Ethnofederalism and ethnic voting

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Motivation

Ethnic identities are salient in many diverse developing countries.

Ethnic politics is harmful if it comes with an "us against them" logic:

- Politicians engage in patronage and favoritism along ethnic lines (e.g., Frank/Rainer 2012, Burgess et al. 2015, De Luca et al. 2018).
- People vote along ethnic lines, regardless of the candidates' ability and character (e.g., Gibson/Long 2009, Ferree et al. 2014, Kramon/Posner 2016).

Consequences: Low accountability, limited state capacity, poor economic performance, conflict, ...

Interventions

The salience of ethnicity is malleable:

- Propaganda and shared experiences in the short run (e.g., Blouin/Mukand 2019, Depetris-Chauvin et al. 2020).
- School curricula and intergroup contact in the long run (e.g., Cantoni et al. 2017, Bazzi et al. 2019, Bandiera et al. 2019, Carlitz et al. 2023, Okunogbe 2024).

Open question:

- Can institutional reforms reduce the salience of ethnicity in national politics?
- "The evidence of formal institutional reforms mitigating negative ethnicity [has been] unconvincing" (Mueller, 2020).

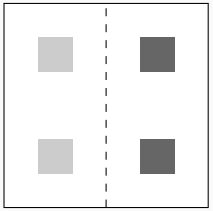
This paper:

- Can ethnofederal reforms reduce ethnic voting at the national level in Kenya?

Ethnofederalism

Characteristics:

1. Political borders follow ethnic boundaries, i.e., they unite coethnics and separate non-coethnics.



2. Devolution of power, resources, and responsibilities to regional governments.

Arguments for ethnofederalism:

- Devolution allows for better targeting of public goods in homogenous regions, and economies of scale benefit larger regions (e.g., Alesina/Spolaore 1997, Boffa et al. 2016).
- "Tranquilizing effect" on ethnic politics at the national level (e.g., Horowitz 1985, Rohner/Zhuravskaya 2023).

1-slide summary

Contribution: First quasi-experimental evidence on how an institutional reform (towards ethnofederalism) could reduce the salience of ethnicity in national politics in an ethnically charged context.

Ingredients:

- Constitutional reform in Kenya that devolved power and changed political borders.
- Novel indices to measure the experienced change in the border design at the group and location level.
- Measure of ethnic voting suitable in case of many groups and changing coalitions.

Two key results:

1. Individuals experiencing ethnofederal reforms are less likely to engage in ethnic voting at the national level (driven by groups that control regional governments).
2. Border design that would minimize ethnic voting in Kenya.

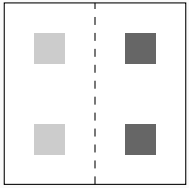
Road map

1. Indices for characterizing border reforms
2. Institutional background
3. Data and empirical strategy
4. Results (and robustness)
5. Local control as a mechanism
6. Optimal border reform

Indices for characterizing border reforms

Two indices

Ethnofederal border design:



Regional fractionalization: Fractional. *across* ethnic groups *within* political regions.

$$RF_c = 1 - \sum_{e=1}^{n} (s_e^c)^2,$$

where n is the number of groups and s_e^c the population share of group e in region c.

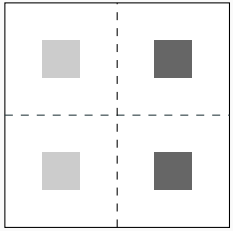
Ethnic fragmentation: Fractionalization *across* political regions *within* ethnic groups:

$$EF_e = 1 - \sum_{c=1}^{m} (s_c^e)^2,$$

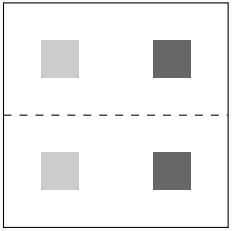
where m is the number of regions and s_c^e the population share residing in region c among members of group e.

Mapping to border designs

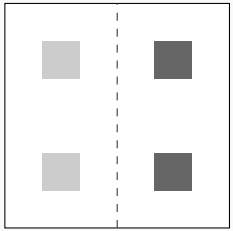
Provincialism: ↑ EF, ↓ RF



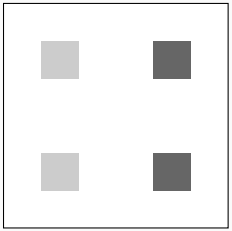
Crosscutting: ↑ EF, ↑ RF



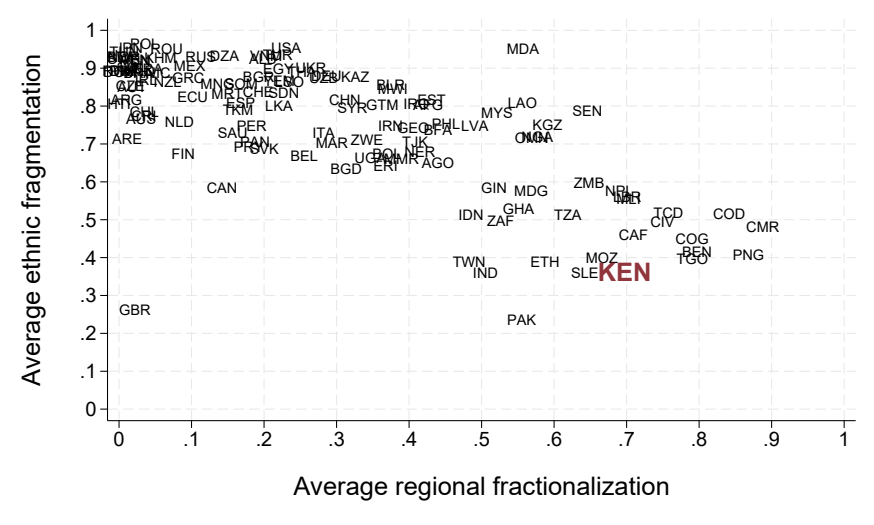
Ethnofederalism: ↓ EF, ↓ RF



Unitarism: ↓ EF, ↑ RF

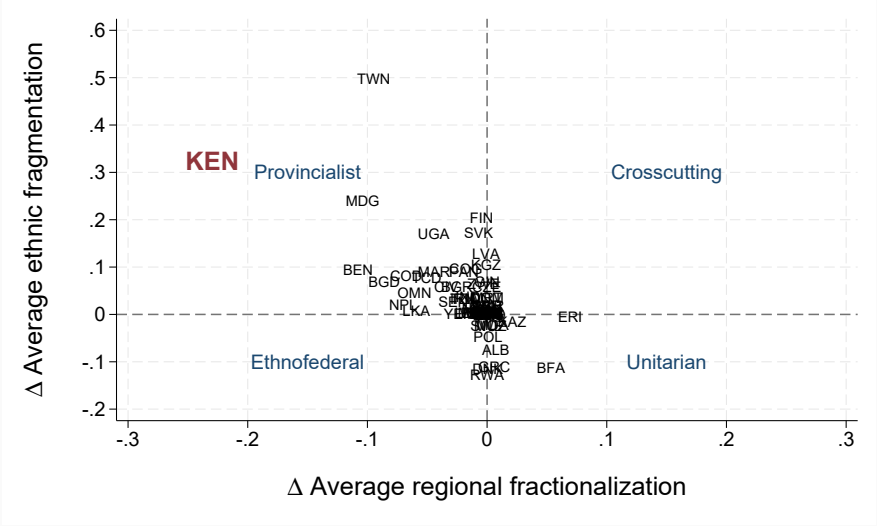


Classifying real-world border designs (1995)



Notes: The figure plots the population-weighted averages of regional fractionalization and ethnic fragmentation across countries. Ethnic geography and population data are from Eberle et al. (2020) and the subnational border reforms from Bluhm et al. (2021).

Classifying changes in border designs (1995-2015)



Notes: The figure plots the changes in population-weighted averages of regional fractionalization and ethnic fragmentation across countries. Ethnic geography and population data are from Eberle et al. (2020) and the subnational border reforms from Bluhm et al. (2021).

Institutional background

Kenya

Demographics and ethnic politics

- About 50m inhabitants, 40^{+} ethnic groups/tribes.
- Ethnicity is salient in national politics: ethnic voting, ethnic favoritism, inter-group violence.
- Politics is dominated by the "big 4" groups: Kikuyu (17%), Kalenjin (13%), Luo (11%), Kamba (10%). Details

2010 constitutional reform

- Ethnic violence in Rift Valley (and elsewhere) after the 2007 election
  $\Rightarrow$ 1,000 died and hundreds of thousands were displaced.
- Constitutional reform proposed by the unity government in 2010 (and approved by 68% of voters in a referendum); effective with 2013 elections.

Key features of the constitutional reform

Territorial reform:

- 47 (post-reform) counties replaced 8 (pre-reform) provinces as primary political regions.
- New border design was hard to foresee given large variation in earlier proposals (e.g., 14 primary political regions in Bomas draft and 74 regions in Wako draft).
- County borders correspond to colonial district borders just before independence.
- County borders do not intersect province borders.
- Change in RF_c for all locations (except Nairobi) and EF_e for all ethnic groups.

Devolution:

- 15% of central government revenues to counties.
- New responsibilities for health care, education, and roads.

Data and empirical strategy

Census data and our treatment variables

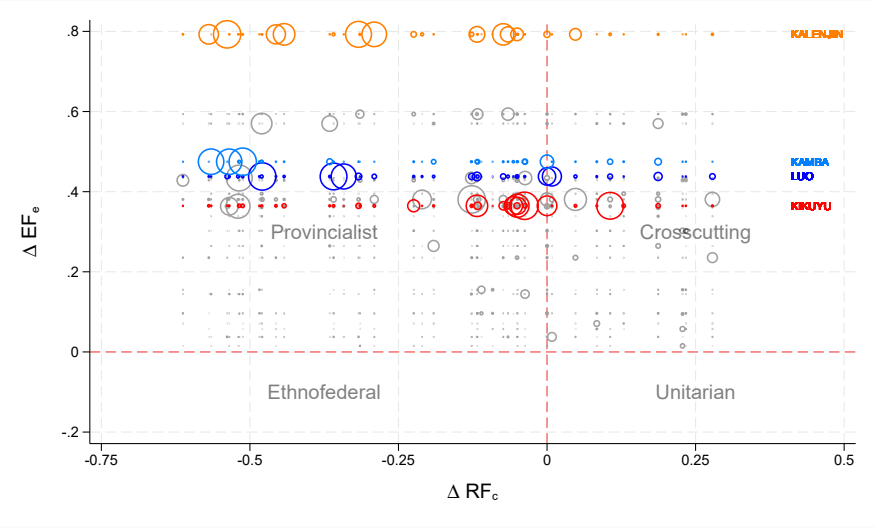
1989 Kenya Population and Housing Census

- Geocoded 5% sample, representative at the level of 3,600 sublocations.
- Last census that discloses ethnicity in microdata.
- Our indices change only in response to the border reform and do not capture potential migratory responses.

Treatment variables

- ΔRF_c: Difference between post-reform county-level RF_c and pre-reform province-level $RF_{p(c)}$ of the corresponding former province.
- ΔEF_e: Difference between a ethnic group's EF_e given post-reform county borders and its EF_e given pre-reform province borders.
- Note: We estimate the joint effect of a treatment bundle (borders, devolution) for different experienced changes in the border design.

Identifying variation: Reform-induced changes in RF_c and EF_e



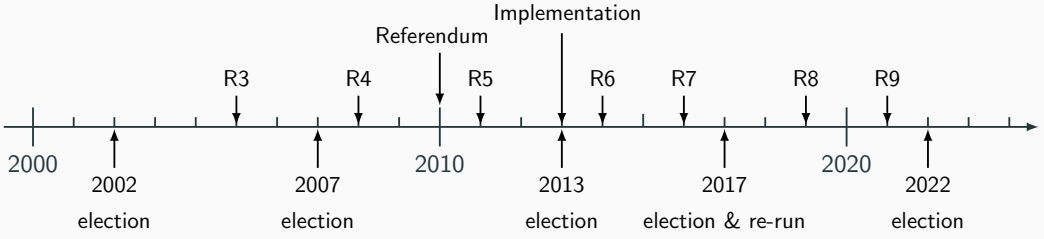
Notes: The figure plots ΔRF_c and ΔEF_e for each county-ethnic group combination. The size of the circles is proportional to the population of this combination.

Outcomes based on Afrobarometer surveys

Afrobarometer survey question on voting intentions:

- "If presidential elections were held tomorrow, which party's candidate would you vote for?"
- Available for 10,268 respondents, surveyed in rounds 3–9, living in 1,343 different clusters, and identifying with 20 different ethnic groups. Maps

Timeline:



Measuring ethnic voting

Measurement of ethnic voting (Huber 2012):

- Coethnic party leadership
- Voting cohesion among coethnics

The Kenyan setting:

- No party with a coethnic leader for most groups (2 for Kikuyus in 2022 election)
- Fluid parties
  - Kalenjin: 5 different parties got highest vote share across 7 wave
  - William Ruto: 5 different parties over the last 20 years
- Changing coalitions
- Some groups "coordinate" on two parties
  - Kamba, wave 6: Top-two parties 36% and 33%

Measuring ethnic voting

Our approach: Dyadic measurement of voting cohesion among coethnics.

Bilateral data: Pairs of coethnic respondents (i, j) from the same survey round t. (Repeated cross-section.)

Measure: Ethnic voting EV_{ijt} is an indicator variable equal to one for pairs of coethnic respondents (i, j) who vote for the same party (or coalition) in survey round t.

Interpretation: Averaging EV_{ijt} across all pairs of an ethnic group gives *the probability that two randomly selected respondents of this group vote for the same party*, or one minus vote fractionalization in this group.

Salience: Average ethnic voting is 65.2% (compared to 37.9% for non-coethnics).

Advantage and validation of our measure of ethnic voting

Validation:

- For the big 4 groups, voting intentions match coethnic voting in exit polls.
- For the big 4 groups, our measure closely tracks the probability that the two coethnic respondents both "vote" for the party (or coalition) led by a coethnic (vice-)presidential candidate.
- But our measure works for all groups and in the context of fluid alliances!

▸ Figures

Empirical strategy

We estimate the following generalized DID specification:

$$EV_{ijcet} = \beta\left(\Delta RF_c \times post_t\right) + \gamma\left(\Delta EF_e \times post_t\right) + \mathbf{Z}'_{ijt}\boldsymbol{\xi} + \left(\mathbf{Z}'_{ijt} \times post_t\right)\boldsymbol{\zeta} + \mu_{ce} + \lambda_t + \epsilon_{ijt}$$

where

- ΔRF_c is the change in regional fractionalization of county c
- ΔEF_e is the change in ethnic fragmentation of group e
- $post_t$ an indicator variables for Afrobarometer rounds 6–9
- μ_{ce} are county-by-ethnicity fixed effects
- λ_t are survey round-fixed effects
- $\mathbf{Z}_{ijt}$ proxies for other cleavages (e.g., age, gender, economic status, political views)
- $\mathbf{Z}_{ijt} \times D_t$ allows the effects of other cleavages to change post reform

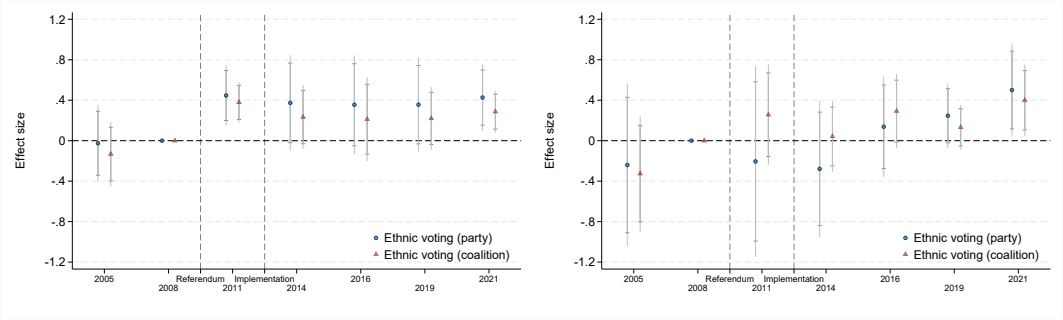
Standard errors ϵ_{ijt} are two-way clustered at the province-by-ethnicity and county level.

▸ Identification assumptions ▸ Baseline balance and selection

Results

Event study results (and parallel pre-trends)

(a) Time-varying effects of ΔRF_c **(b)** Time-varying effects of ΔEF_e



Notes: The figure plots the dynamic treatment effects of ΔRF_c and ΔEF_e on ethnic voting. 95% confidence intervals are plotted as gray error bars and based on standard errors clustered at the province-by-ethnicity level and county level.

Difference-in-differences results

	Party-based ethnic voting			*Coalition-based ethnic voting*		
	(1)	(2)	(3)	(4)	(5)	(6)
$\Delta RF_c \times post_t$	0.430**	0.433***	0.424***	0.319***	0.319***	0.310***
	(0.162)	(0.159)	(0.154)	(0.109)	(0.108)	(0.103)
$\Delta EF_e \times post_t$	0.323***	0.326***	0.309***	0.340***	0.343***	0.328***
	(0.094)	(0.092)	(0.092)	(0.095)	(0.090)	(0.087)
Ethnofederal effect: 1SD decrease in ΔRF_c and ΔEF_e						
Effect size	-0.155	-0.156	-0.151	-0.130	-0.130	-0.126
P-value	0.0023	0.0018	0.0025	0.0007	0.0004	0.0004
County-by-ethnicity FE	✓	✓	✓	✓	✓	✓
Time-FE	✓	✓	✓	✓	✓	✓
Basic pair controls	–	✓	✓	–	✓	✓
Policy pair controls	–	–	✓	–	–	✓
Adj. R2	0.172	0.174	0.179	0.165	0.168	0.172
Respondents	5422	5422	5422	5422	5422	5422
Observations	75154	75154	75154	74563	74563	74563

Quantification

Ethnic group	Predicted change in ethnic voting due to			Population share
	ΔEF	ΔRF	both	
Kikuyu	0.139	-0.019	0.121	0.208
Luhya	0.148	-0.031	0.117	0.148
Luo	0.168	-0.131	0.037	0.124
Kamba	0.181	-0.216	-0.034	0.115
Kalenjin	0.306	-0.156	0.150	0.113
Embu / Meru	0.167	-0.172	-0.005	0.063
Kisii	0.139	-0.226	-0.087	0.062
Mijikenda	0.221	-0.172	0.049	0.047
Maasai / Samburu	0.229	-0.060	0.168	0.023
Turkana	0.166	-0.207	-0.041	0.013
Change in ethnic voting for big 4: 0.078				
Change in ethnic voting for Kenya: 0.065				

Electoral implication: Kenyatta/Ruto (Kikuyu/Kalenjin) got 50.07% in first round of 2013 election...

Other border changes and heterogeneous effects of devolution

Other border changes:

- Constitutional reform increased number of electoral constituencies from 210 to 290.
- Constitutional reform abolished 175 local authorities and subsumed them into counties.
- High Court declared 210 districts created by Moi and Kibaki as illegal in 2009.
- None of these three alternative border changes affect our results. ▸ Regressions

Heterogeneous effects of devolution:

- There was no spatial variation in devolution.
- But the effect of devolution may depend on changes in the (pop) size of political regions, the proximity to regional capitals, or the support for the referendum.
- Accounting for these changes has little effect on our results. ▸ Regressions.

Other robustness checks

Non-linearities,

- No evidence for interactions in linear or non-linear/logit models.

Alternative outcomes:

- Same ethnic party or same ethnic coalition for big 4
- Different coalitions (previous or next election)
- Simpler measure of ethnic voting in unilateral setting

Alternative independent variables:

- Aggregating to ethnic families or using ethnic stratification (Hodler et al., 2020)

Sample and other perturbations:

- Country-wide sample (pairing across counties)
- Census weighting, no Rift Valley, same Afrobarometer cluster
- Different clustering of standard errors

▸ Interactions ▸ Regressions for ΔRF ▸ Regressions for ΔEF ▸ Unilateral specifications

Local control as a mechanism

Mechanism: Local control

"Tranquilizing" hypothesis (Horowitz 1985):

- Members of ethnic groups controlling the provision of local public goods have less incentive to vote along ethnic lines in national elections.

Microfoundation:

- Background: Central government is comparatively more important for generating revenues; county governments for the provision of public goods.
- Members of the local majority group in a homogenous county get the desired public goods locally.
- They reduce ethnic voting in national elections, because an able and honest president becomes more important than a coethnic one. $\Rightarrow$ Low RF matters
- The effect is stronger in larger homogenous counties due to economies of scale and improved accountability of governors (Boffa et al. 2016). $\Rightarrow$ Low EF matters too

Mechanism: Local control

Two empirical proxies for local control:

- Indicator for whether respondents identify with the largest ethnic group in the county.
- Share of public employees in the county administration identifying with the same ethnic group as the respondents (2016 County Diversity Audits).

▸ Correlation of group size and employment share

Mechanism Results

	Dependent variable: Ethnic voting (party)			
	Proxy for local control:			
	Largest group		*Admin emp. share*	
	(1)	(2)	(3)	(4)
$\Delta RF_c \times post_t$	-0.051	-0.091	0.531***	0.463***
	(0.120)	(0.121)	(0.027)	(0.029)
$\Delta RF_c \times post_t \times local\ control_{ce}$	0.646***	0.657***	0.137***	0.239***
	(0.122)	(0.123)	(0.042)	(0.044)
$\Delta EF_e \times post_t$	0.171	-0.087	0.338***	0.357***
	(0.119)	(0.123)	(0.045)	(0.045)
$\Delta EF_e \times post_t \times local\ control_{ce}$	0.251*	0.564***	0.321***	0.346***
	(0.129)	(0.134)	(0.046)	(0.046)
County-by-ethnicity FE	✓	✓	✓	✓
Time FE	✓	✓	✓	✓
Controls	–	✓	–	✓
Observations	78131	77859	78131	77859

Optimal border reform

Simulating the optimal border design

Counterfactual exercise: Suppose a policymaker in Kenya wants to redraw the subnational political borders to minimize ethnic voting in national elections.

Realistic constraints:

1. New political regions must be nested within the former provinces.
2. Political regions have to be contiguous.
3. Start from the 47 counties (as actual reform was already "too provincialist").

Computational benefits:

- Constraint 1 allows computing the optimal map for each province separately, as EF_e and RF_c are additively separable.
- Constraints 2 and 3 reduce the number of possible maps per province.

Empirical informed objective:

- Ethnic voting is minimized for the map that balances the two countervailing effects with weights $w = 0.55$ for RF_c and $(1 - w)$ for EF_e.

Optimal border design

(a) Optimal border design

(b) Largest groups in each county

./figures_tables/F7a_counties_optimal.pdf

./figures_tables/F7b_counties_largest_

Evaluation of various border reforms

Optimal border design and changes in ethnic voting:

- -13.3 pp relative to post-reform counties,
- -6.8 pp relative to pre-reform provinces.

Border designs with other objectives:

./figures_tables/F7c_reform_effects.pdf

Take aways

Contributions:

- First paper to provide quasi-experimental evidence on an institutional reform – ethnofederalism – that can reduce the salience of ethnicity in national politics.
- New indices to characterize subnational border designs (and changes thereof).

Policy implications:

- Governments can mitigate the salience of ethnicity in national politics, as changing subnational borders is relatively easy.
- Successful border reforms reduce diversity within political regions but also unite members of the same group.

Thank you!

Supplement