The Long-Run Effects of the Scramble for Africa

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Brown, NBER and CEPR

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Montesquieu, 1748 - On Optimal State Size

- **If a republic be small, it is destroyed by a foreign force; if it is large, it is ruined by an internal imperfection.**

Alesina and Spolaore, 2003 - On Optimal State Size

- Scale/size has benefits. The larger size allows for projects to be financed at a lower cost, economies of scale to be exploited, larger markets.
- Scale/size has costs. As a state grows large, governance costs grow exponentially, more heterogeneity lowers cohesion
  - an optimal state is the one that strikes the right balance between the beneficial impact of size with the negative impact of heterogeneity

How Have States Dealt with Heterogeneity Historically?

- For micro-scale entities heterogeneity issues less salient
  - Neolithic states, city-states throughout history from the polis in the Ancient Greek world, to medieval kingdoms in Europe
- For macro-scale political entities diversity issues were naturally more salient but at the same time because of their sheer size heterogeneity was often embraced instead of engineered.
  - Roman empire brought together diverse societies
- Things become more complicated as the European notion of a nation-state takes hold in 18th-19th century Europe..

How Have States Dealt with Heterogeneity in the Context of Nation Building?

- **Example 1**: Turning peasants into Frenchmen by providing education, building extensive transportation networks, and the rise of national armies, Eugen Weber (Blanc, 2022).
- **Example 2**: Implementing population exchanges between countries; Greece and Turkey in 1922, India and Pakistan in 1947; etc.
- **Example 3**: Ethnic cleansing and genocides; Armenians in Turkey; Uighurs in China; Rohingya in Myanmar

Empirical Works on the Role of Borders

- **Cross-Country Analysis** Alesina, Matuszeski and Easterly, 2011, construct two measures of border artificiality and show that these are highly correlated with several measures of political and economic success
  - whether borders split ethnic groups into two separate adjacent countries
  - how straight land borders are, under the assumption the straight land borders are more likely to be artificial
- **Cross-Group Analysis** Cederman Rüegger and Schvitz (2021) show that how fragmented a group is across states increases the likelihood of civil conflict via postimperial revisionism and other cases of irredentism and secession

But Borders Are an Outcome a Long Process

- **Main Issue:** The process of state and border formation is intertwined with wars; the rise and fall of states and borders appearing, negotiated, and disappearing that reflect a long series of contestation on the ground and population reshuffling. So, asking whether borders are "optimal" and/or have consequences is a empirically a very hard question.
  - **Unless they come at the beginning**

Borders in Europe - Kitamura and Lagerlof, 2020

- Follow natural barriers, i.e., tend to be located in rugged and mountainous terrain and along rivers.
  - Moreover, these geographical features have become more predictive of borders over the last 500 years, suggesting that borders have become increasingly natural.

Borders outside Europe

- While borders in Europe were increasingly aligned with natural barriers..
  - in other parts of the world, Europeans were busy drawing lines on maps during conferences..

Borders outside Europe - Middle East and the Sykes–Picot Line

- Conference of San Remo April 1920, the Allied powers divide the Ottoman Empire into separate Class A mandates based on the 1916 Sykes–Picot Agreement
  - The borders of these mandates split up Arab lands and are the modern borders of Iraq, Israel, and the Palestinian territories, Jordan, Lebanon, and Syria.
  - the borders split up contiguous populations, like the Kurds and the Druze, and left them as minority populations in several countries.
  - Political turmoil often aimed at "the end of Sykes-Picot," such as the establishment of the Kurdistan Regional Government in Iraq in 1992 or the rise of the Islamic State in Iraq and the Levant (ISIL) in 2014.

Borders of Post-Soviet Republics

- Russian-speaking populations outside Russia.
  - Donetsk and Luhansk regions in south-eastern Ukraine.



- **Whose country is this flag?**
- **What does the five-pointed star symbolize?**



Somali's found

Somalia

Ethiopia

Djibouti

Kenya

Questions?. Generalization?

- **Has border artificiality (w.r.t. ethnic partitioning) contributed to conflict in Africa?**
  - roughly 40% of African population comes from ethnic groups that have been systematically split across national (colonial) borders
  - 220 – 230 out of 825 ethnic groups were systematically split by colonial border design (that endured after independence)
- **Are there spillovers of ethnic partitioning to nearby groups and countries** (e.g., Ethiopia and Kenya)**?**

Examine the Long-run Effects of the Scramble for Africa

- **Border artificiality** (w.r.t. ethnic partitioning)
- **Ethnic partitioning and type of civil conflict** (battles, violence against civilians, state-driven conflict), **ethnic political power** and access to **public goods**
  - using four distinct georeferenced databases
- **Further Evidence - Channels**
  - political discrimination (direct and indirect evidence)
  - foreign interventions (direct evidence)

Ethnic Homelands before Colonization - Murdock (1959)



Berlin Conference - The Scramble for Africa



The Design of African Borders

- Berlin Conference 1884/1885 and subsequent treaties among Europeans till 1920
- Colonizers had not even explored most of Africa when borders were agreed.
- Drawing involved protectorates, large (free-trade) areas, colonies, and spheres of influence rather than potential states. None could foresee at the time independence
- No major changes of borders during colonization or after independence

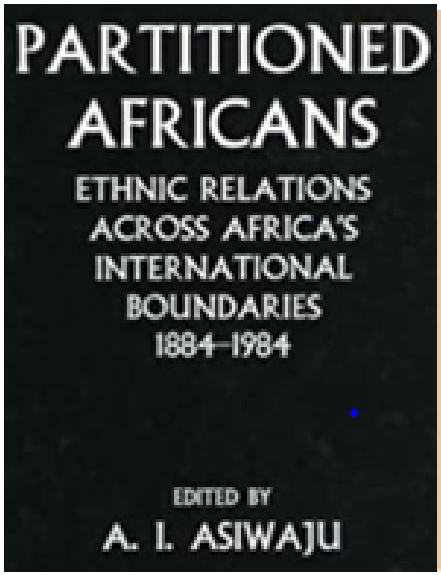
The Scramble for Africa by 1913





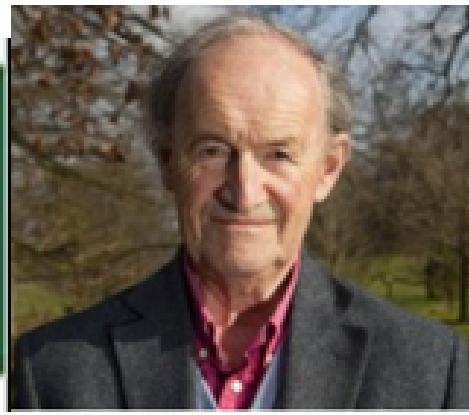
At independence borders were respected creating boundaries of African states

Scholars on The Scramble for Africa







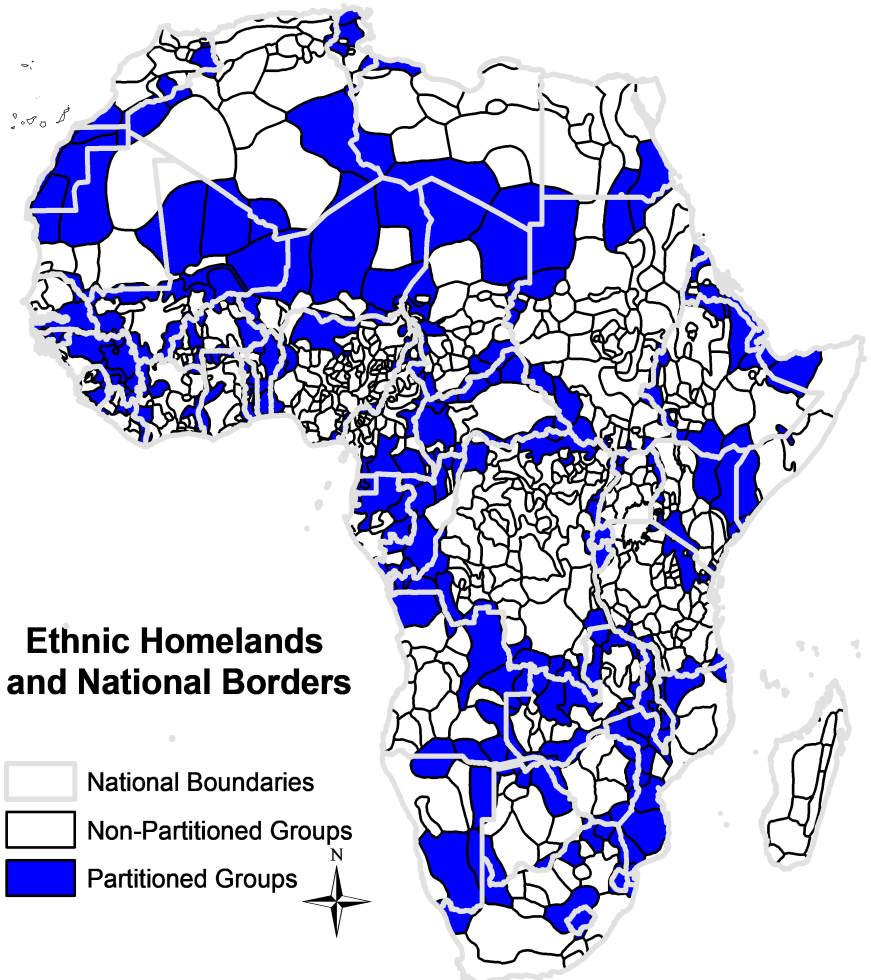


A European Randomization...

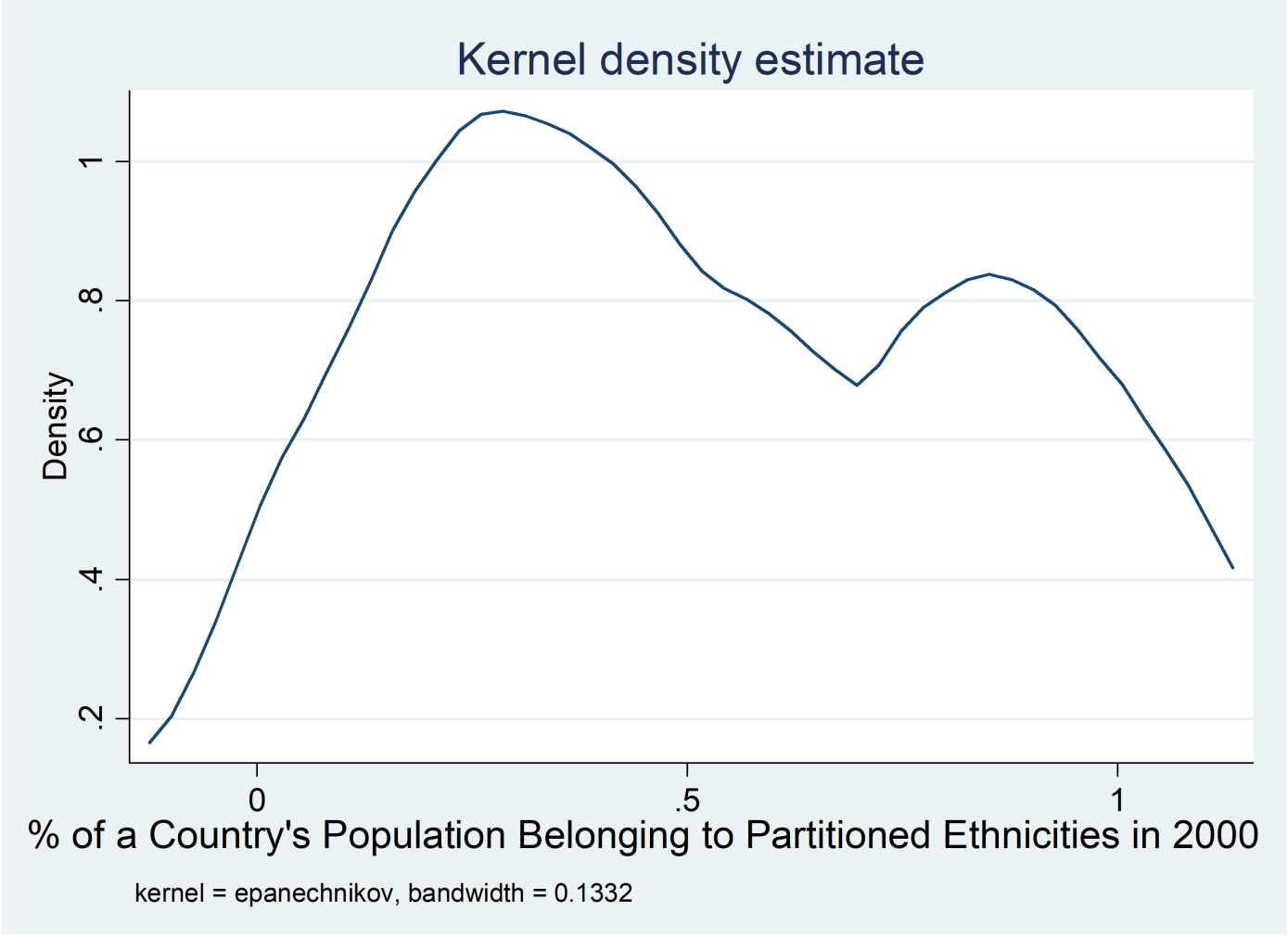
- "*we have been engaged in drawing lines upon maps where no white man's feet have ever trod; we have been giving away mountains and rivers and lakes to each other, only hindered by the small impediment that we never knew exactly where the mountains and rivers and lakes were.*" Lord Salisbury (British PM)

- "*the study of European archives supports the accidental rather than a conspiratorial theory of the marking of African boundaries.*"Asiwaju (1985)

Partitioning of Tribal Areas - Binary Classification



Population Belonging to Partitioned Ethnicities



Deep Determinants of African Development

1. **Importance of National Contemporary Institutions**
   (Acemoglu et al. (2001, 2002, 2005); La Porta et al. (1998, 1999); Glaeser et al. (2004); Michalopoulos and Papaioannou (2014))
   - Colonization (type or/and identity)
2. **Pre-colonial Institutions, Slavery, and Other Ethnic Traits**
   (Herbst (2000); Gennaioli and Rainer (2006, 2007); Michalopoulos and Papaioannou (2013), Nunn (2008), Nunn and Wantchekon (2011), Fenske (2014))
   - Limited penetration of nationwide institutions (poor infrastructure, peculiar country shapes, Michalopoulos and Papaioannou (2014))
   - Colonization limited (in duration and location)
   - Weak state capacity (Migdal 1988, Besley and Persson, 2010)

This Work

..focuses on the long-run effects of the Scramble for Africa

- African historiography (e.g., Dowden (2008); Englebert (2010))
- so far has been neglected in economics

- **Border Design - State Artificiality**
  (Englebert, Tarrango, and Carter (2002); Alesina, Easterly, and Matuszeski (2011))

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Related Works

- Ethnic Fragmentation/Polarization and Conflict/Development (e.g., Easterly and Levine (1997), Alesina et al. (2003), Fearon (2003), Collier and Hoeffer (2007), Montalvo and Reynal-Querol (2005a,b), Esteban, Ray, and Mayoral (2012), Esteban and Ray (2007, 2011), Alesina, Michalopoulos, and Papaioannou (2015a,b))

- Origins of Civil War and Conflict (e.g., Herge and Sambanis (2006); Kalyvas (2007); reviews Blattman and Miguel (2010) and Collier and Sambanis (2005))
  - Civil Conflict in Africa - Geo-referenced Data (Harari and La Ferrara (2014); Besley and Reynal-Querol (2014); Berman et al. (2014))

- Long-run consequences of historical events (e.g., Guiso et al. 2008; Huillery, 2009; Banerjee and Iyer, 2005; Iyer, 2010; Dell, 2011; Acemoglu et al. 2008; Jedwab and Moradi, 2012; reviews Nunn (2015) and Fuchs-Schundeln and Hassan (2015))

Our Study: Shift the Agenda to the Scramble for Africa

- Exploiting as a quasi-natural experiment the random drawing of political boundaries during the Scramble for Africa
  - African historiography extensively argues that the borders were arbitrary (at least w.r.t. to the groups on the ground)
  - Establish border arbitrariness (useful for future research)
- Exploiting regional variation (straightforward econometric benefits)
  - Unobserved country characteristics (colonization, national policies, state capacity)
  - Information at the time of colonization (before independence)
  - Control for local factors (e.g., natural resources, malaria)
- Studying the effect of partitioning on conflict
  - This has been hypothesized to be the main channel.
  - Important from policy standpoint (autonomy, regionalism).
  - Analysis of mechanisms (state-driven conflict, interventions from nearby countries)

Channels Linking Partitioning to Civil War

- Unlike non-split groups, partitioned ethnicities have the advantage of getting assistance from their peers on the other side of the border and find a safe heaven when in need to retreat and regroup.
  - Somali tribes in Ethiopia
- Neighboring governments exploit the presence of co-ethnics across the border to intervene and stage interventions.
  - Casamance region in Southern Senegal, where the partitioned ethnic groups Diola and the Banyun reside
- Groups in Africa are often excluded from the central government. Unlike other marginalized groups, though, split ethnicities often react by participating in coups, rebellions against the government.
  - Alur in DRC.

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Channels Linking Partitioning to Civil War (cont.)

- Irredentist demands, as ethnicities that are minority groups in a country want to unify with their peers across the border
  - 3 civil wars in the homeland of the Somalis partitioned between Somalia, Djibouti, Kenya, Ethiopia
- Partitioned ethnicities fight to secede or obtain more autonomy
  - Diolas in the Casamance region in Southern Senegal
- Border disputes due to the poor demarcation of borders particularly in case of partitioned groups
  - ambiguity of the tripartite treaty between Britain, Italy and Ethiopia of 1902 has also played a role in the Eritrea-Ethiopia devastating war

Consequences of the Scramble Besides Partitioning

- African border design determined **all country-wide** aspects related to
  - geography, i.e., landlocked, country size, ruggedness, shape, disease environment etc.
  - societal structure, i.e., ethnic fractionalization, polarization, inequality, etc.
- Do not quantify their influence on conflict but account for their importance with the inclusion of country fixed effects.
- Explore how these different nationwide by-products of the Scramble for Africa interact with ethnic partitioning in shaping local conflict.

Presentation Structure

- **Border Artificiality** (split vs. non-split)
- **Ethnic Partitioning and Civil Conflict (ACLED)**
  - baseline estimates
  - conflict types (battles, violence against civilians, riots) and conflict actors (government, rebels-militias, external)
  - sensitivity analysis
  - further evidence with alternative conflict data (UCDP-GED)
- **Ethnic Partitioning and Political Representation (EPR)**
  - Political Discrimination and Ethnic Wars
- **Ethnic Partitioning and Public Goods (DHS)**
  - Identity and Location (further look at discrimination)
- **Summary-Conclusion**

Objective

- African historiographers argue that Europeans did not take into account local (geographic, political) conditions when delineating borders
  - Yet in some cases they did
  - some (few) border realignments - Nigeria and Cameroon (Bakassi Peninsula still under demarcation)
- **Approach 1:** Examine whether some specific observable features correlate with ethnic partitioning across the continent
- **Approach 2: Balancedness Tests** ("similarity regression tests")
  - compare split and non-split ethnic homelands **within countries**

Empirical Specification

$$SPLIT_i = a + \beta GEO_i + \gamma HIST_i + \delta PRECOLONIAL_i + a_r + \varepsilon_i$$

- $SPLIT_i$: indicator whether the historical homeland of ethnic group i is partitioned by national boundaries
  - 10% threshold
  - Other thresholds (and continuous measures)
- GEO_i : vector of geographic variables (at the ethnicity level).
- $HIST_i$: vector of historical characteristics (at the ethnicity level).
- $PRECOLONIAL_i$: pre-colonial ethnic-specific traits.
- a_r : region fixed effects (North, South, Central, East, West Africa)

Border Artificiality I. Geography

	(1)	(2)	(3)	(4)	(5)
Log Land Area	0.0556***	0.0529***	0.0618***	0.0554***	0.0489***
	(0.0153)	(0.0159)	(0.0175)	(0.0186)	(0.0150)
Lake Indicator		0.0961*	0.0963	0.0965*	0.0971*
		(0.0565)	(0.0645)	(0.0567)	(0.0558)
River Indicator		-0.0053	-0.0164	-0.0092	-0.0065
		(0.0337)	(0.0324)	(0.0325)	(0.0338)
Elevation			-0.0411		
			(0.0709)		
Suitability for Agriculture			0.1239		
			(0.0974)		
Malaria Stability Index				0.0195	
				(0.0982)	
Distance to the Coast				0.0000	
				(0.0001)	
Diamond Mine Indicator					0.0359
					(0.0651)
Oil Indicator					0.0285
					(0.0565)
Adjusted R-square	0.050	0.055	0.059	0.056	0.056

Border Artificiality II. Pre-colonial History

	(1)	(3)	(3)	(4)	(5)	(6)	(7)
Pre-colonial Conflict Indicator	-0.0663						
	(0.0733)						
Distance to Pre-colonial Conflict		-0.0444					
		(0.0839)					
Slave Trades Indicator			0.0045				
			(0.0322)				
Log Number of Slaves (normalized by land area)				0.0063			
				(0.0080)			
Pre-colonial Kingdom Indicator					0.0466		
					(0.0469)		
Distance to Pre-colonial Kingdom						0.0009	
						(0.1235)	
Major City in 1400AD							0.0233
							(0.0652)
Adjusted R-square	0.056	0.056	0.055	0.056	0.057	0.055	0.055
Size, River and Lake Indicators	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	825	825	825	825	825	825	825

Border Artificiality III. Pre-colonial Ethnic Traits

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Complex Settlement Patterns	-0.0004						
	(0.0538)						
Share of Agriculture		0.0015					
		(0.0112)					
Animal Husbandry			(0.0088)				
			(0.0108)				
Elections				-0.0459			
				(0.0848)			
Inheritance Rule for Property					0.0040		
					(0.0891)		
Political Centralization						-0.0719	
						(0.0482)	
Class Stratification							-0.0674
							(0.0444)
adjusted R-squared	0.081	0.081	0.082	0.095	0.0790	0.0830	0.098
Size, River and Lake Indicators	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	451	451	437	437	394	394	487

Results Summary: Border Artificiality

- among numerous geographic, ecological, and local conditions variables only land area and area under water (lakes) correlate with partitioning
- out of various pre-colonial ethnic-specific institutional, cultural, economic, and social variables (reported in George Peter Murdock's Ethnolinguistic Atlas), none correlates with border drawing
- these simple results (though do not prove by themselves the random border design) consistent with the vast literature on ethnic partitioning during the Scramble for Africa arguing that Europeans paid little attention to local conditions when drawing political boundaries (Asiwaju, 1985)
  - at the time no prospect of independence
  - implicit understanding that people could move across borders

Balancedness Tests across Groups within Countries

- Estimate "similarity regressions" (with country fixed effects) associating various geographic, location, natural resource and ecology variables with the ethnic partitioning index.
  - full sample (1212 country-ethnic homelands)
  - border sample (606 country-ethnic homelands)
- No major (within country) differences in observable characteristics between split and non-split ethnic homelands
  - unobservable features should be way more important than observables

(Altonji et al. (2004), Oster (2014))

Similarity Regressions

	Dependent variable is:													
	Log Land Area	Lake Indicator	River Indicator	Mean Elevation	Land Suitability	Malaria Stability	Diamond Indicator	Petroleum Indicator	Major City in 1400	Coastal Indicator	Capital Indicator	Distance Sea	Distance Border	Distance Capital
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Panel A: All Country-Ethnic Homelands														
SPLIT	-0.1702	-0.0027	0.0023	0.0165	0.0009	-0.0092	-0.0132	-0.0212	-0.0005	-0.0173	-0.024	0.0219	100.8410**	0.1059***
	(0.1045)	(0.0225)	(0.0333)	(0.0365)	(0.0193)	(0.0218)	(0.0189)	(0.0220)	(0.0094)	(0.0274)	(0.0159)	(0.0316)	(13.3237)	(0.0276)
marginal R2	0.003	0.000	0.000	0.001	0.000	0.000	0.001	0.001	0.000	0.001	0.003	0.000	0.154	0.017
Mean Dep. Var	2.071	0.108	0.504	0.617	0.407	0.717	0.093	0.084	0.026	0.129	0.039	0.600	107.412	0.505
Observations	1212	1212	1212	1212	1212	1212	1212	1212	1212	1212	1212	1212	1212	1212
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel B: Country-Ethnic Homelands close to the National Border														
SPLIT	0.7236***	-0.0191	0.0864*	0.0010	0.0243	-0.0090	0.0123	0.0095	0.0057	0.0475	0.0118	-0.0268	-1.9752	-0.0128
	(0.1762)	(0.0294)	(0.0399)	(0.0326)	(0.0154)	(0.0214)	(0.0250)	(0.0212)	(0.0045)	(0.0311)	(0.0094)	(0.0303)	(2.8585)	(0.0370)
marginal R2	0.052	0.001	0.005	0.000	0.002	0.000	0.001	0.001	0.002	0.005	0.001	0.001	0.002	0.000
Mean Dep. Var	1.2276	0.0941	0.4620	0.5928	0.4314	0.7714	0.0594	0.0413	0.0033	0.1089	0.0215	0.5855	24.8881	0.5163
Observations	606	606	606	606	606	606	606	606	606	606	606	606	606	606
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Border Artificiality. A Caveat

- almost impossible to establish randomization **BUT**
  - empirical results in line with African historiography on the limited (at best) knowledge of colonizers at the time
- It has to be that the factors that somehow affected partitioning at the time when no-one could foresee independence matter crucially for contemporary conflict (quite unlikely)

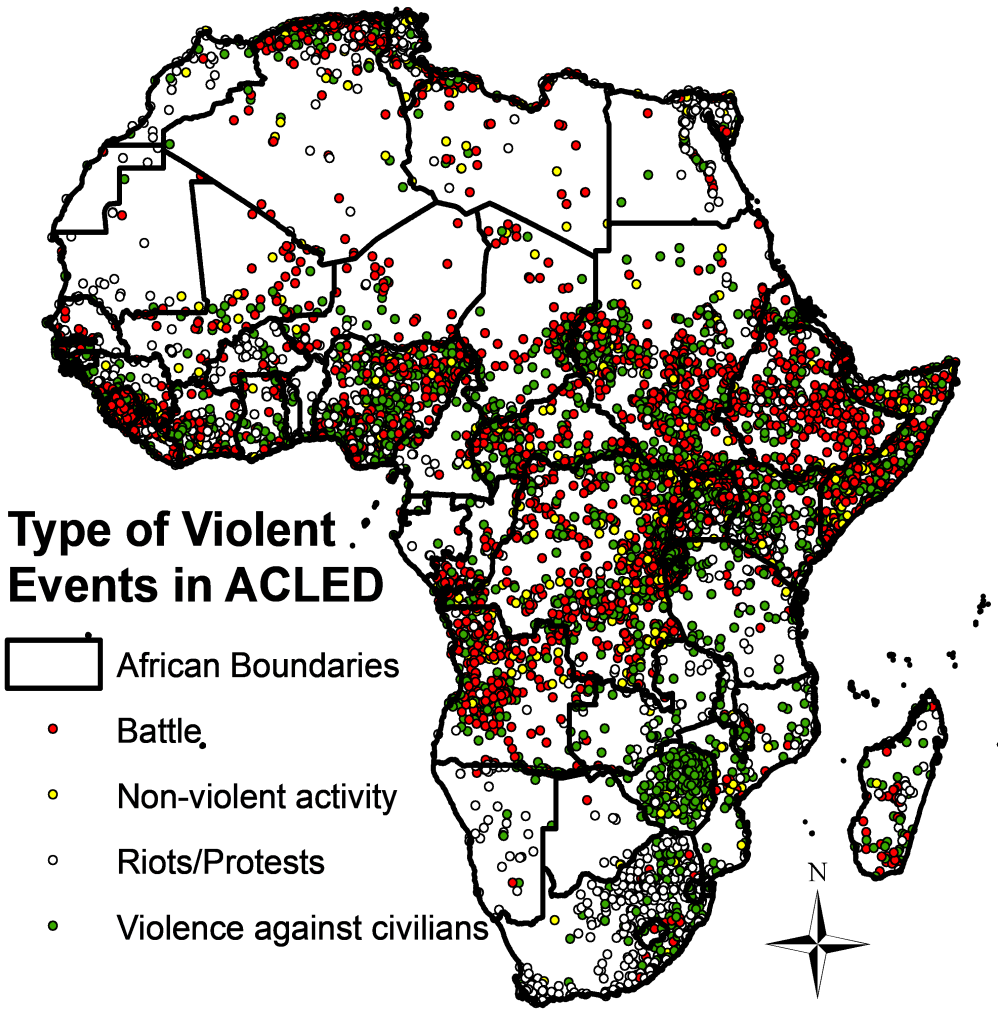
Main Dataset

- **Source: Armed Conflict Location and Events Dataset, ACLED. (vintage 4)**
  - Raleigh, Linke, Hegre, and Karlsen (2010); Raleigh, Linke, and Down (2014)
  - Period: 1997 – 2013
  - Sample: All African countries (but some small islands)
  - Original Sources: Reuters, BBC, Associated Press, Agence France Press, United Nations Reports, NGO's, etc.

Classification. 4 Categories

- Battles, mostly between government forces, rebels, and militias
  - 23,381 events, 9,596 deadly
- Violence against civilians, by militias (40%), government troops (25%) and rebels (25%).
  - 20,409 events, 8,777 deadly)
- Riots and protests. mostly in capitals.
  - 16,147 events, 1,040 deadly
- Non-violent activities by conflict actors.
  - 4,727 events, 42 deadly

Civil Conflict. ACLED 1997-2013



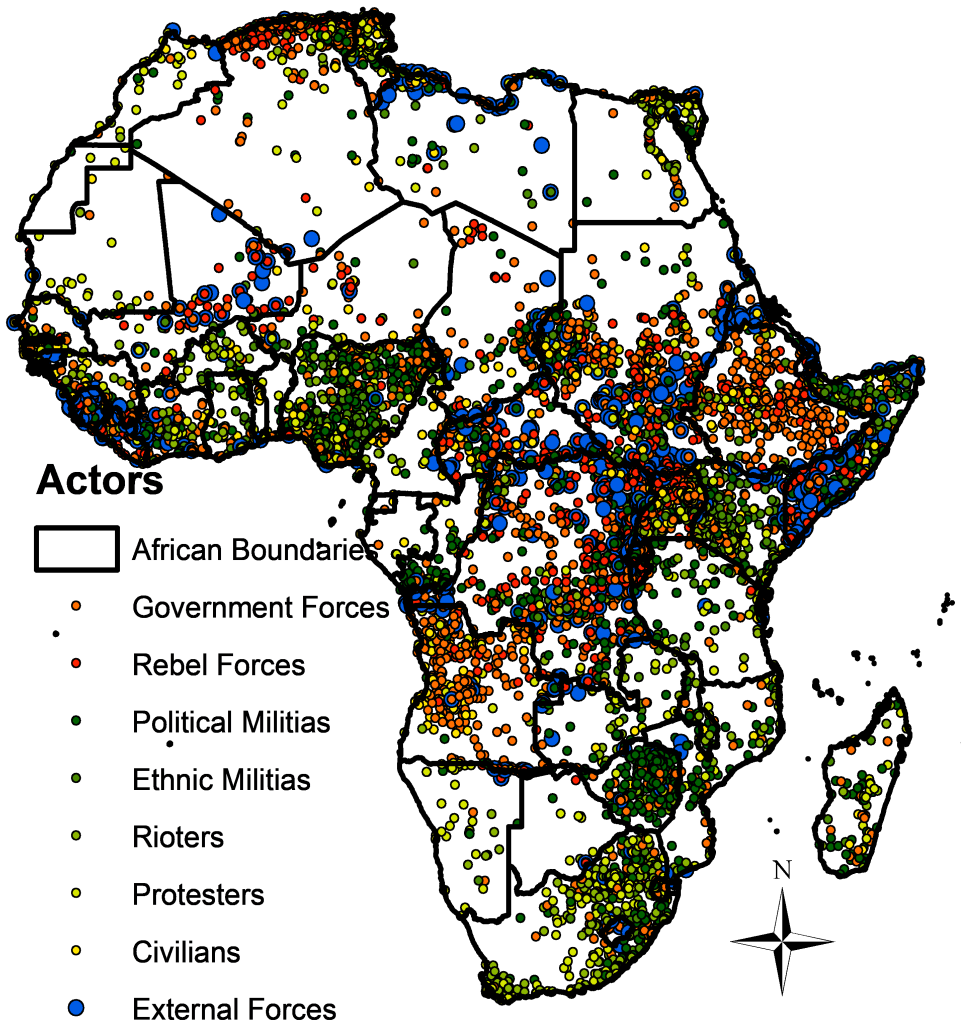
Conflict Examples

- Battles:
  - September 1999 the Ugandan army killed 42 Pian warriors, coming from the Karamojong group split between Uganda, Sudan, and Kenya;
  - August 1997 government forces of the Congo DRC retook control of the town of Watsa, close to the border with Uganda, where the partitioned Alur reside. 800 casualties;
- Violence Against Civilians:
  - raids of the Janjaweed militias against civilian population in the Darfur region;
  - the assaults and tortures by President's Mugabe's Central Intelligence Organization in Zimbabwe;
  - burning of churches, hostage-taking and child-soldiering raids by rebels in Nigeria and in Sierra Leone
- Riots and Protests
  - Arab Spring
  - Marikana events in South Africa

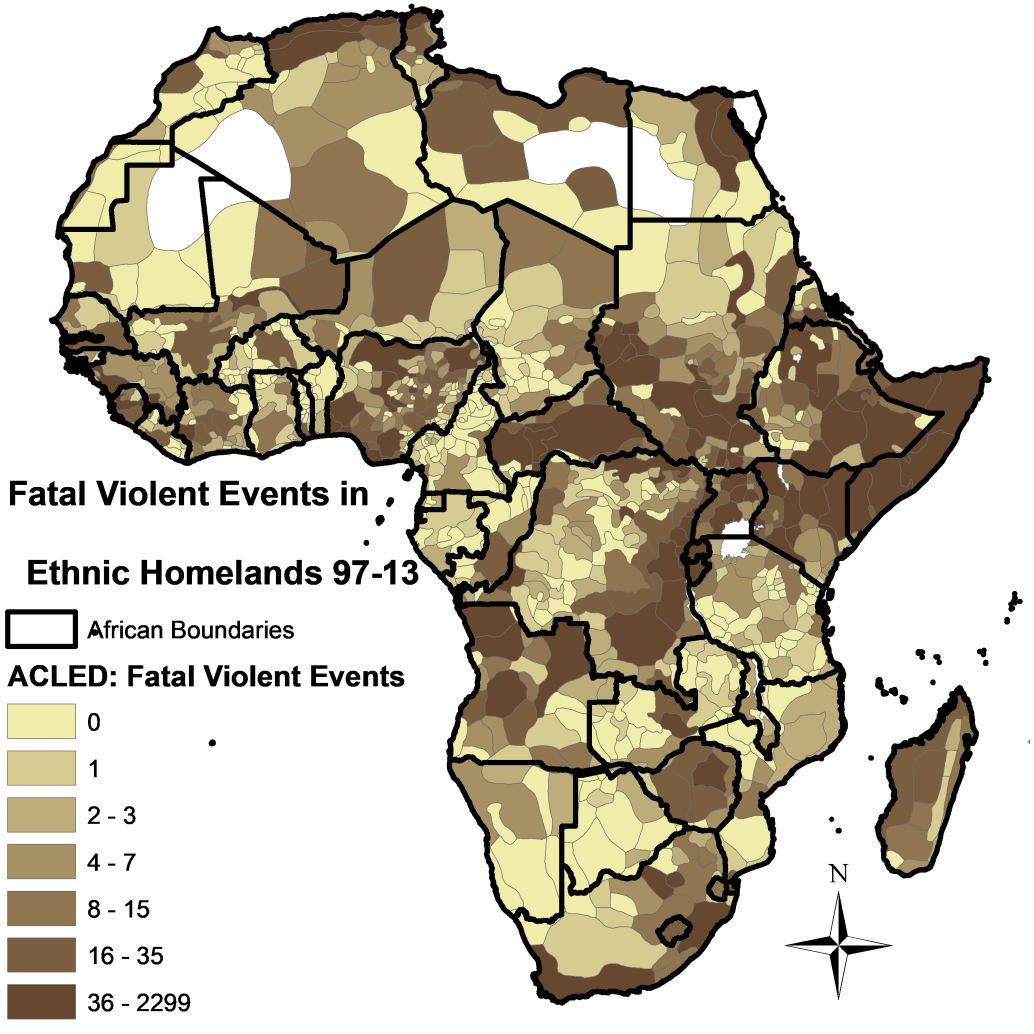
Classification. 8 Conflict Actors

- Government Forces
- Rebel Forces (political organizations whose goal is to counter an established national governing regime by violent acts)
- Ethnic and Political Militias (created for a specific purpose or during a specific time period; offering protection/policing, involved in communal violence, etc.)
- Rioters
- Protesters
- Civilians
- Outside/external forces
  - intervention by nearby countries
  - peace-keeping (UN, African Union) and outside military involvement (NATO, France)

Conflict Events by Actor



Conflict across Country-Ethnic Homelands



Empirical Specification

$$y_{i,c} = a + \beta SPLIT_i + \gamma SPIL_{i,c} + X'_{i,c}\Phi + a_c + \varepsilon_{i,c}$$

- $y_{i,c}$: civil conflict at the homeland of ethnicity i in country c.
- $SPLIT_{i,c}$: Binary ethnic partitioning index. [518 partitioned, 694 non-split]
- $SPIL_{i,c}$: Share of adjacent split groups (*spillovers*). [mean 0.41]
- $X_{i,c}$: vector of control variables (at the country-ethnicity level).
  - including distance to the national border
  - including log land area, water indicators, and log population at independence (*simple controls*)
- a_c : country fixed effects [national politics, type of colonization, state capacity, ethnic composition, etc.]

Empirical Specification, cont.

- to minimize concerns that the partitioning indicator is capturing an overall border effect, we also restrict estimation to ethnic areas near the national border

$$y_{i,c} = a + \beta SPLIT_i + \gamma SPIL_{i,c} + X'_{i,c}\Phi + a_c + \varepsilon_{i,c}$$

$$\begin{aligned} if\ \ BDIST_{i,c} &< median(BDIST) \\ &< 63km \end{aligned}$$

Rich Set of Control Variables at a Fine Grid

- suitability for agriculture, elevation
- natural resources (diamond mines, oil/petroleum fields)
- malaria stability index (from Columbia's Earth Institute)
- distance to border (and higher order polynomial terms)
- distance to the sea coast
- distance to the capital city
- capital city indicator
- coastal indicator
- more

Technical Issues

- **Count data**
  - Significant fraction of the observations on regional civil war takes on the value of zero (25%).
  - Some extreme observations in the right tail of the distribution (e.g., all conflict events $mean = 53.4$; $p50 = 4$; $p99 = 102$; $max = 5,423$)

Approach

- Negative Binomial ML estimation with country constants
- Linear Probability Model (LPM) estimates (extensive margin)
- Poisson ML model estimation dropping outliers (top 5%, top 10%)
- Conditional Negative Binomial ML estimation (Hahn, Hausman, and Griliches, 1984)

Alternative Aspects of Civil Conflict

- **Deadly conflict incidents**
  - NB-ML with country constants
  - LPM (OLS) with country fixed effects
  - Conditional NB models
  - Country fixed-effects Poisson (no outliers)
- **Fatalities** (NB-ML with country constants)
- **Duration in years** (NB-ML and Poisson-ML with country fixed-effects)
  - all incidents
  - deadly incidents

Inference

- "Standard" heteroskedasticity-adjusted standard errors unreliable.
- Report double clustered s.e. with clustering at the country-level and at the ethnic family level (Cameron, Gelbach, and Miller (2011))
  1. Account for (i) within country correlation; (ii) correlation of ethnic cultural, political, economic traits within ethnic families.
  2. Account for spatial correlation.
- Conley's (1999) method yields similar (and if anything somewhat smaller) standard errors.

Results Preview

- Preliminary Evidence
  - Tests of Means and Medians (Full Sample and Border Sample)
- Regression Analysis (Full Sample and Border Sample)
  - Conflict Events (number and likelihood)
  - Intensity (Duration, Fatalities, Deadly Events)
  - Type of Conflict (battles, civilian violence, riots-protests)
  - Sensitivity Analysis
- Digging Deeper.
  - Conflict Actor (government troops, rebels, militias, foreign interventions)
  - Further evidence of actor-based analysis
- Taking Stock

Tests of Means and Medians. All Events

	Indicator Likelihood	Number of Incidents - All		Excluding Capitals		Excluding Outliers (top 1%)	
	mean	mean	median	mean	median	mean	median
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
				Panel A: All Ethnic Homelands			
non-partitioned ethnic groups (N=596)	0.815	47.616	3.000	30.495	3.000	30.464	3.000
partitioned ethnic groups (N=229)	0.878	65.031	13.000	47.872	10.000	52.526	13.000
difference	**0.062**	**17.415**	**10.000**	**17.377**	**7.000**	**22.062**	**10.000**
difference (p-value)	*(0.07)*	*(0.42)*	*(0.00)*	*(0.05)*	*(0.09)*	*(0.02)*	*(0.01)*
				Panel B: Ethnic Homelands close to the National Border			
non-partitioned ethnic groups (N=200)	0.873	32.300	1.000	29.270	1.000	24.704	1.000
partitioned ethnic groups (N=213)	0.725	66.067	12.000	47.249	10.000	52.524	12.000
difference	**0.148**	**33.667**	**11.000**	**17.978**	**9.000**	**27.820**	**11.000**
difference (p-value)	*(0.00)*	*(0.10)*	*(0.01)*	*(0.09)*	*(0.02)*	*(0.00)*	*(0.00)*

Tests of Means and Medians. Battles

	Indicator Likelihood	Number of Incidents - All		Excluding Capitals		Excluding Outliers (top 1%)	
	mean	mean	median	mean	median	mean	median
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
			Panel A: All Ethnic Homelands				
non-partitioned ethnic groups (N=596)	0.649	19.837	1.000	14.551	1.000	12.566	1.000
partitioned ethnic groups (N=229)	0.725	30.052	3.000	22.782	2.000	21.212	2.000
difference	**0.076**	**10.215**	**2.000**	8.231	**1.000**	**8.646**	**1.000**
difference (p-value)	*(0.33)*	*(0.20)*	*(0.03)*	*(0.10)*	*(0.19)*	*(0.03)*	*(0.12)*
			Panel B: Ethnic Homelands close to the National Border				
non-partitioned ethnic groups (N=200)	0.550	15.700	0.000	13.867	0.000	9.879	0.000
partitioned ethnic groups (N=213)	0.714	30.230	3.000	22.173	2.000	20.719	3.000
difference	**0.164**	**14.530**	**3.000**	**8.305**	**2.000**	**10.840**	**3.000**
difference (p-value)	*(0.00)*	*(0.16)*	*(0.15)*	*(0.18)*	*(0.10)*	*(0.01)*	*(0.01)*

Tests of Means and Medians. Civilian Violence

	Indicator Likelihood	Number of Incidents - All		Excluding Capitals		Excluding Outliers (top 1%)	
	mean	mean	median	mean	median	mean	median
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
				Panel A: All Ethnic Homelands			
non-partitioned ethnic groups (N=596)	0.683	17.648	1.000	10.502	1.000	10.007	1.000
partitioned ethnic groups (N=229)	0.777	23.258	3.000	16.758	2.000	17.079	3.000
difference	**0.094**	**5.610**	**2.000**	**6.257**	**1.000**	**7.073**	**2.000**
difference (p-value)	*(0.05)*	*(0.53)*	*(0.03)*	*(0.05)*	*(0.10)*	*(0.05)*	*(0.03)*
				Panel B: Ethnic Homelands close to the National Border			
non-partitioned ethnic groups (N=200)	0.615	11.390	0.000	10.786	0.000	7.525	0.000
partitioned ethnic groups (N=213)	0.765	24.033	3.000	16.919	2.000	17.393	3.000
difference	**0.150**	**12.643**	**3.000**	**6.133**	**2.000**	**9.868**	**3.000**
difference (p-value)	*(0.00)*	*(0.13)*	*(0.01)*	*(0.08)*	*(0.00)*	*(0.00)*	*(0.00)*

Ethnic Partitioning and Civil Conflict. NB-ML Estimates. Full Sample

	All Observations				Excl. Out.	Excl. Cap.
	(1)	(2)	(3)	(4)	(5)	(6)
SPLIT (Partitioning)	0.4513***	0.3329**	0.4495***	0.4626***	0.4494***	0.4565***
Double-clustered s.e.	(0.1611)	(0.1851)	(0.1254)	(0.1201)	(0.1172)	(0.1236)
SPIL (Adjacent Split)	0.0481	0.391	0.4619*	0.4920*	0.4834*	0.4256*
Double-clustered s.e.	(0.2789)	(0.3430)	(0.2626)	(0.2628)	(0.2686)	(0.2760)
Log Likelihood	-4506.794	-4280.17	-4119.95	-4108.72	-3993.15	-3781.29
Observations	1212	1212	1212	1212	1199	1165
Simple Controls	Yes	Yes	Yes	Yes	Yes	Yes
Location Controls	No	No	Yes	Yes	Yes	Yes
Geographic Controls	No	No	No	Yes	Yes	Yes
Country Fixed Effects	No	Yes	Yes	Yes	Yes	Yes

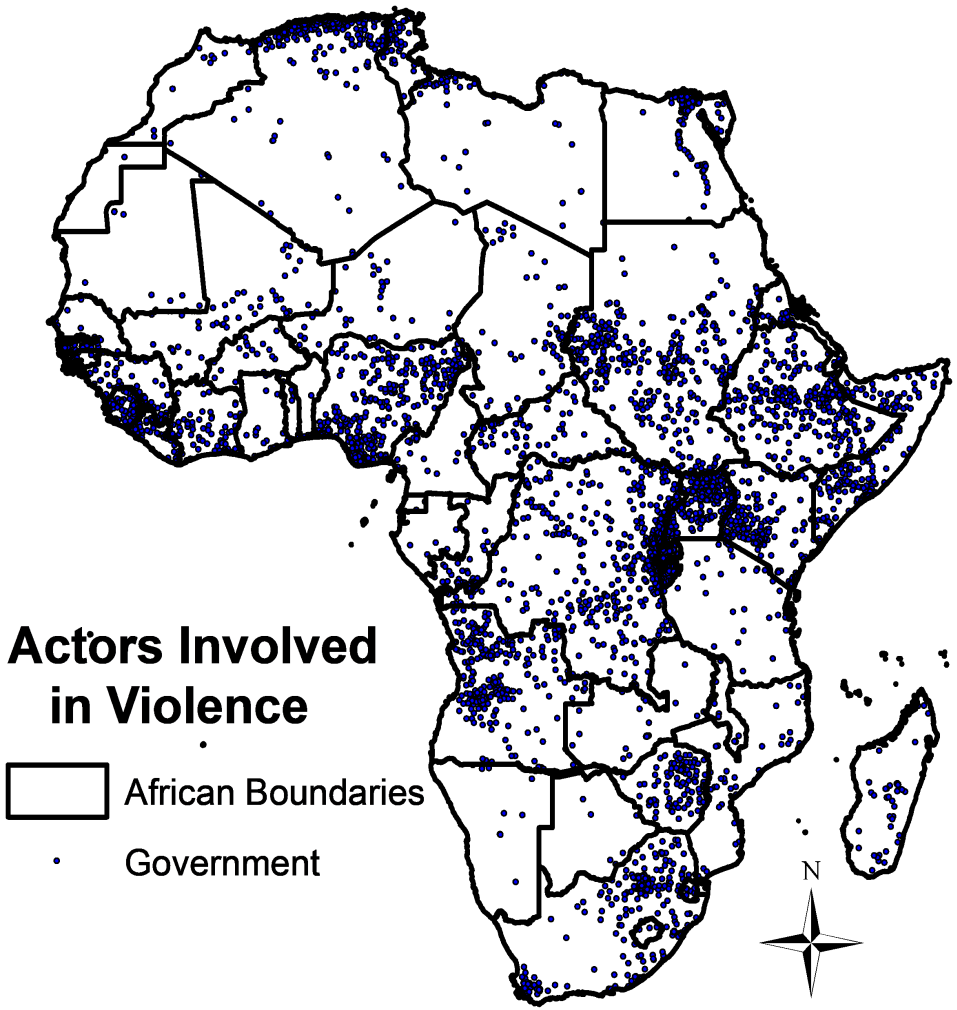
Summary Economic Magntitudes

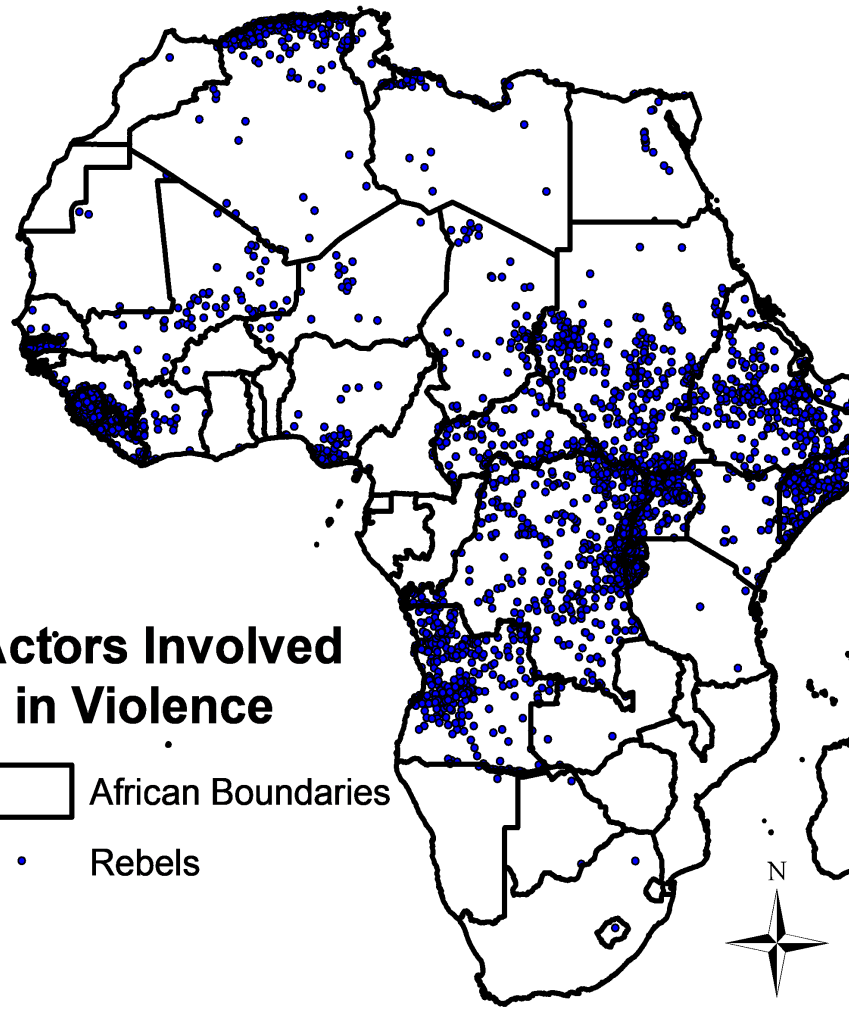
- Number of Events (intensity): approx. $60\% - 70\%$ (mean 53 events)
- Deadly Events: approx. $50\% - 70\%$ (mean 16 events)
- Conflict Likelihood: $5\% - 8 : 5\%$ (mean 73%)
- Duration: 25% (mean $4 - 5$ years, median 2.5 years)
- Duration Deadly: $30\% - 40\%$ (mean 2.7 years, median 1 year)
- Casualties: $100\% - 180\%$ (mean 317 deaths)

Digging Deeper

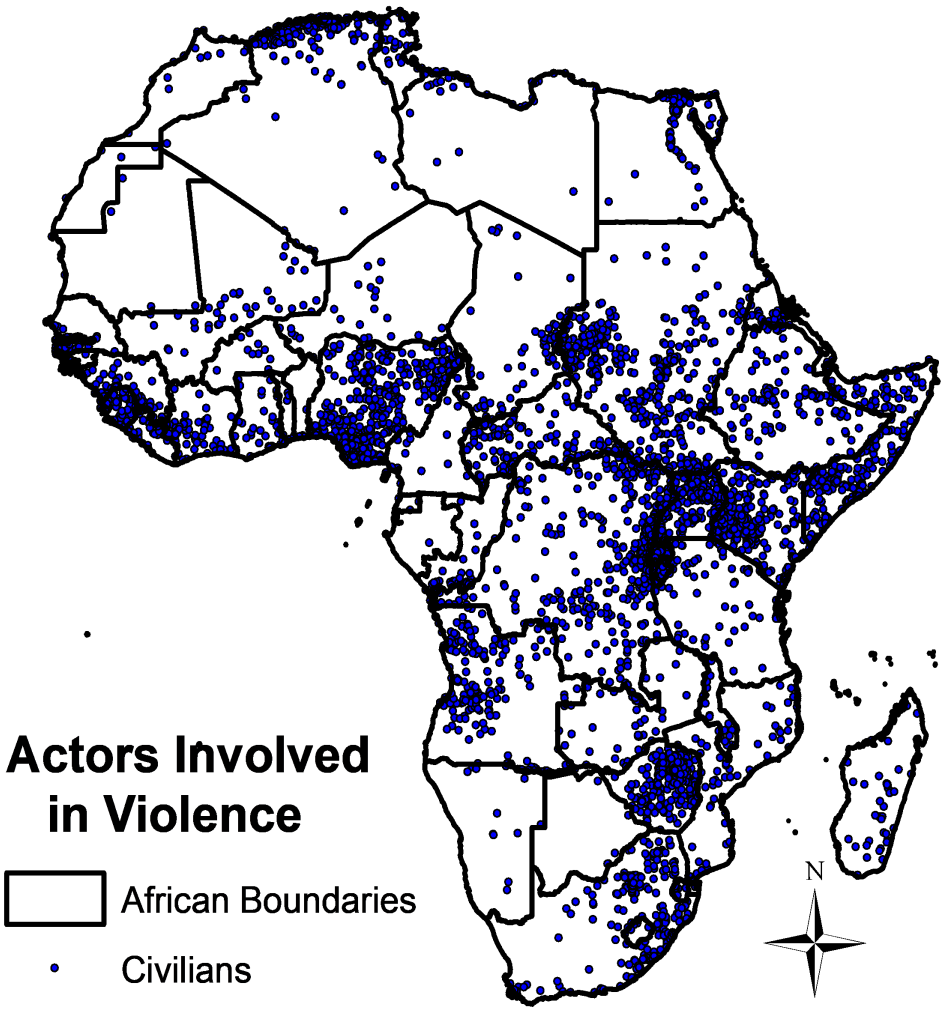
- Ethnic-based discrimination, suffocation from government and opposition [rebels, militias]
- Interventions from nearby countries [shelter, regrouping]; "proxy" wars ["internationalized internal" civil wars, PRIO]
- In contrast, no arguments linking partitioning with riots and protests; mostly urban phenomena (capitals and big cities)

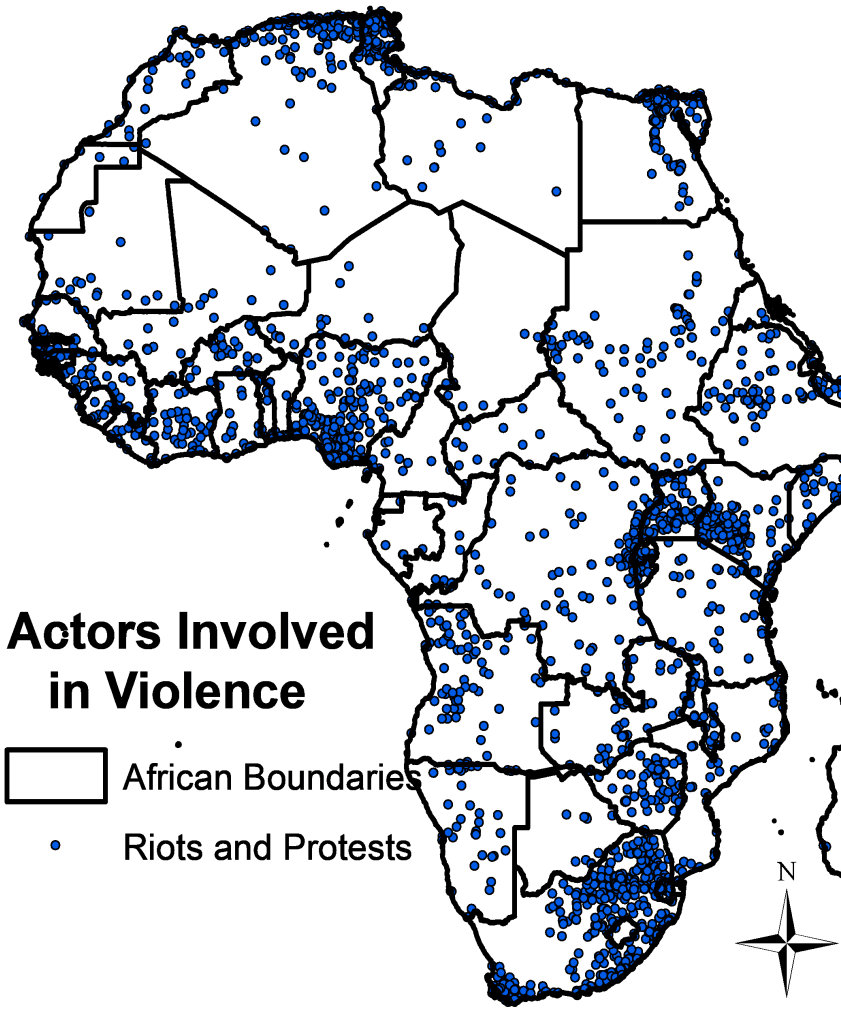
State Conflict (Government Forces, Rebels and Militias)





Violence against Civilians and Riots-Protests





Neighboring Countries Interventions. Examples

- 18/4/1997: "Sudanese government military repulsed an attack by Ugandan military which began with 4 days of shelling the area -more than 300 Ugandan soldiers were reportedly killed." (Madi homeland in Sudan)
- 4/12/2013 "Ethiopian forces kill a civilian man in Somalia and a member of the local government administration after he criticized their presence in Somalia. Two other civilians were injured." (Shebelle homeland in Somalia).
- 05/07/2007: "Sudan 'occupies territory of Alur in the Democratic Republic of Congo for 'administrative reasons.'" (Lugbara homeland in DRC)
- 26/5/2001: "Guinean military attacks Liberian army in support of Liberian dissidents" - (Toma homeland in Liberia)

Ethnic Partitioning and Main Civil Conflict Actors. Full Sample

	All Homelands				Homelands close to the Border			
	Governm.	Reb.-Mil.	Neighbor	External	Governm.	Reb.-Mil.	Neighbor	External
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SPLIT (Partitioning)	0.5247***	0.4908***	1.1280***	0.244	0.1089***	0.0663**	0.0658**	0.0065
Double-clustered s.e.	(0.1394)	(0.1381)	(0.2577)	(0.2534)	(0.0281)	(0.0327)	(0.0325)	(0.0228)
SPIL (Adjacent Split)	0.496	0.3258	0.1629	-0.519	0.1300**	0.1059**	0.0737	-0.009
Double-clustered s.e.	(0.3108)	(0.3089)	(0.4327)	(0.4765)	(0.0530)	(0.0482)	(0.0466)	(0.0292)
Log Likelihood	-3213.3	-3538.276	-1088.254	-571.588	0.453	0.472	0.345	0.378
Observations	1212	1212	1178	682	1212	1212	1212	1212
Simple Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Location Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1212	1212	1178	682	1212	1212	1212	1212

Robustness Checks

- Alternative measures of partitioning (5% threshold, continuous index)
- Excluding each time a different African region
- Spatial lag models (account for spillovers)
- High-order polynomials on distance to the border
- Ethnic family fixed effects (unobservables)
- Accounting for pre-colonial conflict
- Excluding 2011, 2012, and 2013 (increased coverage by ACLED)
- Use conflicts reported only by:
  - International Media
  - NGO's and UN reports

A Closer Look

- Results (so far):
  - ethnic partitioning and state conflict (battles between government troops and rebels)
  - ethnic partitioning and violence against civilians
  - ethnic partitioning and foreign interventions by neighboring countries
- Robustness???
- Further Evidence???
- **UCDP-GED database**

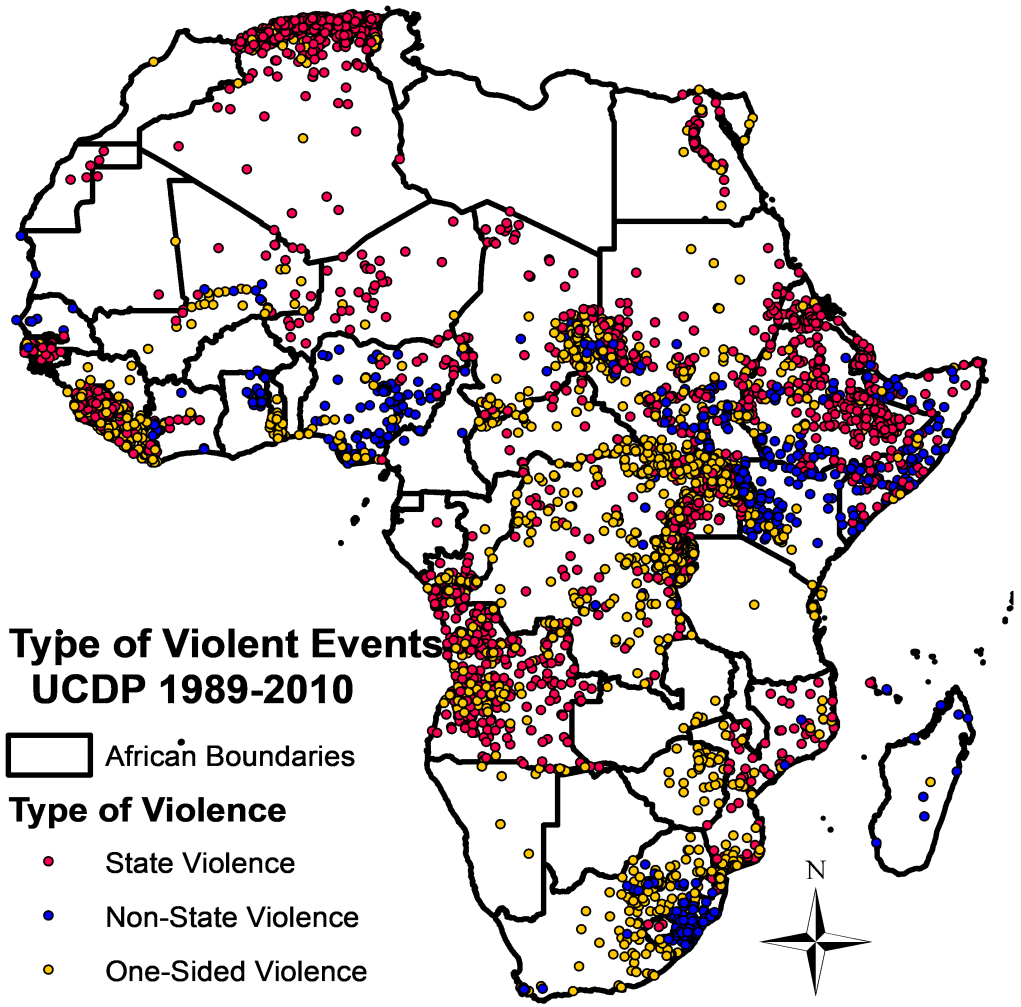
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  - ethnic partitioning and state conflict (battles between government troops and rebels)
  - ethnic partitioning and violence against civilians
  - ethnic partitioning and foreign interventions by neighboring countries
- Robustness???
- Further Evidence???
- **UCDP-GED database**

Data

- Source: Sundberg and Erik Melander (*Journal of Peace Research*, 2013); Sundberg, Lindgren and Padskocimaite (2010)
- Coverage: $1989 - 2010$. $11,418$ fatal incidents.
- Event definition "*the incidence of the use of armed force by an organized actor against another organized actor, or against civilians, resulting in at least 1 direct death in either the best, low or high estimate categories at a specific location and for a specific temporal duration*"
- **state-driven conflict:** 7.332 (64.25%)
- **non-state conflict:** 1.283 (11.25%)
- **one-sided violence:** 2.803 (24.5%)

UCDP Conflict Events by Type



Ethnic Partitioning and State Conflict

	All Homelands			Homelands close to the Border		
	All Events	Indicator	Duration	All Events	Indicator	Duration
	NB-ML	LPM	NB-ML	NB-ML	LPM	NB-ML
	(1)	(2)	(3)	(4)	(5)	(6)
SPLIT (Partitioning)	0.4978**	0.0487*	0.3390**	0.8053***	0.0799**	0.5469**
Double-clustered s.e.	(0.2411)	(0.0294)	(0.1422)	(0.2335)	(0.0393)	(0.2389)
SPIL (Adjacent Split)	1.1577***	0.0902*	0.6868**	0.434	0.0424	0.255
Double-clustered s.e.	(0.4761)	(0.0518)	(0.2964)	(0.5468)	(0.0534)	(0.3744)
Log Likelihood	-1453.054		-1046.922	-528.002		-383.392
Observations		0.471			0.441	
	1212	1212	1212	579	579	579
Simple Controls	Yes	Yes	Yes	Yes	Yes	Yes
Location Controls	Yes	Yes	Yes	Yes	Yes	Yes
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Ethnic Partitioning and Non-State Conflict

	All Homelands			Homelands close to the Border		
	All Events	Indicator	Duration	All Events	Indicator	Duration
	NB-ML	LPM	NB-ML	NB-ML	LPM	NB-ML
	(1)	(2)	(3)	(4)	(5)	(6)
SPLIT (Partitioning)	-0.2087	-0.0459	0.026	-0.4122	-0.0351	-0.1797
Double-clustered s.e.	(0.4062)	(0.0317)	(0.3374)	(0.5178)	(0.0283)	(0.4917)
SPIL (Adjacent Split)	-0.8703	-0.0344	-0.5089	-0.6593	-0.0268	-0.6964
Double-clustered s.e.	(0.7193)	(0.0302)	(0.4423)	(0.8728)	(0.0415)	(0.7086)
Log Likelihood	-841.675		-644.791	-243.97		-199.677
Observations		0.320			0.310	
	894	1212	1212	415	579	579
Simple Controls	Yes	Yes	Yes	Yes	Yes	Yes
Location Controls	Yes	Yes	Yes	Yes	Yes	Yes
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Taking Stock

- Strong link between ethnic partitioning and main aspects of civil conflict (incidents, likelihood, duration, and fatalities).
- Predominant type of conflict: government forces fighting against rebels and militias (ACLED and UCDP).
- Strong link between ethnic partitioning and military interventions by neighboring countries (ACLED).
- Positive link between ethnic partitioning and one-sided violence against civilians. (ACLED and UCDP).
- No link between ethnic partitioning and riots and protests. (ACLED).
- No link between ethnic partitioning and conflict between non-state actors. (UCDP).

Ethnic Power Relations (EPR) Database

- Source: Wimmer, Cederman and Min (Ethnic Politics and Armed Conflict, American Sociological Review, 2009)
- The Ethnic Power Relations (EPR) dataset identifies all "*politically relevant ethnic groups*" and records the level of access to state power by their representatives in all countries of the world from 1946 – 2010 (vintage 3).
- Ethnic-based Armed Conflict
- Political discrimination

EPR Database. Outcome Variables

- Ethnic Armed Conflict: "Ethnic wars typically involve conflicts over ethnonational self-determination, the ethnic balance of power in government, ethnoregional autonomy, ethnic and racial discrimination (whether alleged or real), and language and other cultural rights."

- Political discrimination: "Group members are subjected to active, intentional, and targeted discrimination with the intent of excluding them from both regional and national power. Such active discrimination can be either formal or informal. Formal discrimination legally limits access to government positions to citizens who speak a certain mother tongue, display certain phenotypical features, or are members of certain religious groups. Informal discrimination actively and intentionally inhibits individuals with certain ethnic backgrounds from rising within the ranks of government."

Ethnic Power Relations (EPR) Database, cont. Caveats

- Manually matched 547 groups from EPR to Murdock (1959)
- Caveats:
  - Matching is not straightforward as the EPR often quotes coalitions of groups
  - EPR includes only politically relevant groups (may be a plus)
  - An ethnic category is politically relevant if at least one significant political actor claims to represent the interests of that group in the national political arena, or if members of an ethnic category are systematically and intentionally discriminated against in the domain of public politics.

Ethnic Partitioning and Political Power

	Observ.	Ethnic Wars	Discrimination
	(1)	(2)	(3)
Partitioned Ethnicities	234 (0.395)	72 (0.31)	58 (0.248)
Non-Partitioned Ethnicities	359 (0.605)	69 (0.19)	52 (0.145)
Total	593	141 (0.238)	110 (0.185)

Examples

Politically discriminated partitioned ethnic groups

- Tigrinya in Ethiopia
- Asben in Niger
- Ambo and Chokwe in Angola
- Zaghawa and Bideyat in Chad
- Ndau in Zimbabwe
- Alur in Uganda
- Yakoma in Central African Republic

Ethnic Partitioning and Major Ethnic Wars

	LPM (1)	LPM (2)	LPM (3)	LPM (4)
SPLIT (Partitioning)	0.1155**	0.1402***	0.1354***	0.1101***
Double-clustered s.e.	(0.0509)	(0.0381)	(0.0415)	(0.0390)
SPIL (Adjacent Split)				0.2570**
Double-clustered s.e.				(0.1155)
adjusted R-square	0.019	0.423	0.426	0.487
Observations	593	593	593	593
Countries	40	40	40	40
Country Fixed Effects	No	Yes	Yes	Yes
Simple Controls	No	No	Yes	Yes
Location Controls	No	No	No	Yes
Geographic Controls	No	No	No	Yes

Ethnic Partitioning and Ethnic Political Discrimination

	LPM (1)	LPM (2)	LPM (3)	LPM (4)
SPLIT (Partitioning)	0.1030***	0.0778***	0.0766***	0.0718**
Double-clustered s.e.	(0.0342)	(0.0276)	(0.0289)	(0.0282)
SPIL (Adjacent Split)				0.0169
Double-clustered s.e.				(0.0764)
adjusted R-square	0.018	0.475	0.495	0.521
Observations	593	593	593	593
Countries	40	40	40	40
Country Fixed Effects	No	Yes	Yes	Yes
Simple Controls	No	No	Yes	Yes
Location Controls	No	No	No	Yes
Geographic Controls	No	No	No	Yes

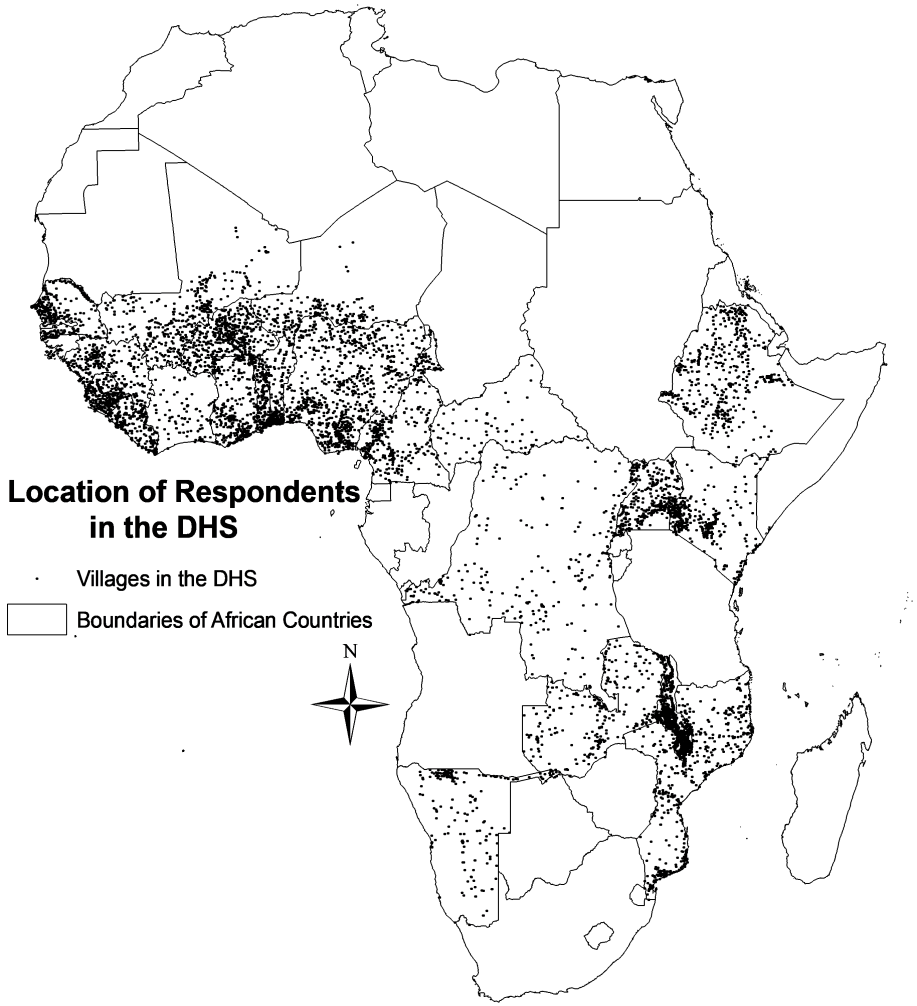
EPR Analysis. Results Summary

- Direct evidence linking ethnic partitioning with discrimination from the national government
- Link between ethnic partitioning and major ethnic-based civil wars over full post-independence period (further evidence on conflict)
- The link between ethnic partitioning and ethnic wars is exacerbated when split groups are excluded from the central governement.
  - both in the cross-section and the time series.

Individual-Level Data

- 24 Sub-Saharan African countries; 300 ethnic groups in the DHS
  - $1,000$ to $6,000$ respondents in each country. Out of $112,737$ males $88,171$ were matched to 190 pre-colonial groups (Murdock, 1959).
  - georeferenced data; at the enumeration area (village/town) level $=>$ match to ethnic homelands
  - information on the ethnic location
- Focus on living conditions (including access to public goods)
  - DHS composite wealth index $(1-5)$: information on household wealth; quantiles of wealth distribution within a country
  - Education $(0-5)$: "no education", "incomplete primary", "complete primary", "incomplete secondary", "complete secondary", and "higher".

Location of Respondents in DHS



DHS Analysis. Results Summary

- Individuals identifying with partitioned groups have worse economic conditions and are less educated
  - even when we look across individuals residing in the same village/town
  - even when we look at "movers" (both in partitioned homelands and non-split homelands)
- Location (ethnic partitioning) matters but not that much.
- Results apply to both "young" and "old" respondents (persistence)

Split Groups - As Trading Partners?

- Iwanowsky (2018) shows that bilateral exports across country pairs in Afica are significantly higher when people of the same group are found within a country pair, consistent with ethnic links lowering informational frictions

Results Summary

1. In the eve of colonization and African independence partitioned ethnicities compared to non-partitioned groups
   - were of similar levels of economic development
   - did not differ in pre-colonial institutional traits
   - shared similar geographical features, except that the partitioned groups had larger land and water areas
2. Since African independence partitioned ethnicities
   - have experienced significantly more
     - civil conflict
     - violence towards civilians

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2. Since African independence partitioned ethnicities
   - have experienced significantly more
     - civil conflict
     - violence towards civilians

Further Evidence. Channels

- Interference by nearby countries mostly takes place in homelands of partitioned groups
- State-driven conflict (government forces against rebels)
- Partitioning $=>$ political discrimination of split groups.
- Partitioning is associated with worse living conditions (access to public goods) both for partitioned individuals irrespective of their location

Future Research

- Theoretical reconciliation (Esteban and Ray, 2011, 2012)
- Further understand the mechanisms (case studies, other outcomes, etc.)
- Focus on other regions, such as the Middle East (ISIS spread?)
- Examine other aspects of state artificiality (in Africa and elsewhere)