Paper 1: Chinese finance projects -> attitudes towards liberal-democracy in Africa [subnational level analysis]

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BACKGROUND

- In Africa, between 2011 and 2015, the overall support for democracy has decreased by 7%, while the preference for non-democratic alternatives (such as one-party regimes) has increased with almost 2% (Mattes and Bratton 2016, p. 14).
- Scholars, such as Diamond (2008, p. 37), have warned about the dangers represented by dissatisfied citizens who might "eventually lose faith and turn to authoritarian alternatives", especially in a context where authoritarian powers, such as China are providing examples of alternative models of economically successful development (Ramo 2004; Li 2015).

Research question: What is the impact of increased economic linkages with China on attitudes towards liberal democracy in Sub-Saharan African countries?

VARIABLES

Dependent variable (DV), *Public attitudes towards liberal democracy:*

- Composite index created by aggregating Afrobarometer survey data from round 5 and 6 with 28 countries;
- I use MCMCfactanal() from the R package MCMCpack which computes the indices based on the Markov Chain Monte Carlo method with over 100 000 iterations and I check for convergence with the Heidelberger and Welch diagnostic
- Normalized on a continuous scale from 0 to 1.

Independent variable (IV), *Chinese finance projects* measured as:

- Counts of Chinese financed projects located at three administrative levels (ADM1/regional level, ADM2/district level and ADM3/cluster level) and buffer areas (25km, 50km and 75km buffers).
- Distance from a Chinese project to the closest Afrobarometer cluster.
- I used QGIS to geolocate the projects in order to compute counts and distances

Control variables:

- Gender of respondent (binary, 0-male and 1-female),
- Age of the respondent (continuous),
- Education of respondent (categorical with 9 categories: 0=No formal schooling to 9=Post-graduate),
- Government performance (categorical with 4 categories: 1=Very badly to 4=Very well),
- Public safety (categorical with 5 categories (frequency of feeling unsafe): 0=Never to 4=Always),
- Employment (categorical with 3 categories: 0=unemployed, 1=part time, 2=full time).

METHODS

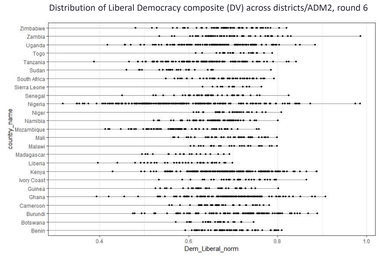
- Linear Mixed-Effects Models with continuous dependent variable (Barr et al. 2013):

$$Composite_{rl} = \beta_0 + L_{0l} + \beta_1 Counts_l/Distance_l + \beta_2 Gender_l + \beta_3 Age_l + \beta_4 Education_l + \beta_5 Government\ Performance_l + \beta_6 Public\ Safety_l + \beta_7 Employment_l + e_{rl},$$

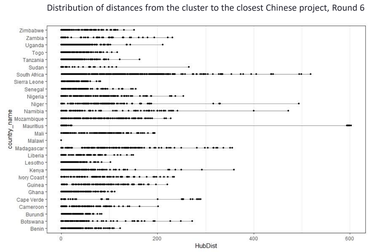
where r is the Afrobarometer respondent, L is the Afrobarometer cluster, district or regional random effect and Counts or Distance is the independent variable.

H_A: Increased exposure to Chinese finance projects will have a negative impact on people's attitudes towards liberal democracy in Sub-Saharan African countries.

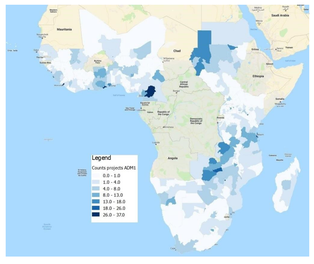
Distribution of Liberal Democracy composite (DV) across districts/ADM2, round 6



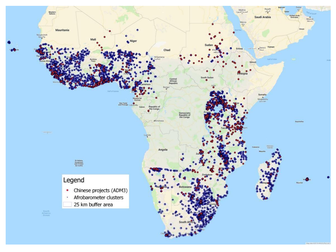
Distribution of distances from the cluster to the closest Chinese project, Round 6



Distribution of Chinese projects (IV) across regions/ADM1



Distribution of Chinese projects (IV) and Afrobarometer clusters (DV)



	Percentage of Chinese projects located at 25km (distance < 25km)	Percentage of Chinese projects located at 50km (distance < 50km)	Percentage of Chinese projects located at 75km (distance < 75km)
Round 5	43.36408%	62.51065%	73.76746%
Round 6	44.81582%	63.11472%	74.80164%

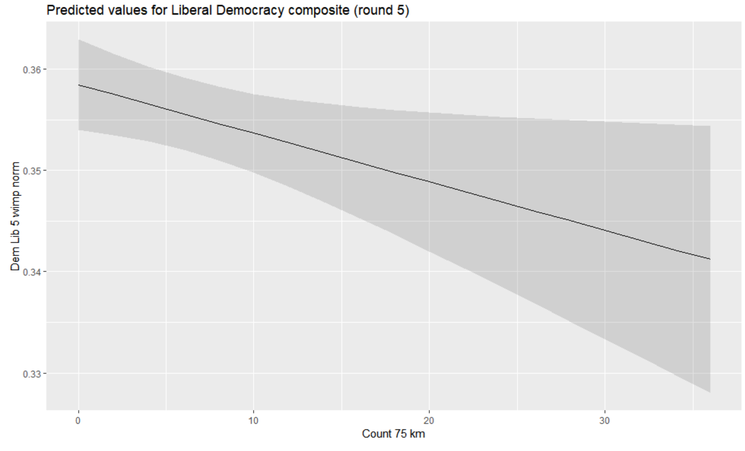
RESULTS

Multilevel models with the IV measured as counts and distance and Liberal-Democracy as DV (round 5), including 5 models out of 72 total models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
(Intercept)	0.32 (0.01)***	0.32 (0.01)***	0.32 (0.01)***	0.33 (0.01)***	0.32 (0.01)***	0.32 (0.01)***
Distance	0.00 (0.00)					
Counts 25km		-0.00 (0.00)				
Counts 50km			-0.00 (0.00)			
Counts 75km				-0.00 (0.00)*		
Counts ADM2					0.00 (0.00)	
Counts ADM1						0.00 (0.00)
Female	0.01 (0.00)***	0.01 (0.00)***	0.01 (0.00)***	0.01 (0.00)***	0.01 (0.00)***	0.01 (0.00)***
Age	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
Education	-0.00 (0.00)***	-0.00 (0.00)***	-0.00 (0.00)***	-0.00 (0.00)***	-0.00 (0.00)***	-0.01 (0.00)***
Government Performance	0.02 (0.00)***	0.02 (0.00)***	0.02 (0.00)***	0.02 (0.00)***	0.02 (0.00)***	0.02 (0.00)***
Safety	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Employment	-0.01 (0.00)***	-0.01 (0.00)***	-0.01 (0.00)***	-0.01 (0.00)***	-0.00 (0.00)**	-0.00 (0.00)**
AIC	-9814.52	-9817.21	-9817.79	-9821.00	-9484.54	-10853.53
BIC	-9733.04	-9735.74	-9736.31	-9739.52	-9403.84	-10772.05
Log Likelihood	4917.26	4918.61	4918.89	4920.50	4752.27	5436.76
Num. obs.	25527	25527	25527	25527	23641	25527
Num. groups: cluster	3441	3441	3441	3441		
Var: cluster (Intercept)	0.01	0.01	0.01	0.01		
Var: Residual	0.04	0.04	0.04	0.04	0.04	0.04
Num. groups: ADM2					1286	
Var: ADM2 (Intercept)					0.01	
Num. groups: ADM1						417
Var: ADM1 (Intercept)						0.01

***p < 0.001, **p < 0.01, *p < 0.05

Predicted values for Liberal Democracy composite (round 5)



MCMC – R CODE

```
Dem_rule6<-MCMCfactanal(~Gov_account_vertical_scaled+Free_elections_scaled+Parties_scaled+Term_limit_scaled,
                        factors = 1, lambda.constraints = list(),data = round6_without_imputed, burnin = 5000,
                        mcmc = 100000, thin = 100,verbose = 50000, seed = NA, lambda.start = NA, psi.start = NA,
                        l0=0, L0=0, a0=0.001, b0=0.001, store.scores=TRUE, std.var =TRUE)
capture.output(heidel.diag(Dem_rule6), file = "Dem_rule6_test.txt") # Heidelberger and Welch diagnostic
normalized <- function(y) {
                                x<-y[!is.na(y)]
                                x<-(x - min(x)) / (max(x) - min(x))
                                y[!is.na(y)]<-x
                                return(y)
} #This function is used to normalized the posterior probabilities on a countinuous scale from 0 to 1.
```

RESULTS

No strong evidence to reject the null hypothesis. This conclusion is warranted given that:

- There is a high percentage of non-significant coefficients (47%) which means that in 34 models, there is no significant effect of the proximity to and counts of Chinese projects on attitudes towards liberal-democracy.
- The direction/significance of the effect changes across the measurements and rounds which indicates no consistency in the results.
- Even if in 18 models, I find a significant effect with the expected direction, the magnitude of the effect is small (an increased of 20 Chinese projects leads to a decrease of 0.01 in public support for liberal-democracy.

CONCLUSIONS

Possible explanations that might explain these non-results:

- Empirical: issues with China data – dismissed as data used in the project is created based on media sources, verified and has been used in peer-reviewed papers.
- Theoretical: not much difference between labor practices of Chinese and Western companies (Rounds and Huang 2017), thus it is possible that the presence of Chinese finance projects might not have a different impact compared to that of the Western companies.