068
		[2.64]***		[5.37]***
Year		0.07		0.012
		[14.39]***		[2.81]***
Constant	-41.588	-140.402	-56.211	-21.459
	[4.14]***	[14.47]***	[6.29]***	[2.56]**
Observations	973	973	1109	1109

**Notes:** Absolute value of z statistics in parentheses; \*significant at 10%; \*\*significant at 5%; \*\*\* significant at 1%

- Jointly Estimated Using Three Stage Least Squares: World Sample
- These models differ from Barro's standard model in a number of ways. First, annual data is used rather than quinquennial data. Second, for reasons of data coverage, less rich education data is used: Literacy\*GDP is related to Barro's interaction between GDP and human capital where literacy substitutes for Barro's aggregate human capital measure. Finally in the context of this paper our measures of QUALITY and CPIA substitute for Barro's measure of market distortions, given by a measure of the black market premium

Table 3 thus highlight the significance of our exploration into the institutional determinants of policy decisions.

### **II.3.1 Independent Variables**

Table 1 reports the definitions of the independent variables and the sources from which they were drawn.

In describing these variables and our expectations of their relationship to measures of policy performance, we proceed in a sequence that parallels our exposition of the logic of political accountability, first dwelling on institutions, then on the determinants of the governments' discount rate, then on the nature of the decisive sets, and finally on the structure of the economy.

*Institutions:* According to the logic of accountability, the incentives that drive government responses bite because the government faces the prospects of ejection from office. To bring the logic to bear on debates over the role of electoral competition in economic reform, especially in Africa, we employ a measure of electoral COMPETITION. By the rules governing the creation of this measure, a polity receives a score of 1 if there is no executive in place; 2 if there is a non-elected executive; 3 if there is an elected executive but no electoral competition; 4 if there is an elected executive, and competition between candidates but not between parties (because opposition parties are banned); 5 if there is an elected executive and competition between candidates but not between parties (even though opposition parties are legal); and 6 if there is an elected executive, with competition between candidates backed by opposing parties taking place

during the electoral campaign. A score of 7 is accorded when the executive's vote share is less than 75%.

*Discount Rate:* The strength of the incentives to which institutions of accountability give rise depends upon the government's rate of discount. Affecting the value the government places upon future benefits from office is its assessment of political risk. To capture the level of political risk arising from political instability, we employ a measure of the instability of a given regime developed by the State Failure Task Force (Goldstone, Marshall et al. 2003). This measure—which we call PROBLEM—indicates whether each country was a part of the State Failure Task Force's "problem set" in the previous year by virtue of being embroiled in a civil conflict, undergoing extreme levels of violence or experiencing an adverse regime change.<sup>6</sup> As a secondary indicator we employ a measure of the predicted likelihood of being within the task force Problem Set conditional upon past information for any point in time.

*Properties of the Decisive Sets:* According to the logic of the model, the degree to which a government will employ political power to produce collective benefits depends upon the size of the decisive sets. The larger the number of veto points within the institutions of government, the more inclusive must be the decisive coalition. The logic of the model suggests that the larger the number of veto points in the institutions of government, the more likely will policy makers be to promote the creation of collective goods. The variable, CHECKS, is based upon the number of independent parts of the political process. It uses information regarding the number of different parties in a

---

<sup>6</sup> More information on this measure can be found on the homepage of the State Failure Task Force: <http://www.cidcm.umd.edu/inscr/stfail/sfcodebk.htm>.

governing coalition and the extent to which there is a competitive legislature independent of the president or prime minister's party.

*Economic Structure:* Policy makers are constrained by the types of economies in which they function. In particular, if economic agents are able to protect themselves from predation by reducing production or by moving their assets, then extractive policies will yield fewer benefits to government.

We use two variables to capture the ease with which rents can be extracted. The first, AGRICPOP, measures the share of the population that is dependent upon agricultural production. The second, OIL, measures the value of oil production as a share of the gross domestic product. In each case we expect negative relations between these measures of economic structure and performance on the dependent variable.

Table 4 presents data from the Africa sample on key variables in the analysis. As might be expected, Botswana and South Africa receive the highest ratings from private investors; they also exhibit the highest average level of political competition. As also might be expected, the Democratic Republic of Congo receives the lowest rating from private investors as well as one of the lowest average levels of political competition. Some – such as Namibia – exhibit highly negative ratings on one dimension but highly positive scores on the other. Most exhibit investor ratings that place them significantly below the global average and an absence of political competition.

Table 4: Africa Countries Included in Estimates

COUNTRY	Average QUALITY	Average COMPETITIVENESS	COUNTRY	Average QUALITY	Average COMPETITIVENESS
Botswana	0.4	6.0	Ethiopia	-0.5	2.0
South Africa	0.3	6.5	Zambia	-0.6	3.9
Gabon	0.3	3.4	Niger	-0.6	2.7
Cote d'Ivoire	0.2	3.7	Nigeria	-0.7	3.0
Gambia, The	0.1	6.6	Sierra Leone	-0.7	2.8
Tanzania	-0.1	3.0	Burkina Faso	-0.7	2.6
Cameroon	-0.1	3.5	Angola	-0.8	3.3
Malawi	-0.2	2.2	Congo-Brazzaville	-0.8	2.4
Kenya	-0.2	3.1	Uganda	-0.9	3.2
Ghana	-0.3	3.2	Guinea-Bissau	-0.9	2.7
Mozambique	-0.3	2.7	Namibia	-0.9	6.8
Togo	-0.3	3.0	Madagascar	-1.1	4.8
Senegal	-0.4	5.8	Mali	-1.2	3.2
Zimbabwe	-0.4	6.3	Congo-Kinshasa	-1.3	2.9
Guinea	-0.4	3.0			

Restriction on the use of the Country Policy and Institutional Assessments prevent the reporting of these data for specific countries.

### II.3.2 Control Variables

We include a small set of variables that contain information on the wealth of the country, growth rates and time. We also add an Africa dummy in the pooled regressions that employ the global dataset. This variable provides an important check on our argument. For if our reasoning provides an adequate theory of the policy preferences of Africa's governments, then the coefficient on the African dummy should fail to attain statistical significance, when the variables that capture the logic of accountability are entered into the analysis.<sup>7</sup>

<sup>7</sup> Our results are robust to the replacement of independent variables with their lags; however, save in the estimates reported in Table 3, we have yet to model endogenous relationships. We emphasize however that insofar as public goods provision, as recorded by the World Bank, may increase the competitiveness of institutions, this should lead to an *upward* bias in the estimated correlation and hence a bias *against* our findings.

### II.3.3 Estimation

We first estimate our statistical models using a pooled sample of observations. We then re-estimate each model introducing country-specific effects and the lag of the dependent variable. Since a fixed-effects structure that includes a lagged dependent variable may introduce bias in finite samples (Wooldridge 2002), we report a third version of each model that employs the Arrelano and Bond Generalized Method of Moments estimator.<sup>8</sup>

### II.4 Results

In Tables 5 and 6 below, we present two sets of findings. Table 5 reports results for QUAL for both an African and a world sample. Table 6 presents data for CPIA. In the case of QUAL, the analysis is based upon data from 103-104 nations, of which 28-29 are from Africa, depending on data availability; the samples cover the period 1985-1995. In the case of CPIA, the global sample includes 95-96 nations and the African sample 36-37 and covers the period 1975-1990.

---

<sup>8</sup> Arellano, M. a. S. B. (1991). "Some Tests of Specification for Panel Data." The Review of Economic Studies **58**: 277-297.

The results reported do not take account of the categorical and censored nature of the dependent variable. While formally categorical, the dependent variables in fact contain as many as thirty values. And although formally bounded, there is little clustering of data on the boundaries. We therefore find that employing Tobit models made little impact on our estimates.



Table 5: QUAL as Dependent Variable

Model	I	II	III	IV	V	VI
Dependent Variable	QUAL	QUAL	QUAL	QUAL	QUAL	QUAL
Sample	Africa	Africa	Africa	World	World	World
Method	Pooled <sup>+</sup>	FE	AB <sup>+</sup>	Pooled <sup>+</sup>	FE	AB <sup>+</sup>
<b>Theoretic Variables</b>						
COMPETITION	0.01 0.67	0.032 3.62***	0.027 2.14**	0.049 5.05***	0.019 2.71***	0.023 2.07**
CHECKS	0.079 3.08***	-0.021 1.23	-0.029 1.05	0.045 3.95***	-0.003 0.28	0.016 1.25
PROBLEM (lag)	-0.225 4.16***	-0.09 2.33**	-0.013 0.30	-0.243 5.75***	-0.079 2.60***	-0.012 0.16
AGRIPOP(Lag)	-0.524 2.90***	-1.136 1.60	-1.768 1.27	-0.521 3.87***	-1.184 2.58**	-1.294 1.47
OIL (lag)	-0.372 2.62***	0.287 1.34	0.141 0.54	-0.785 6.27***	0.346 1.76*	1.016 2.71***
<b>Control Variables</b>						
GDP (lag)	0.134 7.40***	0.037 0.87	0.025 0.23	0.076 12.75***	-0.015 1.71*	-0.025 1.27
GROWTH (lag)	0.002 0.53	0 0.12	-0.001 0.40	0.023 6.09***	0.003 2.33**	-0.002 0.93
YEAR	0.027 4.03***	0.01 1.96*	0.014 1.33	0.075 18.02***	0.028 7.53***	0.023 2.66***
Lag of the Dependent Variable	.	0.789 19.02***	0.521 4.52***		0.772 40.62***	0.812 16.58***
Dummy Variable for Sub-Saharan Africa	.			0.024 0.43		
Constant	-53.39 4.07***	-19.2 1.83*		-150.238 18.10***	-54.971 7.36***	
N	338	314	285	1273	1180	1074
R-squared	0.37	0.74		0.65	0.82	
Number of Cross-sectional units			29	28	104	103
Arellano-Bond test that average autocovariance in residuals of order 2 is 0: (z-stat)			1.06			-1.49

Note: Absolute value of t statistics listed below coefficients, <sup>+</sup>Robust t statistics reported, \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

Table 6: CPIA as Dependent Variable

Model	VII	VIII	IX	X	XI	XII
Dependent Variable	CPIA	CPIA	CPIA	CPIA	CPIA	CPIA
Sample	Africa	Africa	Africa	World	World	World
Method	Pooled <sup>†</sup>	FE	AB <sup>†</sup>	Pooled <sup>†</sup>	FE	AB <sup>†</sup>
<b>Theoretic Variables</b>						
COMPETITION	0.011 0.71	0.001 0.05	-0.004 0.15	-0.015 1.32	0.012 1.24	0.004 0.17
CHECKS	0.11 3.55***	-0.001 0.02	-0.026 0.55	0.056 3.31***	-0.005 0.32	-0.01 0.41
PROBLEM (lag)	-0.091 1.25	0.034 0.48	-0.015 0.16	-0.093 1.96*	-0.065 1.55	-0.147 1.90*
AGRIPOP (Lag)	-0.33 1.72*	-1.72 1.71*	-3.344 1.41	-0.155 1.13	-1.033 1.63	-1.89 1.56
OIL (lag)	-1.505 7.74***	-0.068 0.13	-0.439 0.72	-1.346 9.31***	-0.303 0.90	-0.127 0.34
<b>Control Variables</b>						
Per capita GDP (lag)	0.127 4.90***	0.022 0.39	-0.179 1.38	0.107 7.17***	-0.038 1.50	-0.16 3.17***
Growth of GDP (lag)	0.023 6.02***	0.008 2.75***	0.005 1.32	0.031 8.23***	0.009 3.88***	0.004 1.45
Year	0.01 1.75*	-0.005 0.71	-0.009 0.81	0.019 4.84***	0 0.05	-0.001 0.08
Lag of the Dependent Variable		0.635 17.15***	0.641 10.42***		0.664 29.14***	0.687 16.11***
Dummy Variable for Sub-Saharan Africa				-0.032 0.63		
Constant	-16.896 1.51	12.093 0.83		-35.919 4.50***	2.038 0.21	
N	507	501	463	1227	1198	1099
R-squared	0.27	0.46		0.24	0.49	
Number of Cross-sectional units		37	36		96	95
Arellano-Bond test that average autocovariance in residuals of order 2 is 0: (z-stat)				-0.97		.10

Note: Absolute value of t statistics listed below coefficients, <sup>†</sup>Robust t statistics reported, \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

We interpret positive coefficients for the variables relating to QUAL as suggesting that higher levels of the variable yield a lower tendency for the government to employ public powers to extract private benefits from the economy. In the case of CPIA, we interpret positive coefficients as suggesting that higher levels of the independent variable

yield a stronger tendency on the part of governments to use public policy to generate a stable macro-economic environment.

Turning first to the control variables, we note a pronounced tendency for hysteresis in public policy: the magnitude and significance of the coefficients on the lagged dependent variables indicate that policies, once chosen, tend to persist. As expected, wealth and GDP growth are associated with more favorable policy ratings; although we are reluctant to impute causality to this relationship.

*Institutions:* According to debates over political reform in Africa and to the logic of our argument, political accountability generates incentives for policy makers by linking present conduct to future reward: the spur to self restraint originates from the risks inherent in re-selection.

When using QUAL as a measure of policy choice, we encounter the expected results (equations I-VI). Both the African and global samples offer evidence of a relationship between electoral competition and policy performance. The results are strongly significant in all but one specification. The magnitudes of the coefficients we estimate are such that an increase in competitiveness from the lowest to the highest value is associated with an increase in the QUAL score of approximately one fifth of a standard deviation; this difference implies an increase in growth rates of approximately one quarter of a percentage point.

We find however that when we use the CPIA as a measure of policy choice, there is *no* evidence for a relation between institutions and public policy, once we take account of other factors. Indeed in some models there is (weak) evidence that governments that are

at risk, when subject to the spur of electoral competition, choose policies that *distort* the macro economy (equations IX and X; see also the important study, Block 2002).

*Discount Rate:* The data provide evidence of the impact of discounting. If a government is sufficiently unstable to fall into the State Failure Task Force's problem set (i.e. PROBLEM = 1), the policy environment deteriorates for private investors, as measured by QUAL (Table 1). The same relationship holds for the World Bank ratings of government policies in the global sample. Higher levels of regime instability tend to associate with opportunistic policy making. The magnitudes in regressions I, II, IV and V associate instability with a fall in QUAL of between one tenth and one fifth of a standard deviation.

*Decisive Groups:* The formal model underscores the importance of a third set of variables: those relating to the size of the decisive coalitions. The larger the size of its core constituency, the logic suggests, the stronger the incentives for the government to reward it through the production of public goods.

The pooled regressions suggest that governments that face multiple veto points—that are constrained by checks and balances—adopt policies that elicit higher ratings. This is true for both dependent variables and for both samples in the pooled regressions and when modeled using fixed effects. These institutional features are “slow moving,” however. Possibly for that reason, measures of their impact fail to emerge in the equations that use differenced values of the variables.

*The Nature of the Economy:* When corrected for bias arising from the incidence of a lagged dependent variable, there is scattered evidence in the Africa sample that increases

in the importance of primary products in the private economy lead to the adoption of self-interested policies.

Fixed effects estimates from the global sample yield further support of the argument, when ratings from private investors are employed. When OIL is employed as a measure of resource mobility, the results for the pooled regressions support the hypothesized relationship between the costs of private goods extraction for the choices of governments. The equations that employ differenced data do not, however; and the coefficient of OIL in one such equation – that in the global sample, using QUAL as a dependent variable and GMM methods of estimation — yield evidence *against* our argument.

More consistent is the evidence of the impact of agriculturally dependent populations: governments in countries in which the population is largely agricultural tend to adopt distributive policies. While the coefficient on AGRIPOP fails to attain significance in all models (particularly those employing the Arrelano and Bond estimator), its sign is negative in all samples and for both dependent variables.

Given that Africa's economies are largely agricultural in nature, and that the most valuable industries are based on resource extraction, its governments incur fewer costs when engaging in extractive policies, and therefore fewer incentives to refrain from predatory policy making.<sup>9</sup>

Lastly, we note the African dummy in the global sample in Tables 5 and 6. In both cases, the coefficients are insignificant. Viewed within the perspective of our model of

---

<sup>9</sup> Insofar as the structure of economies are themselves a function of the policy choices of governments and subsequent growth rates, this analysis suggests the possibility of multiple equilibria, with some economies residing in a low-output high-extraction equilibrium and others dwelling in a high-output low-extraction equilibrium.

policy choice, African governments behave in ways that are indistinguishable from governments elsewhere.

## ***II.5 Conclusion***

Most relevant to present purposes are our findings concerning institutions: governments that are subject to electoral competition and that are thereby rendered politically accountable are more likely to produce collective goods rather than to extract private benefits. Given the evidence from Table 3, these differences matter: governments whose economic and political endowments predispose them to choose “better” policies tend to secure higher rates of economic growth.

We emphasize however that in many cases we find that the magnitude and significance of these effects vary considerably by specification and as a function of the samples and equations employed. After controlling for core determinants of policy choice, that are consistent with qualitative accounts and with our formal model, much of the variation in policy choice remains unexplained.

Note a striking anomaly, however. While the relation between competitive institutions and the data from private investor ratings consistently conforms to the logic of accountability, the relationship with the World Bank ratings do not. The first row of Table 6 is singularly devoid of significant coefficients: we fail to find any evidence that competitive electoral processes are positively associated with policy choices as advocated by the World Bank.

The most direct interpretation is that the results reflect the political unpopularity of stabilization policies. Our empirical estimates represent a test of the model of accountability only if citizens favor the kind of non-distortionary policies rated highly by

the World Bank. Evidence from Afrobarometer<sup>10</sup> surveys indicate, however, that while African populations support some micro-economic reforms (such as the introduction of user fees if they lead to improved health and educational standards, for example), they do not favor adjustments that accompany the tightening of macro-economic policies. Rather than regarding these adjustments as providing a public good, they view them as benefiting the few at the expense of the many.<sup>11</sup>

The logic of accountability presumes that governments make choices in anticipation of the response of their citizens. If African governments anticipate that their citizens prefer outcomes generated by policies that violate the Washington consensus, then despite the impact of those policies on growth, insofar as these governments are politically accountable, they will fail to adopt them.

### **III Political Order**

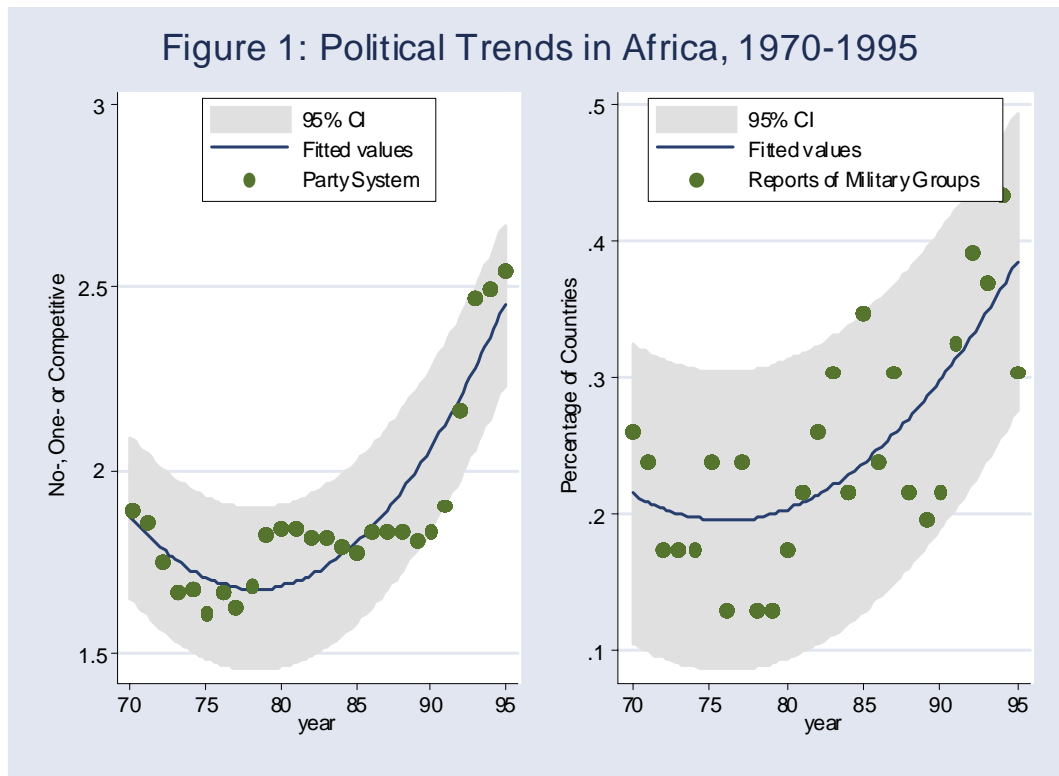
Accountability constitutes one of the political foundations for economic development. Political order constitutes another. By political order, we mean when executives use their control over coercion to defend rather than to prey upon citizens and when citizens forgo the use of force. As shown in Figure 1, in the closing decades of the 20<sup>th</sup> Century, a notable feature of African politics was that as the currents of political reform strengthened, the level of political order declined. The index of reform employed in this graph derives

---

<sup>10</sup> Afrobarometer, 'Popular Attitudes to Markets, Selected African Countries, 1999-2000', Afrobarometer Homepage: <<http://www.afrobarometer.org/survey2.html>> consulted 10 October 2002.

<sup>11</sup> In particular, the studies found that, perhaps because they value the services provided by government or the income from government jobs, citizens do not support policies that cut the size of the public sector. The stylized reporting of the results from the Afrobarometer findings reflect the opinions of majorities in all twelve countries with the sole exception of Tanzania where respondents were more supportive of structural adjustment and, in particular, of the contraction of the public sector.

from the seven-point measure outlined above;<sup>12</sup> that of political order is the presence or absence of private military organizations, as reported in the press,<sup>13</sup> which we take to be an indicator of state failure and political insecurity.



In this section, we first provide a model of political order and then test it. data drawn from 46 African states, 1970-1995 (see Table 7).

<sup>12</sup> It consists of three levels: no party, one-party and competitive political systems. We have dropped the other levels of the scale because of our failure to encounter countries that possess the corresponding political institutions.

<sup>13</sup> Table 8 provides the sources.



Table 7: The Sample Set of Countries

1. Angola	24. Madagascar
2. Benin	25. Malawi
3. Botswana	26. Mali
4. Burkina Faso	27. Mauritania
5. Burundi	28. Mauritius
6. Cameroon	29. Mozambique
7. Cape Verde	30. Namibia
8. Central Africa Republic	31. Niger
9. Chad	32. Nigeria
10. Comoros	33. Rwanda
11. Congo, Republic	34. Sao Tome & Principe
12. Cote d'Ivoire	35. Senegal
13. Djibouti	36. Seychelles
14. Equatorial Guinea	37. Sierra Leone
15. Ethiopia	38. Somalia
16. Gabon	39. Sudan
17. The Gambia	40. Swaziland
18. Ghana	41. Tanzania
19. Guinea	42. Togo
20. Guinea-Bissau	43. Uganda
21. Kenya	44. Democratic Republic of Congo
22. Lesotho	45. Zambia
23. Liberia	46. Zimbabwe

### III.1 Background

Historically, states were created by specialists in violence. In Medieval and Early Modern Europe, kings were warriors. Warriors led in Japan after the Meiji restoration, China after the communist revolution and the United States after independence from Great Britain. In contemporary Africa, we again find heads of state being specialists in the use of violence.

Running south along the eastern portion of Africa, for example, we find Ethiopia, Eritrea, Uganda, Rwanda, Zimbabwe, Mozambique, Namibia, Angola ruled by those who commanded the military forces that helped them seize power.

Informed by historical and contemporary realities and by the political theorists such as Weber (1985), who view the study of politics as the study of the use of force, we therefore introduce a figure, G, who is a specialist in violence. The problem we explore is: What institutional arrangements will generate incentives for G to employ his capacity to coerce to defend property rights, and thus render private agents secure, rather than to engage in predation?

States can break down. Historical examples include revolutions in France, Russia, China, and Mexico. In contemporary times, Yugoslavia, Somalia, Liberia, Congo and the Soviet Union have collapsed. Informed by these examples, we do not assume that the state holds a monopoly of violence (*pace* Weber 1958). Rather, when we introduce private agents, we endow them with the capacity to engage in violence. In seeking the determinants of political order, we therefore ask: What institutional arrangements will generate incentives for citizens to refrain from the use of violence?

If governments can be predatory and citizens engage in violence, political order must then result from choice. To probe the foundations of political order, we must therefore explore the conditions under which the decision to refrain from predation (on the part of the government) and to refrain from raiding (on the part of the citizens) represent an equilibrium.

While it has proven difficult to measure the total economic costs of political violence, a series of recent studies have highlighted the impact of violence on growth

through its impact on investment (e.g. Collier and Pattillo 1999, Collier 1999 and Imai and Weinstein 2000). This research suggests that political conflict reduces growth rates by about 2% per year while reducing investment as a share of GDP by about 4% per year. Given the low average growth rates in the continent,<sup>14</sup> pacification, the figures suggest, could greatly increase the rate of growth.

### III.2 Key Elements of the Model

To explore the foundations of political order, we introduce two players,  $i \in \{1, 2\}$ , who can be individuals, families, clans or communities. Each possesses a given amount of resources, denoted by  $T_i$ , that she can allocate between work ( $w_i$ ), military preparedness ( $m_i$ ), and leisure ( $l_i$ ). That is,

$$i \in \{1, 2\} \text{ chooses } w_i, m_i, l_i \geq 0 \text{ s.t. } w_i + m_i + l_i \leq T_i.$$

The resources devoted to work,  $w_i$ , are productive; they result in an output of  $F(w_i)$  for player  $i$ .<sup>15</sup>

After allocating their resources, each player observes the decision of the other; each then (sequentially) decides whether or not to attempt to raid the others' goods. To capture this decision, define  $r_i$  where  $r_i = 1$  if player  $i$  raids, and  $r_i = 0$  if she does not

The amount the one can gain from raiding depends not only on the quantity of the other's assets but also on the relative strength of the players: if player  $i$  attacks and player  $-i$

---

<sup>14</sup> Excluding South Africa, the average rate of economic growth were -1.64%, 1980-84; -1.72%, 1990-95; 0.13%, 1985-1990, and only in 1970-74 did exceed 1%. Calculated from Penn World Tables.

<sup>15</sup>  $F(\bullet)$  is assumed to be a twice continuously differentiable, concave function that maps from player  $i$ 's effort to her income.

defends,  $M(m_i, m_{-i})$  is the share of player  $-i$ 's wealth that player  $i$  is able to expropriate if she allocates  $m_i$  units of effort to perfecting her military capabilities and the other player,  $-i$ , allocates  $m_{-i}$  units.<sup>16</sup>

Payoffs originate from the players' allocation of effort among working, leisure, and military preparation and from the players' decisions regarding the use of their military power. Specifically, we assume that that payoffs are given for each  $i$  by  $U(I_i, l_i)$ , where

---

<sup>16</sup> We ignore the possibility that one agent eradicates the other. We do so because we want to consider societies in which there are on-going possibly violent interactions between groups -- be they tribes, communities, lineages, or villages. Similarly, we don't consider a situation in which one gains military resources by raiding the other. When this is the case, one group is likely to come to dominate the other.

Alternatively, one can consider our analysis as related to a situation in which property rights are determined endogenously through interactions among the economic agents. The degree to which one can secure property rights depends upon relative coercive capabilities. See, for example, Skaperdas, S. (1992). "Cooperation, Conflict, and Power in the Absence of Property Rights." American Economic Review **82**(4): 720-738.

; Grossman and Kim Grossman, H. I. (1995). The Economics of Revolutions. Providence RI, Department of Economics, Brown University.

, and Muthoo, A. (2000). On the Foundations of Property Rights, Part I: A Model of the State-of-Nature with Two Players. Typescript, Department of Economics, Essex, UK.

. Although the model's formulation is inspired by the historical experience of stateless societies, at the same time it ignores, for simplicity sake, potentially important aspects of conflict situations of the sort we seek to explore. It puts to the side, for example, evolutionary forces and specialization in the use of violence (as in Moselle, B. and B. Polak (1999). A Model of the Predatory State. Paper Prepared for Conference on the Breakdown of States, Princeton University, Princeton NJ.

asymmetries among the agents (as in, for example, Grossman and Kim 1995 and Muthoo, A. (2000). On the Foundations of Property Rights, Part I: A Model of the State-of-Nature with Two Players. Typescript, Department of Economics, Essex, UK.

; the impact of past conflicts on one's current military capabilities (discussed in Fearon, J. D. (1996). Bargaining Over Objects that Influence Future Bargaining Power. Paper Presented to the 1997 Annual Meeting of the American Political Science Association, Washington DC.

, Fearon, J. D. and D. D. Latin (1996). "Explaining Interethnic Cooperation." American Political Science Review **90**(December): 715-735.

, Laitin, D. and J. Fearon (1996). "Explaining Interethnic Cooperation." American Political Science Review **90**(4): 715-35.

uncertainty and loss of potential exchange (discussed in Skarpedas, S. (1996). Gangs and the State of Nature. The New Palgrave Dictionary of Economics and the Law. P. Newman. London, Palgrave.

and moral hazard issues (explored in Addison 2000). By the same token, this framework enables us to extend the analysis beyond that possible in other works. Specifically, it allows us to examine the endogenous determination of prosperity and violence. See the papers cited above as well as Usher, D. (1989). "The Dynastic Cycle and the Stationary State." American Economic Review **79**(5): 1031-1044.

; and Skaperdas, S. (1992). "Cooperation, Conflict, and Power in the Absence of Property Rights." American Economic Review **82**(4): 720-738.

The model in Muthoo 2000 Muthoo, A. (2000). On the Foundation of Property Rights, Part I: A Model of the State-of-Nature with Two Players. Department of Economics, Essex University.

$$I_i = F(w_i) + r_i(F(w_2)M(m_1, m_2) - k) - r_2[F(w_1) + r_1(F(w_2)M(m_1, m_2) - k)]M(m_2, m_1)$$

where  $k$  is the fixed cost of raiding,  $F(\cdot)$  the value of production, and  $r_i(\cdot)$  gains or losses from raiding.<sup>17</sup> The two players,  $i = 1, 2$ , can thus increase their utility by increasing their consumption of leisure or their level of income by engaging in labor or by raiding.

G is a specialist in violence. In characterizing the military balance between G and private citizens, we make three assumptions. Given that private agents are themselves capable of violence, (i) when G preys upon the economic output of a player  $i$ , G succeeds in capturing her wealth only in a probability, denoted by  $q_i$ . (ii) G engages in predatory activity only if the expected revenues from its use of violence exceeds its costs of military activity, denoted by  $C_G$ , where  $C_G > 0$ . (iii) And G can dispossess only one agent per period.

G's per-period payoff is:

$$p_G(\bullet) = \{ [ p_i q_i \sum (F(w_i) + r_i F(w_{-i}) M(m_i, m_{-i}) - r_{-i} F(w_i) M(m_{-i}, m_i)) (1 - t_i \mathbf{t}) + [ t_i \mathbf{t} (F(w_i) + r_i F(w_{-i}) M(m_i, m_{-i}) - r_{-i} F(w_i) M(m_{-i}, m_i)) ] \} - C_G (p_i + p_{-i})$$

for  $i=1, 2$ .

The first bracketed elements in the equation represent G's revenue from expropriating private agents' wealth, if G decides to engage in predation. If G dispossesses agent  $i$ ,  $p_i = 1$ , G's expected (gross) revenue from that action equals the probability of successful predation,  $q_i$ , multiplied by player  $i$ 's income from work and raiding, net the amount she has paid in taxes. The second bracketed term in G's payoff function is the

---

is closest to ours. While it explores the impact of asymmetries (which we do not), it does not enable agents to invest in military capabilities (as we do) or explore such issues as deterring raids by consuming leisure or the welfare implications of endogenous state.

amount of tax paid by each private agent who has chosen to do so. Finally, if G decides to prey upon the wealth of either agent, that is, if  $p_i + p_{-i} > 0$ , then G has to bear the cost of the predatory activity,  $C_G(p_i + p_{-i}) > 0$ .

Employing this framework, in Bates, Greif and Singh (2002) we isolate the arrangements under which there can exist an equilibrium in which private agents abide by a self-enforcing contract with a specialist who employs violence to protect productive activity. In particular, we explore the conditions that support a *cooperative governance equilibrium*, under which the specialist in violence is tamed and a state can be said to exist.

The core property of our model is that it does not assume the existence of political order. Rather, it allows it under certain conditions to obtain.

### III.3 Cooperative Governance (CG) Equilibrium

We look for the conditions under which:

Each private agent chooses  $w_i^{CG}$ ,  $m_i^{CG}$ ,  $l_i^{CG}$  optimally (given the strategies of other players); refuses to raid; and pays taxes to G, if the other agent has not raided or if G has refrained from seizing the wealth of a private agent.<sup>18</sup>

Otherwise, the private agents "revolt," refuse to pay taxes and revert to self defense.

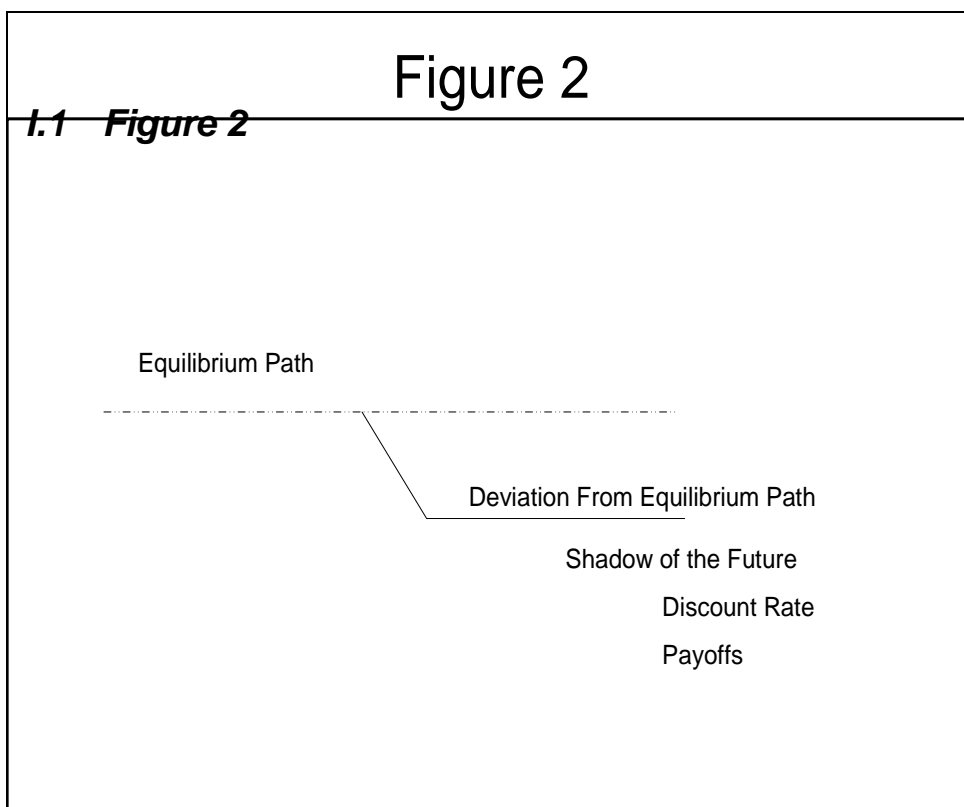
---

<sup>17</sup> Such a fixed cost may be the stock of skills or of weapons. Note that the formulation captures the impact of both offense and of defense: the function M takes as arguments the choices of both the raider and the person being raided.

<sup>18</sup> Where the superscript refers to the value under the Cooperative Governance Equilibrium.

G refrains from predating as long as neither private agent raids or fails to pay taxes. If either agent raids or fails to pay taxes, G then becomes predatory; it begins to behave as a warlord, seizing the wealth of the private agents.<sup>19</sup>

In the multi-period framework that we employ, predation and violence are deterred by the threat of reversion to a state of disorder in which private agents provide their own security and in which the specialist in violence behaves as a warlord. We call the resultant equilibrium the State Failure (SF) equilibrium. For when states fail, private individuals then devote resources to an activity – military effort – that can at best result in redistribution. Not only is there a low level of security in the State Failure equilibrium, then, but also people are poor.



<sup>19</sup> Considering a similar equilibrium in which G punishes an agent who raided or failed to pay tax without

Under what conditions can the Cooperative Governance equilibrium be sustained? For a strategy to be an equilibrium strategy, no player should be able to gain from deviating after any history, when deviation results in a reversion to the State Failure (SF) equilibrium. That is:

- I. No private agent should be able to gain by raiding or refusing to pay taxes.
- II. Nor should an agent be able to gain by altering the allocation of her resources between work, leisure and military preparation.
- III. G's threat to predate must be credible.
- IV. And G must find it optimal *not* to predate if the economic agents adhere to their strategies.

To explore the conditions that forestall deviation and promote adherence to the equilibrium path, we focus upon the incentives that impinge upon G. It is also useful to focus first upon the incentives that prevail along the equilibrium path and those that arise from off the path of play (Figure 2).

G's incentives to adhere to the equilibrium path derive from the revenues he can secure from taxation. To induce G to refrain from predation, the tax level,  $\tau$ , needs to be high enough that G finds it optimal, given the private agents' strategies, to refrain from confiscating the agents' wealth if they pay taxes. But it must also be sufficiently low that private agents prefer to purchase the services of G rather than to incur the costs of providing their own security.

The tax level must also be sufficiently low that G's threat to predate if taxes are not fully paid remains credible. Should taxes not be fully paid, G must choose between punishing and thereby triggering a reversion to the State Failure equilibrium, or continuing

---

reverting to the State Failure equilibrium does not change the analysis.



to play the strategies that define the Cooperative Governance equilibrium. If a receipt of a portion of the revenues accrued under the Cooperative Governance Equilibrium exceeds the payoffs under the State Failure equilibrium, G's threat to punish will not be credible. For that reason as well, taxes must not be too high.

The level of revenues that accrue to G that sustains the Cooperative Governance Equilibrium is therefore bounded both from above and below.

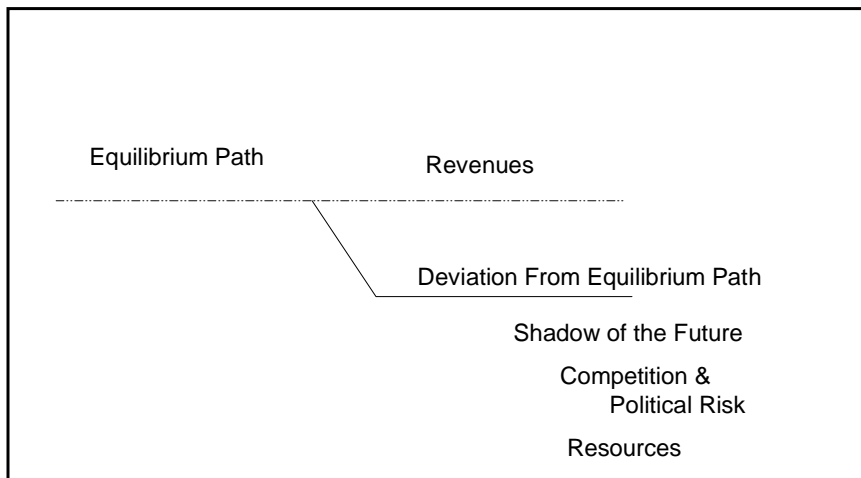
Adherence to the equilibrium path also depends upon G's payoffs under the State Failure (SF) equilibrium. Should the government have access to sources of income other than the payments it receives from its citizens, it may not fear the loss of tax payments that would result were it to trigger state failure. Such might be the case were it to have access to income from natural resources or international aid, for example. Also important is G's discount rate. Should the government place a low value on the losses that would accrue from state failure, then it would little fear the consequences that would follow an opportunistic deviation from the equilibrium path. Or should the government consider its future on the equilibrium path to be uncertain or the imperative of present action so powerful that it can pay scant regard for future consequences, then the threat of the low payoffs that accrue when in state failure would be insufficient to compel it to adhere to the CG choice of strategies.

Expositing the conditions that separate political order from state breakdown, we have focused on G. But the argument assumes common knowledge. This assumption implies that the private citizens are canny observers of the elite. They know their leader's preferences and capabilities. They share his vision of the rewards he will reap and the penalties he will incur at each turn. They can therefore anticipate how the specialist in

violence will comport himself and, in particular, whether he will use his command over coercion to protect them or in ways that render them insecure. When incentives are such - - because conditions are such -- that the citizens calculate that the government will defect and behave opportunistically, then the private agents will themselves defect from the Cooperative Governance (CG) equilibrium. They will divert resources from leisure and the production of wealth into the acquisition of the power to protect their belongings – and, should the opportunity arise, to increase their incomes by raiding the belongings of others. By these actions, they too will contribute to the breakdown of political order.

The values of three key variables – revenues, payoffs under state failure, and the discount rate -- thus characterize the Cooperative Governance equilibrium (see Figure 3).

**Figure 3: Variables Shaping Incentives**



### III.4 Empirics

The analysis therefore suggests hypotheses for testing. From a sample of 46 African countries (see Table 7), we explore the likelihood of a society taking up arms. Our measure takes on the value 1 for a given country year when the press reports the presence of private militaries.

Our model suggests:

1. That the likelihood of militarization should first decline and then increase as public revenues rise.

One way of testing our understanding of the basis for political order, then, is to see if public revenue enters the right hand side of the statistical model in quadratic form, with the linear term bearing a negative and the quadratic bearing a positive coefficient.

2. That the likelihood of militarization should rise the greater the government's access to other sources of income.

If governments expect to remain wealthy when political order breaks down, they experience weaker incentives to refrain from predation and to adhere to the strategies of the CG equilibrium. Such may be the case in economies in which governments can predate upon oil, minerals, or other natural resources (Collier and Hoeffler 1998; Collier and Hoeffler 1999). In an economy blessed by nature, then, the behavior of governments may be but weakly constrained by the shadow of the future.<sup>20</sup>

3. That the militarization of civil society is more likely when there is a drop in the government's rate of discount.

---

<sup>20</sup> See also Reno, W. (1995). *Corruption and State Politics in Sierra Leone*. Cambridge, Cambridge University Press.

, Reno, W. (1998). *Warlord Politics and African States*. Boulder, CO, Lynne Rienner Publishers.  
and Berdal and Malone Berdal, M. and D. Malone, Eds. (2000). *Greed and Grievance: Economic Agendas in Civil Wars*. Boulder CO., Lynne Rienner.

When governments become more myopic, then they become less averse to future losses. Fear of the payoffs under the State Failure equilibrium may then fail to induce G to adhere to the CG choice of strategies. The implication is that a transition from an authoritarian regime to a competitive political system will lead governments to behave in ways that render re-militarization more likely.

The logic of the argument thus yields propositions that are testable and we therefore turn to testing them.

### **III.5 Methods of Estimation**

We derive one set of coefficients from a pooled sample of data collected from 46 African countries (see Table 7) over the period 1970-1995. Another we generate from the same sample while entering country specific fixed effects; thereby controlling for the impact of omitted, time invariant variables.

To explore the correlates of militarization and state collapse, we take as a dependent variable the presence or absence of reports of the presence of armed domestic groups, i.e. of military units that formed within the civilian population. It is this reversion to self-defense, our model suggests, that signals the abrogation of the contract between civil society and the state. Because the variable is bounded from above by 1 and from below by 0, the errors from regression are not identically distributed. We therefore assume that they conform to the logistic rather than the normal distribution.

Nor are the errors independent. Political disorder in one country readily spills over into another; and the presence of military groups in one year can increase the likelihood of their presence in the next. To control for interdependence between state level observations, we fashion a variable that takes into account the total number of domestic

military groups, civil wars, and international conflicts in neighboring countries. To control for the interdependence between the annual observations, we employ a method proposed by Beck, Katz et al. (1998) entering the number of “peace years” as a variable in the equation and introducing several (three) splines to capture the impact of past efforts at militarization. We also produced robust estimates of the standard errors of the coefficients, thus further correcting for interdependence within and between cross-sections.

Perhaps the greatest difficulties arise from missingness in the data.<sup>21</sup> Resorting to case-wise deletion – that is, to dropping observations which lack data for key variables – decreases the efficiency and increases the potential for bias in the estimates; reducing the number of cases relative to the depth of the panel increases the potential for further bias in our estimates. We therefore employ the methods developed by Rubin (Rubin 1996, Schafer 1997) to impute point estimates of the missing values and to calculate their distributions.

Because we find heterogeneity between panels, we estimated our models while both pooling our data and introducing fixed effects. We simply found it difficult to believe that the expected level of insecurity in, say, Botswana was the same as that in, say, Sudan, even while controlling for the impact of relevant variables. And because we believed that temporal effects shape the level of insecurity, we explicitly introduced a measure of the time since the last report of civic militarization.

---

<sup>21</sup> This will come as no surprise to anyone who studies Africa. See Honaker, J. (2000). *Issues in Multiple Imputation of Data of the African Research Program*. Cambridge MA, Department of Government, Harvard University.

By taking these – and other – measures, we sought to extract the same kind of information from our panel of 46 African countries (see Table 7) over 26 years (1970-1995) that could be elicited through the application of Cox proportional hazard models. As stated by Beck, Katz and Tucker (1998): binary, time series cross national data “are *identical* to grouped duration data”(Beck, Katz et al. 1998), p. 1264, and we attempted to exploit that fact.

### ***III.6 Estimation Results***

Table 8 contains definitions of the variables, reports their distribution and the sources from which they were taken.

Table 8: Variables: Definitions, Distribution and Sources

Variable Name	Units	Distribution	Source
INCOME	Log of GDP per capita (PPP)	6.835 0.021	Summers and Heston Penn World Tables
LITERACY	Percent of adult population literate	40.463 0.614	World Bank <i>World Development Indicators</i>
URBAN POPULATION	Percent of population living in cities	25.348 0.41	ditto
MODERNIZATION	Factor score derived from principal components factor analysis of INCOME, LITERACY, and URBANIZATION	-1.60E-02 0.024	
GROWTH	Annual rate of Growth of INCOME	-0.15 0.351	Calculated from data in Summers and Heston, <i>Penn World Tables</i>
REVENUES	Central government revenues as percent of GDP	18.106 0.381	World Bank <i>World Development Indicators</i>
ELECTIONS	1 if year before national election; 0 otherwise. as Percent of Central Government Budget	.191 0.013	ditto
PETROLEUM	Value of petroleum exports per capita in constant US dollars	81.38 14.574	Data collected by research team
DROUGHT	Hectares	.388	

	of arable land p.c.	0.031	
DURATION	Length of time political system in place		Data collected by research team
	No-party	2.639 0.15	
	One-Party	3.747 0.176	
	Competitive	1.395 0.127	
No-party	Dummy Variable Is 1 if Chief Executive Assumes Power Without Facing Election	0.349 0.015	ditto
One-Party	Dummy Variable Is 1 if Chief Executive Elected to Office but Faced No Opposition Party	0.444 0.015	ditto
NEIGHBOR	Total level of Conflict(coups + military groups + civil wars) in Neighboring States	2.728 0.033	
CROSS	Percent of population belonging to ethnic groups that spill over national boundaries.	.733 .036	Englebert, <i>State Legitimacy and Development</i>

Tables 9-12 presents estimates of the core model. Tables 9-10 presents data from the pooled sample; Tables 11-12, estimates that control for country-specific effects. In all instances, the country specific coefficients, taken as a group, are significant. In Tables 10 and 12 we seek to control for potential endogeneity bias in the coefficient for government



revenues; political security could, after all, be both a cause as well as a consequence of low government revenues.<sup>22</sup>

Table 9: Covariates of Militarization  
(Pooled Sample)

	Coefficient	Std. Error	t-statistic	P> t
Revenues	-0.123	0.030	-4.049	0.000
Revenues2	0.002	0.001	2.905	0.004
No-Party	-0.869	0.373	-2.329	0.020
One-Party	-1.171	0.503	-2.329	0.020
<i>Duration</i>				
No-Party	0.117	0.034	3.413	0.001
One-Party	0.075	0.031	2.378	0.017
Competitive	-0.002	0.042	-0.041	0.968
Petroleum	0.005	0.005	1.057	0.291
Petroleum2	-7.6e-06	6.47e-06	-1.169	0.242
<i>Time Since</i>				
Last Report	-0.178	0.037	-4.779	0.000
Constant	1.104	0.475	2.324	0.020
Number of Observations	1048			
Constant				

Source D://Summer\_Paper/Violence/Final\_Models.log

Note b: Collapsed states and non-independent states dropped from sample.

<sup>22</sup> The instruments include the lagged value of the variable, taxes on trade as a percentage of revenues, and primary products as a percentage of total exports; and the current rate of growth of the OECD countries. Entered into a fixed effects of regression, this set of instruments is significantly related to the current level of government revenues (overall  $R^2 = 0.89$ ) but not to the presence of domestic military groups (overall  $R^2 = 0.007$ ).

Table 10: Covariates of Militarization, With Estimated Revenues  
(Pooled Sample)

	Coefficient	Std. Error	t-statistic	P> t
Estimated Revenues	-0.168	0.114	-1.472	0.165
Estimated Revenues2	0.002	0.003	0.501	0.621
No-Party	-0.667	0.408	-1.636	0.102
One-Party	-0.997	0.528	-1.887	0.059
<i>Duration</i>				
No-Party	0.122	0.032	3.842	0
One-Party	0.086	0.032	2.679	0.008
Competitive	0.026	0.046	0.563	0.573
Petroleum	0.005	0.005	1.087	0.277
Petroleum2	-7.30E-06	6.57E-06	-1.111	0.267
Time Since Last Report	-0.177	1.047	1.638	0.125
Constant	1.716	1.047	1.638	0.125
Number of Observations	1048			

Source: From D://Summer\_Paper/Violence/Final\_Models\_Core\_Hat\_Xsec.log

Note: Collapsed states and non-independent states dropped from sample.

Table 11: Covariates of Militarization  
(Fixed Effects)

	Coefficient	Std. Error	t-statistic	P> t
Revenues	-0.044	0.043	-1.015	0.315
Revenues2	0.001	0.001	1.055	0.297
No-Party	-1.196	0.607	-1.972	0.049
One-Party	0.178	0.051	3.528	0.000
<i>Duration</i>				
No-Party	0.014	0.040	0.344	0.731
One-Party	0.178	0.050	3.528	0.000
Competitive	0.085	0.125	0.677	0.498
Petroleum	0.015	0.007	2.018	0.044
Petroleum2	-1.6e-05	7.01e-06	-2.327	0.020
Time Since Last Report	-0.0161	0.035	-0.461	0.645
Number of Observations	833			

Source: D://Summer\_Paper/Violence/Final\_Models\_Core\_FE.log

Note: Collapsed states and non-independent states dropped from sample.

Table 12: Covariates of Militarization, With Estimated Revenues  
(Fixed Effects)

	Coefficient	Std. Error	t-statistic	P> t
Estimated Revenues	-1.537	0.131	-1.164	0.264
Estimated Revenues2	0.002	0.003	0.698	0.49
No-Party	-1.162	0.613	-1.895	0.058
One-Party	-2.286	0.734	-3.113	0.002
<i>Duration</i>				
No-Party	0.034	0.042	0.807	0.42
One-Party	0.18	0.051	3.549	0
Competitive	0.093	0.125	0.745	0.456
Petroleum	0.015	0.007	2.186	0.029
Petroleum2	-1.60E-05	6.55E-06	-2.477	0.013
Time Since Last Report	-0.011	0.036	-0.303	0.762
Number of Observations	833			

Source: D://Summer\_Paper/Violence/Final\_Models\_Core\_Hat\_FE.log

Note: Collapsed states and non-independent states dropped from sample.

Tables 13-16 repeat these estimates while including the classic set of modernization variables – INCOME, LITERACY and URBANIZATION; measures of shocks – short term GROWTH, DROUGHT, and national ELECTIONS; and the level of conflict among NEIGHBORS as well as the percentage of the nations population that belong to ethnic groups that CROSS national boundaries. In the second equation in each table, the variable MODERNIZATION replaces the measures of income, literacy, and urbanization. Based on a factor score generated from an unrotated principal components analysis of those three variables, it provides a summary measure of the level of social and economic development and a check against estimating misleading coefficients as a result

of colinearity. In all of the fixed effects estimates, the country dummies remain jointly significant, even when these controls are entered into the equation.

Table 13: Covariates of Militarization  
(Pooled Sample)

	Equation 1				Equation 2			
	Coefficient	Std. Error	t-statistic	P> t	Coefficient	Std. Error	t-statistic	P> t
Income	-0.464	0.551	-0.841	0.401				
Literacy	-0.008	0.009	-0.839	0.401				
Urban								
Population	0.001	0.017	0.036	0.972				
Modernization					-0.386	0.342	-1.127	0.26
Growth	-0.033	0.017	0.036	0.972	-0.035	0.011	-3.363	0.001
Drought	-0.878	0.439	-2.002	0.046	-0.902	0.435	-2.075	0.039
Elections	-0.586	0.236	-2.487	0.013	-0.592	0.234	-2.532	0.011
Revenues	-0.135	0.038	-3.594	0	-0.135	0.0367	-3.673	0
Revenues2	0.002	0.001	2.92	0.004	0.002	0.001	2.981	0.003
Petroleum	0.01	0.006	1.68	0.093	0.01	0.006	1.718	0.086
Petroleum2	-1.20E-05	7.19E-06	-1.639	0.101	-1.20E-05	7.21E-06	-1.678	0.093
No-Party	-0.913	0.422	-2.16	0.031	-0.923	0.423	-2.184	0.029
One-Party	-1.398	0.495	-2.825	0.005	-1.391	0.506	-2.751	0.006
<i>Duration</i>								
No-Party	0.094	0.045	2.11	0.035	0.095	0.044	2.169	0.03
One-Party	0.0315	0.04	0.789	0.43	0.032	0.04	0.79	0.429
Competitive	-348	0.164	2.12	0.034	-0.037	0.055	-0.669	0.503
Neighborhood	0.348	0.164	2.12	0.034	0.310	0.163	1.903	0.057
Cross-Border	0.369	0.288	-1.282	0.2	0.29	0.266	-1.09	0.276
Constant	4.106	3.550	1.157	0.248	0.687	0.554	1.240	0.216
Number of Observations	1048				1048			

Source: D:\book\_04\DMG\_Core\DMG\_Core\_Miest\_New\_Oilcap

Note: Collapsed states and non-independent states dropped from sample.

Table 14: Covariates of Militarization Using Estimated Values  
(Pooled Sample)

	Equation 1				Equation 2			
	Coefficient	Std. Error	t-statistic	P> t	Coefficient	Std. Error	t-statistic	P> t
Income	-0.497	0.488	-1.019	0.308				
Literacy	-0.007	0.009	-0.774	0.439				
Urban								
Population	0.002	0.017	0.087	0.931				
Modernization					-0.395	0.348	-1.135	0.257
Estimated								
Growth	-0.043	0.068	-0.641	0.522	-0.05	0.07	-0.748	0.455
Drought	-0.954	0.464	-2.057	0.042	-0.937	0.455	-2.14	0.034
Elections	-0.521	0.229	-2.271	0.024	-0.524	0.227	-2.308	0.021
Estimated								
Revenues	-0.285	0.089	-3.202	0.002	-.283	0.088	-3.217	0.002
Revenues2	5.00E-03	2.00E-03	2.416	0.017	0.005	0.002	2.379	0.018
Petroleum	0.01	0.006	1.723	0.085	0.01	0.006	1.769	0.077
Petroleum2	-1.20E-05	7.54E-06	1.575	0.115	-1.20E-05	7.51E-06	1.616	0.106
No-Party	-0.7442	0.43	-1.732	0.083	-0.748	0.436	-1.716	0.086
One-Party	-1.362	0.534	-2.542	0.011	-1.359	0.545	-2.489	0.013
<i>Duration</i>								
No-Party	0.087	0.041	2.146	0.032	0.087	0.04	2.156	0.031
One-Party	0.047	0.044	1.084	0.279	0.048	0.044	1.098	0.272
Competitive	-0.027	0.055	-0.487	0.626	-0.029	0.056	-0.523	0.601
Neighborhood	0.32	0.168	1.908	0.056	0.284	0.163	1.74	0.082
Cross-Border	-0.332	0.291	-1.239	0.255	-0.25	0.262	-0.95	0.34
Number of								
Observations	1048				1048			

Source D:\\book\_04\\DMG\_Core\\DMG\_Core\_Miest\_Hat\_New\_Oilcap

Note: Collapsed states and non-independent states dropped from sample.

Table 15: Covariates of Militarization  
(Fixed Effects)

	Equation 1				Equation 2			
	Coefficient	Std. Error	t-statistic	P> t	Coefficient	Std. Error	t-statistic	P> t
Income	2.044	0.839	2.438	0.024				
Literacy	0.085	0.0381	2.233	0.026				
Urban								
Population	-0.052	0.057	-0.916	0.36				
Modernization					2.473	0.905	2.733	0.007
Growth	-0.03	0.013	-2.261	0.025	-0.026	0.011	-2.296	0.023
Drought	-0.185	0.787	-0.235	0.819	-0.161	0.772	-0.208	0.839
Elections	-0.69	0.342	-2.017	0.045	-0.677	0.333	-2.033	0.043
Revenues	-0.072	0.048	-1.515	0.14	-0.051	0.047	-1.088	0.283
Revenues2	0.001	0.001	0.598	0.554	0	0.001	0.312	0.757
Petroleum	0.015	0.008	1.894	0.058	0.013	0.008	1.561	0.119
Petroleum2	-1.80E-05	8.42E-06	-2.166	0.03	-1.60E-05	9.02E-06	-1.803	0.071
No-Party	-6.04	0.603	-1.001	0.317	-0.449	0.536	-0.838	0.402
One-Party	-2.016	0.752	-2.683	0.007	-1.789	0.779	-2.297	0.022
<i>Duration</i>								
No-Party	0.018	0.061	0.292	0.771	-0.009	0.043	-0.215	0.83
One-Party	0.161	0.053	3.054	0.002	0.156	0.048	3.228	0.001
Competitive	-0.007	0.12	-0.059	0.953	-0.002	0.12	-0.019	0.985
Neighborhood	0.09	0.242	0.0372	0.71	0.135	0.202	0.665	0.506
Cross-Border	-0.031	0.0466	-0.675	0.5	-0.039	0.041	-0.949	0.343
Time Since Last Observation								
Number of Observations	0.003	0.036	0.087	0.931	-0.002	0.038	-0.056	0.956
	833				833			

Source: D:\Summer\_Paper\Violence\Dropped\_Runs

Note: Collapsed states and non-independent states dropped from sample.

Table 16: Covariates of Militarization Using Estimated Values  
(Fixed Effects)

	Equation 1				Equation 2			
	Coefficient	Std. Error	t-statistic	P> t	Coefficient	Std. Error	t-statistic	P> t
Income	1.699	0.87	1.952	0.06				
Literacy	0.093	0.039	2.406	0.016				
Urban								
Population	-0.062	0.056	-1.095	0.273				
Modernization					2.374	0.933	2.545	0.012
Estimated								
Growth	-0.097	0.092	-1.049	0.295	0.094	93	-1.012	0.312
Drought	-0.874	0.994	-0.879	0.385	-0.847	1.001	-0.841	0.405
Elections	-0.831	0.334	2.488	0.013	-0.788	0.325	-2.423	0.015
Estimated								
Revenues	-0.206	0.128	-1.613	0.124	-0.184	0.125	-1.474	0.157
Revenues2	0.002	0.128	0.688	0.497	0.02	0.003	0.684	0.498
Petroleum	0.014	0.008	1.816	0.07	0.012	0.008	1.552	0.121
Petroleum2	-1.50E-05	7.57E-06	-1.991	0.047	-1.40E-05	7.89E-06	-1.716	0.086
No-Party	-0.425	0.622	-0.688	0.497	-0.263	0.551	-0.477	0.633
One-Party	-1.821	0.718	-2.535	0.011	-1.591	0.741	-2.147	0.032
<i>Duration</i>								
No-Party	0.02	0.063	0.323	0.747	-0.002	0.048	-0.045	0.964
One-Party	0.152	0.055	2.753	0.006	0.152	0.05	3.02	0.003
Competitive	0.022	0.123	0.18	0.857	0.026	0.12	0.216	0.829
Neighborhood	0.006	0.038	0.156	0.876	0.157	0.173	0.905	0.365
Cross-BorderX								
Neighborhood	-0.039	0.043	-0.892	0.372	-0.048	0.036	-1.328	0.184
Time Since								
Last								
Observation	0.006	0.038	0.156	0.876	-0.002	0.04	-0.039	0.969
Number of								
Observations	833				833			

Source: D:\Summer\_Paper\Violence\Dropped\_Runs\_Hat

Note: Collapsed states and non-independent states dropped from sample.

Recall that the reasoning advanced suggests that the magnitude of government revenues should bear a negative relationship with the likelihood of civic re-armament, but that when “too high,” the relationship should reverse: excessive taxation should undermine the political contract between private citizens and the state. In *all instances* the

signs of the coefficients are as expected. While the standard errors of the coefficients estimated from the pooled sample impart confidence in the argument, those for the coefficients estimated in models that include fixed effects do not. Levels, not differences, bear significant relationships with the likelihood of the formation of private militias. Note that the coefficients for the estimated level of government revenues is greater than that of the “raw” variable, suggesting that government revenues do indeed respond negatively to increased levels of political threat. When the conventional control variables are entered into the model, the instrumented value of the revenue measure becomes statistically significant in estimates derived from the pooled sample (see Table 14).

By the logic of our argument, governments that are certain of positive economic prospects even in the midst of political disorder will be tempted to behave in ways that increase insecurity, thus increasing the likelihood of popular re-armament. The sign and significance of the coefficient on PETROLEUM lends mixed support to our reasoning, with the coefficient being significant in the fixed effects models but not in estimates drawn from the pooled sample. When controls are introduced, however, the coefficient on PETROLEUM exhibits the proper sign and attains statistical significance even when estimated from pooled samples.

Lastly, recall the importance of the discount rate: insofar as executives have reason to fear future political chaos, they will behave in ways that enhance collective security. Should they find themselves at political risk, however, and their prospects in office less certain, they will then place less weight on future losses and more readily succumb to present temptations.



Over the course of the sample period – 1970-1995 – the greatest challenge, perhaps, to incumbent elites came from democratic reforms. With the turn to democracy, elites that once faced no organized competition now had to face competitors for office. The level of political insecurity rose and, by our reasoning, so too the likelihood that the government would engage in predation. As seen in Tables 9-16, this implication is strongly supported by the data. In virtually every specification, the coefficients on the NO-PARTY and ONE-PARTY variables are negative and significant. As the dummy for COMPETITIVE political systems is lodged in the intercept term, the coefficients estimated from the pooled data indicate that single or no-party systems provide a higher level of political security than do competitive party systems. For their part, the coefficients in the fixed effects models indicate that moving from a no- to single-party system to a competitive party system increases the likelihood that civic society will take up arms.

Two additional features of the data on political systems merit comment. The first is the coefficient on ELECTIONS, one of the variables introduced to control for the impact of shocks. The variable takes on the value 1 the year before a national election. In this instance, we ruled out the use of lagged values for the independent variable because we would then be excluding data from precisely the cases of greatest interest: authoritarian regimes that were adopting democratic practices. The coefficient of the variable is negative: during the run up to elections, the presence of armed groups is *less* frequently reported.

Note that when this variable is introduced into the models, the coefficients on the no- and single-party variables remain statistically significant and negative in sign; if

anything, they tend increase in magnitude. Clearly the inclusion of this measure fails to reduce the impact of political competition on the likelihood of militarization. Clearly too the link between political reform and political insecurity cannot run through political campaigns. Because this finding excludes a plausible alternative explanation for the relationship between competition and conflict, it enhances the credibility of our account, which runs through the impact of competition on the conduct of the incumbent regime.

Turning to other control variables, we see that the level of insecurity in a given country year appears to be influenced by the level of conflict in its neighbors. This finding does not reappear in the fixed effects estimates, however. Interestingly, we find no evidence to suggest that the cross-border spill over of ethnic groups provides the transmission mechanism for the contagion we observe.

Suggestive too are the coefficients on the modernization variables: MODERNIZATION itself and its components: INCOME, LITERACY and URBANIZATION. As seen in the data from the pooled samples, countries that are more modern do not significantly differ from others with respect to the likelihood of popular re-armament. But as seen from the fixed effects estimates, as INCOME and LITERACY rise – as countries become more modern in these respects – then so too does the likelihood of political disorder.

#### **IV Conclusion**

In recent years, those seeking economic development in Africa have increasingly focused on politics. Advocating political accountability, they have championed political reform; and they have highlighted the economic as well as the humanitarian costs of violence.

In this article, we have explored the political logic underlying accountability and disorder. We have tied political accountability to policy choice and key variables – the level of public revenues, natural resource rents, and political competition – to the militarization of African societies. By isolating the mechanisms that induce accountability and order, we have highlighted the incentives that would lead even rational political actors to make economically costly decisions. And by subjecting the models to empirical tests, we have assessed the validity of our arguments.

Political reform *can* lead to the choice of more efficient policies, we have learned; but while lowering the level of rent seeking, the conventional mechanisms of accountability – competitive elections – fail to induce macro-economic restraint. Not only that: by increasing the time rate of discount of political incumbents, the shift to competitive politics appears to heighten the level of political disorder. With that shift, it would appear, elites lose an incentive to refrain from predation; and as citizens rationally anticipate the elite's behavior, they prepare to defend themselves. The price of political reform thus appears in Africa to be an increased potential for violence. A political trap thus awaits those who seek to secure economic development by promoting competitive politics.

Some of the results of this investigation reaffirm old truths. From the analysis of political accountability, for example, we find that governments in resource rich economies act as if they face weaker incentives to generate public goods. And from the analysis of political order, we find that governments behave in ways that heighten insecurity when resource endowments offer economic immunity from the costs of state failure. The structure of Africa's economies sharpens the incentives for governments to make choices that enhance the collective welfare. Our analysis thus contributes additional evidence of, and insight into, the nature of the resource curse.

Other insights mark new terrain, albeit in ways that are troubling. They highlight the nature of the trade offs that confront those seeking development in Africa – trade offs that appear to underscore how costly it is not only to have “poor governance” but also to establish “good governance” in Africa.

## References

- Achebe, C. (1987). Anthills of the Savannah. London, Heineman.
- Ake, C. (1996). Democracy and Development in Africa. Washington DC, The Brookings Institute.
- Arellano, M. a. S. B. (1991). "Some Tests of Specification for Panel Data." The Review of Economic Studies **58**: 277-297.
- Barro, R. J. (1973). "The Control of Politicians: An Economic Model." Public Choice **14**(Spring): 19-42.
- Bates, R. H., K. Ferree, et al. (1996). Toward the Systematic Study of Transitions. Cambridge MA, Harvard Institute for International Development.
- Beck, N., J. Katz, et al. (1998). "Taking Time Seriously: Time-Series-Cross-Section Analysis with a Binary Dependent Variable." American Journal of Political Science **42**(4): 1260-1288.
- Beck, N., J. N. Katz, et al. (1998). "Taking Time Series Seriously: Time-Series-Cross-Section Analysis with a Binary Dependent Variable." American Journal of Political Science **42**(4): 1260-88.
- Berdal, M. and D. Malone, Eds. (2000). Greed and Grievance: Economic Agendas in Civil Wars. Boulder CO., Lynne Rienner.
- Block, S. A. (2002). "Political Business Cycles, democratization, and Economic Reform: The Case of Africa." Journal of Development Economics **67**: 205-228.
- Collier, P. and A. Hoeffler (1998). "On Economic Causes of Civil War." Oxford Economic Papers **50**(4): 563-73.
- Collier, P. and A. Hoeffler (1999). Justice Seeking and Loot-Seeking in Civil War. Washington DC.
- Collier, P. and C. Pattillo, Eds. (1999). Investment and Risk in Africa. Basingstoke, Macmillan.
- Diamond, L. and M. F. Plattner, Eds. (1995). Economic Reform and Democracy. Baltimore MD, Johns Hopkins University Press.
- Easterly, W. (2001). The Elusive Quest for Growth. Cambridge MA, The MIT Press.

Englebert, P. (2000). "Pre-Colonial Institutions, Post-Colonial States, and Economic Development in Tropical Africa." Political Research Quarterly **53**(1): 7-36.

Fearon, J. D. (1996). Bargaining Over Objects that Influence Future Bargaining Power. Paper Presented to the 1997 Annual Meeting of the American Political Science Association. Washington DC.

Fearon, J. D. and D. D. Latin (1996). "Explaining Interethnic Cooperation." American Political Science Review **90**(December): 715-735.

Ferejohn, J. (1986). "Incumbent Performance and Electoral Control." Public Choice **50**: 5-26.

Goldstone, J., M. Marshall, et al. (2003). State Failure Task Force Project, Phase III Report. McLean VA, SAIC.

Grossman, H. I. (1995). The Economics of Revolutions. Providence RI, Department of Economics, Brown University.

Honaker, J. (2000). Issues in Multiple Imputation of Data of the African Research Program. Cambridge MA, Department of Government, Harvard University.

Humphreys, M. and R. H. Bates (forthcoming). "Political Institutions and Economics Policies: Lessons from Africa." British Journal of Political Science.

Laitin, D. and J. Fearon (1996). "Explaining Interethnic Cooperation." American Political Science Review **90**(4): 715-35.

Moselle, B. and B. Polak (1999). A Model of the Predatory State. Paper Prepared for Conference on the Breakdown of States, Princeton University. Princeton NJ.

Muthoo, A. (2000). On the Foundations of Property Rights, Part I: A Model of the State-of-Nature with Two Players. Typescript, Department of Economics. Essex, UK.

Ndulu, B. and S. A. O'Connell (1999). "Governance and Growth in Sub-Saharan Africa." Journal of Economic Perspectives **13**(3): 41-66.

North, D. C. and R. P. Thomas (1973). The Rise of the Western World. Cambridge, Cambridge University Press.

Oyugi, W. O., E. S. A. Odhiambo, et al. (1998). Democratic Theory and Practice in Africa. Portsmouth NH, Heinemann.

Persson, T. and G. Tabellini (2000). Political Economics: Explaining Economic Policy. Cambridge, MIT Press.

- Reno, W. (1995). Corruption and State Politics in Sierra Leone. Cambridge, Cambridge University Press.
- Reno, W. (1998). Warlord Politics and African States. Boulder, CO, Lynne Rienner Publishers.
- Rubin, D. B. (1996). "Multiple Imputation after 18+ Years (with discussion)." Journal of the American Statistical Association **91**: 473-489.
- Schafer, J. L. (1997). Imputation of Missing Covariates in Multivariate Linear Mixed Model. University Park PA, Department of Statistics, The Pennsylvania State University.
- Skaperdas, S. (1992). "Cooperation, Conflict, and Power in the Absence of Property Rights." American Economic Review **82**(4): 720-738.
- Skarpedas, S. (1996). Gangs and the State of Nature. The New Palgrave Dictionary of Economics and the Law. P. Newman. London, Palgrave.
- Stiglitz, J. (2002). Globalization and its Discontents. New York, W. W. Norton.
- Summers, R. and A. Heston (1988). "The Penn World Table (Mark 5): An Expanded Set of International Comparisons." Quarterly Journal of Economics **1991**(May): 1-25.
- Usher, D. (1989). "The Dynastic Cycle and the Stationary State." American Economic Review **79**(5): 1031-1044.
- van de Walle, N. (2001). African Economies and the Politics of Permanent Crisis, 1979-1999. New York, Cambridge University Press.
- Weber, M. (1958). Politics as a Vocation. From Max Weber. H. H. Gerth and C. W. Mills. New York, Oxford University Press.
- Weber, M. (1985). Basic Concepts in Sociology. Seacaucus, NJ, Citadel Press.
- Williamson, J. (1990). What Washington Means by Policy Reform. Latin American Adjustment: How Much Has Happened? J. Williamson. Washington D.C., Institute for International Economics.
- Williamson, J., Ed. (1994). The Role of Technocrats in Economic Policy Reform. Washington D.C., Institute for International Economics.
- Wooldridge, J. M. (2002). Econometric Analysis of Cross Section and Panel Data. Cambridge MA, The MIT Press.
- World Bank, (1991). Governance and Development. Washington DC, The World Bank.

World Bank, (2003). World Development Indicators. Washington DC, Oxford University Press for the World Bank.