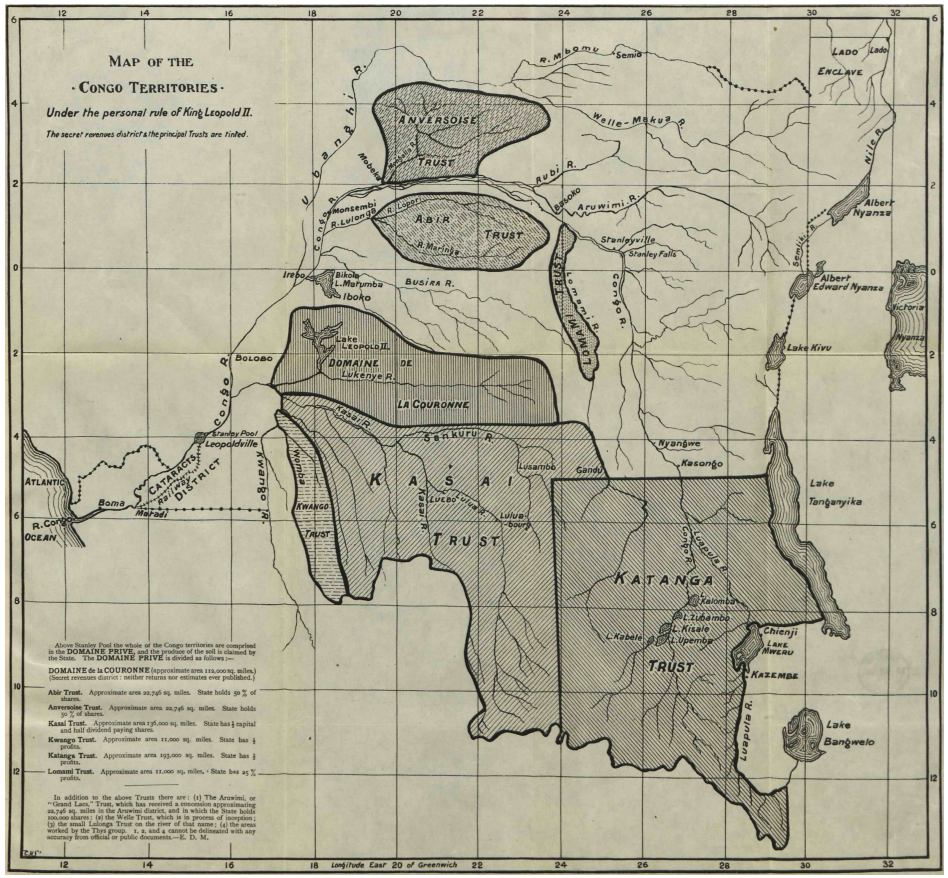
Concessions, Violence, and Indirect Rule: Evidence from the Congo Free State

S. Lowes and E. Montero

UC San Diego and University of Chicago

March 30, 2022



"The world has managed to forget ***one of the great mass killings of recent history****...it was unmistakably clear that the Congo of a century ago had indeed seen a death toll of Holocaust dimensions" (Hochschild, 1998)*

CFS Concessions

- The concessionary system in CFS characterized by:
  1. Use of extreme violence to extract natural resources
  2. Co-option of local traditional leaders (e.g. indirect rule)

Concessions and Colonial Rule in Africa

- Concessions granted by all major colonial powers: British, French, Belgians, Germans, Portuguese
  - Initial establishment of concessions likely due to concerns about "effective occupation"

"When I felt that it was necessary to whip someone I ordered a native chief, a decorated chief, to do it because he had that right toward his subjects" - a doctor at a concession in Congo in 1930 (Mamdani, 1994)

Figure: Concessions in Mozambique

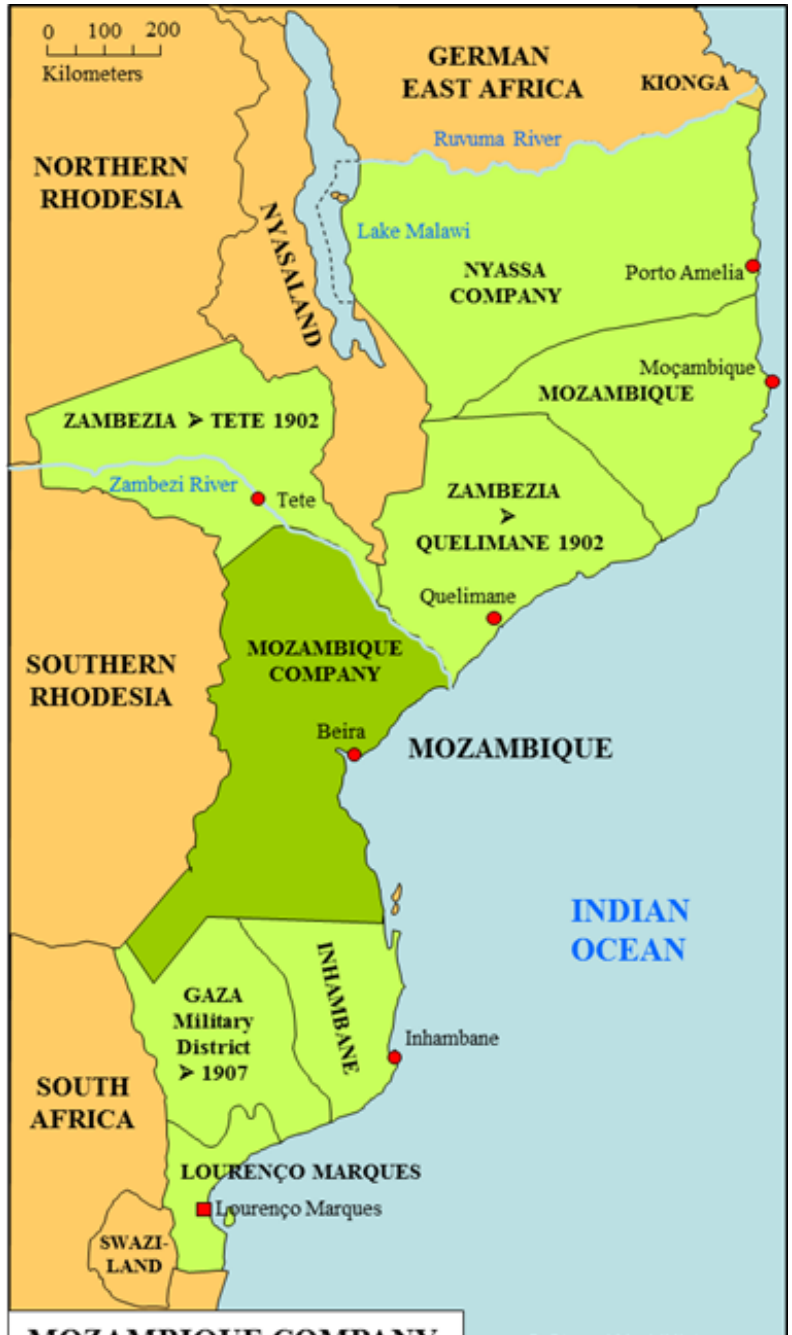


Figure: Concessions in Rhodesia



Figure: Concessions in the Republic of Congo

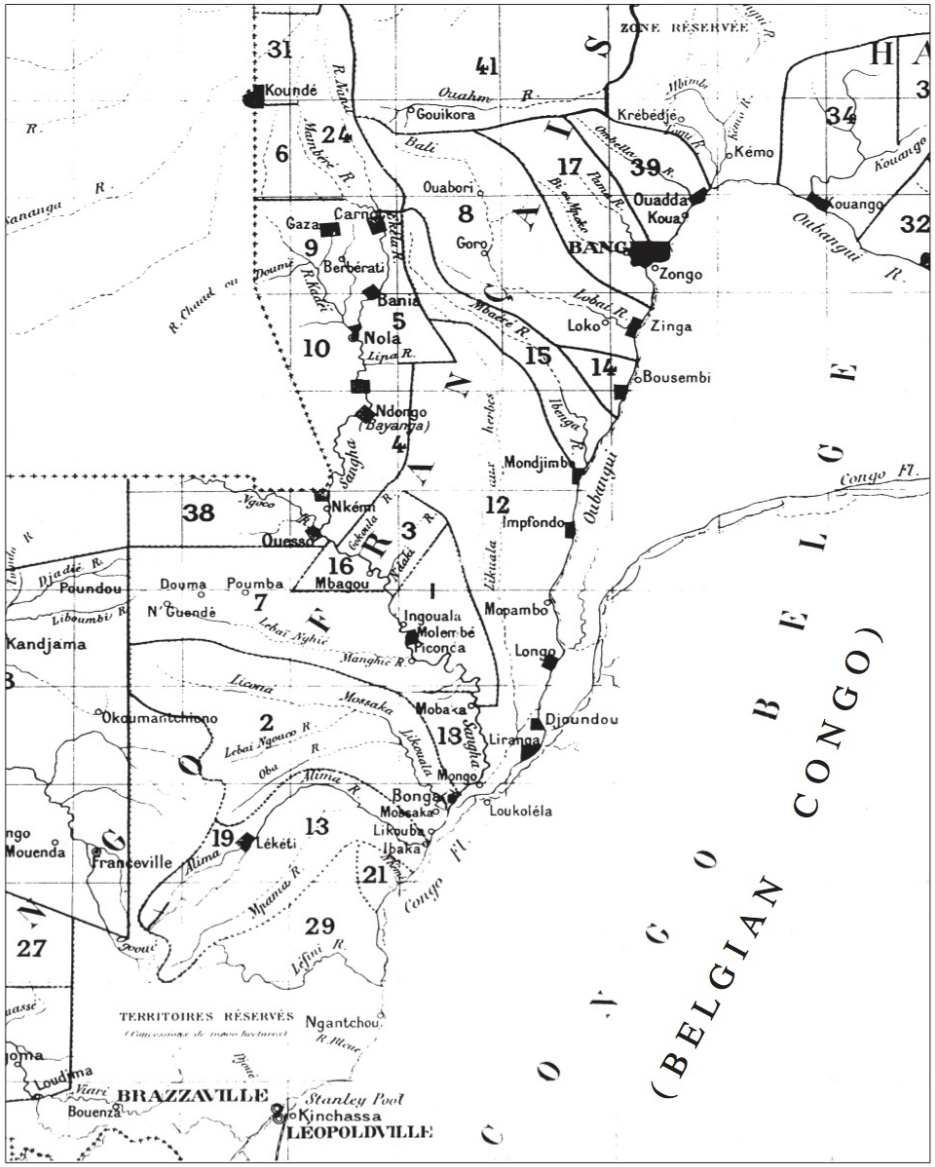
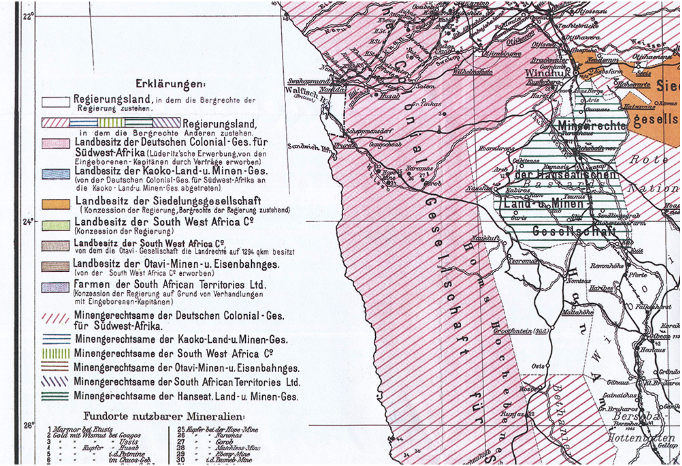


Figure 2 Map of the concessionary companies in the Middle Congo Region (from *The Colonial Dispatch*, 1899).

Figure: Concessions in Namibia



Concessions in the CFS

- While concessions common across sub-Saharan Africa, difficult to obtain causal evidence on their effects.
- However:
  - Boundaries of concessions in Northern Congo defined using the extent of river basins and a 25 km buffer
  - Boundaries don't coincide with other salient features like administrative borders
  - Existed for a relatively short amount of time - 14 years
- Use the ABIR and Anversoise concession boundaries to examine causal effects of greater exposure to violence and indirect rule on: development, chief selection and performance, and social norms

Research Questions

Concessions granted under CFS allow us to ask:

1. Is exposure to colonial concessions important for understanding the relative under development of parts of sub-Saharan Africa?
   - Lower levels of education, wealth, and health inside former concessions
2. Did the colonial concessions lead to less accountable leaders?
   - Village chiefs more likely to be hereditary (rather than elected) and provide fewer public goods
3. How did these colonial concessions shape social norms?
   - Greater cohesion, trust, support for redistribution

Literature & Contributions

- Study the effect of concessions on present day development
  - Use well defined concession boundaries to estimate causal impact of concessions (Harms, 1975, 1975, 1983; Hochschild, 1998; Vangroenweghe, 1985; Young, 1965)
- Consequences of indirect rule
  - Provide evidence that indirect rule has enabled less accountable leaders (Mamdani, 1996; Acemoglu et al., 2014)
- Relationship between exposure to violence and pro-social norms
  - Provide causal evidence that exposure to violence increases long run trust, cohesion (e.g. Bauer et al., 2016)

Road Map

1. **History of CFS rubber concessions**
2. Development outcomes
3. Intermediate outcomes
4. Channels
   - Selection and performance of village chiefs
   - Pro-social norms

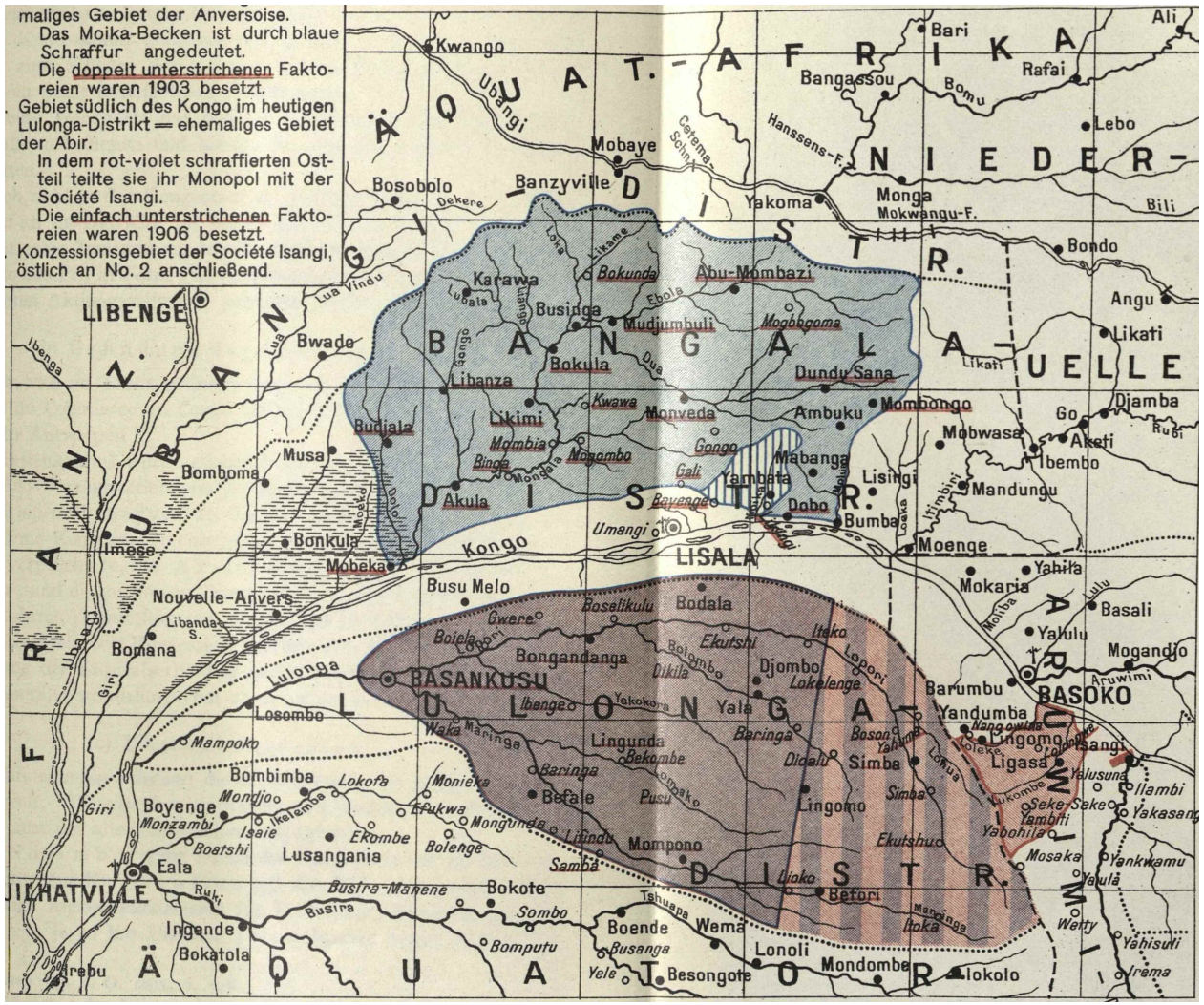
King Leopold and the CFS

- King Leopold II acquired Congo as his personal colony in 1885
- Leopold was to maintain CFS as a free trade zone open to merchants from all nations and to end the slave trade
  - Between 1885 and 1891, mostly did operate as free trade zone
- However, in 1891, King Leopold declares himself owner of all "uninhabited" lands
- CFS divided into concession companies and crown domaine

ABIR and Anversoise

- Granted concessions to private companies in the Upper Congo basin in 1892
  - The Anglo Belgian India Rubber Company (ABIR) and Anversoise
- The CFS was the largest shareholder in both companies
  - The Congo had a near monopoly on natural rubber at the time
- Importantly, concession boundaries established using salient geographic features - e.g. river basins ▸ Boundary Formation Documents

Figure: Historical Map of Concession Boundaries



Rubber Collection

- In ABIR and Anversoise, people forced to collect rubber as a form of paying taxes
- The CFS granted the companies with police powers and right of detention
- Given support from *Force Publique* soldiers
- Companies developed their own militias, comprised of sentries recruited from other parts of Congo
- Labor System:
  - Company would establish posts throughout the concessions
  - 1 or 2 Europeans assigned as rubber agents to a post
  - Each post had a force of 25 to 80 "post sentries" armed with rifles and 65 to 150 "village sentries"

Co-opting Local Chiefs

- Non-compliant chiefs were replaced, killed, or held captive
- Loss of authority and prestige because of inability to protect people
- Men's absence for prolonged periods of time left a power vacuum in villages to be filled by the *kapita*, the head sentry for the village
- *Kapitas* began to take on responsibilities of chief - such as resolving disputes among lineage members
  - Local leaders were "shamelessly degraded in the eyes of their people, made to fetch and carry for soldiers, cast into chains and flung into prison" (Morel, 1904)

Violence

- The post and village sentries, with oversight from the European agents, were responsible for ensuring compliance with the rubber quotas
- Agents and sentries ruled through fear and intimidation
- Individuals severely punished if did not meet rubber quotas:
  - Imprisoned and put to work drying rubber
  - Took wife or kin hostage until quota met
  - Imprisoned chief of village
  - Deported to hard labor detention camps
  - Physical violence (whipping and burning)

Social Coping Mechanisms

- Villagers were faced with immense challenges and social stress
- The rubber period "demanded social adaptation and new forms of cooperation and mutual aid" (Nelson, 1994)
  - E.g. increased reliance on age sets, which encourage horizontal ties, and pacts of friendship and mutual aid
  - "Before, we were weak. With age-sets, we were strong" Mpaka Mboyo, 1982 (Nelson, 1994)
- Mutual insurance allowed individuals to by-pass the corrupt or ineffective local leaders

Aftermath

- Casement Report released in 1904 detailing the abuses in the CFS
- Rubber supplies nearly exhausted in Upper Congo basin by 1905
- ABIR and Anversoise left CFS in 1906
- CFS becomes Belgian Congo in 1908
- After 1910 Congo faced competitive production of rubber from *hevea* plantations in Southeast Asia and Brazil

Rubber's Legacy

"Beto febole yiwo" (Rubber is death)

Proverb from Equateur province in DRC

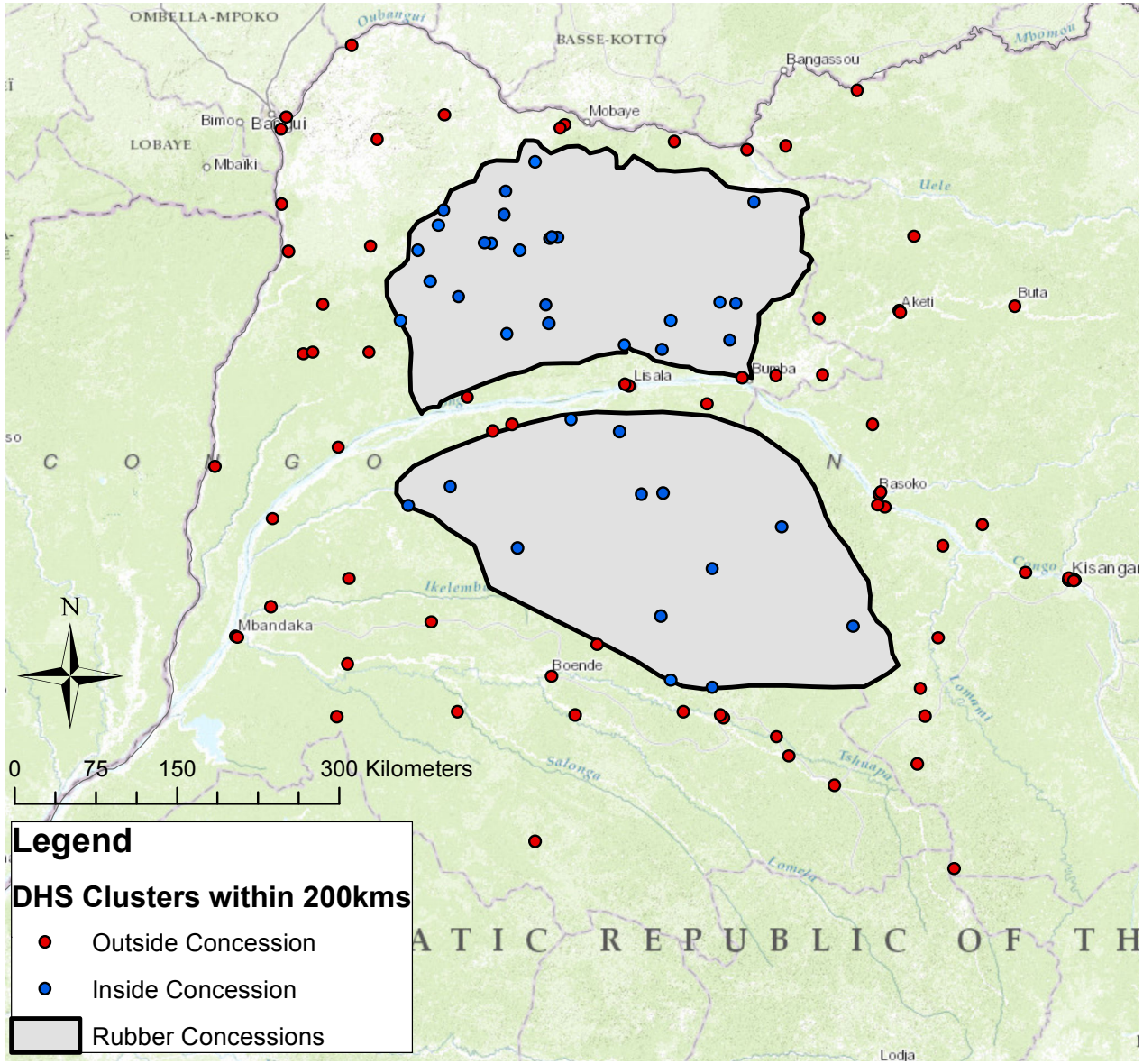
Road Map

1. History of CFS rubber concessions
2. **Development outcomes**
3. Intermediate outcomes
4. Channels
   - Pro-social norms
   - Local institutional quality

Empirical Strategy: Geographic RD

- To examine the long-term effects of the rubber period, we use Demographic and Health Survey (DHS) data from DRC for 2007 and 2014
- The well-defined borders of the concessions allow us to use a geographic regression discontinuity (RD) approach
- Important identification assumption: All relevant factors at the time the concessions were granted vary smoothly at the concession boundaries
  - Demonstrate balance on key geographic characteristics ▸ Geography
  - No relationship with ethnic boundaries (or present day political borders) ▸ Ethnic Borders

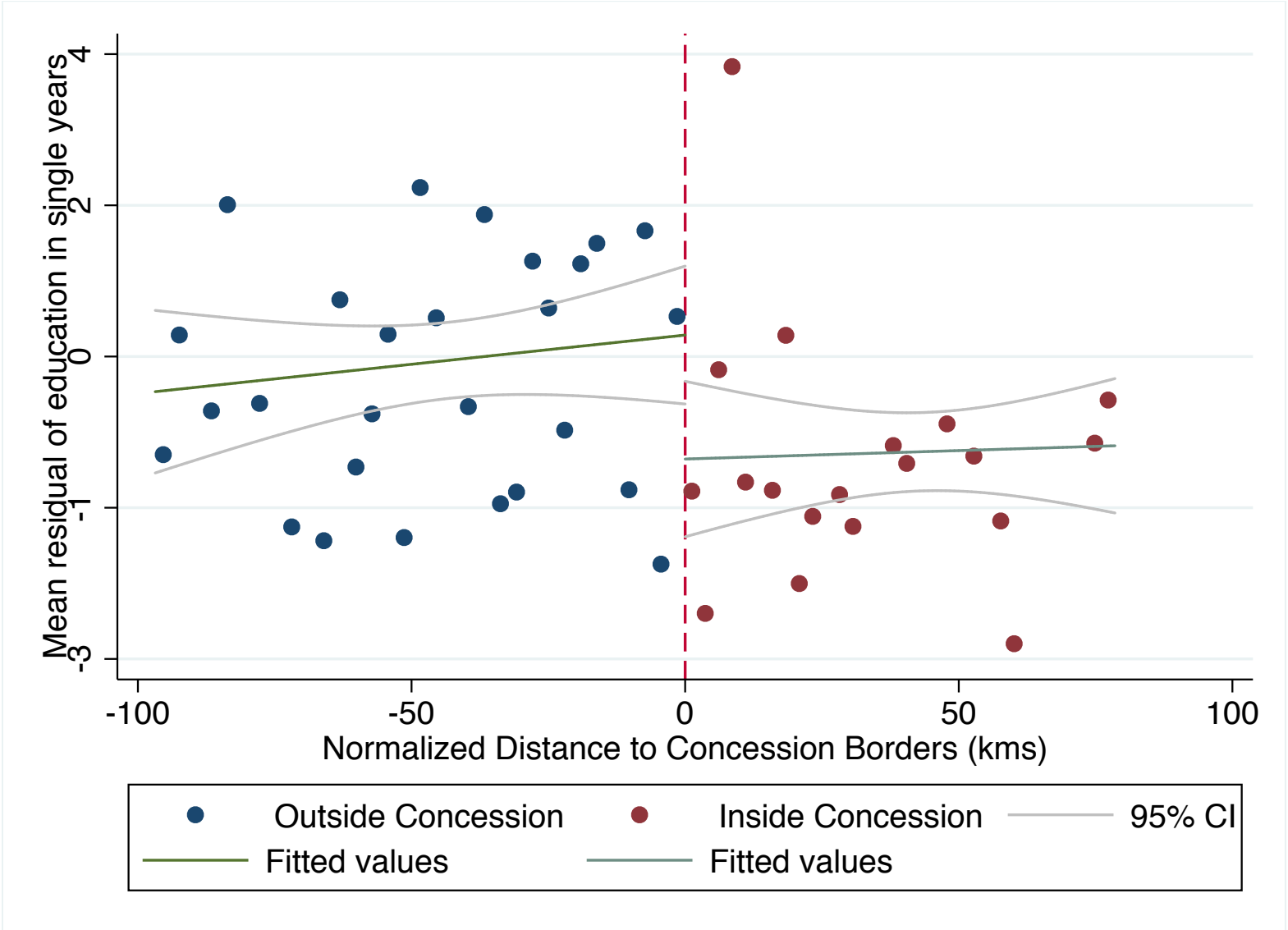
Figure: DHS Clusters within 200 kms



DHS Results: Education

	Panel A: Education			
	Years of Education		*Literacy*	
	(1)	(2)	(3)	(4)
Inside Concession	−1.804**	−1.396**	−0.190**	−0.150**
	(0.777)	(0.635)	(0.084)	(0.069)
Bandwidth Choice	Optimal	Wide	Optimal	Wide
Observations	3,309	4,274	3,368	4,266
Clusters	61	85	62	85
Bandwidth	59.43	100.00	60.97	100.00
Mean Dep. Var.	4.997	5.109	0.447	0.465
SD Dep. Var.	3.802	3.821	0.497	0.499

Years of Education 2D-RD Plot



▸ 3D-RD Plot

DHS Results: Wealth

	Panel B: Asset Wealth			
	Wealth Index		*Log(Wealth Score)*	
	(1)	(2)	(3)	(4)
Inside Concession	−0.797*	−0.686**	−0.350**	−0.259**
	(0.436)	(0.306)	(0.173)	(0.126)
Bandwidth Choice	Optimal	Wide	Optimal	Wide
Observations	2,627	4,281	2,627	4,281
Clusters	47	85	47	85
Bandwidth	41.76	100.00	41.92	100.00
Mean Dep. Var.	2.090	2.034	10.932	10.912
SD Dep. Var.	1.074	1.060	0.431	0.443

▸ RD Plots

DHS Results: Health

	Panel C: Health			
	Respondent Ht./Age Percentile		*Child Ht./Age Percentile*	
	(1)	(2)	(3)	(4)
Inside Concession	−0.112**	−0.093**	−0.090**	−0.085**
	(0.045)	(0.038)	(0.037)	(0.033)
Bandwidth Choice	Optimal	Wide	Optimal	Wide
Observations	1,050	1,422	1,065	1,314
Clusters	55	85	64	85
Bandwidth	53.49	100.00	64.85	100.00
Mean Dep. Var.	0.262	0.259	0.248	0.247
SD Dep. Var.	0.254	0.252	0.318	0.316

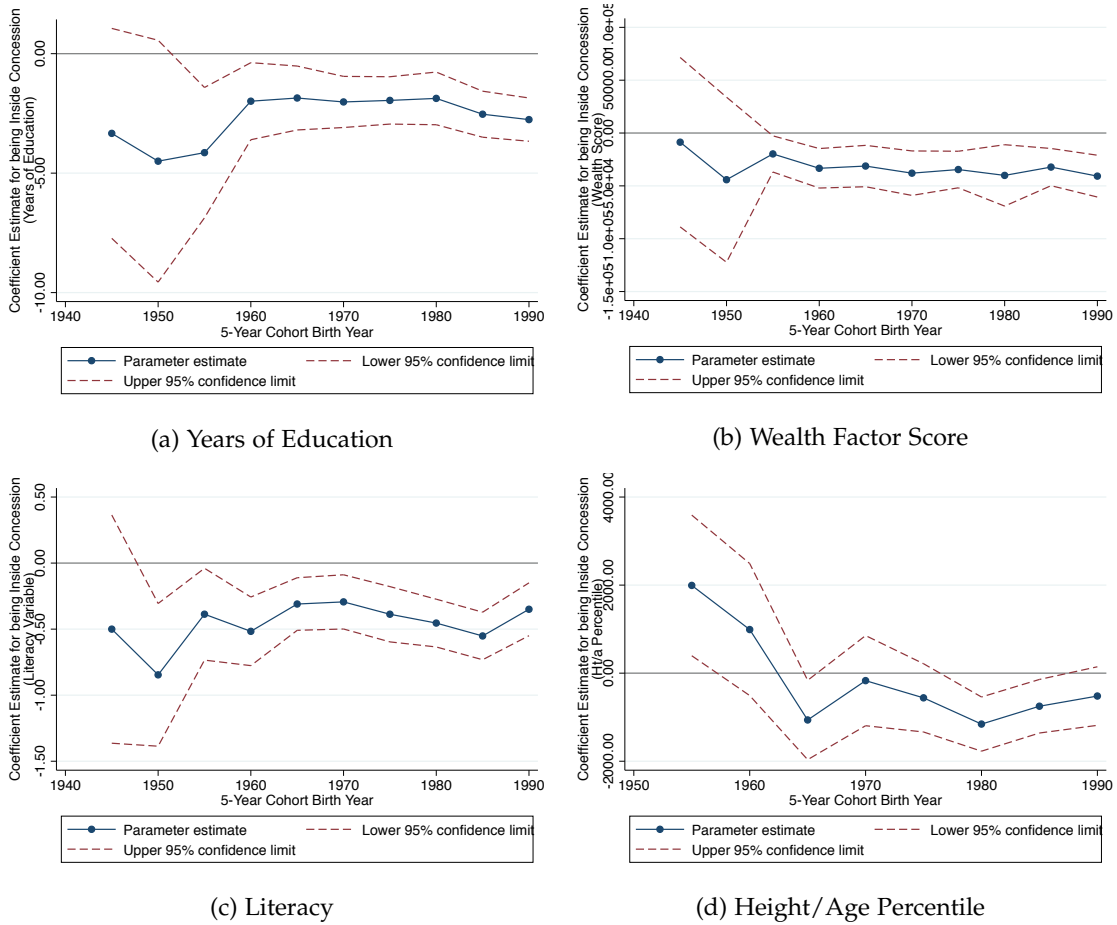
▸ RD Plots

Extensions

1. Robustness:
   - Alternative RD polynomials
   - "Donut hole" analysis
   - Analysis by each concession
   - Spatial Autocorrelation
   - Drop observations close to Congo river
2. Heterogeneity by extraction intensity ▸ Archives
3. Basin falsification exercise ▸ Basin Falsification

No Evidence of Convergence

Figure: Cohort Coefficients for Individuals within 200 kms of Concessions



(a) Years of Education

(b) Wealth Factor Score

(c) Literacy

(d) Height/Age Percentile

Road Map

1. History of CFS rubber concessions
2. Development outcomes
3. Intermediate outcomes
   - **Historical data:** missionary presence, colonial investments
   - **Migration:** heterogeneity by ease of migration through road networks or by ethnic group boundaries, trimming exercise, migration to Gemena
4. Channels

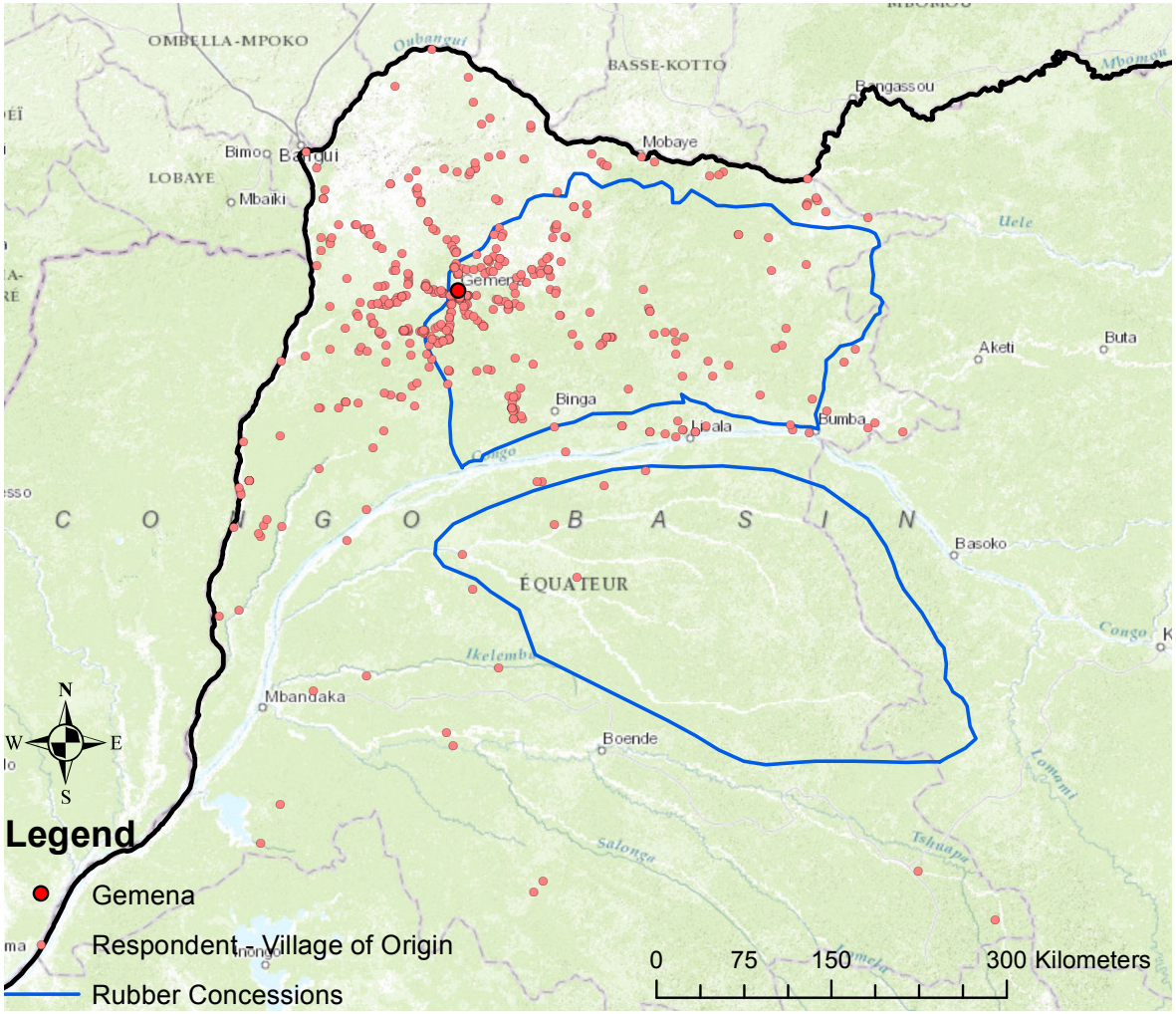
Road Map

1. History of CFS rubber concessions
2. Development outcomes
3. Intermediate Outcomes
4. **Channels**
   - Pro-social norms
   - Local institutional quality

Field Work

- In the summer of 2015 we collected data in Gemena, a town near the border of the former Anversoise concession
- Gemena was created by colonial administrators in the mid-1920s (after the CFS period) and therefore consists primarily of migrants from surrounding areas
- Surveyed and administered behavioral experiments to 500 individuals whose ancestors are from inside/outside the concessions to examine:
  - Differences in pro-social norms
  - Differences in local institutions in villages of origin

Villages of Origin



▸ Confirm DHS Results ▸ Summary Statistics ▸ Migration Characteristics

Chief Selection and Performance

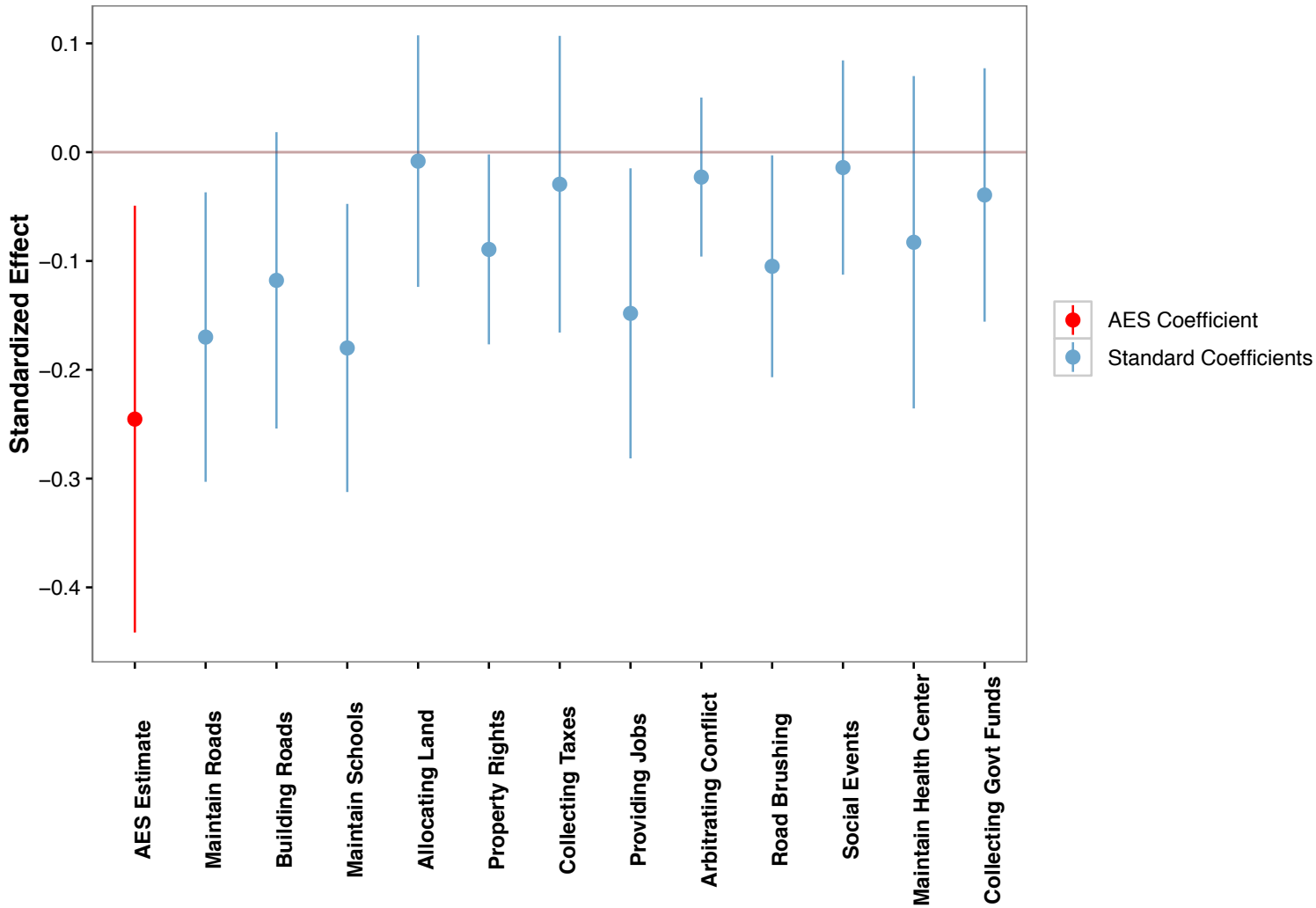
- **Motivation:** Local leaders co-opted or replaced during rubber era; Literature on negative effects of indirect rule on governance and development

1. Quality and accountability of local chiefs
   - Detailed survey questions on roles of chiefs and selection mechanism for chiefs in village of origin
2. Respect for local authority
   - Explicit measure: survey questions on trust in local chiefs
   - Implicit measure: IAT with words related to local chiefs

Chief Selection and Performance

	Panel B: Chief Quality and Accountability			
	Chief Elected		*Chief Public Good Index*	
	(1)	(2)	(3)	(4)
Inside Concession	−0.423**	−0.345***	−0.279**	−0.194*
	(0.182)	(0.129)	(0.136)	(0.106)
Bandwidth Choice	Optimal	Wide	Optimal	Wide
Observations	189	255	250	296
Clusters	104	189	120	210
Bandwidth	26.89	100.00	28.44	100.00
Mean Dep. Var.	0.503	0.506	-0.080	0.016
SD Dep. Var.	0.502	0.501	0.519	0.494

Components of AES: Chief Public Goods



Roads in Congo: Highway 1



▸ Authority

Differences in Social Norms

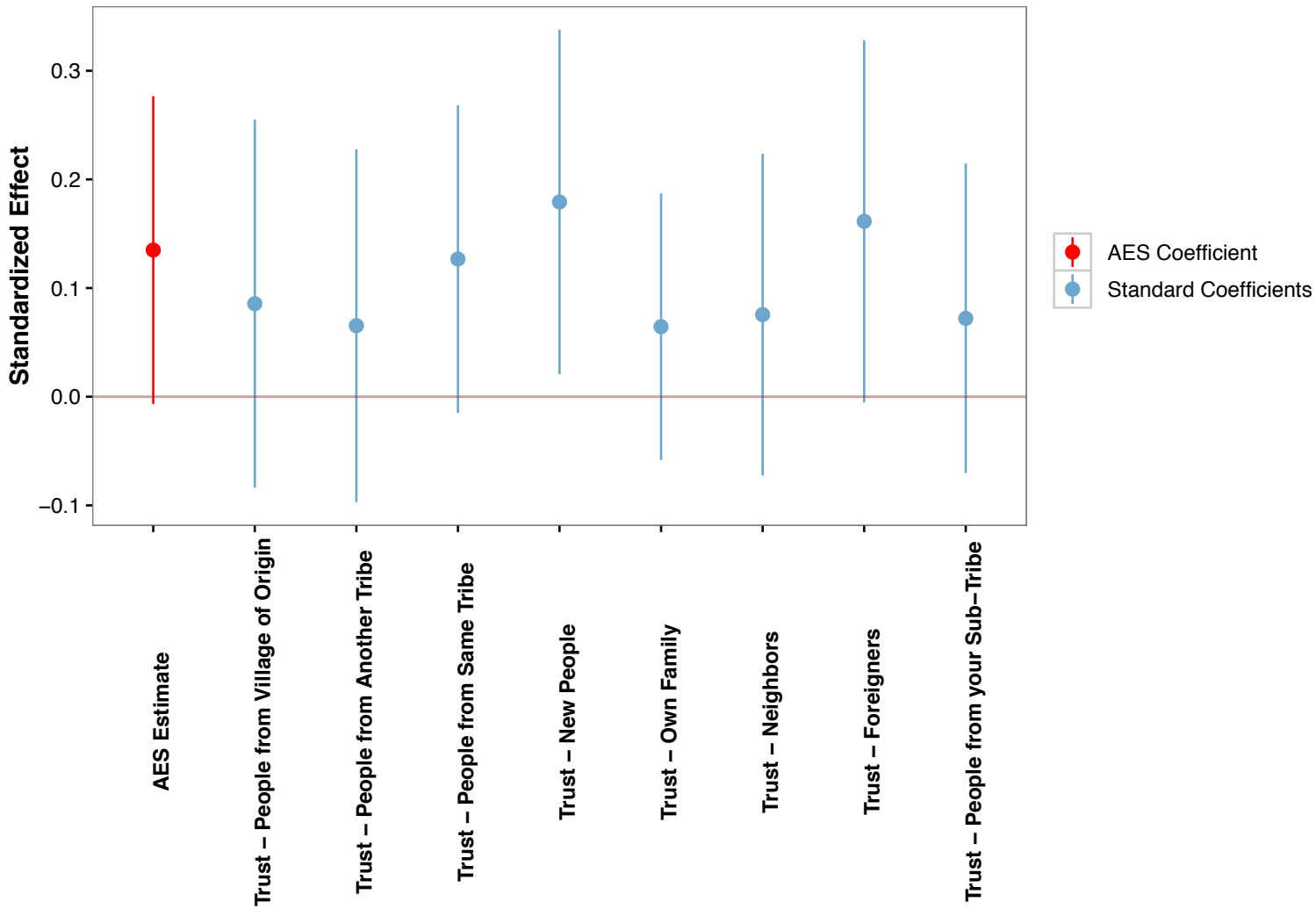
- **Motivation:** Violence in rubber era may have affected pro-social norms

1. Pro-social norms
   - Survey questions on trust and closeness to others
   - Altruism measure with dictator game
2. Sharing norms
   - Survey questions on sharing norms
   - Respect for earned property rights with reverse dictator game (Jakiela, 2015)

Trust and Closeness to Others

	Panel A: Trust and Closeness			
	Trust Index		*Closeness Index*	
	(1)	(2)	(3)	(4)
Inside Concession	0.299	0.313***	0.521**	0.551***
	(0.235)	(0.120)	(0.210)	(0.135)
Bandwidth Choice	Optimal	Wide	Optimal	Wide
Observations	304	465	299	465
Clusters	152	313	158	313
Bandwidth	23.70	100.00	24.99	100.00
Mean Dep. Var.	0.137	0.041	0.156	0.045
SD Dep. Var.	0.701	0.707	0.717	0.717

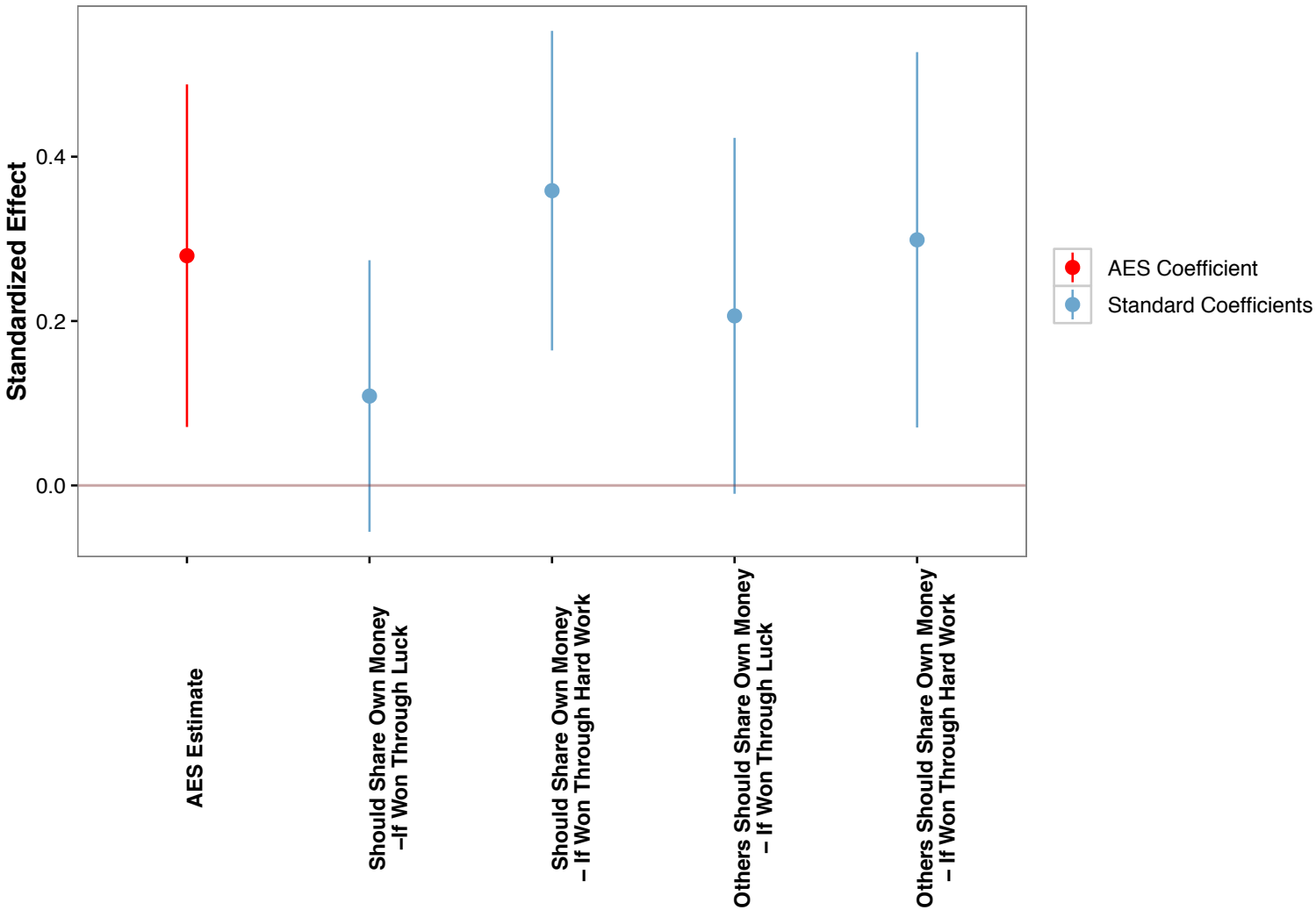
Components of AES - Trust



Sharing Norms

	Panel B: Survey Measures of Sharing Norms			
	Respondent		*Village of Origin*	
	(1)	(2)	(3)	(4)
Inside Concession	0.517**	0.339*	0.490**	0.268*
	(0.254)	(0.184)	(0.230)	(0.143)
Bandwidth Choice	Optimal	Wide	Optimal	Wide
Observations	308	453	285	363
Clusters	156	304	144	255
Bandwidth	26.47	100.00	28.06	100.00
Mean Dep. Var.	0.068	0.031	0.012	0.006
SD Dep. Var.	0.835	0.825	0.785	0.783

Components of AES: Sharing



Respect for Earned Income

	Panel C: Experimental Measures of Sharing Norms			
	Dictator Game: Share Sent		*Effort Task: Share Redistributed*	
	(1)	(2)	(3)	(4)
Inside Concession	−0.018	0.001	0.067**	0.053**
	(0.025)	(0.020)	(0.030)	(0.023)
Bandwidth Choice	Optimal	Wide	Optimal	Wide
Observations	258	438	368	437
Clusters	135	300	193	300
Bandwidth	21.46	100.00	37.22	100.00
Mean Dep. Var.	0.449	0.445	0.410	0.405
SD Dep. Var.	0.122	0.123	0.134	0.134

Summary

Historically

- Rubber concessions characterized by extreme violence
- Chiefs coopted and replaced
- Individuals forced to rely on each other to survive

Today

- Worse development outcomes in former concession
- Chiefs hereditary and provide fewer public goods
- More pro-social behavior and stronger sharing norms

Discussion of Institutional and Cultural Channels

- Unable to distinguish between the following stories:
  - Rubber $\rightarrow$ Worse Institutions $\rightarrow$ More pro-social norms
  - Rubber $\rightarrow$ Worse Institutions; Rubber $\rightarrow$ More pro-social norms
- Historical narrative suggests a feedback between norms and institutions
  - More despotic unreliable leaders makes pro-social norms more valuable
  - These norms also decrease incentive to hold leaders accountable

Examining All CFS Concessions

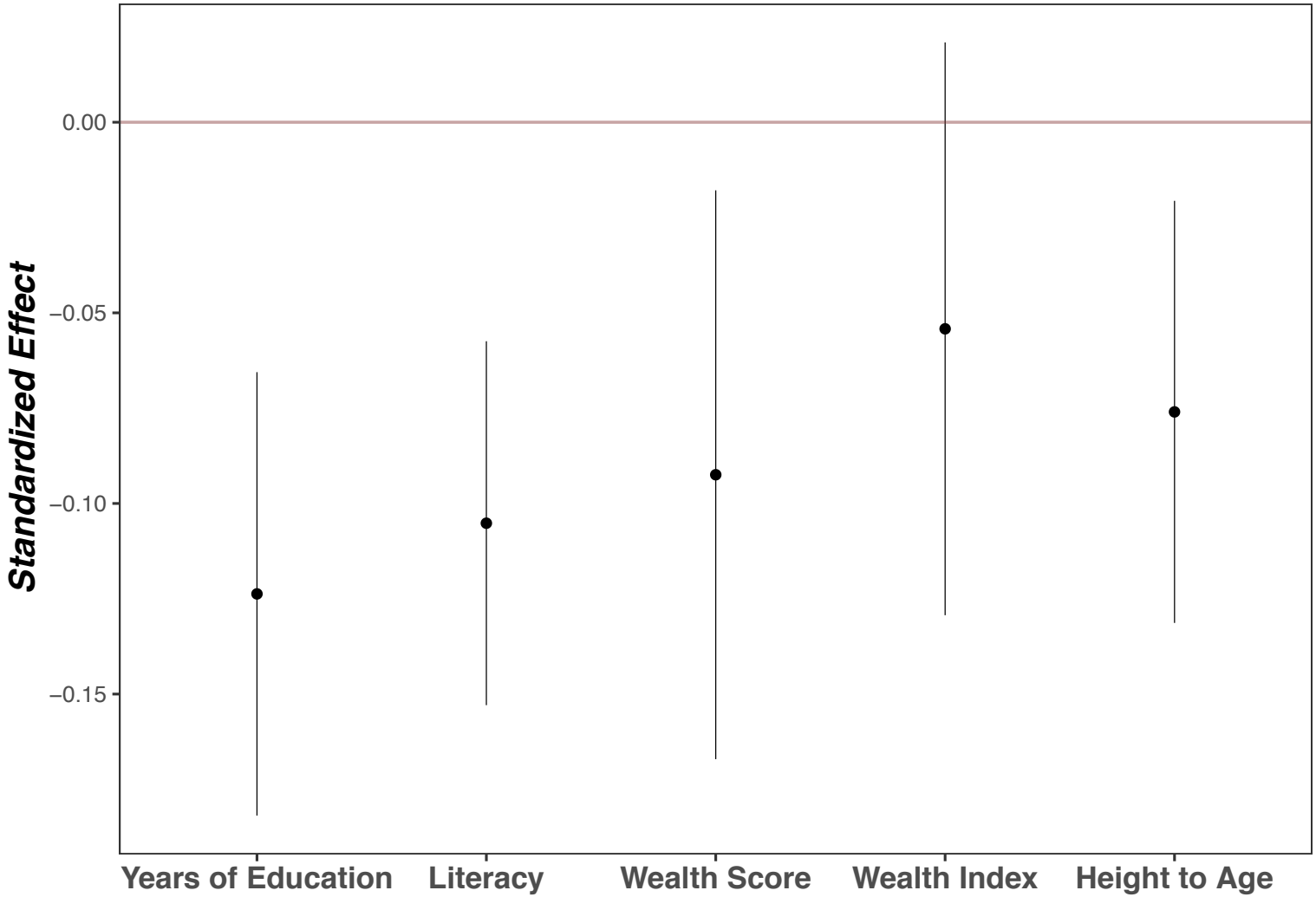


Figure: Results for All Concessions

Conclusion

- Evaluate the long term consequences of the colonial concession system for present day development
  - Provide causal evidence on a widespread system characterized by violence and co-option of local leaders
  - These same strategies mimicked by rebel groups in Eastern Congo today (Stearns, 2011)
- Use survey and experimental data to demonstrate how colonial concessions affected chief selection and performance and social norms