

Political Economy of Development: PPHA 42310

Lecture 3

James A. Robinson

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- Last time we looked at some ideas about the determinants of political centralization or 'state formation'.
- In the Besley and Persson model the incumbent is more likely to build a tax system if
 - society is 'cohesive' in the sense that resources always get spend on public goods (this will tend to happen when public goods are very valuable - possibly as a consequence of warfare)
 - if society is not cohesive there is less chance that the incumbent loses power.
- In Sánchez de la Sierra (quite an appropriate name actually..) the desire to capture natural resource rents leads you to become more state-like (it would be nice to know people's preferences towards all of this, we saw a little of that with Weigel's paper).

The Case of the Tonga

- A major theme of the anthropologist Elizabeth Colson's book *Tradition and Contract: The Problem of Social Order* is life in Africa without a state. In Chapter 2 she paints a rather grim Hobbesian picture of life without the state based on her ethnographic research in Zambia.

“people live in what appears to be a Rousseauian paradise because they take a Hobbesian view of their situation: they walk softly because they believe it necessary not to offend others whom they regard as dangerous ... An absence of external controls calls for the development of internal controls and a recognition that one cannot afford to act out spontaneous emotions.”

Giving because they must

- Summarizing a lot of evidence she argues that people in stateless societies live in the constant fear of feuds and “it is this fear which discourages actions that might lead to violence and the initiation of feud.”
- Colson’s arguments suggest another reason for containing the economy

“property is valued [but] people are very much aware that possessions give rise to envy, and that they are fearful of the consequences of envy.”

- From this perspective the generosity and redistribution evident in many of these societies is because “They give because they must” in order to assure “amicable relationships”.

Giving and Fearing

- Colson relates a story from 1972 of a housewife who had been approached by a visitor who was a distant relative who asked for grain for food and planting. The housewife gave generously an act which at the time Colson interpreted as being part of reciprocity to help sustain social relationships. Later

“The housewife disillusioned me .. while lecturing a young man temporarily resident in the village on the wisdom of giving food to those who asked for it.

The young man had just received a disturbing letter from home: lights had been seen about his granary and his wives and brother had found evidence that ghosts had urinated over the grain, an act which Tonga believe ghosts carry out only if sent by a sorcerer ... his ambition of the previous year - which had led him to work early and late in the large field he had planted - was now bringing him only a harvest of hate.”

How to Interpret Generosity

- The housewife asked if someone had known about his harvest, pointing out

“It is not safe to deny them. You saw me give grain to that woman who came the other day. How could I refuse when she asked me for grain? Perhaps she would do nothing, but I could not tell. The only thing to do is to give.”

- Colson is not a fan of traditional legal institutions where “it is the individual who is being judged and not the crime”

Changing the Social Equilibrium

- In Chapter 3 Colson points out “Knowing the evils of one’s situation and doing something about them are very different matters”

“1) It is not easy to think of good solutions to existing problems; 2) the genius who does think of one rarely has the resources to provide experimental evidence that the solution will work; 3) if people have little margin, they are not prepared to adopt radical departures from practices that have worked unless results are certain; 4) they want a guarantee ... an adequate answer to the question, “What will we do if it doesn’t work?””

- Provocatively “The ease with which colonial administrations established themselves ... with minimal deployment of force, may be due to a comparable desire for an overriding authority to ensure the public peace and provide a better mechanism for settling disputes.”

“people may be prepared to accept authority, even though they find it both threatening and frustrating, because they see it as the guarantor of an overarching security that is lacking.”

- This suggests an interesting testable hypothesis about the ease of colonial expansion.

The role of courts

- Colson focuses on how courts and modern legal institutions interact with this equilibrium. The Tonga legal system had the property that it emphasized “reconciliation rather than the breach of law” but people did not necessarily like the “emphasis upon the mesh of social relationships and the assessment of character”. Hence

“they recognize that the existence of courts provides them with a possibility of escape from some kinds of dependence upon their fellows.”

“Each person can live more freely of himself and make his own decisions.”

- Like religious conversion, it is a way of disengaging from the equilibrium, though this in this case it is a collective way.

Consequences of Political Centralization in Africa

- Let me now turn to evidence on the impact of state formation. de la Sierra had a little bit to say about welfare... if you thought the Eastern DRC was a bit like Tongaland, then maybe people were happy with the Stationary Bandits?
- Michalopoulos and Papaioannou (2013) looks at the impact of pre-colonial political centralization ('levels of jurisdictional hierarchy above the community') on development outcomes today.
- This paper is really just an extension of a very original one by Gennaioli and Rainer who were possibly the first people to run a regression with the data from the Murdock Ethnographic Atlas (but they didn't know about the Murdock Map). They uncovered a correlation which turns out to be very robust.
- Neither paper has an identification strategy though Michalopoulos and Papaioannou come close with a type of regression discontinuity approach.

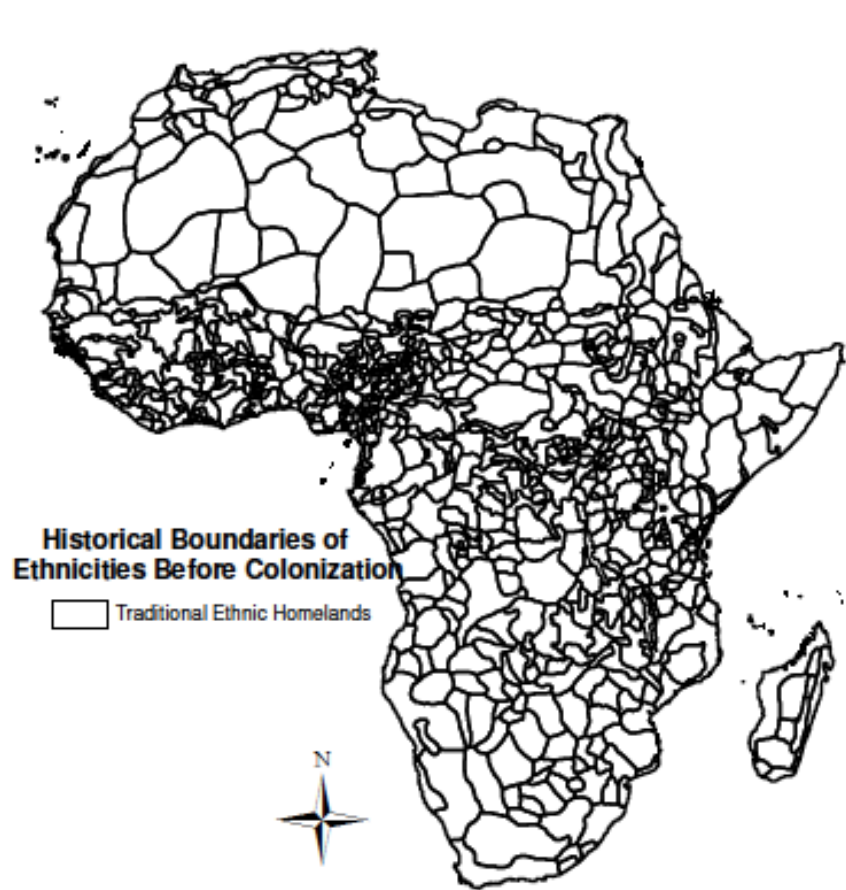


Figure 1a: Ethnic Boundaries

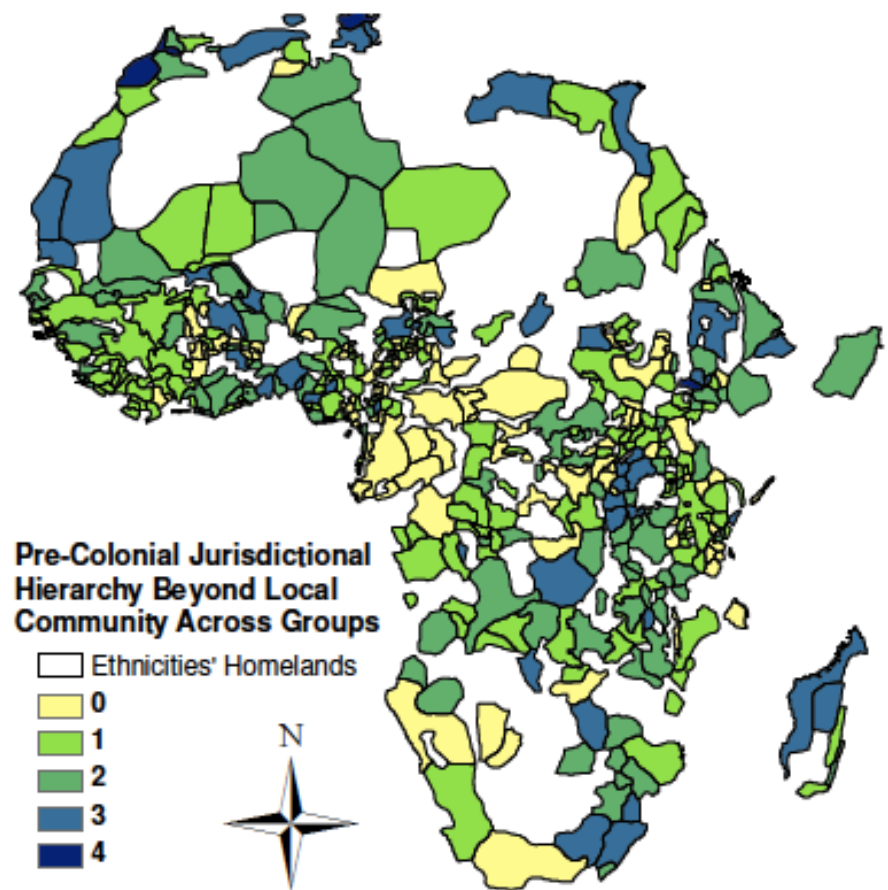


Figure 1b: Ethnic Pre-Colonial Institutions

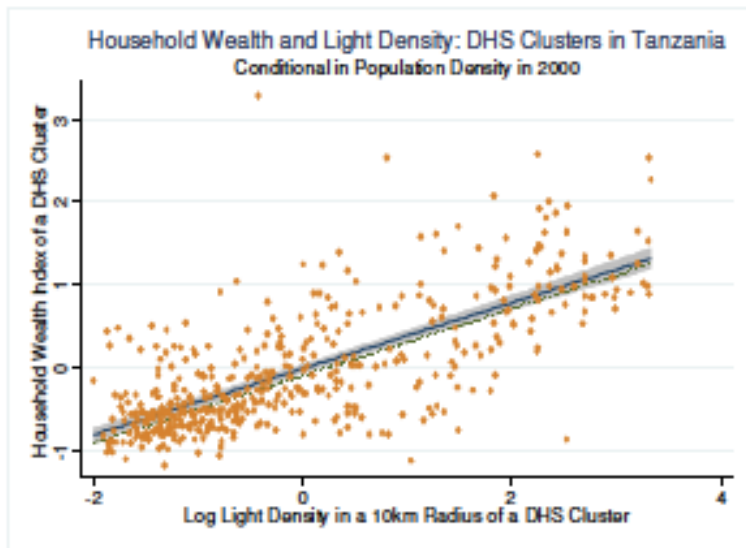


Figure 2a

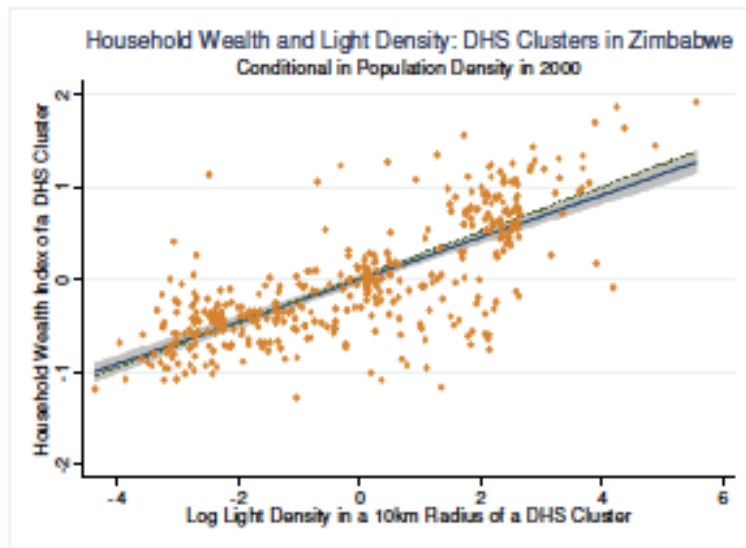


Figure 2b

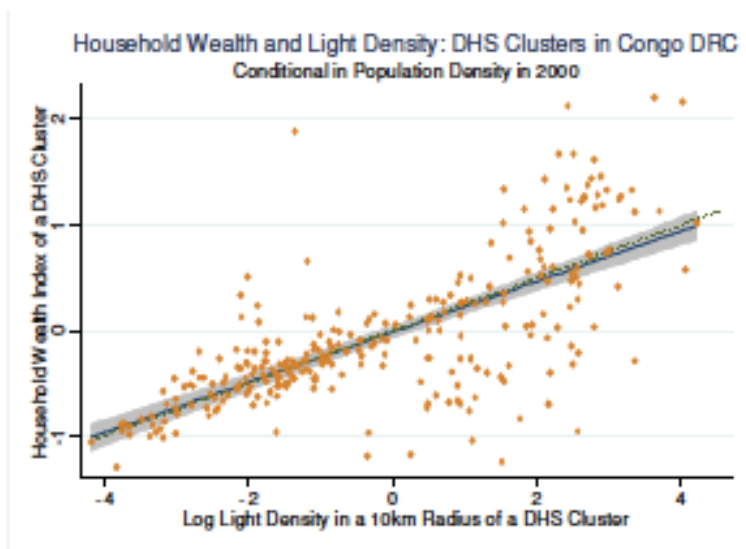


Figure 2c

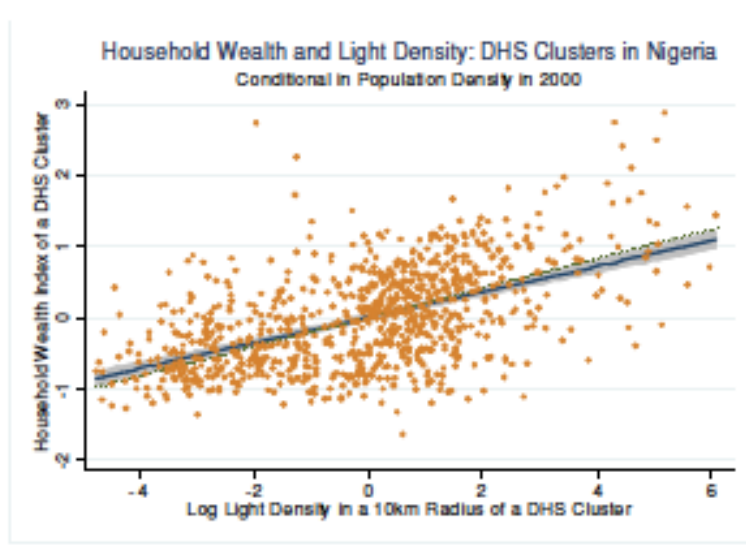


Figure 2d

Table 2: Pre-colonial Ethnic Institutions and Regional Development
Cross-Sectional Estimates

	(1)	(2)	(3)	(4)	(5)	(6)
Jurisdictional Hierarchy	0.4106***	0.3483**	0.3213***	0.1852***	0.1599***	0.1966***
Double-clustered s.e.	(0.1246)	(0.1397)	(0.1026)	(0.0676)	(0.0605)	(0.0539)
Conley's s.e.	[0.1294]	[0.1288]	[0.1014]	[0.0646]	[0.0599]	[0.0545]
Rule of Law (in 2007)					0.4809**	
Double-clustered s.e.					(0.2213)	
Conley's s.e.					[0.1747]	
Log GDP p.c. (in 2007)						0.5522***
Double-clustered s.e.						(0.1232)
Conley's s.e.						[0.1021]
Adjusted R-squared	0.056	0.246	0.361	0.47	0.488	0.536
Population Density	No	Yes	Yes	Yes	Yes	Yes
Location Controls	No	No	Yes	Yes	Yes	Yes
Geographic Controls	No	No	No	Yes	Yes	Yes
Observations	683	683	683	683	680	680

Table 3A: Pre-colonial Ethnic Institutions and Regional Development within African Countries

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Jurisdictional Hierarchy	0.3260*** (0.0852)	0.2794*** (0.0853)	0.2105*** (0.0554)	0.1766*** (0.0502)								
Binary Political Centralization					0.5264*** (0.1492)	0.5049*** (0.1575)	0.3413*** (0.0898)	0.3086*** (0.0974)				
Petty Chiefdoms									0.1538 (0.2108)	0.1442 (0.1739)	0.1815 (0.1542)	0.1361 (0.1218)
Paramount Chiefdoms									0.4258* (0.2432)	0.4914* (0.2541)	0.3700** (0.1628)	0.3384** (0.1612)
Pre-Colonial States									1.1443*** (0.2762)	0.8637*** (0.2445)	0.6809*** (0.1641)	0.5410*** (0.1486)
Adjusted R-squared	0.409	0.540	0.400	0.537	0.597	0.661	0.593	0.659	0.413	0.541	0.597	0.661
Observations	682	682	682	682	682	682	682	682	682	682	682	682
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Location Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Geographic Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Population Density	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes

Table 4: Examining the Role of Other Pre-colonial Ethnic Features

	<u>Specification A</u>		<u>Specification B</u>		
	<u>Additional Variable</u>	<u>Obs.</u>	<u>Additional Variable</u>	<u>Jurisdictional Hierarchy</u>	<u>Obs.</u>
	(1)	(2)	(3)	(4)	(5)
Gathering	-0.0937 (0.1689)	749	-0.0771 (0.1842)	0.2082*** (0.0552)	682
Hunting	-0.0292 (0.1217)	749	-0.0167 (0.1238)	0.2099*** (0.0563)	682
Fishing	0.2385* (0.1315)	749	0.2359* (0.1269)	0.2087*** (0.0552)	682
Animal Husbandry	0.0549 (0.0407)	749	0.0351 (0.0432)	0.2008*** (0.0618)	682
Milking	0.1782 (0.1395)	702	0.0872 (0.1443)	0.2016*** (0.0581)	680
Agriculture Dependence	-0.1058** (0.0436)	749	-0.1032** (0.0454)	0.2078*** (0.0558)	682
Agriculture Type	0.0237 (0.1015)	703	-0.0131 (0.1022)	0.2092*** (0.0549)	680
Polygyny	0.0744 (0.1197)	735	0.0796 (0.1290)	0.2140*** (0.0562)	677
Polygyny Alternative	-0.019 (0.1588)	749	0.007 (0.1482)	0.2106*** (0.0544)	682
Clan Communities	-0.1294 (0.1479)	617	-0.0079 (0.1404)	0.2158*** (0.0537)	567

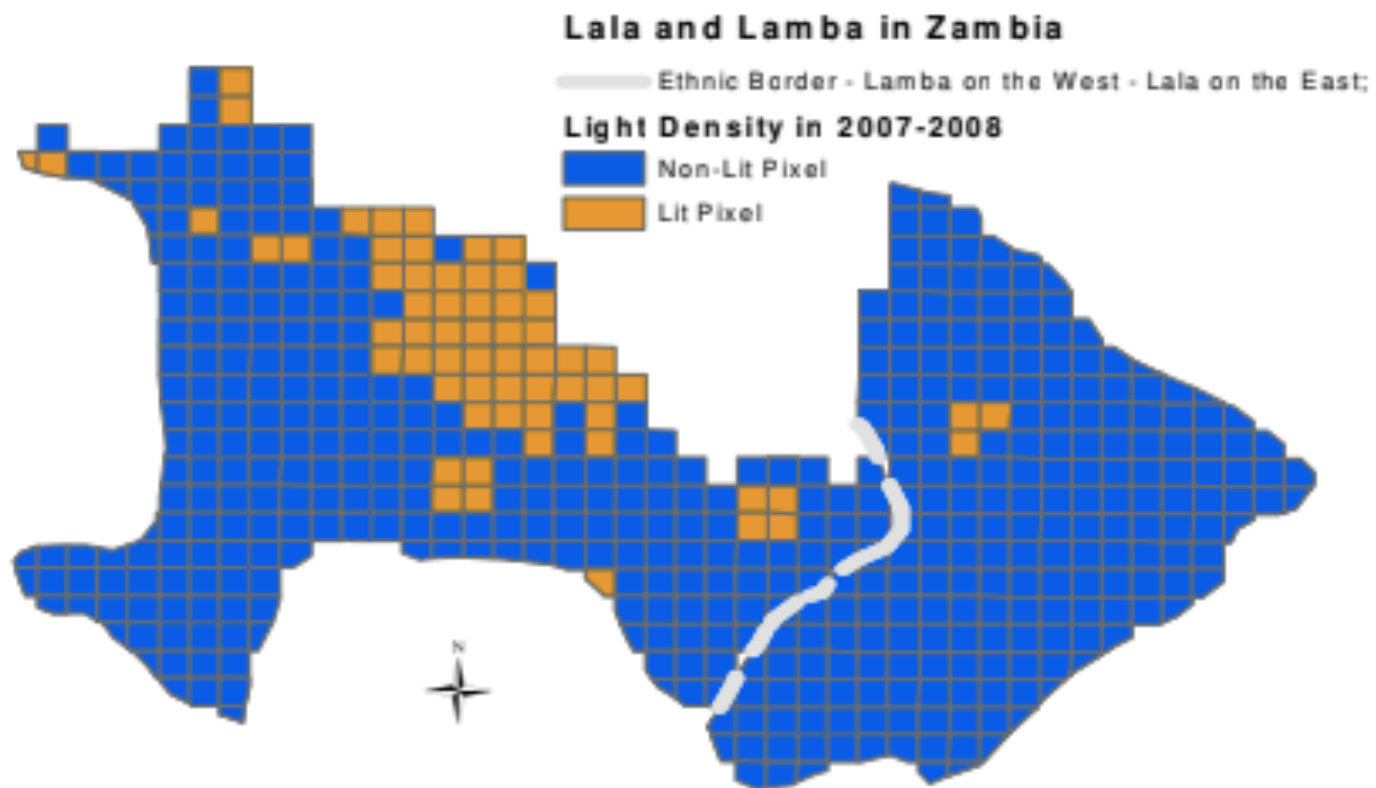


Figure 4: Example of the Pixel-Level Analysis

Table 5: Pre-colonial Ethnic Institutions and Regional Development: Pixel-Level Analysis

	Lit/Unlit Pixels					Ln (0.01 + Luminosity)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Panel A: Jurisdictional Hierarchy beyond the Local Community Level										
Jurisdictional Hierarchy Double-clustered s.e.	0.0673** (0.0314)	0.0447** (0.0176)	0.0280*** (0.0081)	0.0308*** (0.0074)	0.0265*** (0.0071)	0.3619** (0.1837)	0.2362** (0.1035)	0.1528*** (0.0542)	0.1757*** (0.0506)	0.1559*** (0.0483)
Adjusted R-squared	0.034	0.272	0.358	0.375	0.379	0.045	0.320	0.418	0.448	0.456
Panel B: Pre-colonial Institutional Arrangements										
Petty Chiefdoms Double-clustered s.e.	0.0285 (0.0255)	0.0373 (0.0339)	0.0228 (0.0220)	0.0161 (0.0175)	0.0125 (0.0141)	0.1320 (0.1192)	0.1520 (0.1832)	0.0796 (0.1271)	0.0642 (0.0976)	0.0531 (0.0837)
Paramount Chiefdoms Double-clustered s.e.	0.0685** (0.0334)	0.0773 (0.0489)	0.0546* (0.0295)	0.0614** (0.0266)	0.0519*** (0.0178)	0.3103** (0.1560)	0.3528 (0.2472)	0.2389 (0.1498)	0.3054** (0.1347)	0.2802*** (0.0964)
Pre-Colonial States Double-clustered s.e.	0.2013** (0.0956)	0.1310** (0.0519)	0.0765*** (0.0240)	0.0798*** (0.0216)	0.0688*** (0.0235)	1.0949** (0.5488)	0.6819** (0.2881)	0.4089*** (0.1432)	0.4544*** (0.1430)	0.3994*** (0.1493)
Adjusted R-squared	0.033	0.271	0.357	0.375	0.379	0.046	0.319	0.417	0.448	0.456
Country Fixed Effects	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Population Density	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Controls at the Pixel Level	No	No	No	Yes	Yes	No	No	No	Yes	Yes
Controls at the Ethnic-Country Level	No	No	No	No	Yes	No	No	No	No	Yes
Observations	66570	66570	66570	66173	66173	66570	66570	66570	66173	66173

Table 7: Pre-colonial Ethnic Institutions and Regional Development within Contiguous Ethnic Homelands in the Same Country

	All Observations			Difference in Jurisdictional Hierarchy Index > 1			One Ethnic Group was Part of a Pre- colonial State		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Jurisdictional Hierarchy Double-clustered s.e.	0.0253* (0.0134)	0.0152** (0.0073)	0.0137** (0.0065)	0.0280* (0.0159)	0.0170** (0.0079)	0.0151** (0.0072)	0.0419** (0.0213)	0.0242** (0.0096)	0.0178*** (0.0069)
Adjusted R-squared	0.329	0.391	0.399	0.338	0.416	0.423	0.424	0.501	0.512
Observations	78139	78139	77833	34180	34180	34030	16570	16570	16474
Adjacent-Ethnic-Groups Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Population Density	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Controls at the Pixel Level	No	No	Yes	No	No	Yes	No	No	Yes

The Long Shadow of the Dai Viet state

- Melissa Dell, Pablo Querubín and Nathan Lane exploit the history of the Vietnamese state to identify the causal impact of the 'state' (complicated...) on development.
- They use the historical spread of the Dai Viet state in Vietnam and argue that for idiosyncratic reasons the state stopped in one place rather than another for a long time, so one side of a border has much more 'state treatment' than another. This allows one to estimate convincingly the causal effects of the state on current outcomes.

Bureaucracy versus Patrimonialism

- North Vietnam inherited a long tradition of state bureaucratization from the Chinese, while the very south of the country was part of the far more patrimonial Khmer empire (based in Angkor and later Phnom Penh) - this is why the Khmer Rouge tried to invade it in 1978!
- In 1698 the southern expansion of Dai Viet stopped until 1832 for what appear to be largely idiosyncratic reasons (dynastic political struggles etc.).
- Thus one side of the border got 134 years more 'state treatment' than the others.
- The results strongly support the idea that bureaucratized states have positive effects on development and governance (though a few puzzles on land rights and titles..).
- Particularly interesting are the positive effects on social capital today (a la Putnam, more on this later...).

Figure 1: Dai Viet Historical Boundaries

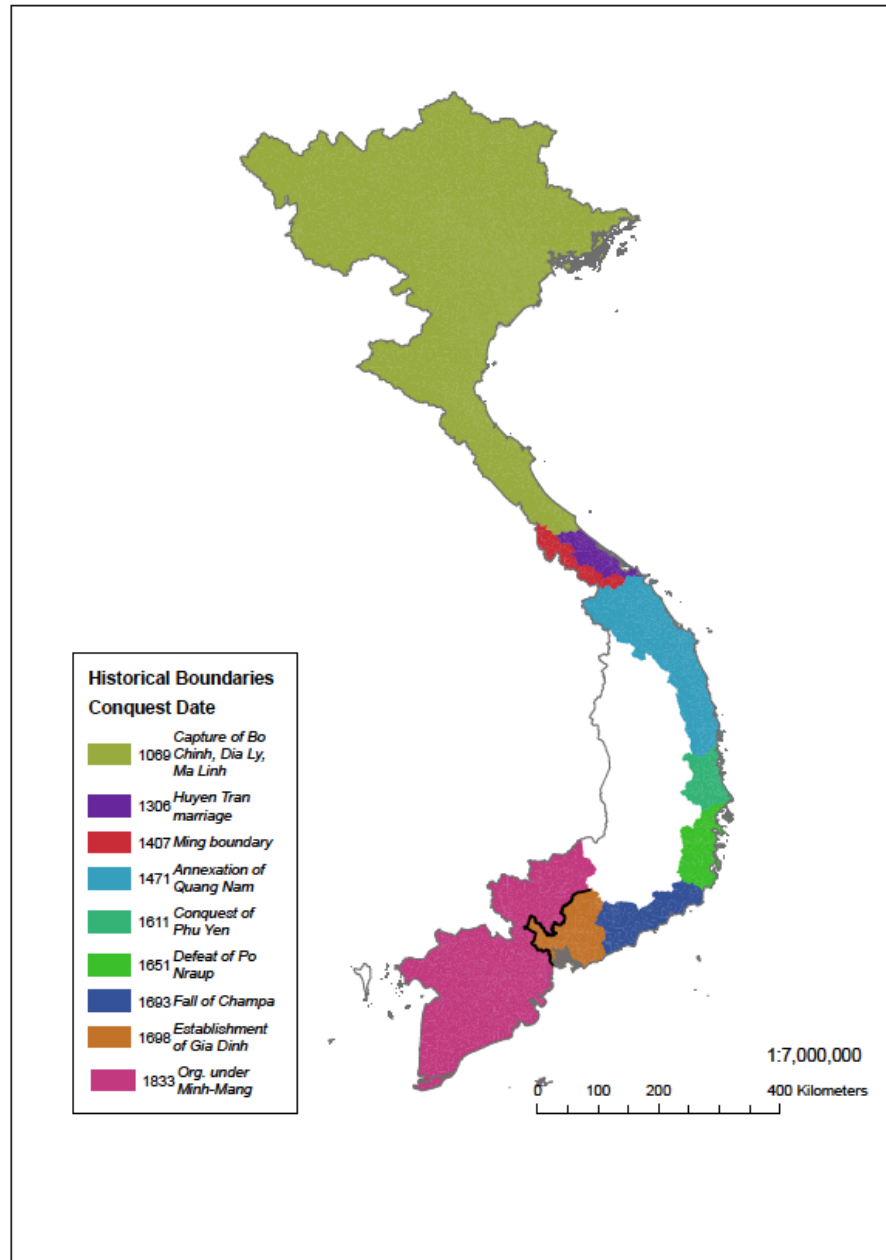


Table 2: Balance Checks

	Elevation (1)	Slope (2)	Confucian (3)	Vietnamese	
				(1970s) (4)	(2000s) (5)
bureaucratic	-2.141 (3.256)	0.110 (0.135)	0.004 (0.005)	-0.011 (0.013)	-0.018 (0.012)
Observations	698	698	372	372	4,498
R-squared	0.868	0.722	0.147	0.084	0.024
Mean control	17.02	1.60	0.0206	0.990	0.983

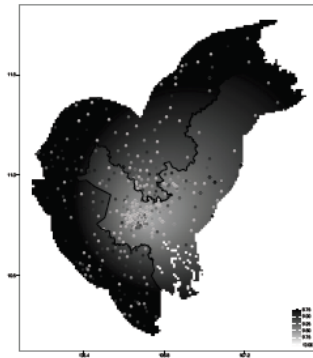
Table 3: Contemporary Household Consumption

Dependent variable is: log equivalent household consumption net of transfers									
	Baseline Estimates			Robustness Checks			Placebos		
	Lat, Lon	Dist. Bound.	Lat, Lon Dist. Boun.	Migr. Trim.	Dropping Rivers	Only Rivers	Oth. Hist. Bound.	River as Bound.	Dong Nai HCM
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
bureaucratic	0.240*** (0.040)	0.233*** (0.058)	0.240*** (0.060)	0.215*** (0.040)	0.259*** (0.050)	0.239* (0.124)			
placebo boundary							-0.009 (0.086)	-0.001 (0.007)	-0.015 (0.150)
Clusters	456	456	456	454	309	147	179	312	139
Observations	4,336	4,336	4,336	4,275	2,977	1,359	1,730	4,029	1,802
R-squared	0.493	0.504	0.507	0.476	0.531	0.412	0.556	0.424	0.255

Table 4: Proximate Causes of Development

	% Agr.	% Wage	% Emp.	% Enroll	Years of Schooling			
	Land	Emp.	Ind.	Second.	All	25-40	40-60	> 60
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
bureaucratic	-0.138*** (0.041)	-0.006 (0.025)	-0.003 (0.029)	0.244*** (0.049)	0.982*** (0.240)	0.840*** (0.227)	0.814** (0.316)	1.302*** (0.281)
Clusters	447	443	443		376	370	367	324
Observations	4,444	6,528	5,095	127	10,531	4,570	4,242	1,719
R-squared	0.297	0.009	0.041	0.268	0.086	0.106	0.098	0.108
Mean control	0.463	0.499	0.219	0.731	6.375	7.508	6.626	3.016

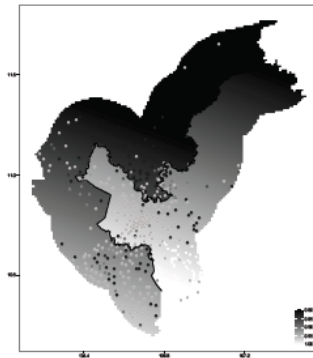
Figure 3: RD Plots - Main Outcomes



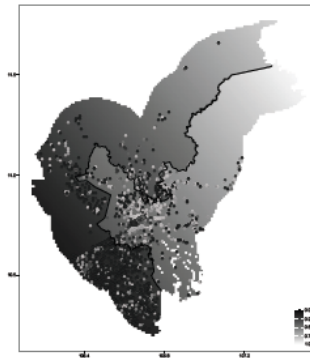
(a) Equivalent Consumption (2002-2012)



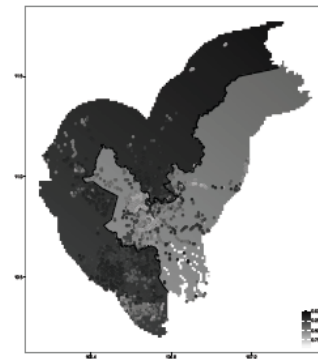
(b) Access to Motor Vehicle (1969-1973)



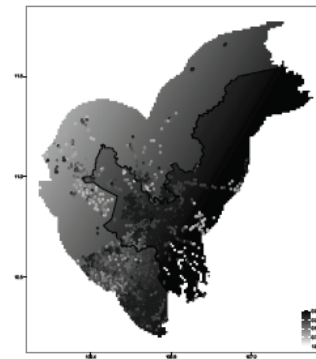
(c) Village Committee Positions Filled (1969-1973)



(d) Health Services Available (1969-1973)



(e) Participation in Civic Organizations (1969-1973)



(f) Viet Cong Collects Taxes (1969-1973)

Table 8: Non-State Actors - Vietnam War Period

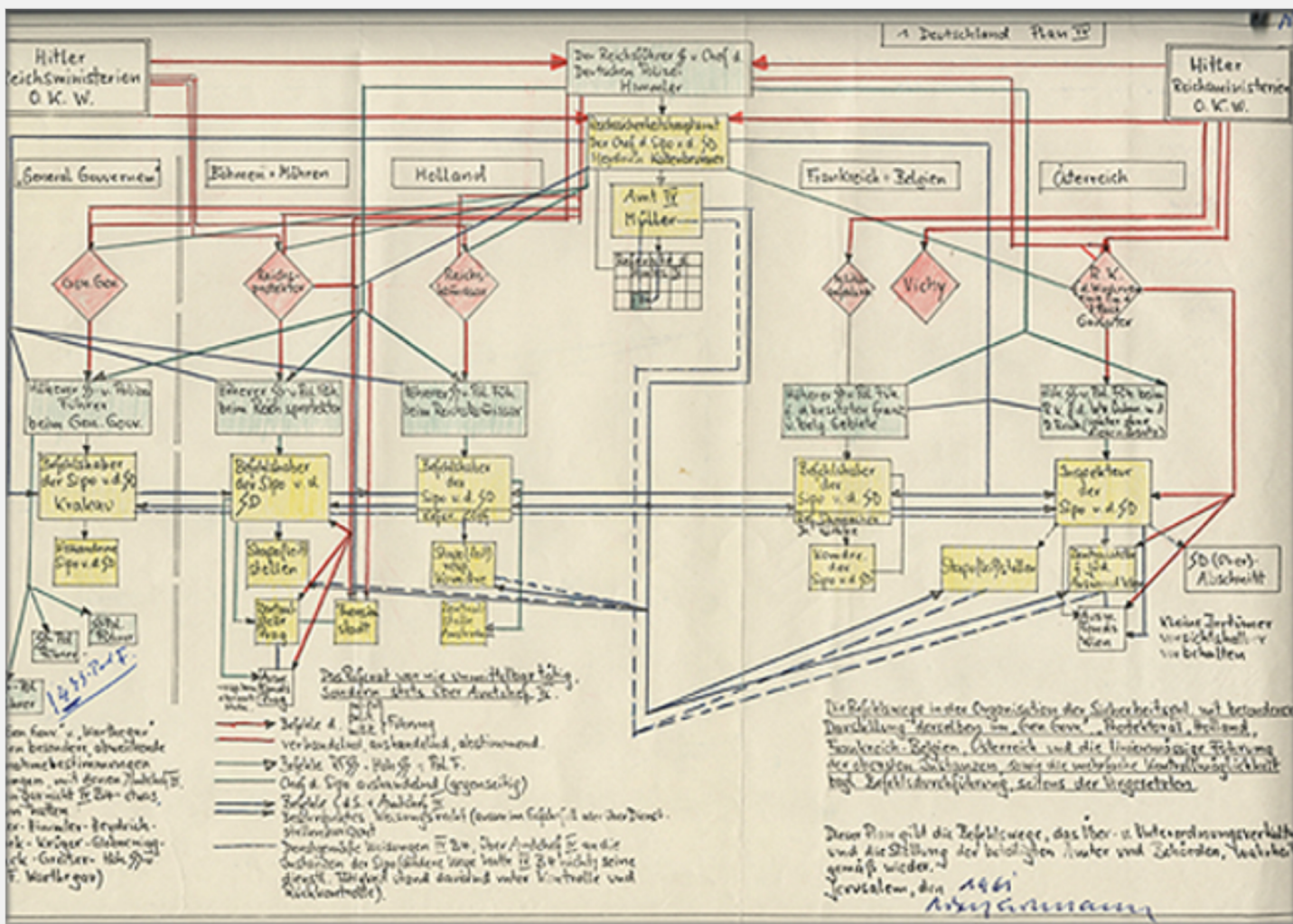
	Gov. Enfor.	VC Collects	Viet Cong Suspects					
	Laws (1)	Taxes (2)	Total (3)	Not at Large (4)	At Large (5)	Neutralize (6)	Captured (7)	Killed (8)
bureaucratic	0.201*** (0.039)	-0.070** (0.032)	-252.701** (94.312)	-165.011*** (57.088)	-87.689* (46.350)	-179.945*** (45.645)	-89.292*** (25.580)	-50.152*** (17.526)
Clusters	384	384						
Observations	2,199	2,199	47	47	47	50	50	50
R-squared	0.255	0.322	0.220	0.314	0.111	0.483	0.515	0.220
Mean control	0.662	0.308	308.2	216.4	91.77	261	139.8	63.64

What sort of State?

- The analysis of the Dai Viet state proceeds as if bureaucratization had uniform consequences independent of how it was established, how legitimate it was, what was the nature of the government (does bureaucracy created by a predatory kleptocrat have the same implications as bureaucracy created by a democracy with an elected executive?).
- It is quite curious that though the Dai Viet state started in the Red River valley and spread south, like the Vietcong, the bureaucratic capacity which it somehow left behind was able to repress the Vietcong in the hands of the political elites in South Vietnam.
- You might have conjectured instead that the Vietcong could have tapped into this history.

The Rwandan Case

- Is state formation always a good thing?
- It looks like it from the Levels of Jurisdictional Hierarchy results and from the Vietnamese results.
- Is bureaucratization always great? The bureaucratization of the British fiscal system after 1688 allowed Britain to build up the navy and construct an Empire (not so good for the people who got invaded...).
- But the bureaucratization of the Nazi and Soviet states caused a lot of havoc in the 20th century.
- A large amount of case study evidence suggests that the immensity of the Rwandan genocide was planned and implemented by state functionaries (see the Human Rights Watch report *Leave None to Tell the Story..*)



A diagram prepared by Eichmann to show his role in the SS bureaucracy, Israel State Archives

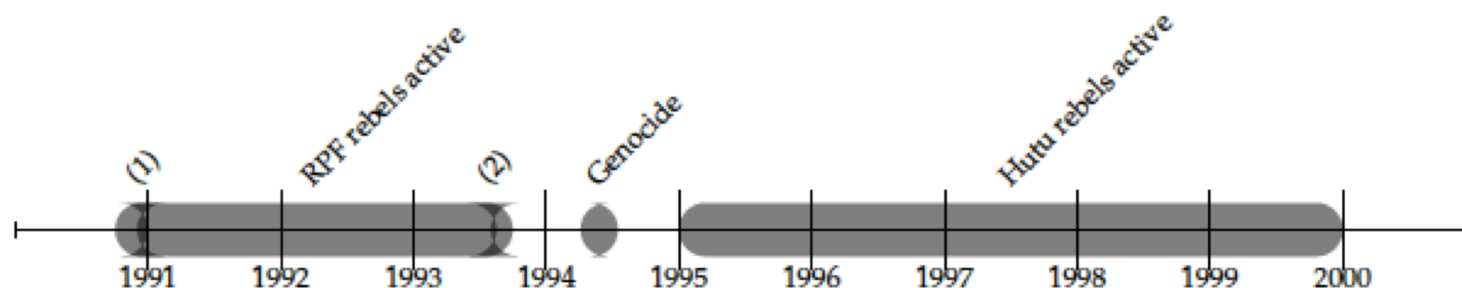
State Formation and Genocide

- Leander Heldring has investigated this connection by exploiting the historical spread of the state mapped by Jan Vansina and other historians.
- The state started in the early 17th century and spread slowly with long pauses. Critically, the strategy of state formation started by Ndori spread outwards from the traditional capital (one of them prior to the late 19th century when the court stopped moving about) of Nyanza, giving a potential source of variation in state history - some places are easier to get to from Nyanza because of the topography.

- Using this source of variation in state history, Heldring shows that when the state was in genocide mode, greater state history led to more killing.
- Yet before and after the genocide, greater state history is associated with less violence.
- So there is no implication either good or bad of having a state, it depends on the objectives of those running it.
- What are the mechanisms? The case study evidence on Rwanda suggests that the history of the state has socialized people into obeying rules. To investigate this channel Heldring did lab in the field experiments on either side of Akanyaru river where the state stopped for 99 years. He shows that on the side of the river with more state history people are more willing to obey rules, be obedient to authority, and comply with a tax demand coming from the state.

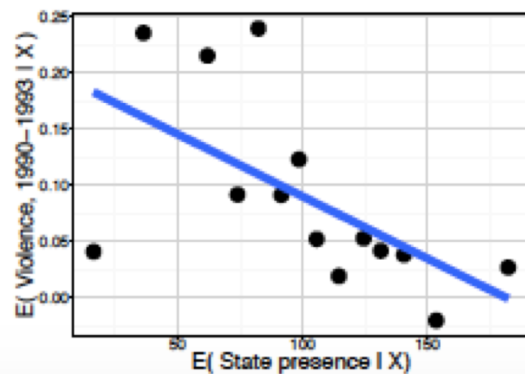
Figure 1: TIMELINE OF MAIN EVENTS IN RWANDA, 1990-2000, AND SCATTER PLOTS OF MAIN ESTIMATED RELATIONSHIPS

Panel I: Timeline of main events in Rwanda, 1990-2000

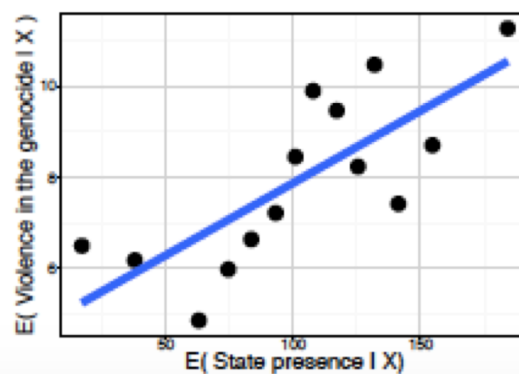


Panel II: Binned scatterplots of the relationship between state presence and violence in different periods

(a) 1990-1993



(b) April - July 1994



(c) 1995-2000

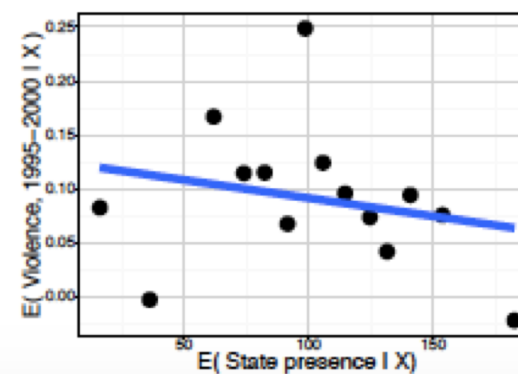


Figure 2: MAP OF THE EXPANSION OF THE NYIGINYA KINGDOM

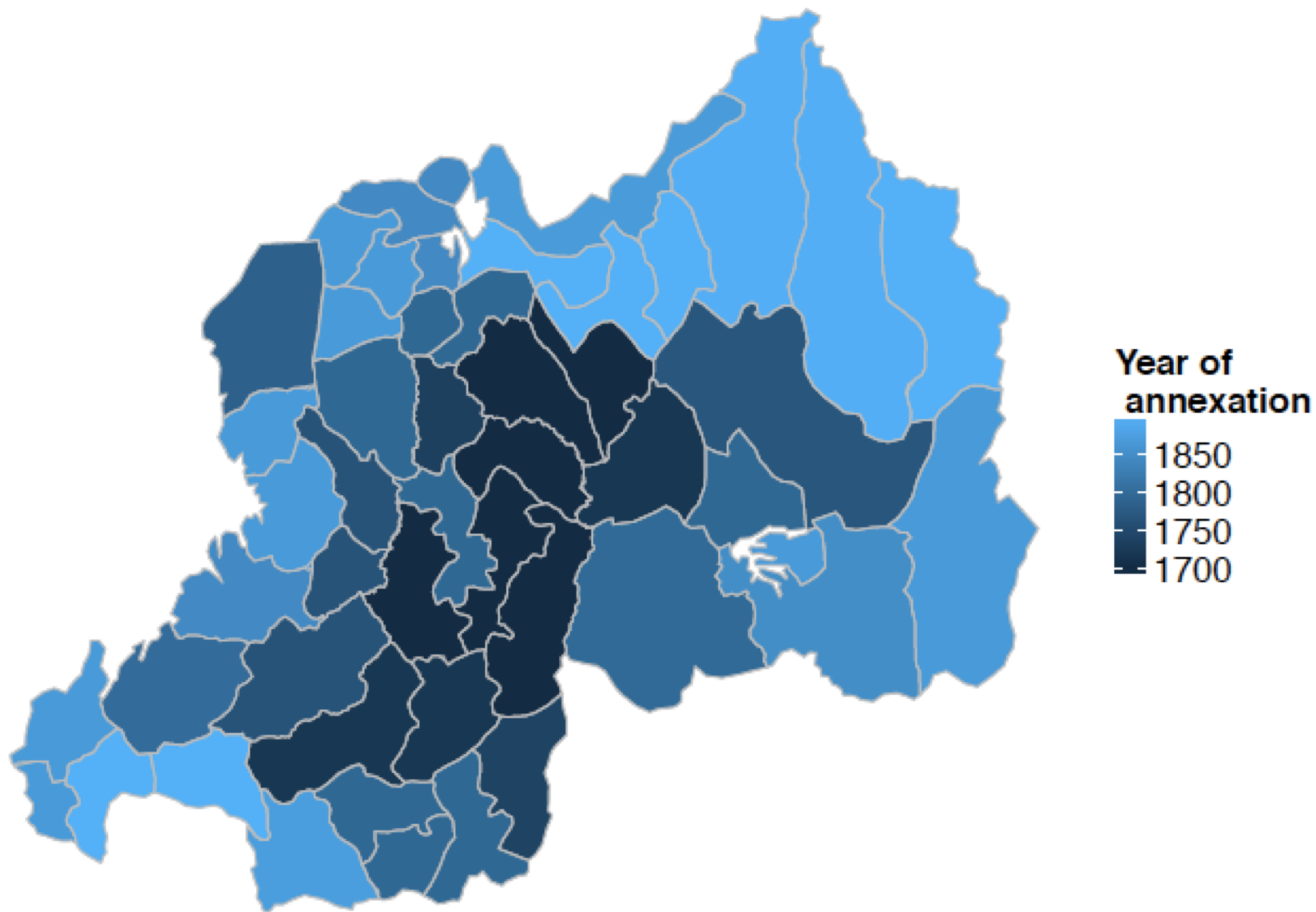


Table 2: OLS ESTIMATES OF THE DETERMINANTS OF PRESENCE OF THE NYIGINYA STATE

<i>Dependent variable:</i> <i>State Presence (years)</i>		Distance to Nyanza		Cost distance to Nyanza (days)		Cost distance to Nyanza - Özak (days)		Cost distance to nearest Nyiginya army location (days)	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
estimated coefficient		-1.356***	-1.675***	-26.41***	-14.80**	-108.3***	-134.7***	-12.06***	-5.718
	<i>Clustered s.e.</i>	(0.194)	(0.435)	(4.234)	(7.157)	(15.52)	(34.50)	(3.798)	(4.302)
	<i>Conley s.e.</i>	[0.062]	[0.220]	[1.731]	[3.038]	[7.085]	[14.781]	[2.739]	[3.113]
Travel distance to Nyanza along 1988 road network		N	Y	N	Y	N	Y	N	N
Travel distance to Kigali along 1988 road network		N	Y	N	Y	N	Y	N	Y
Distance to country border		N	Y	N	Y	N	Y	N	Y
Province fixed effects		N	Y	N	Y	N	Y	N	Y
Number of clusters		50	50	50	50	50	50	50	50
Observations		1553	1553	1553	1553	1553	1553	1553	1553
R^2		0.404	0.622	0.443	0.594	0.356	0.629	0.116	0.564

Table 4: IV ESTIMATES OF THE EFFECT OF STATE PRESENCE ON VIOLENCE AND MOBILIZATION IN THE RWANDAN GENOCIDE

<i>Dependent variable:</i>	Fraction of population prosecuted for genocide participation		Fraction of Hutu population prosecuted for murder	
	(1)	(2)	(3)	(4)
<i>Panel I: Second stage estimates</i>				
State Presence (Years)	0.0807*** (0.0270)	0.0664*** (0.0208)	0.0799*** (0.0267)	0.0578*** (0.0184)
Mean of the dependent variable	7.95	7.95	7.75	7.75
<i>Panel II: First stage estimates</i>				
Distance to Nyanza	-1.675*** (0.435)	-1.720*** (0.433)	-1.675*** (0.435)	-1.720*** (0.433)
F-stat of excluded instrument	14.59	15.98	14.59	15.98
R^2	0.622	0.623	0.622	0.623
Fraction of population Tutsi 1991	N	Y	N	Y
Travel distance to Nyanza along 1988 road	Y	Y	Y	Y
Travel distance to Kigali along 1988 road	Y	Y	Y	Y
Distance to country border	Y	Y	Y	Y
Number of clusters	50	50/142	50	50/142
Observations	1449	1449	1449	1449

Table 6: IV ESTIMATES OF THE EFFECT OF STATE PRESENCE ON VIOLENCE BEFORE AND AFTER THE RWANDAN GENOCIDE

<i>Dependent variable:</i>	State based violence (against rebels) 1990-1993, 1995-2000 (count)		One-sided violence (against civilians) 1990-1993, 1995-2000 (count)	
	(1)	(2)	(3)	(4)
<i>Panel I: Second stage estimates</i>				
State Presence (Years)	-0.0593*** (0.0130)	-0.0346*** (0.0121)	-0.0232** (0.0104)	-0.0260*** (0.00841)
Mean of the dependent variable	0.09	0.09	0.09	0.09
Log-likelihood	-304.38	-296.45	-354.29	-354.17
<i>Panel II: First stage estimates</i>				
Distance to Nyanza	-1.675*** (0.435)	-1.720*** (0.430)	-1.675*** (0.435)	-1.720*** (0.430)
R^2	0.622	0.623	0.622	0.623
Fraction of population Tutsi 1991	N	Y	N	Y
Travel distance to Nyanza along 1988 road	Y	Y	Y	Y
Travel distance to Kigali along 1988 road	Y	Y	Y	Y
Distance to country border	Y	Y	Y	Y
Number of clusters	50	50	50	50
Observations	1553	1553	1553	1553

Table 7: ESTIMATES OF THE EFFECT OF STATE PRESENCE ON LOCAL GOVERNMENT

<i>Dependent variable</i>	Principal component energy and water 1980	Principal component schools 1980	Principal component health services 1980	Principal component social provisions 1980	Principal component commercial institutions 1980	Principal component markets 1980	Principal component fiscal capacity 1980	Principal component public expenditure 1980
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>Panel I: 2SLS estimates</i>							
State Presence (Years))	0.00517 (0.00681)	0.000398 (0.00751)	0.00507 (0.00697)	0.0106 (0.0103)	0.00435 (0.00704)	0.0109 (0.0120)	0.00353 (0.00678)	0.00316 (0.0120)
	<i>Panel II: OLS estimates</i>							
State Presence (Years)	0.00122 (0.00180)	-0.00345** (0.00154)	0.00160* (0.000949)	-0.00133 (0.00187)	0.000263 (0.00148)	-0.00100 (0.00194)	0.00131 (0.00120)	0.000595 (0.00150)
R^2	0.109	0.229	0.044	0.073	0.087	0.060	0.272	0.277
Travel distance to Nyanza along 1988 road	Y	Y	Y	Y	Y	Y	Y	Y
Travel distance to Kigali along 1988 road	Y	Y	Y	Y	Y	Y	Y	Y
Distance to country border	Y	Y	Y	Y	Y	Y	Y	Y
Number of clusters	50	50	50	50	50	50	50	50
Observations	1553	1553	1553	1553	1553	1553	1297	1468

Figure 7: THE LOCATION OF PARTICIPANTS IN THE COMPLIANCE EXPERIMENT



Table 8: DETERMINANTS OF ATTITUDES TOWARDS RULE BREAKING

<i>Dependent variable:</i>	Principal component rule breaking is acceptable (1)	Tradition is important; following customs handed down by ancestors (2)	Obedience to authorities considered central to democracy (3)
State Presence (Years)	-0.113** (0.0498)	0.0493* (0.0275)	0.103*** (0.0398)
Demographic controls	Y	Y	Y
Survey year fixed effect	Y	Y	N
Observations	2535	2576	1203
R^2	0.021	0.065	0.015

Table 9: THE EFFECT OF STATE PRESENCE ON RULE FOLLOWING

<i>Dependent variable:</i>	Compliance with tax demand (% of base)				
	(1)	(2)	(3)	(4)	(5)
Early State	4.416*	8.838**	9.424**	9.110**	9.832**
<i>White s.e.</i>	(2.609)	(4.492)	(4.424)	(4.513)	(4.457)
<i>Permutation test p-value</i>	0.095	0.053	0.029	0.028	0.023
Mean of the dependent variable	71.34	71.34	71.34	71.34	71.34
Sd dependent variable	27.30	27.30	27.30	27.30	27.30
Demographic controls	N	N	Y	N	Y
Distance to Kigali	N	N	N	Y	Y
<i>f(location)</i>	None	Latitude & longitude	Latitude & longitude	Latitude & longitude	Latitude & longitude
Observations	416	416	414	416	414
R^2	0.006	0.013	0.036	0.014	0.038

Types of State

- We definitely need some work on the type of state and how the 'capacity' of the state interacts with how it is governed.
- In traditional Rwanda the army was the state, in fact it was an army with a state (as Voltaire said about Prussia), there was no civilian bureaucracy, the army collected the taxes.
- In Botswana, the Tswana states were not militarized in the same way (though they did share features with the Rwanda state such as 'cattle patronage').
- So both places had pre-colonial states, but they were organized and governed in very different ways

The Case of Botswana

- Why has Botswana been so successful in sustaining economic growth and democracy since independence?
- In the 1930s Isaac Shapera wrote down a Tswana saying: “The law is blind, it eats even its owner”

“all matters of tribal policy are dealt with finally before a general assembly of the adult males in the chief’s kgotla (council place). Such meetings are very frequently held . . . among the topics discussed .. it is not unknown for the tribal assembly to overrule the wishes of the chief. Since anyone may speak, these meetings enable him to ascertain the feelings of the people generally, and provide the latter with an opportunity of stating their grievances. If the occasion calls for it, he and his advisers may be taken severely to task, for the people are seldom afraid to speak openly and frankly.”

- Comparing Botswana and Rwanda, one is left to doubt Hobbes' claim that there is no real difference between a commonwealth by institution and one by acquisition. The governance of the state seems to be extremely important.
- At an econometric level perhaps the interaction of state capacity and governance is critical, could this be investigated at a sub-national level?