

Ethnic Conflicts and the Informational Dividend of Democracy

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Our Research Question: What is the logic of democratic transitions when ethnic tensions are more salient than poor/rich divide?

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Democratic transition (R1) is rationally chosen by strong autocrats; (R2) prevents conflicts and (R3) increases the Ruling Group Rent because informational rent of the opposition is reduced.

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2. Democratic transition not necessarily associated with alternation of power ▶ examples
 - Measuring Free and Fair elections \neq Window-Dressing elections (e.g. search for legitimacy) \rightarrow Cheibub et al. (2010) and their "alternation rule".
 - Example: Jerry Rawlings in Ghana in 1993

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4. Civil conflict is more likely in autocracy than in democracy [▶ more](#)

Related Literature

- ▶ The imperfect information problem of the autocrat
 - "Dictator Dilemma" (Wintrobe, 1990, 1998, Sartori 2005). [▶ more](#)
- ▶ Free and fair elections reduce asymmetric information
 - Sartori, 1976; Malesky and Shuller, 2011 or Morgenbesser, 2016.
 - Evidence on Colombia, Vietnam, Mexico, Egypt. [▶ more](#)
- ▶ War mobilization correlates with political mobilization capacities
 - Herodotus, Condorcet 1785, Simmel 1950, Przeworski, 2009, Chacon, Robinson and Torvik, 2011, etc. [▶ more](#)
 - Evidence on Ancient Greece, Spanish civil war, Colombia.

Theoretical Setup

Setup I

Continuum of risk-neutral individuals belonging to two "ethnic" groups, $G \in \{A, B\}$, each of unit mass and led by a benevolent leader

Timing: Initially leader of group A in power (Autocrat)

1. **Institutional Change:** A proposes (or not) a majoritarian democracy with free elections. B accepts/declines to participate. Endogenous electoral competition (probabilistic voting model).
2. **Tax:** Ruler $\in \{ \text{Autocrat } A, \text{ Elected Leaders } A/B \}$ sets a take-it-or-leave-it discriminatory tax (inter-group monetary transfers).
3. **War?** If tax is rejected by the Opponent, war is declared unilaterally with endogenous mobilization of troops; victorious group sets the tax.
4. **Production and consumption:** Individuals produce, tax is collected, consumption takes place.

Setup II

- **Individuals action set:** choose candidate A/B (if elections); { fight for her group; not fight } (if war).
- **Technology:** non-fighters produce 1 unit of good; fighters produce $0 \leq 1 - \phi < 1$ unit (time cost).
- **Individuals' utility** comprises real wage and non-economic (psychological) benefits attached to pro-ethnic actions

$$u_i = w_i + \mathbb{I}_{\text{proethnic}} \times \tilde{e}_i$$

Setup III

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- A1 Pro-ethnic Voting and Fighting **both** involve psychological benefits [Identity; compliance to social norms of intra-group cooperation]
- A2 Ethnic attachment is heterogeneously distributed across individuals $\tilde{e}_i \sim \text{unif}(\theta_G, 1 + \theta_G)$ with a group-specific shifter $\theta_G \in \{-\mathcal{E}, +\mathcal{E}\}$
 \Rightarrow Two types of ethnic group (leader): Cohesive/Divided (Strong/Weak)
- A3 θ_A publicly observable (tractability) but θ_B is privately observed.
We denote $\mu \equiv \mathbb{P}_A(\theta_B = +\mathcal{E})$
- Each benevolent leader maximizes aggregate materialistic welfare of her group $W_G = \max \int_{i \in G} w_i di$

The Autocrat's Trade-off: Ballots or Bullets ?

- Peace Pareto-dominates war because of fighting cost: $\phi > 0$

Total Economic Surplus in **Peace**: $1 \times 1 + 1 \times 1 = 2$

Total Economic Surplus in **War**: $2 - \phi \times (\text{army}_A + \text{army}_B)$

\Rightarrow there always exists a transfer that prevents war to happen.

- But the Autocrat may fail to implement such a peace-maintaining transfer due to imperfect information
- By revealing information, political competition can limit bargaining failure and war.

Autocrat's trade-off \Rightarrow **By organizing free-elections the autocrat benefits from more information but takes the risk of losing office.**

Civil Conflict

Stage 3 – Ethnic Mobilization for War

Summary

- We model a voluntary mobilization game where group members fight if the reward is sufficiently high.
- Fighting success is modelled using contest success functions.

Detailed micro-foundations in paper, but punchline is that $W^{G,-G} \equiv \mathbb{E}[W_G | \text{war}, \theta_G, \theta_{-G}]$ is increasing in θ_G and decreasing in θ_{-G} .

- The following ordering of welfare holds

$$W^{-+} < W^{++} < W^{--} < W^{+-}$$

Given my type, I prefer to fight a "-" than a "+" (all $\phi \leq 1$).

Given the other type, I prefer to be a "+" than a "-" (not true for $\phi \approx 1$).

- Our theoretical predictions result from this ordering + Assumption that Peace Pareto-dominates War. No extra parameter restriction required.

Autocracy

Stage 2 – Transfers under Autocracy

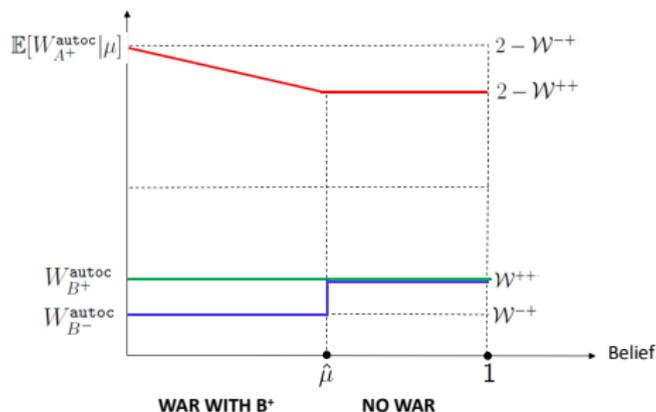
- Case of a strong Autocrat A^+ who sets a tax holding a belief μ on her opponent's type θ_B .
- If Peace is maintained, $1 - \text{tax}$ is the after-tax income of group B ; group A gets the **Ruling Group Rent** $\equiv 1 + \text{tax}$.
- The high type is more costly to buy off:

Tax maintains peace of type B^+ iff $\mathcal{W}^{++} \leq 1 - \text{tax}$

Tax maintains peace of type B^- iff $\mathcal{W}^{-+} \leq 1 - \text{tax}$

\Rightarrow Compare 3 pacification strategies: $1 - \text{tax} \in \{0; \mathcal{W}^{-+}; \mathcal{W}^{++}\}$

Stage 2 – Autocratic Equilibrium



- $W^{++} - W^{-+}$ is the informational rent of B^- .
- Perfect information: $\mu \in \{0, 1\} \Rightarrow$ **No War**
- War Zone $\mu \leq \hat{\mu}$

Decreases with the economic war loss and increases with the informational rent.

Democratic Transition

Stage 1 – Institutional Change

Setup

- Autocrat A in power with belief μ on her opponent's type θ_B
 - A proposes (or not) a **majoritarian** democracy with free & fair elections
- A costly state verification technology and a commitment device that prevent any manipulation of the election outcome (e.g. external observers; international sanctions, constitutional safeguards).
- Small implementation cost C_E , financed by tax.

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Roadmap

1. Modeling Political Competition \Rightarrow Due to reverse engineering of vote shares, election reveals θ_A and θ_B .
2. Post-Election Democratic Equilibrium
3. Autocrat's decision to propose elections

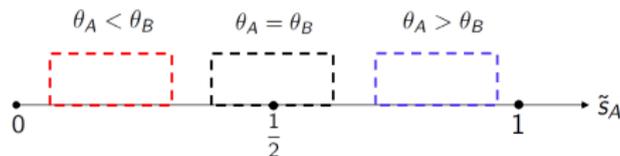
Stage 1 – Institutional Change

Information Revelation

We consider a Probabilistic Voting Model (Persson and Tabellini, 2000) where voters' preferences over candidates correlate with their ethnic attachment \tilde{e}_j .

Parametric restrictions yields

Figure: Distribution of voting shares



⇒ Elections outcome fully reveals θ_A and θ_B

- Under milder parametric restrictions the supports of vote shares overlap and information revelation is partial. In this situation we may observe "fragile democracy", prone to conflict (see extensions).

Stage 1 – Institutional Change

Autocrat Dilemma

- A strong autocrat **always** proposes majoritarian elections for a non-empty range of beliefs where risk of war is sufficiently high and risk of losing office is sufficiently low (as it avoids a conflict).
- A weak autocrat **never** proposes majoritarian elections: Risk of losing office is too high...
- ...however, a weak autocrat prefers proportional rule (where decision power is shared between A & B according to their respective voting shares) over majority rule.

Theoretical Predictions

Ethnic Favoritism – Ruling Group Rent is largest in majoritarian democracies, followed by autocracies and proportional democracies.

- Informational rent is reduced after elections: larger discriminatory tax set by the ruler.
- Under a proportional regime, post-election RGR is mitigated by power sharing.

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Violence – We should observe fewer civil conflicts under democracy.

- Baseline setup: No conflict in democracy because elections are perfectly revealing. See extension for a less contrasted result.

Data and Empirical Results

Democracy and Institutions

- ▶ **Democracy**: regime with frequent free and fair multi-party elections (Cheibub et al., 2010). Cover 198 countries, 1946-2008. We also use Polity IV index.
- ▶ **Regime type (majoritarian, proportional...)**: De jure institutional provisions and electoral procedures, from the Institutions and Elections Project (IAEP) dataset (Wig et al.). Covers 163 countries, 1960-2012. Alternative institutional measures from "Democratic Electoral Systems" (DES) dataset.

Democratic and Power Transitions

Democracy and democratic transitions:

- ▶ **Democratic transitions:** first free and fair elections after a period of autocracy, based on Cheibub et al. (2010). "Alternation rule": non-alternation of power in election is coded as democratic if leader resigns peacefully when his term ends. We observe 101 Democratic transitions over the period 1949-2008 (71 countries).
- ▶ **Leader stability:** same leader as the year before (based on effective leader name from Cheibub et al., 2010).

Ethnic Favoritism (RGR) - Measurement

- ▶ **Ethnic Homeland Night Light:** night-lights as proxy of economic activity at a high spatial resolution (NOAA); 7,653 homelands, 140 countries, 1992-2013, De Luca et al. (2018).
- ▶ **Ruling Group Rent:** Country-level measure of horizontal inequalities. Ethnic group location and access to power (Cederman et al., 2015). Cover 113 countries, 1992-2008.

We build RGR as the ratio of the average (per capita) night light of the governing ethnic groups divided by the sum of the average (per capita) night lights of the governing and of the opposition ethnic groups.

$$RGR_{it} = \frac{\sum(Y_{gov_{eit}})}{(\sum(Y_{gov_{eit}}) + \sum(Y_{opp_{eit}}))},$$

Ethnic Favoritism (RGR) and Regime Types

136 countries, 1992-2009, col. 4 RGR mean (.53)

Table: Democracy and Ethnic Favoritism - Country-level

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)
		ruling group rent (RGR)				
Democracy (t-1)	0.006* (0.003)	0.072** (0.036)		0.063 (0.040)		
Proport. democ. (t-1)			0.043 (0.027)		0.030 (0.028)	0.037 (0.030)
Majorit. democ. (t-1)			0.113** (0.054)		0.122** (0.060)	0.121** (0.060)
Democracy measures	Polity IV cont.	Polity IV dummy		Cheibub et al.		
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Additional controls	No	No	No	No	No	Yes
Observations	1993	1993	1961	1755	1732	1556
R-squared	0.794	0.795	0.800	0.812	0.816	0.829

Note: Panel with an observation being the country-year, covering 116 countries and the years 1992-2009. All explanatory variables lagged by one year. Country fixed effects and annual time dummies included in all columns. The additional controls included in column 6 include GDP per capita, Population, Trade share of GDP and Age of democracy. Robust standard errors clustered at the country level. t-stat in parenthesis. * = significant at the 10% level, ** = significant at the 5% level, *** = significant at the 1% level.

Ethnic Favoritism (RGR) and Regime Types

51 countries, 1992-2009

Table: Democracy and Ethnic Favoritism - Heterogeneous Effects

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)
	ruling group rent (RGR)					
Sample	Low Eth. Frac. (EF)	High EF	High EF & New gov.	High EF & Same gov. last period	Cou. new dem. & same gov. & high EF	Same gr. gov. tra. & same gov. & high EF
Proport. democ. (t-1)	-0.039** (0.016)	0.006 (0.031)	-0.048 (0.040)	0.011 (0.029)	0.016 (0.031)	0.003 (0.021)
Majorit. democ. (t-1)	-0.062** (0.024)	0.187** (0.081)	0.026 (0.051)	0.190** (0.073)	0.193** (0.078)	0.240** (0.090)
Democracy measure	Cheibub et al.					
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	879	847	137	669	298	599
R-squared	0.931	0.782	0.862	0.821	0.851	0.825

Note: Panel with an observation being the country-year, covering 116 countries and the years 1992-2009. All explanatory variables lagged by one year. Country fixed effects and annual time dummies included in all columns. In column 1 (resp., 2) the sample is restricted to countries with below-median (resp., above-median) ethnic fractionalization. In column 3 (resp., 4) the sample is restricted to observations with high EF and with a new leader accessing power (resp., last period's leader remaining in office). In column 5 the sample is restricted to countries which over the sample period had at least one instance of transition to democracy, which have last period's leader remaining in office and which have above-median ethnic fractionalization. In column 6 the sample is restricted to countries with above-median ethnic fractionalization and to observations with last period's leader remaining in office, and also excludes countries that had a change in the ethnic group composition of government in the year of transition to democracy or in the first year after transition. Robust standard errors clustered at the country level. t-stat in parenthesis. *—significant at the 10% level, **—significant at the 5% level, ***—significant at the 1% level.

Robustness

Results are robust to:

- ▶ Alternative night light measures (total and not per capita, overlapping ethnic groups...). [▶ More](#)
- ▶ Introduction of continent-year fixed effect. [▶ More](#)
- ▶ Alternative institutional measures ("Democratic Electoral Systems" (DES) dataset). [▶ More](#)
- ▶ Continent splits: our results are driven by Africa and Asia (high levels of past ethnic conflict and high ethnic fractionalization). [▶ More](#)

Ethnic Favoritism and Regime Types (disaggregated)

1752 ethnic homelands, 26 countries, 1992-2013

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
				Nighttime light			
Leader × Democracy	0.051** (0.024)						
Leader × Anocracy	0.088 (0.058)	0.087 (0.062)					
Leader × Dictatorship	0.043 (0.079)	0.041 (0.085)					
Leader × Demo.PR		0.037 (0.052)	0.037 (0.052)	0.040 (0.072)	0.048 (0.077)	0.051 (0.105)	0.072 (0.111)
Leader × Demo.Majo.		0.071*** (0.022)	0.072***	0.108***	0.083**	0.115**	0.102**
Leader × Non Demo.			0.073 (0.058)	0.055 (0.077)	0.071 (0.070)	-0.037 (0.095)	-0.013 (0.093)
Ethnic group fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Restriction sample to high EF				Yes	Yes		
Restr. sample countries with new demo.						Yes	Yes
Restr. sample same leader since last yr					Yes		Yes
Observations	141164	120581	120581	76334	73072	38876	37250
R-squared	0.947	0.951	0.951	0.937	0.941	0.928	0.932

Note: Panel with an observation being the ethnic group-year, covering 140 countries and the years 1992-2013. Ethnic group and country-year fixed effects included in all columns. Robust standard errors clustered at the country level. t-stat in parenthesis.

*=significant at the 10% level, **=significant at the 5% level, ***=significant at the 1% level.

Table 4: Democratic and Power Transitions

Focusing on the first free and fair election – 1949 to 2008

	(1)	(2)	(3)	(4)
Dependent variable:	Dummy same leader as last year			
Majoritarian democracy	0.210* (0.111)	0.143* (0.076)	2.248 (1.445)	0.254* (0.127)
Data source regime type	IAEP	DES	IAEP	IAEP
Estimator	LPM	LPM	Logit	LPM
Decade fixed effects	Yes	Yes	Yes	Yes
Continent fixed effects	Yes	Yes	Yes	Yes
Control variables	No	No	No	Yes
Observations	65	79	54	56
(Pseudo-)R-squared	0.234	0.236	0.183	0.294

Note: Panel with an observation being the country-year. The sample consists of transitions to democracy from 1949 to 2008, containing 53 countries. Decade fixed effects and continent fixed effects included in all columns. The controls included in columns 2, 3, 5 and 6 include lagged GDP per capita, lagged Population, and lagged Trade share of GDP. LPM estimations in columns 1, 2, 4, and 5 and logit in columns 3 and 6. For coding the variable of majoritarian democracy, columns 1-3 use data from the "Institutions and Elections Project" (IAEP) of Wig et al. (2015), while columns 4-6 use data from the "Democratic Electoral Systems" (DES) dataset of Bormann and Golder (2013). Robust standard errors in parenthesis. *=significant at the 10% level, **=significant at the 5% level, ***=significant at the 1% level.

Table 5: Democratic and Power Transitions

All country-years with democracy – 1947 to 2008

Dependent var.:	(1)	(2)	(3)	(4)
		Dummy same leader as last year		
Majorit. demo.	-0.060 (0.058)	-0.137 (0.090)	0.126** (0.057)	0.043 (0.068)
Transition to demo.	-0.559*** (0.060)	-0.160 (0.098)	-0.623*** (0.044)	-0.278*** (0.080)
Majorit. * Transit.	0.230** (0.102)	0.305* (0.158)	0.132 (0.089)	0.357*** (0.124)
Data source Majo.		IAEP		DES
Sample	All demo. (Cheibub)	All demo. & elec. yrs		All demo. & elec. yrs
Time dummies	Yes	Yes		Yes
Country fixed eff.	Yes	Yes		Yes
Observations	2647	661		748
R-squared	0.204	0.381		0.373

Note: Panel with an observation being the country-year, covering 132 countries and the years 1947-2008. LPM regressions in all columns. Country fixed effects, annual time dummies as well as lagged years in office of the leader included in all columns. The additional controls included in columns 2, 4, 6 and 8 include lagged GDP per capita, lagged Population, lagged Trade share of GDP and lagged Age of democracy. For coding the variable of majoritarian democracy, columns 1-4 use data from the "Institutions and Elections Project" (IAEP) of Wig et al. (2015), while columns 5-8 use data from the "Democratic Electoral Systems" (DES) dataset of Bormann and Golder (2013). Robust standard errors clustered at the country level. t-stat in parenthesis. * = significant at the 10% level, ** = significant at the 5% level, *** = significant at the 1% level.

Robustness

Results are robust to:

- ▶ Logit estimation.
- ▶ Continent-year fixed effects.
- ▶ Country-specific time trends.

▶ More

▶ More

▶ More

Other results

- ▶ Democracy and conflicts.
- ▶ Riots and democratization.

▶ More

▶ More

Conclusion

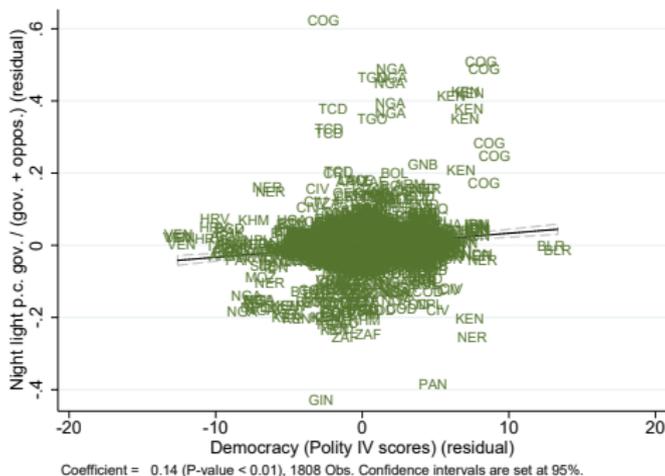
Conclusion

- ▶ Simple theory of **democracy as an institutional mechanism to reduce asymmetric information.**
- ▶ Can account for several puzzles in ethnically divided countries (democratic transitions also happening without transition of power; democracy not reducing inequality; inequality not causing conflict) ...
- ▶ ... and generates some novel predictions on conflict outcomes and institution building.

Appendix

Conditional Evidence

Figure: Democracy and Horizontal Ethnic Inequality



Panel data, All countries and LHS is adjusted for population size (GGIS)

Controls are: lagged population, lagged GDP per capita, lagged age of democracy, lagged trade share of GDP, country FE & year FE.

Democratic transitions w/o alternation of power

Jose Napoleon Duarte, 1984, El Salvador after a military coup (part of the Junta, pb civil war continued because FMNL did not wanted to participate to elections) // Andres Rodríguez Pedotti, Paraguay (CE and election) 1989 // Alberto Lleras Cama, 1959, Colombia // José Antonio Remón Cantera, Panama, 1952 (Coup and elected) // Julio Sanguinetti, 1984, Uruguay (Military to president) // Hama Amadou, Niger in 2001 // Pierre Nkurunziza, Burundi 2006 // Kriangsak Chamanan, Thailand, 1980 // Jerry Rawlings, Ghana // Ahmad Tejan Kabbah, 1999, Sierra Leone // South Korea (1987): Roh Tae-woo, a member of the Chun government in power since 1979 after a military coup, organized elections after a series of students riots. Facing a divided opposition, Roh Tae-woo won the first democratic elections of the country.

▶ back

Asymmetric information is a problem in Autocracy

- ▶ "Dictator Dilemma": Asymmetric information over war mobilization capacities of the opponent (Wintrobe, 1990 and 1998).
- ▶ Is it a problem that imperfect information as root of conflict has a hard time to explain failure to end long-lasting conflicts (Fearon 2004, Powell 2009)? No, if some information has secrecy value and chances stochastically over time you groups never learn about opponent.
- ▶ Sartori (2005 [1976]: 206) argues that electoral competition is "a means of providing the elite with a flow of information or, at any rate, with more information than the one party is generally able to gather".
- ▶ Steele (2011) argues that elections are run for the purpose of gathering information: "Elections conducted before or during a violent conflict are one way that armed groups can identify local cleavages and "disloyal" residents." (2011: 423) She draws on Colombian data, with results in line with her predictions.

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War mobilization correlates with political mobilization capacities - Historical evidence

- ▶ "The canonical example of informative elections would be those once held in the city-state of Sparta, in which the supporters of a particular candidate voted by yelling as loudly as they could, while clashing their spears against their shields. The utility of such elections in gauging the fighting spirit and ability of a candidate's supporters was obvious and, with a commonly observed measure of the two sides' strengths, actual recourse to violence should have been less likely." (Staveley, 1972, Greek and Roman voting and elections. London: Thames and Hudson)
- ▶ Herodotus (quoted in Bryce 1921: 25-26) made the point that in democracy "physical force of the citizens coincides (broadly speaking) with their voting power".
- ▶ Condorcet (1986 [1785]: 11) stressed that for the sake of peace and general utility one has to place the authority where the force lies.

War mobilization correlates with political mobilization capacities - Recent evidence I

- ▶ Simmel (1950: 241-2) points out that "because the voting individuals are considered to be equals, the majority has the physical power to coerce the minority.... The voting serves the purpose of avoiding the immediate contest of forces and ending out its potential result by counting votes, so that the minority can convince itself that its actual resistance would be of no avail."
- ▶ Chacon, Robinson and Torvik (2011: 366) posit that "Although the probability of winning an election increases with the size of a group, so does the probability of winning an armed conflict. Thus, in a situation in which all groups have a high chance of winning an election, they may also have a high chance of winning a fight." They build a formal model of the democracy-vs-fighting trade-off and test it using data of the "La Violencia" period in Colombia, concluding that their "result is consistent with a natural model of political competition in which payoffs from participating in democracy and in a violent confrontation are interlinked by popular support" (2011: 392).

War mobilization correlates with political mobilization capacities - Recent evidence II

- ▶ A group's probability of winning either a fight or a vote is taken to be an increasing function of the number of a group's supporters (see Garfinkel and Skaperdas 2007).
- ▶ This is also consistent with the finding of Balcells (2011) that for Catalonia and Aragon during the Spanish civil war places that were more polarized on a left-right dimension were also more likely to experience higher violence. Balcells draws the conclusion that "regarding direct violence, the distribution of political loyalties determines the extent to which groups find local collaboration enabling the elimination of political enemies" (2011: 412).
- ▶ Dunning (2011: 330) stresses that "in many contexts, the use of contest functions seems natural: after all, winning elections depends positively on popular support, and popular support would certainly seem to be useful to armed groups as well".
- ▶ Londregan and Vindigni (2006) think that elections are a cheap way to learn the value of the fighting strength of the opponent.

Information gathering as motivation for running elections I

- ▶ Miller (2015: 691) find that "ruling parties use this information (from elections) to calibrate policy concessions. In the first cross-country analysis of autocratic election outcomes and policy choice, (he) finds that negative electoral shocks to ruling parties predict increases in education and social welfare spending and decreases in military spending following elections."
- ▶ Malesky and Schuler (2011) show –using micro-data from Vietnam– that nationwide elections serve the purpose of learning about the preferences of citizens.
- ▶ Free and fair elections reduce asymmetric information and enable efficient bargaining. According to Morgenbesser (2016: 2) the first function (of elections) captures how dictators use elections to ameliorate the dilemma of not knowing whether citizens genuinely support them or support them because they command support. This involves collection information (...)"
- ▶ Further literature on information revelation in elections (Cox, 2009; Fearon, 2011).

Information gathering as motivation for running elections II

- ▶ Wallace (2005): Do surveys but not divulge results as substitute for elections? Won't work as not incentive compatible.
- ▶ Magaloni (2006) shows, using Mexican data, that elections serve the purpose of information collection.
- ▶ Blaydes (2011) shows that in Mubarak's Egypt a major role of elections was to collect information about constituencies. [▶ Go Back](#)

Renegotiation Proofness-1

After discovering the type of group B , and having lost an election, leader A will have strong incentives to stay in power and transfer just enough to avoid a conflict.

⇒ Part of the cost C_E includes **constitutional safeguards** that insures compliance to the election result; e.g. independence of the supreme court of justice/army/police forces; monitoring by external observers and the **threat of international sanctions** in case of non-compliance.

→ For example, since 1914, there has been a total of 187 international sanctions episodes, about 66 of which started after the collapse of the Soviet empire (Hufbauer et al., 2007). Economic sanctions usually combine restrictions on international trade and investment.

→ We assume that these sanctions are sufficient to induce compliance to the election results (i.e. sanction S are s.t. $2 - \mathcal{W}^{++} - S < \mathcal{W}^{++}$).

→ **Empirical evidence**: International sanctions against autocrats significantly increase after controversial elections (von Soest and Wahman, 2015) and significantly affect the probability that the autocrat exits power (Folch and Wright, 2010).

Renegotiation Proofness-2

- In order for B to accept to participate to the election, they should be **credible** (i.e. free and fair). A thus rationally commits to a costly state verification mechanism (i.e. international observers) to enforce the credibility of the electoral process.

- It is a dominant strategy for a B^+ to accept credible elections:
$$\mathbb{P}_{win}(2 - \mathcal{W}^{+,-G} - C_E) + (1 - \mathbb{P}_{win})(\mathcal{W}^{+,-G} - C_E) > \mathcal{W}^{+,-G}.$$

→ B^- reveals himself either by accepting (through the election) or refusing.

- B complies to the results of an election (if losing) because A sets the tax so as to avoid violence (i.e. $t = \mathcal{W}^{++}$ or $t = \mathcal{W}^{-+}$).

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Bargaining protocol

- Why take-it-or-leave-it tax offer? With one-period protocol, as ours, the informational asymmetry exerts its highest influence on bargaining.
- More complex protocols are ignored for the sake of simplicity.
- This said, Myerson-Satterthwaite central result shows that bargaining fails with a non-zero probability as soon as there is informational asymmetry (See MMT, REStud 2008 for a model of conflict with asymmetric information and endogenous choice of protocol).

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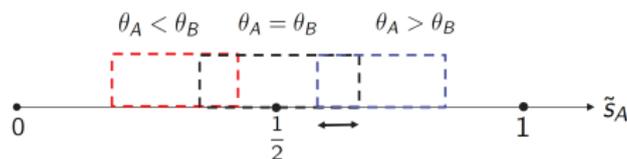
Extension: Fragile Democracy-1

- We now relax the assumption that elections perfectly reveal θ_B .
- An overlap in vote shares of both types is possible when vote shares of A^+ facing a B^- under the most beneficial popularity shock is higher than when facing a B^+ under the most adverse shock.
- If A is elected and vote shares are non-revealing, she implements the Autocratic transfer putting her at risk of facing a conflict even after elections took place (i.e. if $\mu < \hat{\mu}$).
- Denote by d the probability that vote shares end up being ambiguous, conditional on types. Due to the distributional assumptions, this probability is the same when facing a B^+ or a B^- (μ does not change by observing vote shares).

Extension: Fragile Democracy- 2

Non-revealing vote shares

Figure: Distribution of voting shares



- We assume that vote shares overlap across states ($\mathcal{E} < \frac{1}{\rho\nu}$).
- While maintaining the non-ambiguous voting assumption (a strong A always wins when facing a weak B , $\tilde{s}_a > \frac{1}{2}$).

Extension: Fragile Democracy- 3

Post-election conflict

- Consider first that, without information, the autocrat would fix a high tax on the opposition ($\mu < \hat{\mu}$).
- In this situation, non-revealing elections may lead to **post-election conflicts**.
- Under this possibility of "Fragile Democracy", the expected payoff of A^+ when offering Majoritarian elections is

$$\mathbb{E}[W_{A^+}^{\text{maj}o} | \mu] = \mu(1 - d(1 - \mathcal{W}^{++})) + (1 - \mu)(2 - \mathcal{W}^{-+}) - C_E$$

⇒ the autocrat chooses to offer election for this range of belief if

$$d < \frac{1 - \mathcal{W}^{++} - C_E}{1 - \mathcal{W}^{++} - \mu}.$$

Extension: Fragile Democracy- 4

Peaceful non-revealing elections

- Consider now that, without information, the autocrat would fix a low tax on the opposition ($\mu > \hat{\mu}$).
- Here, the expected payoff of A^+ when offering Majoritarian elections is

$$\mathbb{E}[W_{A^+}^{\text{maj}o} | \mu] = \mu + (1 - \mu)[d(2 - \mathcal{W}^{++}) + (1 - d)(2 - \mathcal{W}^{-+})] - C_E$$

\Rightarrow the autocrat chooses to offer election for this range of belief if the probability d of non-revealing elections is not too high (i.e. if

$$d < 1 - \frac{\mu(1 - \mathcal{W}^{++}) + C_E}{(1 - \mu)(\mathcal{W}^{++} - \mathcal{W}^{-+})}).$$

Extension: Fragile Democracy- 5

Theoretical prediction

Post-election conflict Non-revealing elections may lead to post-election conflicts when the incumbent stays in office.

→ A strong autocrat decides to organize elections despite this risk of post-election conflict.

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Robustness – Highly Destructive Wars

We assume that the opportunity cost of war is very high: $\phi \approx 1$

$$W^{G,-G} \equiv \mathbb{E}[W_G | \text{war}, \theta_G, \theta_{-G}] = \frac{1 + \theta_G}{2 + \theta_G + \theta_{-G}} \times [2 - \phi \times (2 + \theta_G + \theta_{-G} - \phi)]$$

We show that the ordering of war payoffs reverts wrt the baseline setup

$$W^{++} < W^{-+} < W^{+-} < W^{--}$$

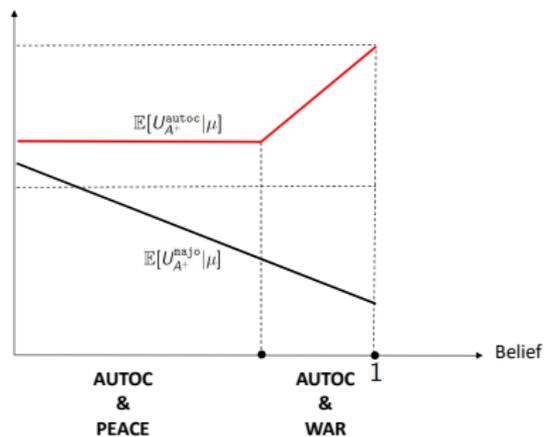
→ Given my type, I prefer to fight a "-" than a "+"

→ Given the other type, I prefer to be a "-" than a "+"

To maintain Peace, the Autocrat A^+ must compensate more a B^- than a B^+ ⇒ No incentive to democratize

Robustness – Highly Destructive Wars

Expected Payoff of an Autocrat who democratizes



Extension: Ethnic Politics

Let consider the case where leaders optimally adjust the relative salience of ethnic issues, $s_{A/B}$, during political competition

Agent $i \in A$ votes for leader A (leader B otherwise) iff

$$s_A \times v \times \tilde{e}_i + (1 - s_A) \times (2 - C_E - t_A) \geq (1 - s_A) \times t_B + \tilde{p}$$

Each candidate maximizes the expected post-election welfare of her group by proposing a two-dimensional political platform $(s_A; t_A)$

- For large $v \exists!$ Nash equilibrium of the political competition game is $s_A = s_B = 1$ with no accommodating policy \Rightarrow identical to baseline results.
- For small $v \exists!$ equilibrium $s_A = s_B = 0$ with no accommodating policy \Rightarrow ethnic issues are not salient, elections are not revealing and democracy is never proposed.
- For intermediate $v \exists!$ equilibrium with $s_{A^+} = s_{B^+} = 1; s_{A^-} = s_{B^-} = 0$ and A^+ proposes an accommodating policy $t_{A^+} > \mathcal{W}^{+-}$.

Extension: Riots - 1

- Initially B does not know θ_B , the type of its group.
- B can decide to start a riot to discover its mobilization capacity, at the cost of potentially revealing it to A .
- If leader B calls for a riot, agent $i \in B$ participates iff

$$k \times e_i \geq c_B + r_i$$

- ▶ c_B , social discontent, is privately observed by B after the riot
 - ▶ r_i , idiosyncratic opportunity cost of rioting (white noise).
 - ▶ k , scaling parameter.
-
- By observing the fraction of group B rioting, B always discovers θ_B .
 - In times of social turmoil, A may end up unsure about B 's type (overlap between fraction of group rioting between both types).

Extension: Riots - 2

The rioting decision- no riot

- If B does not start a riot, neither A nor B know θ_B . In this situation the autocracy is stable: A can always buy-off B by transferring its expected payoff of war.

→ The expected payoff of A^+ is the highest in this informational set up (higher than expected payoff of majoritarian elections and autocracy with asymmetric information).

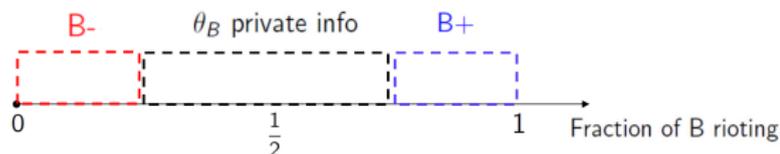
→ Total uncertainty allows the leader to always avoid war and never takes the risk of losing power through elections.

→ A strong autocrat has incentives to deter riots and information acquisition.

Extension: Riots - 3

The rioting decision- riot

Figure: If B triggers a riot, A learns



→ Leader B only starts a riot in times of social turmoil and when democratization is an option (when $\underline{\mu} < \mu < \bar{\mu}$).

⇒ Ambiguity over B's strength is necessary for the autocrat to concede elections (Too much or too little riots perfectly reveal θ_B to leader A).

Theoretical Predictions - Riots

Riots – We predict a non-linear relation between riots and democratic transition

→ High and low level of riots are not followed by any democratic transition (low level should correlate with extractive autocracies and high level of riots with equal autocracies). Medium level of riots correlates with democratic transition and/or conflict.

Data – Banks (2016) data on riots coupled with Cheibub et al (2010) for democratic transitions, covering 142 countries over the period 1947-2008.

Empirics – We find preliminary evidences of an inverse U-shaped association between the number of riots recorded in a country in $t - 1$ and the occurrence of a democratic transition in t .

Stage 3 – Ethnic Mobilization for War

Constrained Mobilization with monetary incentives

- Each leader incentivizes troop mobilization through intra-group redistribution of the economic surplus between fighters (w_f) and non-fighters (w_{nf}). Feasibility constraint is equal to

$$w_{nf} \times (1 - \text{army}_G) + w_f \times \text{army}_G = 1 - \phi \times \text{army}_G$$

- **Individual Fighting decision** by atomistic agents. $m > 0$ is a scaling parameter (psychological cost of fighting)

$$u_{i \in G} = \begin{cases} \mathbb{P}[G \text{ wins}] \times (1 + w_{nf}) & \text{(non fighter)} \\ \mathbb{P}[G \text{ wins}] \times (1 - \phi + w_f) + \tilde{e}_i - m & \text{(fighter)} \end{cases}$$

$$\max u_i \Rightarrow \text{army}_G = 1 + \theta_G - m + \mathbb{P}[G \text{ wins}] \times (w_f - w_{nf} - \phi)$$

- Nash Equilibrium of the mobilization game

$$\text{Best response } (w_{nf}, w_f)_G = \arg \max \mathbb{E}[W_G | \text{war}; (w_{nf}, w_f)_G; (w_{nf}, w_f)_{-G}]$$

Stage 3 – Ethnic Mobilization for War

Constrained Mobilization with monetary incentives

Results:

- R1 The Nash equilibrium of the Mobilization Game exists and is unique.
- R2 For $m \leq \bar{m}$, mobilization is unconstrained and the Nash equilibrium is identical to the one under conscription: Leaders can always set monetary incentives ($w_{nf} > 0, w_f > 0$) to reach the optimal mobilization level of conscription $\text{army}^* = \max(1/2\phi, 1)$.
- R3 For $m \geq \bar{m}$, mobilization is constrained, $w_{nf} = 0$ and $w_f > 0$ and the Nash equilibrium is type dependent. At equilibrium $\text{army}_G^* < \min(\frac{1}{2\phi}, 1)$ and is increasing with θ_G and decreasing with θ_{-G} .
- R4 The baseline results hold as long as the ordering of the type-dependent $\mathcal{W}_{G,-G}^G$ is unchanged.

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Extension - Dynamic 1 (work in progress)

- We now extend the analysis to a dynamic economy populated by non-altruistic generations of one-period lived agents.
- Highlight the role of informational rent in sustaining democracies and understand why some democracies revert to autocracies.
- **Sticky learning - 1:** Elections reveal imperfectly the type of the opposition (overlapping vote shares).
- **Sticky learning - 2:** Markov switching window of opportunity of war (e.g. prohibitive military cost) and of types.

Extension - Dynamic 2 (work in progress)

The timing of events within a period can be summarized as follows.

- ▶ The society enters the period either in the state ω_A or ω_D (autocracy and democracy, respectively).
- ▶ The leader decides to offer elections or not (in democracy and in autocracy).
- ▶ The leader (elected or not) decides on t .
- ▶ The opposition decides to wage war or not. If the opposition decides to fight, the conflict happens with a probability q . The type of the loser is reshuffled.
- ▶ A conflict in democracy creates a reversal to autocracy.
- ▶ Payoffs are realized.

Extension - Dynamic 3 (work in progress)

- We model the "window of opportunity" as the probability $(1 - q)$ to observe a prohibitive cost m in fighter's utility:
 $\mathbb{P}[\text{G wins}] \times (1 - \phi + w_G) + \tilde{e}_i + m.$
- Hence, when the opposition decides to start a war, it realizes with probability q .
- It impacts the optimal pacification strategy and the various belief thresholds at which the autocrat switches decisions.
- In particular, $t = 0$ dominates $t = \mathcal{W}^{-+}$ and $t = \mathcal{W}^{-+}$ for low q .
- Furthermore, $\hat{\mu}$ —the belief threshold at which insuring pacification becomes worthy—decreases with q .
- Similarly, offering elections is dominated by $t = 0$ for low q . For high q , offering elections brings a higher payoff than autocracy around $\hat{\mu}$.

Extension - Dynamic 4 (work in progress)

Some equilibria

- **Conflictual Autocracies** When μ_0, d, q are such that $\mu_0 \leq \underline{\mu}$ and q is high, the autocrat sets a high tax ($t = \mathcal{W}^{-+}$), and update downward at the beginning of the next period if no conflict occurs: a B^+ may have missed her window of opportunity: $\mu_t = \frac{\mu_{t-1}q}{\mu_{t-1}q + (1 - \mu_{t-1})}$.

→ When the opposition is strong, a conflict will occur when the window of opportunity realizes: observing at least one conflict over t periods happens with a probability $1 - (1 - q)^t$.

→ When facing a weak opposition, the autocracy is stable and highly extractive (i.e. North-Korea). When q is low, the autocrat sets $t = 0$: the society will eventually end up in a conflict even when the opposition is weak.

- **Stable Autocracies** When μ_0, d, q are such that $\mu_0 \geq \bar{\mu}$ and q is high, the autocrat sets a low tax (no election). The autocracy is stable— μ does not change and elections are never offered—and has a low level of extraction (i.e. Singapore).

Extension - Dynamic 5 (work in progress)

Some equilibria

- **Conflictual Democracies** When μ_0, d, q are such that $\underline{\mu} \leq \mu_0 \leq \bar{\mu}$, q is high and d is low, we observe a transition. After a transition, the society enters into a transitory regime of fragile democracy with probability d (non-revealing elections). If $\mu_0 < \hat{\mu}$, the fragile democracy regime leads to a risk of war, and entails the possibility of a conflictual democratic reversal in the medium run: the leader, after non-revealing elections, sets a high tax. If no conflict takes place, the leader updates downward and thus fixes a high tax the subsequent period as well (if reelected).

⇒ In this situation, the society faces a risk of conflict when the opposition is strong. A race starts between the realization of the window of opportunity and democratic consolidation (either through revealing elections or because the opposition wins the election).

Extension - Dynamic 6 (work in progress)

Conflictual Democracies

- When facing a B^+ , the probability of a democratic consolidation is $(1 - d) + d(1 - q)[(1 - d) + d(1 - q) + \dots]$, hence

$$\mathbb{P}(\text{consolidation}|B^+) = \frac{1}{1 + \frac{d}{1-d}} \quad (1)$$

- When facing a B^- this probability is one.
- For the ruler, when democratizing, the probability of consolidation is thus

$$\mathbb{P}(\text{consolidation}|\mu) = 1 - \frac{\mu}{1 + \frac{1-d}{qd}} \quad (2)$$

Extension - Dynamic 7 (work in progress)

Conflictual Democracies

- Young democracies may enter a transitory phase where conflictual reversal to autocracy is likely.
- They consolidate when elections reveal all the information about the opposition.
- The race between the realization of the window of opportunity and the perfect revelation of elections is driving the likelihood of consolidation.
- This is due to our assumptions that (i) democratic reversal only happen through conflicts and (ii) constitutional safeguards are perennial once instituted.

⇒ A sufficiently high probability of type switch of the opposition would creates incentives for (endogenously) maintaining constitutional safeguards and organizing free and fair elections in each period (it maintains the informational rent of election from period to period).

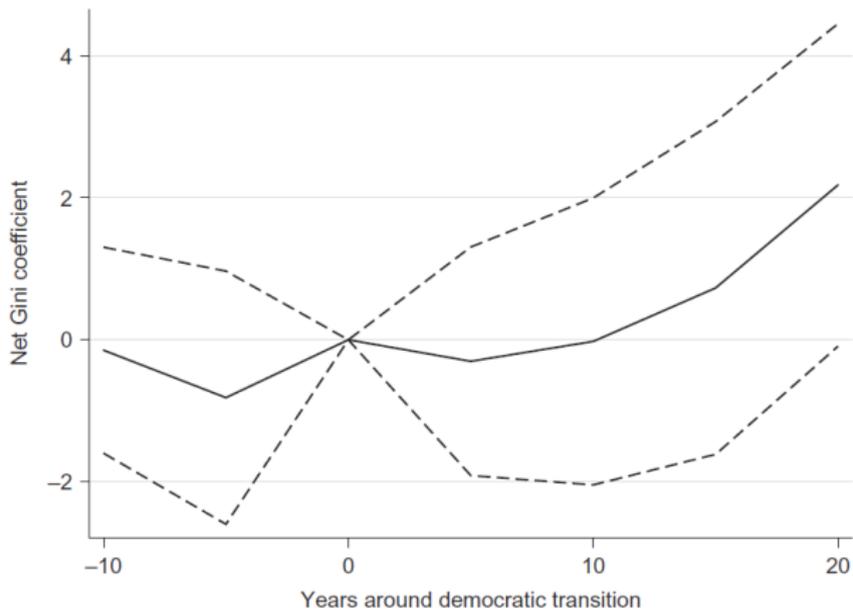
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Extension - Survey, Polls (TBD)

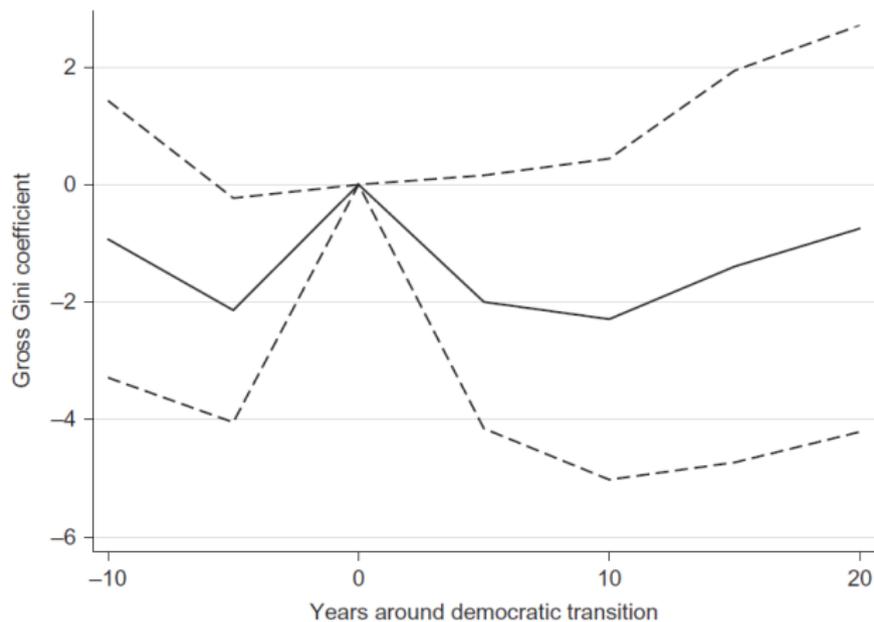
- In our setup, without explicit incentives, a B^+ is indifferent between revealing his type or not (he always enjoys his expected war payoff).
- A B^+ has thus no incentives to engage in costly signalling.
- A survey or a poll, without explicit incentives, is a costless (non-credible) signalling device.
- A B^- will always pretend to be a B^+ in order to avoid high taxation.

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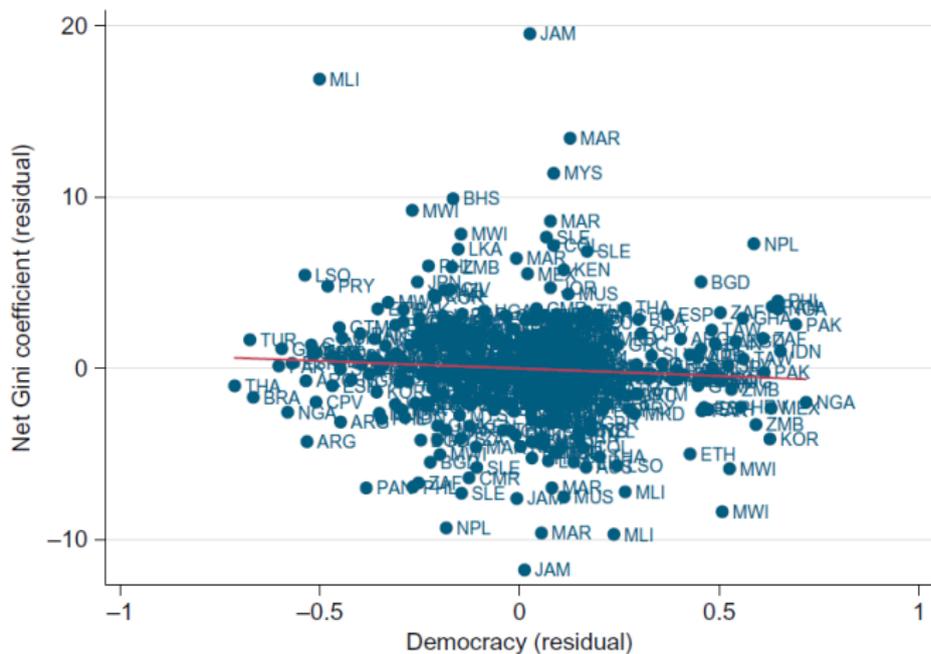
Democracy does not generally reduce inequality II



Democracy does not generally reduce inequality III



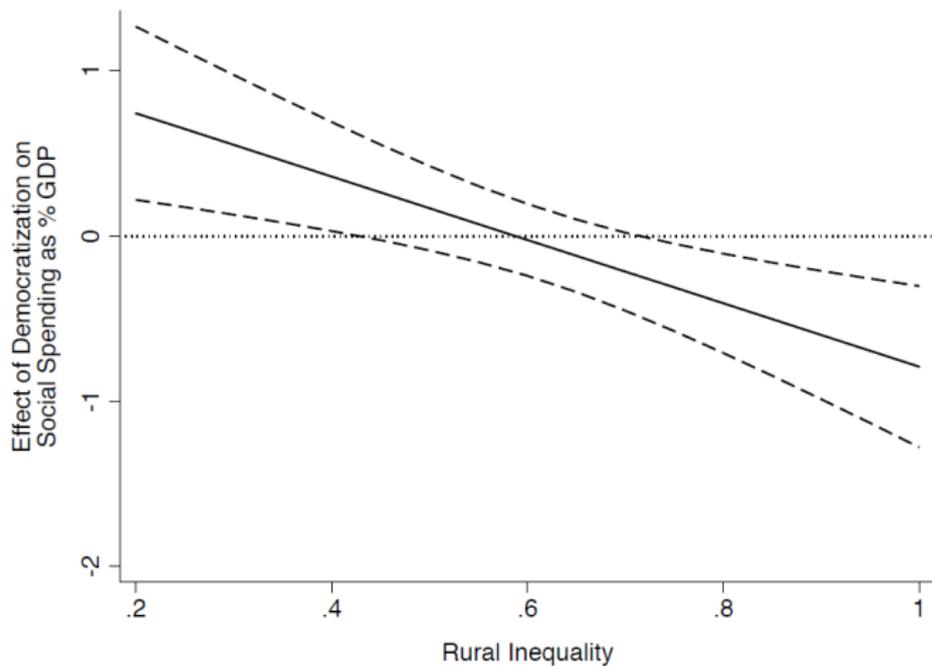
Democracy does not generally reduce inequality IV



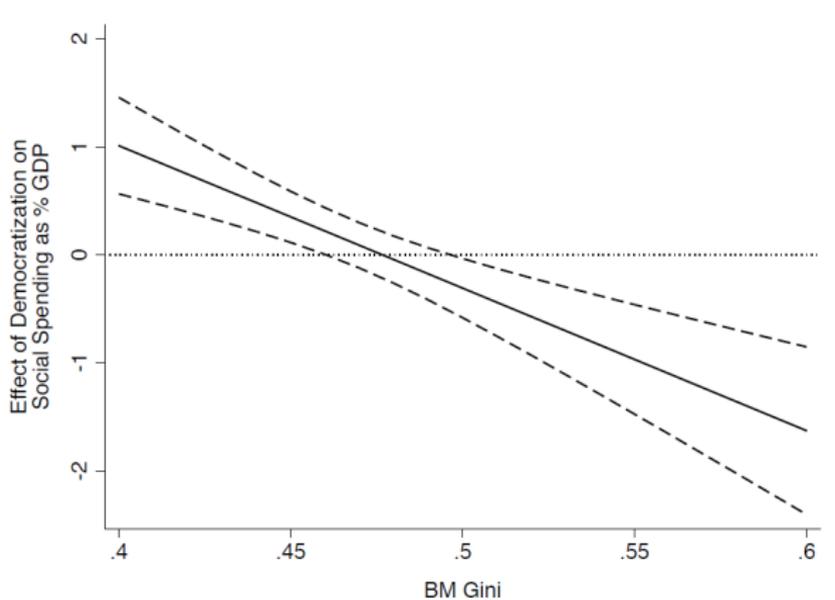
Democracy does not generally reduce inequality VI

- ▶ Ansell and Samuels (2014) also find that there is no generalized effect on democracy to lower inequality ...
- ▶ ... and democracy may actually lower redistribution when groups are unequal enough to start with (graphs of next two slides are from their book).

Democracy does not generally reduce inequality VII



Democracy does not generally reduce inequality VIII



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Table: Democracy and alternative measures of government groups income share (GGIS)

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	GGIS corrected for overlapping groups				GGIS with total night light (not per capita)			
Democracy (t-1)	0.006*	0.007*			0.003*	0.003**		
	(0.003)	(0.004)			(0.001)	(0.002)		
Proport. democ. (t-1)			0.026	0.032			0.001	0.010
			(0.027)	(0.030)			(0.018)	(0.015)
Majorit. democ. (t-1)			0.117*	0.115*			0.050**	0.050***
			(0.062)	(0.062)			(0.020)	(0.018)
Democracy measures	Polity IV continuous		Cheibub et al.		Polity IV continuous		Cheibub et al.	
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	No	Yes	No	Yes	No	Yes
Control pop & area share	No	No	No	No	Yes	Yes	Yes	Yes
Observations	1993	1809	1732	1556	2682	2444	2328	2104
R-squared	0.808	0.821	0.832	0.846	0.957	0.961	0.962	0.966

Note: Panel with an observation being the country-year, covering 136 countries and the years 1992-2009. All explanatory variables lagged by one year. Country fixed effects and annual time dummies included in all columns. The controls included in columns 2, 4, 6 and 8 include GDP per capita, Population, Trade share of GDP and Age of democracy. Robust standard errors clustered at the country level. t-stat in parenthesis. * = significant at the 10% level, ** = significant at the 5% level, *** = significant at the 1% level.

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Table: Democracy and government groups income share (GGIS) when including continent-year fixed effects

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Government Groups Income Share (GGIS)							
Democracy (t-1)	0.006 (0.004)	0.006* (0.004)	0.069* (0.038)	0.076* (0.043)	0.067 (0.044)	0.072 (0.046)		
Proport. democ. (t-1)							0.033 (0.030)	0.037 (0.033)
Majorit. democ. (t-1)							0.121* (0.066)	0.124* (0.065)
Democracy measures	Polity IV continuous		Polity IV dummy		Cheibub et al.		Cheibub et al.	
Contin.-year fixed eff.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	No	Yes	No	Yes	No	Yes
Observations	1993	1809	1993	1809	1755	1568	1732	1556
R-squared	0.803	0.815	0.804	0.816	0.817	0.832	0.821	0.835

Note: Panel with an observation being the country-year, covering 136 countries and the years 1992-2009. All explanatory variables lagged by one year. Country fixed effects and continent-year fixed effects included in all columns. The controls included in columns 2, 4, 6 and 8 include GDP per capita, Population, Trade share of GDP and Age of democracy. Robust standard errors clustered at the country level. t-stat in parenthesis. * = significant at the 10% level, ** = significant at the 5% level, *** = significant at the 1% level.

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Table: Democracy and government groups income share (GGIS) - Continent Split

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Government Groups Income Share (GGIS)											
Sample:	Africa & Asia		N. & S. America		Europe & Oceania		Africa & Asia		N. & S. America		Europe & Oceania	
Democracy (t-1)	0.010** (0.004)	0.010** (0.005)	-0.002 (0.002)	-0.003 (0.002)	-0.003 (0.002)	-0.002 (0.002)						
Proport. democ. (t-1)							0.023 (0.039)	0.033 (0.041)	-0.013 (0.009)	-0.008 (0.006)	-0.009 (0.011)	-0.018*** (0.005)
Majorit. democ. (t-1)							0.158** (0.073)	0.154** (0.072)	-0.010 (0.008)	0.001 (0.010)	-0.016 (0.033)	-0.026 (0.029)
Democracy measures	Polity IV continuous		Polity IV continuous		Polity IV continuous		Cheibub et al.		Cheibub et al.		Cheibub et al.	
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	1158	1030	400	375	435	404	1020	896	346	324	366	336
R-squared	0.789	0.802	0.825	0.845	0.831	0.860	0.811	0.826	0.846	0.851	0.832	0.876

Note: Panel with an observation being the country-year, covering 136 countries and the years 1992-2009. All explanatory variables lagged by one year. Country fixed effects and annual time dummies included in all columns. The controls included in columns 2, 4, 6, 8, 10 and 12 include GDP per capita, Population, Trade share of GDP and Age of democracy. Robust standard errors clustered at the country level. t-stat in parenthesis. * = significant at the 10% level, ** = significant at the 5% level, *** = significant at the 1% level.

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Table: Type of democracy and tenure of leader in office – additional controls

Dependent var.:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Dummy same leader as last year							
Majorit. demo.	-0.161*** (0.049)	-0.195*** (0.051)	-0.325*** (0.120)	-0.351*** (0.115)	-0.197** (0.080)	-0.218*** (0.081)	-0.523*** (0.136)	-0.600*** (0.153)
Transit. to demo.	-0.545*** (0.062)	-0.580*** (0.063)	-0.240** (0.093)	-0.256*** (0.098)	-0.550*** (0.073)	-0.555*** (0.082)	-0.440*** (0.166)	-0.339** (0.172)
Majorit. * Transit.	0.230** (0.099)	0.327*** (0.112)	0.398** (0.177)	0.521*** (0.178)	0.319*** (0.116)	0.336** (0.143)	0.583** (0.247)	0.529* (0.309)
Sample	All demo. (Cheibub)		All demo. & elec. yrs		All demo. (Cheibub)		All demo. & elec. yrs	
Count. lin. trend	No	No	No	No	Yes	Yes	Yes	Yes
Contin.-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed eff.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Observations	2647	2357	661	607	2647	2357	661	607
R-squared	0.280	0.283	0.546	0.566	0.322	0.320	0.568	0.346

Note: Panel with an observation being the country-year, covering 132 countries and the years 1947-2008. LPM regressions in all columns. Country fixed effects, continent-year fixed effects, as well as lagged years in office of the leader included in all columns. The additional controls included in columns 2, 4, 6 and 8 include lagged GDP per capita, lagged Population, lagged Trade share of GDP and lagged Age of democracy. In columns 5-8 a country-specific linear time trend is included. For coding the variable of majoritarian democracy, all columns use data from the "Institutions and Elections Project" (IAEP) of Wig et al. (2015). Robust standard errors clustered at the country level. t-stat in parenthesis. * = significant at the 10% level, ** = significant at the 5% level, *** = significant at the 1% level.

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Table: Democracy and conflict: Robustness results

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Onset ethn-gov conf.		Onset conflict		Incid. ethn-gov. conf.		Incidence conflict	
Democracy (t-1)	-0.004 (0.002)	-0.005* (0.003)	-0.007 (0.007)	-0.014* (0.008)	-0.005 (0.005)	-0.010* (0.006)	-0.020 (0.014)	-0.034* (0.018)
Democracy measures	Polity IV dummy (taking a value of 1 for Polity IV scores of above 8)							
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	No	Yes	No	Yes	No	Yes
Observations	8078	5571	6855	4697	8378	5796	8378	5796
R-squared	0.061	0.068	0.075	0.090	0.629	0.587	0.694	0.699

Note: Panel with an observation being the country-year, covering 165 countries and the years 1947-2013. All explanatory variables lagged by one year. Country fixed effects and annual time dummies in all columns. Columns 5-8 control for lagged conflict incidence and for a country-specific time trend. The controls included in columns 2, 4, 6 and 8 are GDP per capita, Population, Trade share of GDP and Value of oil production per capita. Robust standard errors clustered at the country level. t-stat in parenthesis. * = significant at the 10% level, ** = significant at the 5% level, *** = significant at the 1% level.

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Table 7: Democracy and Ethnic Conflict

Panel: 188 countries, 1946-2008

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Incidence of ethnic conflict over government								Incidence Conflict	
Democracy (t-1)	-0.005 (0.004)	-0.002 (0.005)	-0.008 (0.006)	-0.006 (0.008)	-0.000 (0.005)	0.003 (0.006)	-0.007** (0.003)	-0.007* (0.004)	-0.019** (0.010)	-0.023* (0.013)
Democracy measures	Polity IV con.		Polity IV (>0)		Cheibub et al.		Polity IV (>8)		Polity IV (>8)	
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	8378	5796	8378	5796	7903	5265	8378	5796	8378	5796
R-squared	0.614	0.573	0.614	0.573	0.610	0.571	0.614	0.573	0.677	0.681

Note: Panel with an observation being the country-year, covering 165 countries and the years 1947-2013. All explanatory variables lagged by one year. Country fixed effects and annual time dummies and lagged conflict incidence included in all columns. The controls included in columns 2, 4, 6, 8 and 10 are GDP per capita, Population, Trade share of GDP and Value of oil production per capita. Robust standard errors clustered at the country level. t-stat in parenthesis. * = significant at the 10% level, ** = significant at the 5% level, *** = significant at the 1% level.

Robustness

Results are robust to:

- ▶ Different measure of conflict (onset).
- ▶ Country-specific time trends.

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Empirics - Riots

Dependent var.:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	New democracy							
Riots (t-1)	0.0084** (0.0034)	0.0090** (0.0038)	0.0154*** (0.0049)	0.0163*** (0.0050)	0.0133*** (0.0049)	0.0148*** (0.0045)	0.0123** (0.0049)	0.0133** (0.0051)
Riots (t-1) Square			-0.0005** (0.0002)	-0.0005** (0.0002)	-0.0005* (0.0003)	-0.0004** (0.0002)	-0.0004* (0.0002)	-0.0004* (0.0002)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	No	Yes	No	Yes	No	Yes
Additional controls	n/a		n/a		Contin. FE		Country time trend	
Observations	4799	3741	4799	3741	4799	3741	4799	3741
R-squared	0.106	0.108	0.108	0.109	0.210	0.259	0.201	0.211

Note: Panel with an observation being the country-year, covering 138 countries and the years 1947-2008. All explanatory variables lagged by one year. Country fixed effects and annual time dummies included in all columns. The controls included in columns 2, 4, 6, and 8 are GDP per capita, Population, and Years since first democratization. In columns 5-6 we include continent-year fixed effects instead of annual time dummies, and in columns 7-8 we include a country-specific linear time trend. Robust standard errors clustered at the country level.

t-stat in parenthesis. * = significant at the 10% level, ** = significant at the 5% level, *** = significant at the 1% level.

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