

National Design and State Building in Sub-Saharan Africa

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### **Abstract**

This paper examines the political geography of state building in contemporary Sub-Saharan Africa. The absence of interstate war has produced a unique situation for contemporary state builders in Africa—they have inherited states with relatively fixed borders encapsulating a variety of environmental and geographic conditions, compounded by varying distributions of population and road densities. Building on the typologies of national design that Herbst (2000) has developed to analyze this environment, I examine the impacts of a variety of strategies that African rulers have employed to increase their state building efforts measured in terms of revenue extraction. These strategies include the allocation of citizenship, interventions in land tenure patterns, and the adoption and management of national currencies. The paper tests the primary hypotheses derived from these strategies as they impact state extractive capacity in sub-Saharan Africa from 1975-2000 with several cross-sectional time-series analyses. The results indicate that the strategies currently adopted by African rulers have failed to substantially augment their extractive capacity.

## Introduction

Sub-Saharan African rulers have struggled to develop autonomous, responsive, and cohesive states in the post-colonial era. The stylized model of the state building process based on the European experience seems to provide little guidance in the contemporary world. Predatory or bellicist theory, as it is often called, draws particular attention to the role that war played in providing opportunities for the consolidation and development of the European state. Yet, African rulers are constrained in their ability to engage in interstate war to alter the borders they inherited from the colonial period. Combined with the wider variability in environmental conditions and geographical features than faced by their early modern European counterparts, African rulers must approach their state building efforts *de novo*. As Herbst (2000: 11) succinctly argues, “the fundamental problem facing state-builders in Africa—be they precolonial kings, colonial governors, or presidents in the independent era—has been to project authority over inhospitable territories that contain relatively low densities of people.”

This paper tests Herbst’s (2000) central propositions concerning the political geography of state building in Sub-Saharan Africa. Herbst argues that rulers must work within the particular geographic configuration of the state, or type of national design, that they received during the decolonization process. States are classified as being endowed with favorable, neutral, hinterland, or difficult national designs that reflect the size and shape of the state and related population and road densities. Rulers may be able to use some aspects of their geographic situation to their advantage, while working to minimize others in the pursuit of state building. In particular, they may manipulate citizenship rules, intervene in traditional land tenure patterns, and promote the use of national currencies in order to cultivate a sense of nationalism, which should produced increased revenue extraction for the state.

The results of several cross-sectional time-series analyses demonstrate that the kinds of strategies recommended by Herbst (2000) as currently implemented by African rulers have not yet contributed to state building effort. Instead, the types of citizenship rules adopted, interventions in land tenure patterns, and choices surrounding national currency adoption and management have significantly reduced state revenue extraction in Sub-Saharan Africa.

### **National Design and State Building**

At its most basic, state building involves the penetration of society for the purpose of resource extraction. Douglass North (1981: 21), for example, defines the state as “an organization with a comparative advantage in violence, extending over a geographic area whose boundaries are determined by its power to tax constituents.” The constitution of the modern state by its ability to exact taxes within a geographic area under its control is not limited to the ideal European state. Herbst (2000: 113) also argues that “there is no better measure of a state’s reach than its ability to collect taxes. If a state does not effectively control a territory, it certainly will not be able to collect taxes in a sustained and efficient manner.” Studies with a different explanatory focus might look at other aspects of state building, but I assume that as the state increases its share of revenue that it may also be building (however imperfectly) administrative capacity, a sense of national identity, and other formal and informal features of modern states. If a state failed to institutionalize these other aspects of state building, then its future revenues would likely decline; hence the focus on extraction as a central feature of state building efforts.

Most scholars in the predatory theory tradition have focused on war as the primary stimulus for increased extraction (e.g., Bean, 1973; Mann, 1986; Tilly, 1975; Levi, 1981; Downing, 1992). The mechanism that links war to extraction is the “ratchet” or “displacement” effect. Rasler and Thompson (1985: 491-492) and Campbell (1993: 165-166) suggest that war

or the threat of war allows the state to ratchet up the level of taxation, or if necessary debt, in several ways. First, war increases the tolerance of citizens for higher taxation in exchange for protection from foreign domination. Second, war increases the tolerance of owners of capital for higher taxation in exchange for protection of their property and government wartime purchases of goods and services. Third, war may allow the state can revisit past bargains with groups in the subject population to dramatically revise the tax system to its own advantage. Finally, war may cause the state to increase taxation or debt issuance to pursue its own survival, regardless of the attitudes of its subject population. The ratchet effect thus moves the acceptable amount of extraction to a higher equilibrium point that results in an overall expansion of the state's fiscal and administrative apparatus (Kiser and Linton, 2001). As a result, "war, state apparatus, taxation, and borrowing advanced in tight cadence" in early modern Europe (Tilly, 1985: 180).

Analysts of state building in the contemporary developing world have continued to focus on the impact of war. Some have argued that developing states are undergoing a very similar experience to the early modern European states that gave rise to the development of predatory theory (e.g., Cohen et al., 1981; Kirby and Ward, 1991; Jagers, 1992; Stubbs, 1999). Others have argued that the contemporary international environment is much less threatening, resulting in weaker states (e.g., Desch, 1996; Lustick, 1997; Centeno, 2002). Both sides of this debate draw on the same underlying logic—strong threats to the state enable increased extraction.

Herbst (1990) explicitly compares the story of European state formation and development with that of sub-Saharan Africa. The major difference, as Herbst (1990; 2000) and others (e.g., Clapham, 1996; Bates, 2001) observe, is the relative lack of interstate war in Africa, along with the rarity of significant border changes. Herbst (1989; 1990) argues that the system of boundary maintenance in Africa has not changed since the scramble for Africa in the late 1800s. Under the

auspices of the Organization of African Unity (OAU), African rulers promulgated a system of norms which declared all inherited colonial borders legitimate. African rulers cooperated to enforce these norms for fear if one border failed, then all would be subject to contention due to the lack of any universally recognized set of natural frontiers. As a result of this norm, African rulers have little to fear from their external environment and little incentive to exert effort to establish internal sovereignty (Jackson and Rosberg, 1982). The resulting lack of nationalism and legitimacy has led to comparatively less penetration of society for the purposes of resource extraction. The ratchet effect that allowed predatory rulers in Europe to use war or the threat of war to increase extraction from their subject population was therefore largely absent in Africa.

As a result, there is no single “model of control” for African states vis-à-vis their subject populations (Herbst, 2000: 12). “Due to low population densities and the large amount of open land in Africa, wars of territorial conquest...have seldom been a significant aspect of the continent’s history” (Herbst, 2000: 20). Further, in both the colonial and independence periods, both Europeans and Africans have actively worked to prevent war. The defining role played by war in European state building was therefore not replicated in Africa. The external pressure provided by war that might have caused African states to consolidate authority into a single mode of control was absent. African state leaders thus pursued multiple strategies to control their territories.

Herbst (2000) argues that geography and boundaries are important aspects of state building that are largely overlooked due to the European experience. In early modern Europe, war largely shaped boundaries and defined citizenship, thus the exclusive focus on war. However, since most developing country borders are not subject to contention, including those in Africa, we need to modify our analyses of the state building process. Herbst (2000) develops

several important lines of argument about the impact of the political geography of African states on their economic and political development. This perspective starts with the notion that “the most consequential buffer mechanism is the territorial boundary that mediates political pressures, including threats of intervention, from rivals” (Herbst, 2000: 25). Since African rulers inherited their boundaries virtually intact and agreed to maintain them as such, they are the “critical foundation upon which leaders have built their states.” The “continuous aggressive competition for trade and territory among changing states of unequal size” that made war so important in early European history according to Tilly (1992: 54) was short circuited in the postcolonial era. A political geography perspective then asks how African rulers proceeded to make their states given relatively fixed borders and little fear of external invasion.

One obvious consequence of this system of boundary maintenance was the disruption of the ratchet effect mechanism linking war to increased extraction. African rulers faced other problems in attempting to extract resources as well. Most African states are characterized by low population densities distributed across vast interior spaces, making it incredibly difficult to tax individuals. The relatively low value of land, given its overall abundance, made it difficult for the state to derive substantial rents, especially considering the ease of migration. The low road density also made it difficult to project centralized state power over the interior. Instead of further consolidating state control over territory, Herbst (2000: 19) suggests that “even the most basic agents of the state—agricultural extension workers, tax collectors, census takers—are no longer to be found in many rural areas.” The combination of low population and road density, and vast hinterlands made it difficult for the African state to project power internally. Clapham (1996), Herbst (2000), and David (1991) all note that in many cases the African state primarily

represents the group that holds power in the capital, since exerting control much further was often not feasible.

Herbst (2000) analyzes the importance of population density, physical size and shape, and the configuration of state boundaries to produce a typology of African national design. The type of national design that rulers inherit is argued to shape their strategies for state building. Countries with *difficult* political geographies are physically large in size, and have areas of non-contiguous high population density. This distribution of population is especially problematic for states attempting to exert their authority and control. This combination also tends to yield a complex ethnic situation, since ethnic groups in African are often highly concentrated in single geographic areas. The geographic distinctiveness of groups separated by large distances is one of the reasons that African states have high levels of ethno-linguistic fragmentation. States faced with this kind of political geography have a very difficult time projecting power, consolidating their rule, and extracting tax revenues. These states include Angola, the Democratic Republic of the Congo, Mozambique, and Nigeria, among others. As Herbst (2000: 151) notes, “the geography of these countries is most at odds with the understanding of sovereignty that was developed in Berlin and then enshrined by the OAU.”

*Hinterland* countries are slightly better endowed in political geographic terms. Hinterland countries are also very large in physical size, yet their areas of high and medium population density are concentrated in a relatively small area of the country. The remainder of the territory is a largely unpopulated hinterland, as in states like Mauritania, Mali, Chad, and Niger. The existence of the hinterland poses particular challenges and opportunities to these states. The hinterland largely escapes the central government’s control, yet control of the state can be reduced to control of the capital city. In fact, the capital is always contested to control the

entire territory, but the state has the advantage of being in close proximity to the majority of its population. In some ways the state has advantages in extracting taxes due to such proximity, but the lack of state penetration into the vast interior can be problematic as well. Rebels and other malcontents have the ability to flee into the hinterland if needed.

Countries with *neutral* political geographies, like Cameroon, Cote d'Ivoire, Ghana, Kenya, and Zambia, among others, have relatively dispersed populations. Yet the population centers are not so discontinuous, and their hinterlands are not nearly as large as the aforementioned hinterland countries. As a result, their political geographies are not especially difficult or favorable for state consolidation. As Herbst (2000: 159) notes with regard to neutral political geography, "there is a significant amount of subjectivity in that classification."

The last category includes the countries with *favorable* political geography. The highest concentration of population in these states is typically in one area around the capital, then the population densities decrease gradually as one moves outward from the city. These countries also tend to be relatively small, which means that the state generally has an easy time projecting power outward from the center. These states include Botswana, Burkina Faso, Gabon, Guinea, Swaziland, Togo, and others. Also included in this classification are countries so small that population distribution is not an issue, such as Togo, Lesotho, Swaziland, and Gambia. This small size lends quite favorably to state building efforts, including revenue extraction. Herbst (2000: 161-170) also notes that road densities tend to map onto his typology of African national design; hence, countries with difficult political geographies have lower road densities and those with favorable political geographies have higher road densities. While the stock of roads has changed somewhat over time, the ranking of states by road density has not changed much.

Accordingly, we would expect that the ability to extract resources will vary depending upon the type of national design faced by the ruler.

Herbst (2000: 159) is careful to note that geography is not destiny, it “is only a given.” The lack of war inherent in the Africa interstate system combined with inherited national designs has diminished the state’s ability to generate a national identity to replace competing ethnic affiliations, tie the state to the nation, and increase the tolerance of citizens for taxation. Yet, African rulers have adopted several strategies to attempt to centralize and consolidate their rule by supplanting ethnic networks and identities with the nationalist project. These strategies include interventions in land tenure patterns traditionally controlled by local chiefs, the manipulation of citizenship rules, and the adoption and management of a national currency. All of these strategies are designed to forge a nation out of competing, localized ethnic groups. If successful, these strategies should allow the state to increase revenue extraction without the typical historical recourse to war.

As Herbst (2000: 173) argues, “the inability of African states to project power over distance has meant that one of the most contentious issues in the politics of the continent has been the relationship between central authorities and local leaders.” “Chiefs,” as Herbst calls them, are often viewed as competitors to central rule because of the loyalties that citizens enmeshed in various ethnic networks have for them. Chiefs are often seen as more legitimate than the rulers of the state because of their historical legacies, ethnic affiliations, and their control over local resources such as land (Boone, 2003). State interventions in the patterns of land tenure indicate how well the state is projecting power from the center. It also indicates how well the state is disrupting the traditional legitimacy and loyalty of the chiefs, which rival the

nationalist project. Such intervention also increases the ability of the state to tax land and its product.

Herbst (2000: 182-192) develops a system of coding the extent to which the state has disrupted customary practices of land tenure. Individual freehold, state ownership, and the formal acknowledgement of customary practices (rather than chiefs' interpretations of such practices) all challenge the chiefs and could potentially enhance state extraction, regardless of the type of national design. However, Herbst (2000: 193) is clear that most states in Africa have failed to disrupt community-based land tenure policies, mainly because the costs of extending state power to the rural areas seem to outweigh the benefits. As a result "the rough equilibrium in conventional politics between the state and traditional leaders—where neither makes significant inroads on the other's turf—appears likely to be relatively stable for many countries for many years" (Herbst, 2000: 197). The effect of state interventions on extraction is thus unclear, though Herbst (2000: 197) suggests that the problems posed by the disjunction between the central government and local control of land should be greater in countries with problematic geographies, especially in the hinterland countries.

Herbst (2000) also argues that rules defining citizenship are, and perhaps should be, part of a ruler's strategy for state building. "Citizenship laws," as Herbst (2000: 231) notes, "are critical to examine because these regulations explicitly tie populations to unique, territorially defined polities." They serve as "boundary mechanisms" by determining who is a citizen by law, rather than through the state making process characteristic of early modern Europe. Citizenship rules are also a strategy for forging a nation out of competing ethnic identities. In Africa, citizenship laws come in two basic forms: *jus soli* and *jus sanguinis*. *Jus soli* means that those who are born within the state's territory are citizens, while *jus sanguinis* refers to

citizenship through parentage regardless of the territorial location of birth. *Jus sanguinis* is an attractive citizenship rule for those who want to create a sense of nationality by keeping a group of people symbolically and factually connected. However, it may lead to large numbers of individuals born and living within a state who are not citizens. The type of citizen rule adopted poses a trade-off between allegiance and inclusion. *Jus sanguinis* promotes a high degree of allegiance, while *jus soli* promotes a high degree of inclusion. These two types of citizenship rules are largely a relic of former colonizers as the U.K. and Portugal were *jus soli* states and France and Belgium were *jus sanguinis* states, though some African states changed their rules upon independence.

Herbst (2000: 242-244) explicitly argues that the type of citizenship rule a state adopts should depend upon the political geography of the country. For example, *jus soli* citizenship rules are most appropriate for states with unfavorable geographies, since no rule is likely to create a strong allegiance to the state given their size and population distributions. Citizenship may be one of the few things the state can provide given its difficulty in projecting power in these situations. In contrast, *jus sanguinis* may be most appropriate in states with favorable political geographies. This type of citizenship allows for developing a sense of nationalism, which should improve extraction. The high degree of exclusion it creates can be matched by a high degree of state presence. Herbst (2000: 243) recommends that countries with favorable geographies that have not adopted *jus sanguinis* do so. These normative recommendations reflect Herbst's (2000: 239) observation that most African states "have often not actively managed their citizenship regulations." If anything, states have tended to drift toward *jus sanguinis* regulations as a way to exclude potential challengers to their rule, even if this citizenship rule is otherwise inappropriate for a state's political geography.

A final strategy described by Herbst (2000: 203-204) concerns the adoption and use of a national currency. A national currency helps to promote a sense of unity if the citizens of a country are persuaded that the currency is a trustworthy store of value. Widespread use of the national currency is “as substantive an economic vote of confidence as a state can receive” (Herbst, 2000: 202). The failure of a national currency to achieve dominance in a state is also a sure condemnation of the central government. As Cohen (1998) and Helleiner (2003) have noted, the adoption of territorial currencies has always been associated with the centralization and consolidation of state power. In Africa, political conflict over currency issues relates to longstanding disputes between the government and business over who controls the money supply, a rural-urban split, and decisions about the extent of integration of the national economy into the global economy. African governments have often sought to reap benefits from the inflation tax, which is detrimental to business interests. They have also often maintained overvalued exchange rates, which hurt mineral and agricultural export industries located in rural areas while aiding urban consumers. Finally, the national currency has often been used, mostly unsuccessfully, as a buffer between the domestic and international economy.

Anglophone countries in Africa moved quickly upon independence to create their own national currencies, in part to be able to manipulate the currency to meet increasing needs for revenue. This led to problems as the combination of import controls and failure to adjust the exchange rate led to overvalued currencies. Overvalued currencies led to black markets in foreign exchange and a failure to diversify exports. In particular, the rural population and foreign business suffered from these policies. Anglophone countries thus had the potential to gain national symbolism from their currencies, but mismanagement negated this benefit in many cases. While structural adjustment programs adopted in the 1980s and 1990s have pushed many

of these countries to adopt officially flexible exchange rates, most in practice operate a kind of managed float that varies in its level of intervention.

Most Francophone countries stayed within the CFA franc zone, originally established in 1946. The CFA franc zone is comprised of the West African Economic and Monetary Union (WAEMU) and the Central African Economic and Monetary Community (CAEMC). Each has its own central bank and issues its own currency. Countries in the CFA Franc Zone have generally enjoyed low inflation and substantial economic growth due to the external peg. Originally, the French treasury guaranteed that the CFA franc was directly convertible to the French franc at a rate of 50:1. The CFA franc progressively became overvalued, dragging down economic growth beginning in the late 1980s until the overvaluation became too substantial to bear in 1994, when it was revalued at a rate of 100:1. Now the CFA franc enjoys a fixed parity to the Euro (guaranteed by France). While the peg has brought substantial benefits for decades for its membership, it did not completely prevent banking crises, overvaluation of the currency, a lack of fiscal discipline, and monetization of fiscal deficits in many member states. It also removed the possibility of using a national currency as a unifying symbol of the state. Ultimately, Herbst is not clear whether any of the strategies pursued by African states to develop and manage their national currencies succeeded.

Despite that lack of specific predictions derived from the Herbst (2000) framework, the general argument that the national design of a state should be consequential for the kinds of strategies that African rulers employed to build their states and the resulting political and economic outcomes they achieved is compelling. These strategies include state intervention in patterns of land tenure, citizenship rules, and the establishment and management of a national currency. Understanding state building in the contemporary developing world should be

enhanced by a consideration of the changing constraints and opportunities presented to rulers' extractive activities by inherited political geographies.

### **Data and Method**

Since the strategies employed by African state builders will be more or less successful depending upon the type of national design they inhabit, I divide the 40 African states examined by Herbst (2000: 161) into his four categories for analysis.<sup>1</sup> These categories may be seen as a reflection of varying degrees of "stateness" (Nettl, 1968). Herbst (2000: 151-155) argues that favorable national designs constitute states that are most consistent with European and OAU understandings of sovereignty, while difficult political geographies result in states that are most at odds with our traditional understanding of sovereignty. Whether the typologies of national design represent a continuum of stateness or perhaps even different types of states altogether, it seems inappropriate to combine them together for analysis. Generating statistical models for each of the four types allows us to capture the effects of the strategies used by African rulers within the different contexts of their inherited political geographies.

The dependent variable of interest in all of the models is the *tax ratio*, which is the state's tax revenue as a percentage of gross domestic product (GDP). The tax ratio is the conventional gauge of the state's extractive capacity (e.g., Peacock and Wiseman 1961; Organski and Kugler 1980; Prest 1985; Seidman 1986; Webber and Wildavsky 1986; Campbell 1993; Chaudhry 1997; Cheibub 1998; Fauvelle-Aymar 1999; Tsai 1999; Centeno 2002; Thies, 2004). As Organski and Kugler (1980, 74) argue "taxes are exact indicators of governmental presence." Taxation and the development of bureaucracies that support regularized extraction activities are fundamental to the survival of the modern state. The tax ratio is certainly not the only potential indicator of the state's financial strength, but all other indicators are similarly comprised of some aspect of

taxation in comparison to GDP or total revenue (Lieberman 2002). However, since the tax ratio is the most common indicator, and Herbst (2000: 113) also argues that “there is no better measure of a state’s reach than its ability to collect taxes,” I adopt it for comparative and theoretical purposes. The data for the tax ratio and control variables are from the World Development Indicators (2001) and the International Monetary Fund’s *International Financial Statistics Yearbook* (various editions), unless otherwise indicated.

In order to measure the impact of the primary independent variables of interest, I rely on Herbst’s codings of African ruler’s use of the strategies described above. Herbst (2000: 247) codes citizenship rules as either *jus sanguinis* or *jus soli*. I create a dichotomous indicator of ***citizenship*** with *jus sanguinis* = 1 and *jus soli* = 0.<sup>2</sup> *Jus sanguinis* is argued to promote a higher degree of nationalism, which may be linked to greater tolerance of increased extraction in certain kinds of national designs. I also use Herbst’s (2000: 192) codings for state interventions in patterns of ***land tenure***. This is an ordinal measure that ranges from 0 to 5 based on the extent of individual freehold, state ownership, and the formal legal acknowledgement of customary practices of land tenure.<sup>3</sup> Higher scores produce disruption of the chiefs’ power and are generally argued to increase extraction if successful.

Since much of Herbst’s (2000) discussion of national currency adoption and management is framed in terms of states that adopted their own currencies versus those that stayed within the CFA franc zone, I create a dichotomous indicator for membership in the ***CFA franc zone***.<sup>4</sup> While the failure to adopt a national currency should result in less promotion of a national identity that could eventually lead to increased revenue extraction, the CFA franc zone peg provided a remarkable degree of macroeconomic stability to its members. Hence, it is likely that CFA franc zone membership has enhanced revenue extraction. Yet, CFA franc zone members,

along with states that adopted their own currencies, have been guilty of mismanaging the money supply in Africa to enhance their revenues or monetize their debts. I therefore include a second indicator of *money supply growth* that accounts for increases in the supply of money and quasi-money.

The standard control variables for predictions of the tax ratio in developing countries are also included in all of the models. Internal ethnic divisions that might potentially lead to violence, but may be successfully dealt with by bargaining with the state over their share of the tax burden may lead to reductions in state extraction. I include an ethnolinguistic fractionalization index, *ELF Index* (e.g., Easterly and Levine 1997, Sambanis 2001), to capture the difficulty of state penetration of societies organized around ethnicity. This commonly used index of ethnolinguistic fractionalization ranges from 0 (complete ethnic homogeneity) to 100 (complete ethnic heterogeneity) by measuring the probability that two randomly chosen individuals belong to different ethno-linguistic groups.<sup>5</sup> If African states are concerned with the violence potential or other difficulties associated with governing ethnically divided societies, then this measure should capture the negative effects on extraction that result from bargaining with those groups.

The control variables include several features of the political system, starting with a measure of *democracy*, which is derived from the polity2 score from Polity IV, and varies between +10 (most democratic) to -10 (most autocratic). The polity2 score is transformed into a dichotomous variable, with a score of 6 or greater indicating a democracy and all lower scores indicating an autocracy. Predatory theory based on the European experience expects a negative relationship between democracy and the tax ratio (e.g., Tilly 1985; Olson 1993), although previous empirical studies find mixed evidence for this proposition in the developing world (e.g.,

Cheibub, 1998; Thies, 2004). As a proxy for institutional capacity, I employ an indicator of *age*, measured by the number of years since official independence. Jackman (1993) argues that the chronological age of the state is an important feature of its political capacity. Older organizations, including developing states, have in some sense adapted to their environment in order to survive. The age of an organization also impacts its legitimacy to the extent that the organization is perceived by the relevant population to have always existed. However, Jackman (1993, 93) also argues that age will exhibit nonlinear effects on development, as “the liability of newness is most pronounced in the first years or decades, and that it becomes less significant with age.” I employ a squared term, *age*<sup>2</sup>, to capture this nonlinear effect.

I also control for several indicators of the transaction costs associated with taxation, including GDP per capita, trade openness, and several measures of the sectoral composition of the economy (e.g., Cheibub 1998). The impact of national wealth and economic development on the tax ratio is assessed with *GDP per capita* and *GDP per capita*<sup>2</sup> in dollars. I expect a nonlinear relationship between the level of wealth in society and the state’s ability to extract. At lower levels of wealth the state is likely to have a difficult time extracting from society, while the ease of extraction should increase at higher levels. States with higher levels of economic development should have the ability to extract a larger portion of the national income as taxes, as well as a larger pool of resources to draw from in the first place. *Trade openness* measured as imports and exports as a percentage of GDP is expected to be positively related to tax revenues as international trade is relatively easy to tax as it moves through a limited number of ports. Reliance on customs duties is common in developing countries, including those in Africa.

I also include *agriculture* as a percentage of GDP as one indicator of the sectoral composition of domestic product. The standard argument is that it is relatively easier to tax the

modern sectors of the economy (manufacturing or mining) as opposed to agriculture. Consistent with previous studies, I also include *mining* as a percentage of GDP, but the empirical results have proven inconclusive. Fauvelle-Aymar (1999) and Cheibub (1998) both found an unexpected negative association between mining and the tax ratio. As Leiberman (2002, 98) points out, this is likely due to the fact that some types of mineral production, such as oil, are classified as non-tax revenue for the state.

Finally, *official development assistance* (ODA) as a percentage of GDP, and public and publicly guaranteed *debt* as a percentage of GDP are both included in the model as the literature suggests that these sources of international funds have prevented developing states from enhancing their domestic resource extraction capabilities (e.g., Snider 1990; Bates 2001). Both variables should be negatively associated with the tax ratio.

I employ data on 40 sub-Saharan African countries categorized into 4 types of national design. The time series start in 1975 and end in 2000 with a maximum of 26 yearly observations, though some states have fewer due to their dates of independence and some missing data. Unfortunately, data on sub-Saharan Africa is not widely available for the 1960s, which would enable us to capture the variation in the tax ratio from the beginning these states' independence. The reader should interpret the results with caution given that data quality for developing states in Africa is not as good as that of the developed world. This issue has often led to the inclusion of an African dummy in many cross-national statistical studies (Englebert 2000; Lemke 2003).

The choice of statistical method was driven by considerations about the nature of the data. Pooled cross-sectional time-series models often involve violations of the ordinary least squares (OLS) assumptions of homoscedasticity and uncorrelated error terms. While OLS

estimates are unbiased in the presence of autocorrelation, these estimates are not efficient, and the variability of OLS coefficients affects the tests of statistical significance. I estimate the following pooled cross-sectional time-series models using the Beck and Katz (1995) solution for these problems in OLS, panel-corrected standard errors (PCSEs) with an AR1 correction.

### **Analysis**

The effects of the strategies adopted by African rulers to adapt to their political geographic circumstances are examined in four separate models. The model of tax revenue extraction for states with favorable national designs is found on the left side of Table 1. Contrary to Herbst's (2000: 243) argument that a *jus sanguinis* citizenship rule is most appropriate for countries with favorable national design, the impact of this variable on the tax ratio is significantly negative. While rulers may have adopted this strategy as a way to consolidate their power, it does not seem to have stimulated increased extraction through encouraging a sense of nationalism. Similarly, interventions in land tenure patterns have a significant, negative effect on extraction. While Herbst argued in principle that the effect of the state replacing the chiefs as the arbiter and guarantor of property rights should enhance its extractive ability, this effort does not seem to have yielded any benefits for the state. Herbst is careful to note that very few states have effectively implemented state control over land, so this finding may not be especially surprising.

[Table 1 about here]

States that maintained their membership in a currency board instead of adopting their own national currency also achieved greater tax revenues in Africa. While Herbst's argument about using the national currency as a source of symbolism to forge a nation out of competing ethnic affiliations is persuasive, he also recognized that few states that adopted that strategy did it well. Instead, as indicated by the variable for money supply growth, the temptation to

manipulate the money supply in lieu of increased taxation was often overwhelming. Thus, in the case of states with favorable national designs, none of the strategies recommended by Herbst to achieve state building seems to have yielded benefits in terms of revenue extraction.

The control variables in states with favorable national designs are also quite interesting. Higher levels of ethnolinguistic fragmentation produce lower levels of tax revenue extraction as generally expected. Democracies extract taxes at a higher level than non-democracies in states with favorable national designs. This is an interesting finding given that generally democracies are thought to extract less, despite mixed evidence in the developing world. The nonlinear effects of age on extraction are reflected in the data, with older, established states extracting more than their newer counterparts. The nonlinear effects of GDP per capita upon the tax ratio at first glance do not appear to be what we would expect in the developing world. In countries with favorable national design, less wealthy states extract more than their wealthier counterparts. However, the break even point where overall extraction begins to decline is around \$6686, which is only achieved by Gabon. Trade openness has the expected significant and positive effect on the tax ratio, given the traditional reliance on customs taxes in Africa. Agriculture is significantly and negatively related to the tax ratio, as expected given that it is a difficult sector to tax. Mining, foreign aid, and debt are not significant in this model, though their signs are in the expected directions.

In countries with neutral national designs Herbst's strategies also fail to achieve the expected results as shown on the right side of Table 1. Neither the variable representing citizenship rules, nor interventions in land tenure are significant, though their signs are negative as in the first model. In terms of the management of currency, the CFA franc variable is not significant, yet the impact of excessive growth in the money supply has a significant negative

effect on the tax ratio. This lack of findings may be a result of Herbst's use of this category of national design as a "catch-all" for states that do not fit his other three categories. The findings may also indicate that there is no best strategy for enhancing national unity in a country where political geography offers no particular challenges or opportunities.

Ethnolinguistic fragmentation has the expected significant, negative effect on the tax ratio in countries with neutral national designs. Democracy is not significant factor in this model. The effects of age are different in this category of states, as newness does not appear to be a liability. The break even point where age begins to exert an overall negative effect is around 44 years, which is only achieved by Ghana in this sample. The nonlinear effects of GDP per capita are also similar to the favorable national design countries, though the point where extraction would actually decline lie outside the observed range for these states at \$1482. Trade openness has a positive and significant effect on the tax ratio as expected. The sectoral measures for agriculture and mining as a percentage of GDP are not significant, nor are the measures of external financing in the form of official development assistance and debt.

In the model of the tax ratio in countries with hinterland national designs (left side of Table 2), the citizenship variable is dropped since they are all *jus sanguinis* countries. Herbst (2000: 244) argues that *jus sanguinis* is the best choice for these countries, but it is impossible to test statistically without any variation. The variable representing interventions in land tenure patterns is negative and significant. Membership in the CFA franc zone is positively and significantly related to the tax ratio, while growth in the money supply is not significant. Ethnolinguistic fragmentation is significantly and negatively related to the tax ratio as expected. The only other control variable that is significant in this model is the negative effect of agriculture on the tax ratio. It is clear that the control variables included in these statistical

models do not explain the tax ratio in hinterland countries as well as those in favorable or neutral countries.

[Table 2 about here]

Herbst's strategies receive partial confirmation in the model of the tax ratio in countries with difficult national design (right side of Table 2). The citizenship measure is insignificant, which contradicts Herbst's (2000: 242) suggestion that *jus soli* rules would be most appropriate for these states. Since this is a dichotomous measure, the effect of *jus soli* is inferred by simply flipping the sign on the coefficient as it is reported in the table. Interventions in land tenure patterns seem to have had a positive and significant effect on the tax ratio. Herbst (2000: 188) recognizes the substantial success that state builders achieved in Namibia in disrupting customary land practices, which resulted in 74 percent of arable land being in the hands of commercial farmers. Namibia thus likely drives this result compared to other low scoring states in this typology of national design, including the Democratic Republic of Congo, Nigeria, and Senegal. CFA franc zone membership has a significant, positive effect on the tax ratio while money supply growth is insignificant. The measure of ethnolinguistic fractionalization has a significant, negative effect on the tax ratio. Herbst (2000: 146) expects that ethnolinguistic fractionalization will be an especially difficult problem for countries with difficult national design, but it is clearly a substantial issue for all states in Africa. The liability of newness of institutions represented by age is significant and mining has a significant, positive effect on the tax ratio, while none of the other control variables is significant. As Herbst (2000: 151) explains, countries with difficult political geographies are most at odds with our traditional understanding of sovereignty, therefore, we should not be surprised when a standard statistical model does not predict well.

Overall, what lessons do we learn from these analyses? First, the impact of citizenship rules on extractive efforts is not especially clear. In countries with favorable national design *jus sanguinis* citizenship rules significantly reduce extraction. If these rules are able to promote a sense of nationalism in these countries, then it is not translating into enhanced extraction. The effect of *jus sanguinis* rules, which Herbst notes that many African countries have drifted toward over time, is non-significant in the other models where it is represented. The effect of state intervention in local control of land has had a significantly negative effect on the tax ratio in countries with favorable and hinterland national designs. This probably reflects the general inability of states to intervene into rural areas and the resistance that such intervention prompts when it has occurred. Herbst is clear that most state interventions in land tenure patterns have been piecemeal, sporadic, and largely ineffective in wresting control away from the chiefs. The only type of national design where this strategy has been successful is in countries with difficult national designs. Finally, African rulers that opted not to pursue their own national currencies and stay within the CFA franc zone achieved greater levels of extraction in all but states with neutral national design. Mismanagement of the money supply seems to have little significant effect on the tax ratio, with the exception of its damaging effects in countries with neutral national design.

### **Conclusion**

The incorporation of political geography into an understanding of state building is crucial to understanding the trajectory of states in the developing world. Rulers in Africa generally do not have much impact on their territorial boundaries, unlike their early modern European counterparts. As a result, decisions about what territory and people they control or must attempt to control have already been made for them. African rulers must adapt to the states they have

inherited, including all of their challenges and opportunities. Unfortunately, African rulers appear to be stuck with national designs that are generally impervious to efforts to increase extraction.

The strategies described by Herbst to produce a sense of nationalism and increase the reach of the state within its territory have not generally produced increased tax revenue extraction. The type of citizenship rule in place across the various national designs has not promoted increased extraction. Herbst's suggestion that African rulers consider actively manipulating their citizenship rules thus makes a great deal of sense. Rather than stay with the citizenship rules that were inherited from former colonial powers, rulers should consider changing course in conjunction with the type of political geography they also inherited. Thus far, state interventions in the control of land seem to have been counterproductive, with the exception of countries with difficult national designs. It is difficult to infer from the data whether increased intervention would promote extraction, or whether the cost of such activities would be worth the benefits. Further, states that have chosen not to adopt a national currency have fared better than those that did in the post-independence period, regardless of the type of national design they inherited. While national currencies might be an attractive form of symbolism, it is unlikely that the IMF or World Bank would recommend that these states adopt their own currency given the lack of institutional infrastructure such as legally independent central banks to oversee currency management.

What else do African rulers have the ability to manipulate in order to increase their revenue extraction? Obviously, they cannot change the degree of ethnolinguistic fragmentation to any great degree, which dampens revenue extraction across all types of national design. Countries with favorable national designs might consider democratic governance, but that

strategy may often fall on deaf autocratic ears. Rulers cannot manipulate their state's age, but they could enhance governing institutions for which age is a proxy. Yet, as we know, this is a very difficult prospect, just as attempting to increase GDP per capita or change the sectoral composition of the economy. Curiously, outside sources of government revenue such as official development assistance and debt do not significantly affect tax revenue extraction in any type of national design. Many who stress the different circumstances of developing country state building often focus on these sources of external funding as a reason why state building is inhibited in the contemporary era (e.g., Bates, 2001).

If tax revenue extraction is a useful way to measure state building, then it is clear that most of the strategies available for rulers to manipulate have not assisted in this process in Africa. It may be the case that African rulers themselves are unaware of the constraints and opportunities imposed by their political geographic circumstances. It is likely that they have some sense of the constraints, but the opportunities to incorporate some types of strategies into state building may have escaped them. Or, it may also be the case that political geography may in fact be destiny for African state builders. The type of national design that African rulers have inherited may simply place firm limits on their ability to achieve autonomous, cohesive and responsive states in the post-independence era. It is clear from Herbst's (2000) work and the results in this paper that future research and practical efforts in the region must consider the impact of political geography on state building.

**Table 1. The Effect of Favorable and Neutral National Designs on the Tax Ratio**

Independent Variables	<u>Favorable National Design</u>		<u>Neutral National Design</u>	
	OLS Coefficient	PCSE	OLS Coefficient	PCSE
Citizenship	-.0850***	.0170	-.0340	.0207
Land Tenure	-.0251***	.0068	-.0184	.0110
CFA Franc	.0302**	.0102	.0071	.0170
Money Supply	-.0015	.0010	-.0285**	.0097
ELF Index	-.0018***	.0003	-.0060***	.0011
Democracy	.0671***	.0127	-.0151	.0283
Age	-.0020	.0012	.0089**	.0029
Age <sup>2</sup>	3.4e-05**	1.35e-05	-.0002***	.0001
GDP per capita	2.32e-05	1.32e-05	.0002*	.0001
GDP per capita <sup>2</sup>	-3.47e-09*	1.81e-09	-1.35e-07*	6.54e-08
Trade Openness	.0403**	.0141	.0894***	.0254
Agriculture	-.1598***	.0424	-.0040	.0457
Mining	-.0183	.0428	.0420	.0752
ODA	-.0398	.0216	.0369	.0357
Debt	-.0093	.0070	-.0127	.0085
Constant	.3152***	.0383	.4876***	.1081
N	412		180	
Adj. R <sup>2</sup>	.80		.80	
Wald $\chi^2$	370.63***		206.58***	

Note: All significance tests are two tailed; \*p < .05, \*\*p < .01, \*\*\*p < .001.

**Table 2. The Effect of Hinterland and Difficult National Designs on the Tax Ratio**

Independent Variables	<u>Hinterland National Design</u>		<u>Difficult National Design</u>	
	OLS Coefficient	PCSE	OLS Coefficient	PCSE
Citizenship	(dropped)		.0303	.0305
Land Tenure	-.1352*	.0581	.1177***	.0334
CFA Franc	.7092**	.2721	.1667**	.0619
Money Supply	.0145	.0245	.0006	.0006
ELF Index	-.0224**	.0082	.0035*	.0017
Democracy	-.0239	.0283	-.0013	.0150
Age	.0039	.0102	-.0057*	.0026
Age <sup>2</sup>	-.0001	.0002	.0001	.0000
GDP per capita	.0008	.0006	1.38e-06	.0001
GDP per capita <sup>2</sup>	-1.03e-06	1.00e-06	-3.04e-08	4.22e-08
Trade Openness	-.0832	.0482	.0215	.0407
Agriculture	-.3656**	.1286	-.0819	.0676
Mining	-.1435	.4460	.2793**	.1024
ODA	-.0088	.0841	.0229	.0354
Debt	-.0203	.0379	.0107	.0150
Constant	1.5208*	.6323	-.2626	.1830
N	104		182	
Adj. R <sup>2</sup>	.49		.55	
Wald $\chi^2$	63.65***		131.34***	

Note: All significance tests are two tailed; \*p < .05, \*\*p < .01, \*\*\*p < .001.

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## Notes

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<sup>1</sup> Countries with difficult political geographies include Angola, Democratic Republic of the Congo, Ethiopia, Mozambique, Namibia, Nigeria, Senegal, Somalia, Sudan, and Tanzania. Hinterland countries include Chad, Mali, Mauritania, and Niger. Countries with neutral political geographies include Cameroon, Cote d'Ivoire, Ghana, Kenya, Malawi, Uganda, and Zambia. Countries with favorable political geographies include Benin, Botswana, Burkina Faso, Burundi, Central African Republic, Congo-Brazzaville, Equatorial Guinea, Eritrea, Gabon, Gambia, Guinea, Guinea-Bissau, Lesotho, Liberia, Rwanda, Sierra Leone, Swaziland, Togo, and Zimbabwe.

<sup>2</sup> *Jus sanguinis* citizenship rules are now used in 26 states, including Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo, Cote d'Ivoire, Democratic Republic of Congo, Eritrea, Ethiopia, Gabon, Ghana, Guinea, Malawi, Mali, Mauritania, Mozambique, Niger, Rwanda, Senegal, Somalia, Sudan, Togo, and Zambia.

<sup>3</sup> Herbst's (2000: 185) coding scheme is as follows. States were given 2 points if significant state and private leaseholds existed, 1 point if some leaseholds existed, and 0 points if none existed. States were given 1 point if they formally recognized customary land tenure practices and 0 points if they did not. The final scale could range from 0 to 5, though no states scored a 0. Since few states scored a 4 or 5 in this coding scheme, I also created a dichotomous variable with 1 = 4 or 5 in Herbst's coding scheme and 0 = 0 – 3 as a robustness check. Substituting this dichotomous measure for the ordinal measure created by Herbst has the same effect in the statistical models.

<sup>4</sup> CFA franc zone states include the members of the WAEMU and CAEMC. WAEMU member states are Benin, Burkina Faso, Cote d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, and Togo.

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CAEMC member states are Cameroon, Central African Republic, Chad, Congo, Equatorial Guinea, and Gabon.

<sup>5</sup> Posner (2004) criticizes the ELF measure due to the source of its ethnographic data, the problems posed by trying to summarize the ethnic composition of a country using a single measure, and inconsistency between the operationalization of the measure and the causal logic behind the hypotheses it is often used to test. After pointing out that there is “no single ‘correct’ accounting of the ethnic groups in a country, and thus no single ‘correct’ ethnic fractionalization index value” (p. 850), Posner develops his own measure, Politically Relevant Ethnic Groups (PREG). To his credit, Posner admits that his measure is subject to the same critiques with the exception that he believes his source material on ethnographic data is more accurate and up to date. The correlation between PREG and ELF is .67. Posner’s comparisons of the two measures in several regression analyses finds substantial similarity, which I also find if I substitute the PREG measure in the statistical models in this paper.