

Online Appendix for “Thin-skinned Leaders: Regime Legitimation, Protest Issues and Repression in Autocracies”

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BTM. In preparation for the BTM procedure, we remove all numbers, special characters as well as common English stop words, and we also tokenize and stem the remaining words. We set K , the number of topics, to eight and set the first one as a background topic to filter out common words. As recommended by Yan et al. (2013), we set α to $50/K$ and β to 0.01, and run the Gibbs sampler with 1000 iterations.

LDA and BTM. For comparison purposes, we rerun the topic modeling procedure described in the main text using the commonly used LDA topic modeling approach. After removing common stopwords, punctuation, and numbers, and converting all words in the MMAD issue variable to lowercase, we fit an LDA model using the *textmineR* package (Jones, 2019). In order to compare it to the BTM results, we specified that the model identifies seven topics. The ten most common tokens are shown in Table A.1. The tokens identified by the LDA model largely overlap with the BTM results (see Table ??). However, looking at individual tokens indicates that the BTM produces more coherent results than the LDA. For example, the token “hike” does not fit the *Incumbents/Officials* topic. The token “corrupt” is part of the LDA *Regime* topic and part of the *Economy/Living Conditions* topic in the BTM. To further explore both approaches’ similarity, we summarize the correlations between topic probabilities from both models in Table A.2. Overall, we find moderate to strong correlations between both approaches. The overlap is highest for the *Elections* and *Opposition/Repression* topics. Our results show that BTM and LDA produce similar but not identical results. As the systematic comparisons by Yan et al. (2013) and Qiang et al. (2017) show that BTM identifies more coherent topics than LDA when working with short texts and the average number of words in our issue variable is around six, we prefer the BTM model for our analysis.

Table A.1: Topic labels and tokens based on LDA

<i>Topic label</i>	<i>Prevalence</i>	<i>Top 10 tokens</i>
Incumbents/Officials	13.03	presid, resign, regim, price, presid_presid, militari, govern, minist, resign_presid, hike
Economy/Living conditions	12.78	right, wage, live, condit, law, pai, death, higher, human, salari
Governance	16.70	land, benefit, servic, hous, construct, govern, resign, governor, power, corrupt
Elections	13.55	elect, result, presidenti, elect_result, presid, candid, fair, fraud, elector, presidenti_elect
Opposition/Repression	13.91	releas, opposit, prison, leader, polit, arrest, activist, detain, student, protest
Repression	15.81	govern, polic, kill, forc, secur, judg, violenc, attack, foreign, action
Regime	14.22	reform, govern, democraci, freedom, polit, constitut, king, rule, polit_reform, corrupt

Table A.2: Topic correlations (BTM and LDA)

Topic	ρ
Incumbents/Officials	0.51
Economy/Living conditions	0.46
Governance	0.65
Elections	0.93
Opposition/Repression	0.84
Repression	0.73
Regime	0.53

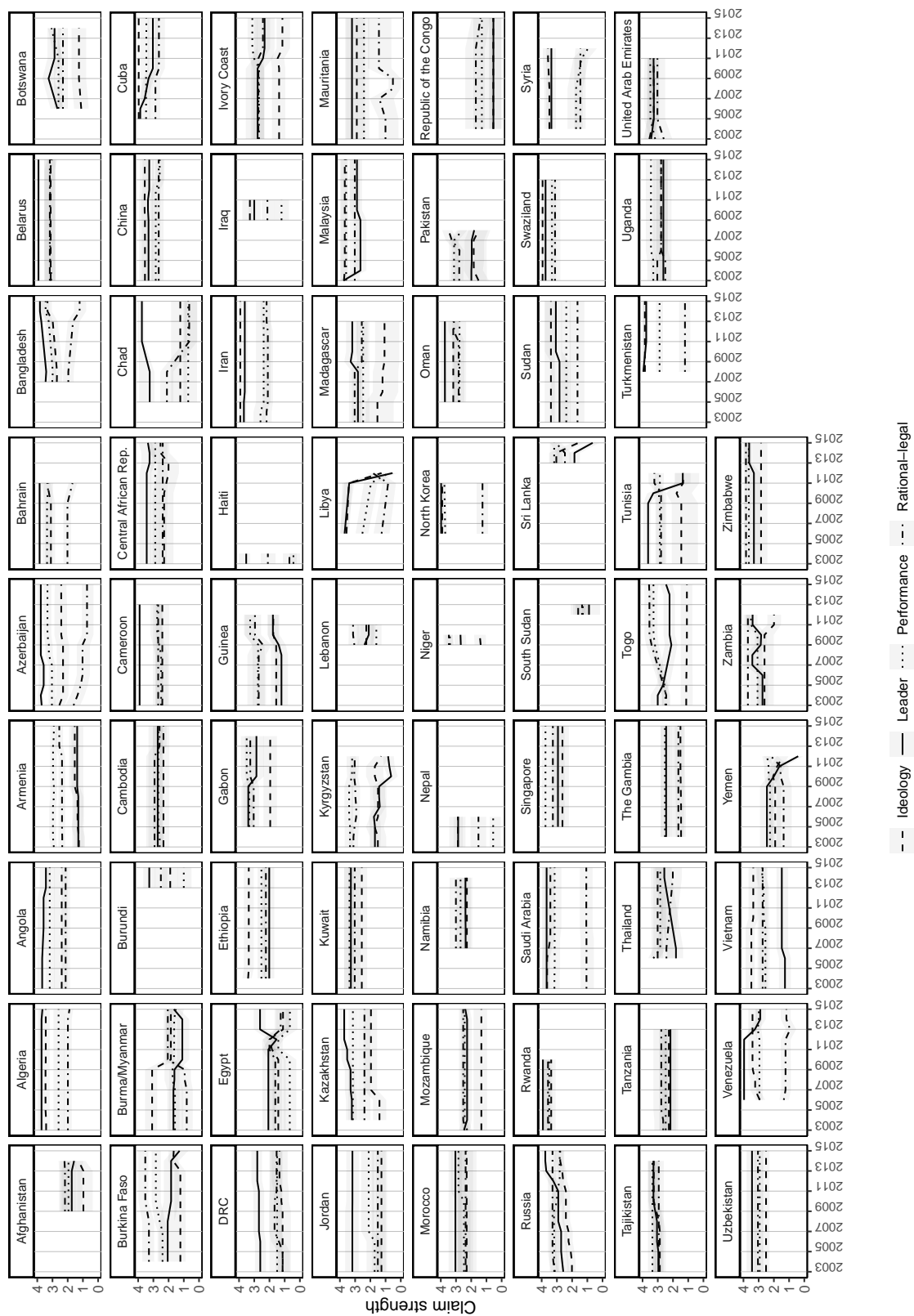


Figure A.1: Temporal variation of claims. Plot includes only those countries that were coded as autocratic and that experienced contention in more than one year. Our sample includes only one country-year for Eritrea, Georgia, Guinea-Bissau, Kenya, Laos, Liberia, and Mali (not plotted).

Table A.3: Summary statistics

	N	Mean	SD	Min	Max
Repression	16357	0.29	0.46	0	1
Issue: Performance	15035	0.19	0.30	0	1
Issue: Rational-legal	15035	0.23	0.30	0	1
Issue: Leader	15035	0.12	0.21	0	0.98
Issue: Regime	15035	0.09	0.19	0	0.99
Issue: Repression	15035	0.11	0.20	0	1
Claim: Performance	16357	0.32	1.12	-2.29	2.50
Claim: Rational-legality	16357	0.42	1.00	-1.96	2.86
Claim: Leader	16357	0.82	1.01	-2.03	3.40
Participant violence	16357	0.25	0.63	0	3
Participants (log)	16357	4.71	2.02	3.22	14.51
Scope	16357	0.22	0.57	0	2
Event history	16357	1.95	3.10	0	21
Repressed protests (country, 7 days)	16357	1.67	3.99	0	41
Repressed protests (country, 21 days)	16357	3.82	7.47	0	67
Repressed protests (location, 7 days)	16357	0.22	0.62	0	6
Repressed protests (location, 21 days)	16357	0.52	1.21	0	14
Unrepressed protests (country, 7 days)	16357	4.42	9.29	0	96
Unrepressed protests (country, 21 days)	16357	10.46	17.94	0	187
Unrepressed protests (location, 7 days)	16357	0.61	1.15	0	8
Unrepressed protests (location, 21 days)	16357	1.43	2.47	0	19
GDP p.c. (log)	15818	7.83	1.22	4.92	10.96
Population (log)	16357	17.58	1.49	13.57	21.04
Electoral democracy index	16357	0.28	0.11	0.02	0.76
Respect for human rights	16357	-1.26	0.85	-3.19	1.93
Military power base	16357	0.20	0.23	0	1
Party power base	16357	0.14	0.22	0	1
Armed conflict	16357	0.48	0.50	0	1
Personalist power concentration	7654	0.40	0.22	0	1

Table A.4: Models with country-level controls

	(5)	(6)	(7)
Issue: Performance	-0.005 (0.10)	-0.09 (0.14)	-0.16 (0.13)
Issue: Rational-legal	0.13 (0.10)	0.35* (0.15)	0.15 (0.14)
Issue: Leader	0.16 (0.14)	0.28 (0.19)	0.46 (0.29)
Claim: Performance	-0.12 (0.10)	0.41 (0.23)	0.36 (0.23)
Claim: Rational-legal	-0.36** (0.10)	-0.19 (0.17)	-0.27 (0.17)
Claim: Leader	0.15 (0.06)	0.20 (0.18)	0.25 (0.18)
Performance: Issue x Claim	-0.06 (0.06)	-0.11 (0.08)	
Rational-legal: Issue x Claim	-0.09 (0.06)	-0.34*** (0.09)	
Leader: Issue x Claim	0.24* (0.09)	0.32* (0.14)	
Personalist power concentration		0.08 (0.28)	0.14 (0.28)
Issue: Leader x Personalist power conc.			-0.10 (0.51)
Issue: Regime	0.57** (0.12)	0.71*** (0.15)	0.64*** (0.15)
Issue: Repression	-0.03 (0.12)	-0.04 (0.17)	-0.06 (0.17)
Property damage by participants	1.59*** (0.04)	1.43*** (0.06)	1.44*** (0.06)
People injured by participants	1.90*** (0.05)	1.78*** (0.08)	1.77*** (0.08)
People killed by participants	1.65*** (0.08)	1.46*** (0.13)	1.47*** (0.13)
Participants (log)	-0.11*** (0.01)	-0.11*** (0.01)	-0.11*** (0.01)
Scope: regional/ state	0.02 (0.07)	0.08 (0.09)	0.08 (0.09)
Scope: local	0.03 (0.06)	0.06 (0.08)	0.05 (0.08)
Event history	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
GDP p.c. (log)	-0.11 (0.10)	0.01 (0.17)	-0.01 (0.17)
Population (log)	0.48 (0.54)	-1.07 (1.21)	-1.14 (1.21)
Electoral democracy index	0.33 (0.40)	-0.53 (1.30)	-0.47 (1.29)
Respect for human rights	0.30** (0.08)	0.24 (0.16)	0.26 (0.16)
Military power base	-0.69* (0.21)	-0.42 (0.50)	-0.37 (0.50)
Party power base	1.63 (0.51)	0.46 (1.06)	0.52 (1.06)
Armed conflict	0.16 (0.07)	-0.30** (0.11)	-0.26* (0.11)
Country FEs	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes
N	14,742	7,316	7,316

*p < .05; **p < .01; ***p < .001

Conditional logistic regressions. Unit of analysis: Protest events.

Robust standard errors clustered at country-level.

Table A.5: Interactions with strongest legitimacy claim

	(8)	(9)	(10)	(11)
Issue: Performance	-0.17 (0.06)			-0.08 (0.10)
Issue: Rational-legal		0.11 (0.07)		0.16 (0.10)
Issue: Leader			0.06 (0.13)	0.02 (0.16)
Claim (max.): Performance	0.05 (0.12)			-0.93*** (0.25)
Claim (max.): Rational-legal		-0.33** (0.09)		-1.07*** (0.23)
Claim (max.): Leader			0.20 (0.10)	-0.73** (0.22)
Performance: Issue x Claim (max.)	0.30 (0.18)			0.31 (0.18)
Rational-legal: Issue x Claim (max.)		-0.24 (0.13)		-0.32 (0.14)
Leader: Issue x Claim (max.)			0.48 (0.18)	0.61* (0.18)
Issue: Regime	0.47** (0.09)	0.54** (0.09)	0.54** (0.09)	0.56** (0.12)
Issue: Repression	-0.17 (0.09)	-0.10 (0.09)	-0.05 (0.09)	-0.05 (0.12)
Property damage by participants	1.59*** (0.04)	1.59*** (0.04)	1.59*** (0.04)	1.59*** (0.04)
People injured by participants	1.90*** (0.05)	1.90*** (0.05)	1.90*** (0.05)	1.91*** (0.05)
People killed by participants	1.67*** (0.08)	1.68*** (0.08)	1.66*** (0.08)	1.66*** (0.08)
Participants (log)	-0.11*** (0.01)	-0.11*** (0.01)	-0.11*** (0.01)	-0.11*** (0.01)
Scope: regional/ state	0.03 (0.07)	0.02 (0.07)	0.01 (0.07)	0.02 (0.07)
Scope: local	0.03 (0.06)	0.01 (0.06)	0.01 (0.06)	0.03 (0.06)
Event history	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
GDP p.c. (log)	-0.05 (0.10)	0.02 (0.10)	-0.04 (0.10)	0.08 (0.11)
Population (log)	0.25 (0.51)	0.51 (0.51)	0.38 (0.52)	0.55 (0.52)
Electoral democracy index	-0.25 (0.38)	0.16 (0.39)	-0.12 (0.39)	0.47 (0.40)
Respect for human rights	0.23* (0.07)	0.19 (0.08)	0.23* (0.08)	0.19 (0.08)
Military power base	-0.60* (0.20)	-0.68** (0.20)	-0.78* (0.21)	-1.03*** (0.22)
Party power base	0.91 (0.50)	1.20 (0.50)	1.22 (0.50)	1.53 (0.51)
Armed conflict	0.19 (0.07)	0.19 (0.07)	0.17 (0.07)	0.15 (0.07)
Country FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
N	14,742	14,742	14,742	14,742

*p < .05; **p < .01; ***p < .001

Conditional logistic regressions. Unit of analysis: Protest events.

Robust standard errors clustered at country-level.

'Claim: Ideology (max.)' as reference category in Model 11.

Table A.6: Interactions with strongest protest issue

	(12)	(13)	(14)	(15)
Issue (max.): Performance	-0.09 (0.05)			-0.002 (0.06)
Issue (max.): Rational-legal		0.06 (0.04)		0.11 (0.06)
Issue (max.): Leader			0.11 (0.06)	0.15 (0.07)
Claim: Performance	-0.14 (0.09)			-0.12 (0.10)
Claim: Rational-legal		-0.47*** (0.09)		-0.37** (0.10)
Claim: Leader			0.25 (0.06)	0.17 (0.06)
Performance: Issue (max.) x Claim	-0.01 (0.04)			-0.02 (0.04)
Rational-legal: Issue (max.) x Claim		-0.02 (0.04)		-0.05 (0.04)
Leader: Issue (max.) x Claim			0.07 (0.05)	0.07 (0.05)
Issue (max.): Regime	0.26** (0.05)	0.32** (0.05)	0.31*** (0.05)	0.36*** (0.07)
Property damage by participants	1.59*** (0.04)	1.59*** (0.04)	1.58*** (0.04)	1.59*** (0.04)
People injured by participants	1.89*** (0.05)	1.90*** (0.05)	1.89*** (0.05)	1.90*** (0.05)
People killed by participants	1.66*** (0.08)	1.66*** (0.08)	1.66*** (0.08)	1.65*** (0.08)
Participants (log)	-0.11*** (0.01)	-0.11*** (0.01)	-0.11*** (0.01)	-0.11*** (0.01)
Scope: regional/ state	0.02 (0.07)	0.01 (0.07)	-0.01 (0.07)	0.02 (0.07)
Scope: local	0.02 (0.06)	0.001 (0.06)	-0.01 (0.06)	0.02 (0.06)
Event history	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
GDP p.c. (log)	-0.07 (0.10)	-0.15 (0.10)	-0.03 (0.10)	-0.11 (0.10)
Population (log)	0.43 (0.53)	0.14 (0.51)	0.44 (0.51)	0.48 (0.54)
Electoral democracy index	-0.20 (0.38)	0.24 (0.39)	0.03 (0.39)	0.39 (0.40)
Respect for human rights	0.24* (0.08)	0.30** (0.08)	0.21* (0.07)	0.30** (0.08)
Military power base	-0.57* (0.21)	-0.72** (0.20)	-0.68* (0.20)	-0.70** (0.21)
Party power base	0.96 (0.50)	1.28 (0.50)	1.38 (0.49)	1.64 (0.51)
Armed conflict	0.20 (0.07)	0.18 (0.07)	0.17 (0.07)	0.16 (0.07)
Country FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
N	14,742	14,742	14,742	14,742

*p < .05; **p < .01; ***p < .001

Conditional logistic regressions. Unit of analysis: Protest events.

Robust standard errors clustered at country-level.

Issue (max.): Repression as reference category.

Table A.7: Models controlling for repression history

	(16)	(17)	(18)	(19)
Issue: Performance	-0.01 (0.10)	-0.02 (0.10)	0.01 (0.10)	-0.003 (0.10)
Issue: Rational-legal	0.10 (0.10)	0.09 (0.10)	0.13 (0.10)	0.11 (0.10)
Issue: Leader	0.10 (0.13)	0.08 (0.13)	0.09 (0.13)	0.06 (0.13)
Issue: Regime	0.59** (0.12)	0.59** (0.12)	0.55** (0.12)	0.53** (0.12)
Issue: Repression	-0.04 (0.12)	-0.04 (0.12)	-0.05 (0.12)	-0.04 (0.12)
Claim: Performance	-0.01 (0.09)	-0.003 (0.09)	-0.002 (0.09)	0.01 (0.09)
Claim: Rational-legal	-0.13 (0.08)	-0.13 (0.08)	-0.10 (0.08)	-0.09 (0.08)
Claim: Leader	0.15 (0.06)	0.15 (0.06)	0.15 (0.06)	0.15 (0.06)
Performance: Issue x Claim	-0.07 (0.06)	-0.06 (0.06)	-0.10 (0.06)	-0.11 (0.06)
Rational-legal: Issue x Claim	-0.07 (0.06)	-0.05 (0.06)	-0.10 (0.06)	-0.10 (0.06)
Leader: Issue x Claim	0.26* (0.09)	0.27* (0.09)	0.27** (0.09)	0.28** (0.09)
Repressed protests (country, 7 days)	0.05*** (0.01)			
Unrepressed protest (country, 7 days)	-0.03*** (0.003)			
Repressed protests (country, 21 days)		0.03** (0.003)		
Unrepressed protest (country, 21 days)		-0.02*** (0.002)		
Repressed protests (location, 7 days)			0.24*** (0.02)	
Unrepressed protest (location, 7 days)			-0.13*** (0.02)	
Repressed protests (location, 21 days)				0.12*** (0.02)
Unrepressed protest (location, 21 days)				-0.07*** (0.01)
Property damage by participants	1.56*** (0.04)	1.57*** (0.04)	1.54*** (0.04)	1.55*** (0.04)
People injured by participants	1.87*** (0.05)	1.88*** (0.05)	1.86*** (0.05)	1.87*** (0.05)
People killed by participants	1.58*** (0.08)	1.58*** (0.08)	1.60*** (0.08)	1.60*** (0.08)
Participants (log)	-0.10*** (0.01)	-0.10*** (0.01)	-0.10*** (0.01)	-0.10*** (0.01)
Scope: regional/ state	-0.01 (0.07)	-0.01 (0.07)	0.001 (0.07)	-0.01 (0.07)
Scope: local	0.03 (0.06)	0.02 (0.06)	0.04 (0.06)	0.03 (0.06)
Country FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
N	15,035	15,035	15,035	15,035

*p < .05; **p < .01; ***p < .001

Conditional logistic regressions with country- and year-fixed effects.

Unit of analysis: All anti-government protest events in MMAD.

Robust standard errors clustered at country-level.

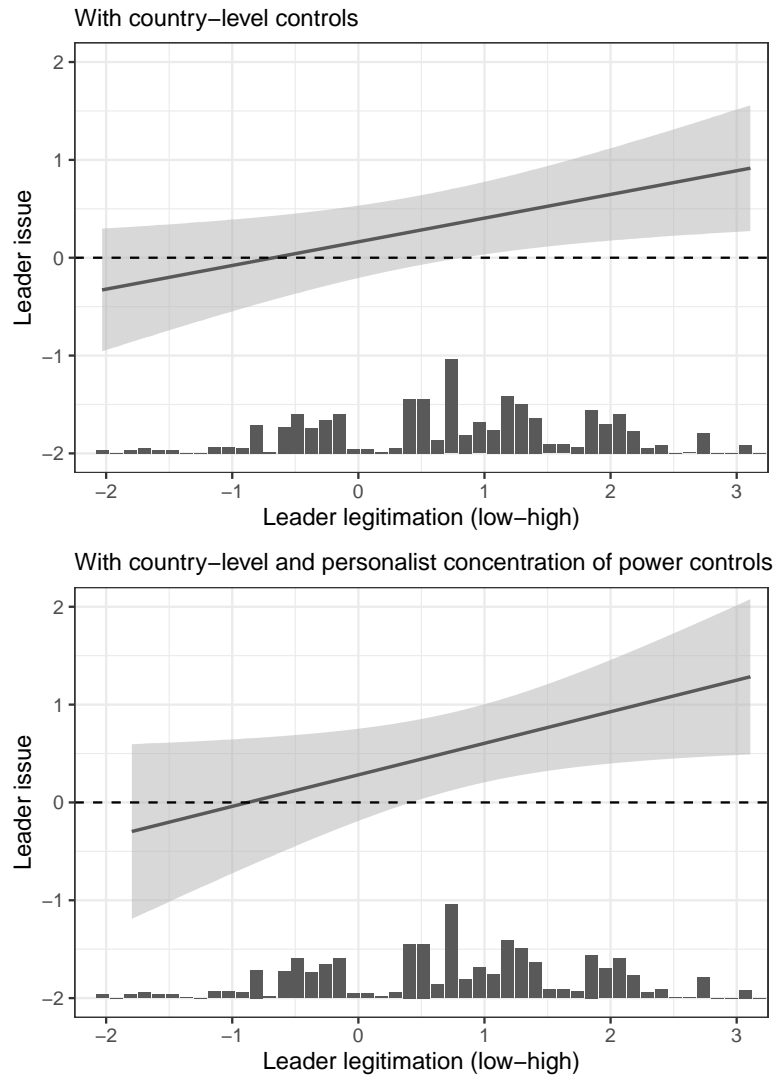


Figure A.2: Marginal effect of leader issue conditional on leader legitimacy. Plots based on Models 5 and 6.

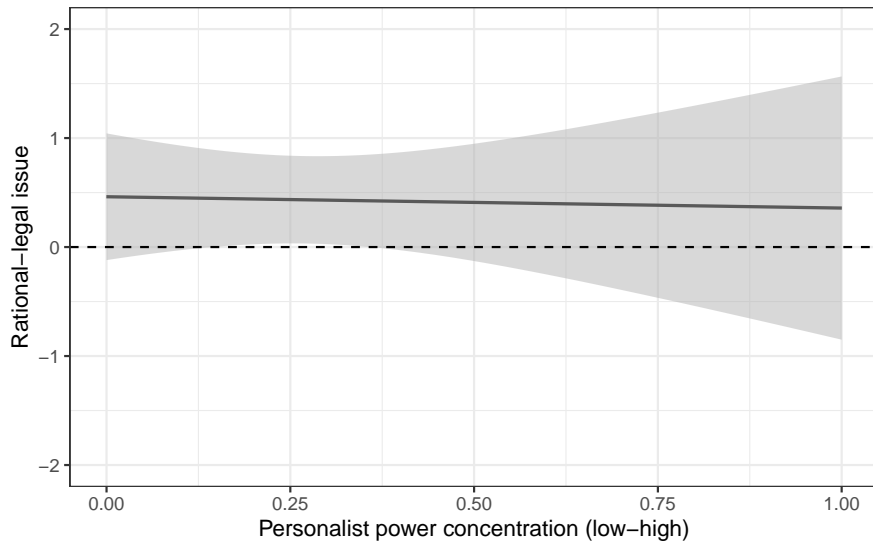


Figure A.3: Marginal effect of leader issue conditional on personalist power concentration. Plot based on Model 7.

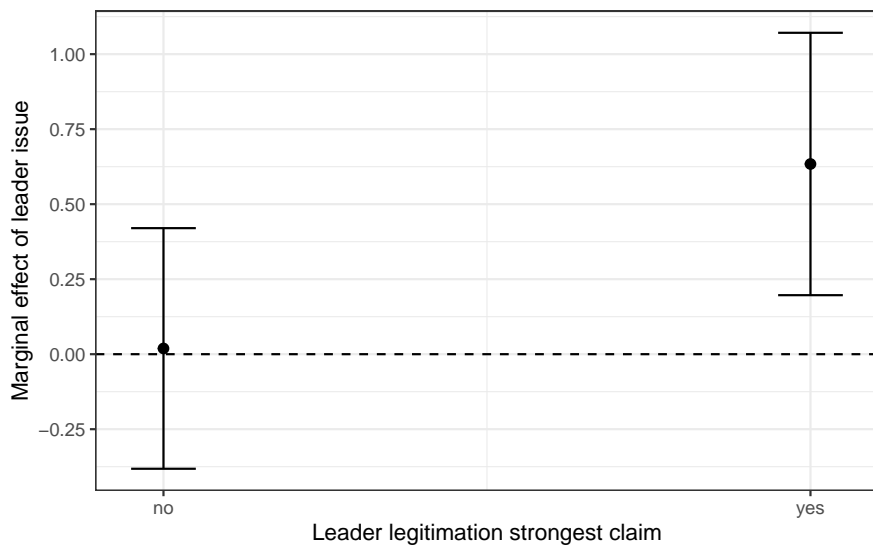


Figure A.4: Marginal effect of protest issues (continuous) conditional on strongest legitimacy claim (binary). Plot based on Model 11.

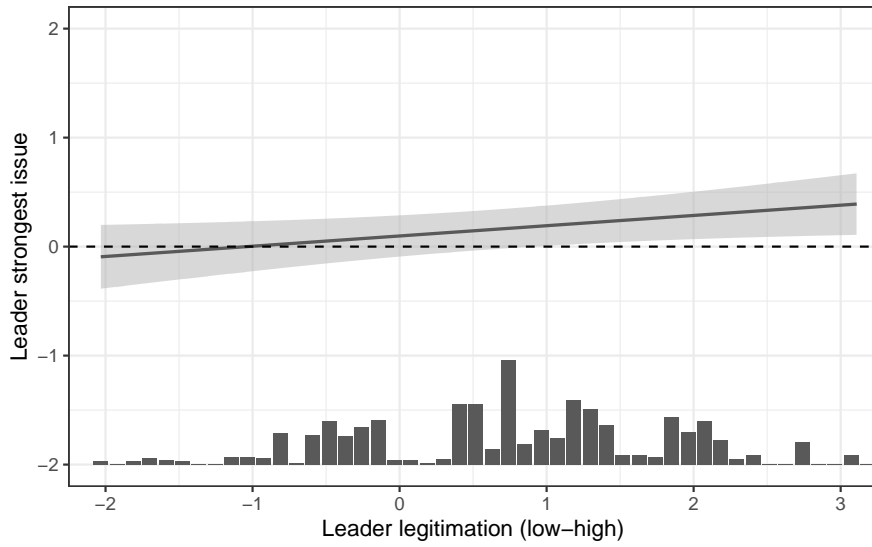


Figure A.5: Marginal effect of strongest protest issue (binary) conditional on legitimacy claim (continuous). Plot based on Model 15. To determine whether leader issues are the most prevalent in a given protest event, we compare the strength of the leader issue to all other issues and topics.

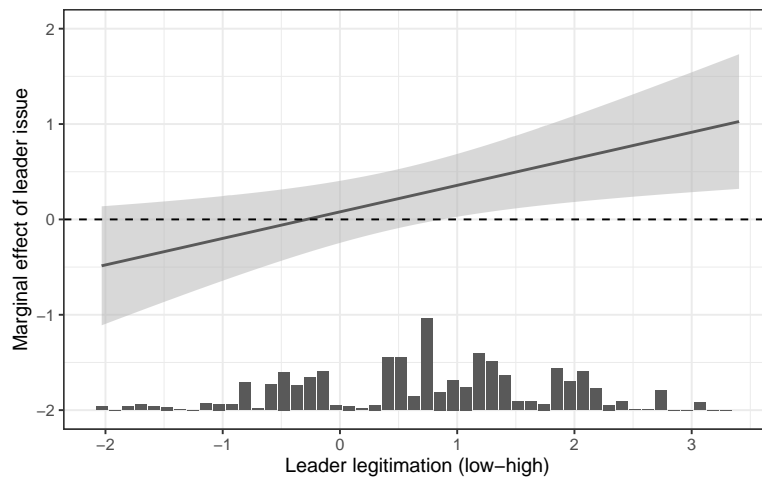


Figure A.6: Marginal effect of leader issue conditional on leader legitimacy controlling for number of repressed protests in the country in preceding 7 days. Plot based on Models 16.

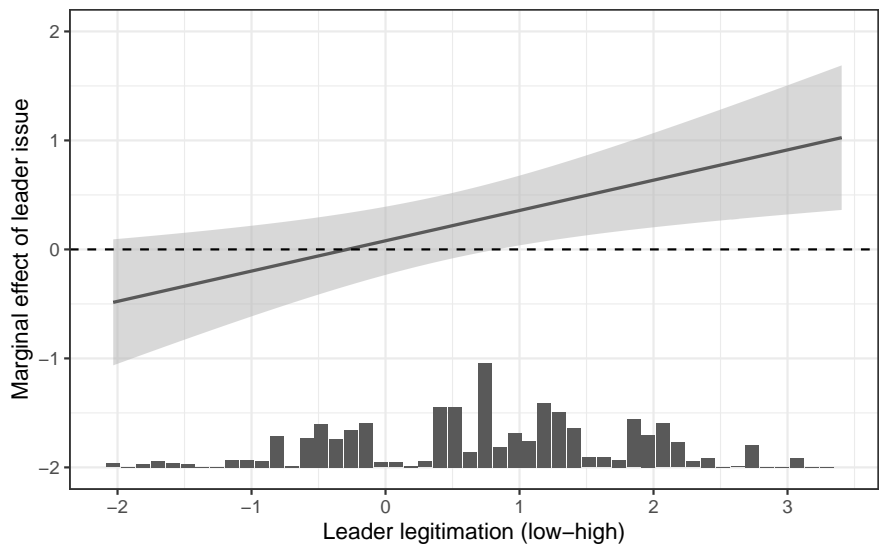


Figure A.7: Marginal effect of leader issue conditional on leader legitimacy controlling for number of repressed protests in the location in preceding 7 day. Plot based on Model 18.

Simultaneous equation models. Due to our binary dependent variable, we run two-stage probit least square models. We do this using the CDSIMEQ command in Stata (Keshk, 2003). For our subsampling strategy, we rely on the ordinal-scaled V-Dem variable. This allows us to split the sample in a meaningful way. We assign 1 (strong claim) if legitimacy claims rest “[t]o a large extent but not exclusively” or “almost exclusively” on the leader (otherwise 0) (Coppedge et al., 2020, p. 209). We then run separate SEMs for each sample.

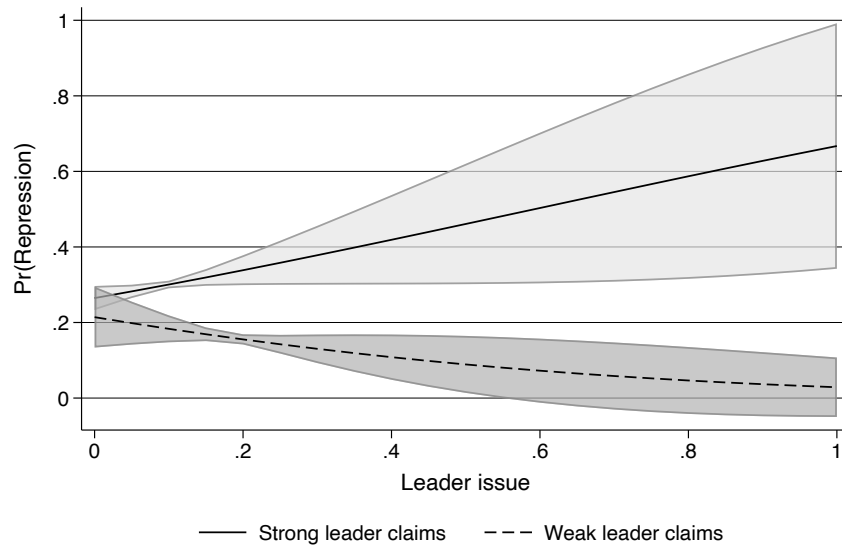


Figure A.8: Effect of leader issue on repression in countries with strong and weak leader claims. All other variables kept at their means. Plot based on Model 20 and 21.

Table A.8: Simultaneous equation models (Two-stage probit least squares)

	(20)		(21)	
	Sample: Strong leader claim		Sample: Weak leader claim	
	Issue: Leader	Repression	Issue: Leader	Repression
Issue: Leader (instr.)		1.00*		-1.10
		(0.50)		(0.74)
Repression (instr.)	-0.01***		-0.01*	
	(0.001)		(0.01)	
Repressed protests	0.00***		0.00***	
	(0.00)		(0.00)	
Unrepressed protests	-0.00		0.00***	
	(0.00)		(0.00)	
Armed conflict	-0.00		0.08***	
	(0.00)		(0.01)	
Electoral democracy index	-0.16***		-0.12***	
	(0.01)		(0.04)	
Respect for human rights	-0.01***		0.00	
	(0.00)		(0.01)	
Military power base	0.38***		0.22***	
	(0.01)		(0.02)	
Party power base	-0.01*		-0.18***	
	(0.01)		(0.05)	
GDP p.c. (log)	0.01***	-0.24***	-0.02***	-0.12**
	(0.00)	(0.02)	(0.01)	(0.04)
Population (log)	-0.01***	0.02*	0.01	0.05
	(0.00)	(0.01)	(0.00)	(0.03)
Issue: Performance		0.15		-0.80
		(0.24)		(0.52)
Issue: Rational-legal		0.41*		-0.82
		(0.24)		(0.51)
Issue: Regime		0.68***		0.18
		(0.25)		(0.54)
Issue: Repression		0.24		-1.51**
		(0.27)		(0.53)
Claim: Performance		0.12***		0.15**
		(0.02)		(0.05)
Claim: Rational-legal		0.02		-0.33***
		(0.02)		(0.05)
Claim: Leader		0.14***		0.20**
		(0.03)		(0.08)
Property damage by participants		1.51***		1.41***
		(0.05)		(0.08)
People injured by participants		1.96***		1.91***
		(0.08)		(0.13)
People killed by participants		1.38***		1.87***
		(0.11)		(0.16)
Participants (log)		-0.09***		-0.07***
		(0.01)		(0.01)
Scope: regional/state		-0.03		0.14
		(0.06)		(0.12)
Scope: local		0.00		0.20
		(0.06)		(0.12)
Country FEs	No	No	No	No
Year FEs	Yes	Yes	Yes	Yes
N		10,479		4,263

*p < .05; **p < .01; ***p < .001

Second stage results for leader issue and repression.

Table A.9: Protest events and issues

	Yearly number of events (22)	Issue: Performance (23)	Issue: Leader (24)	Issue: Rational-legal (25)
Claim: Leader	-0.06 (0.19)	-0.04*** (0.01)	0.01 (0.005)	0.02* (0.01)
Claim: Performance	-0.36 (0.19)	0.07*** (0.01)	0.02 (0.01)	-0.08*** (0.01)
Claim: Rational-legal	0.26 (0.31)	-0.06*** (0.01)	-0.05*** (0.01)	0.07*** (0.01)
GDP p.c. (log)	-0.64 (0.32)	-0.07*** (0.02)	-0.05*** (0.01)	0.10*** (0.02)
Population (log)	0.99 (1.49)	-0.05 (0.08)	0.31*** (0.05)	-0.15 (0.08)
Electoral democracy index	1.08 (1.57)	0.22*** (0.05)	-0.25*** (0.04)	-0.23*** (0.05)
Respect for human rights	-0.68* (0.32)	0.02 (0.01)	-0.10*** (0.01)	0.07*** (0.01)
Constant	-9.72 (24.2)	1.30 (1.37)	-4.61*** (0.85)	2.28 (1.35)
Country FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
N	601	14,742	14,742	14,742

*p < .05; **p < .01; ***p < .001

Model 22: Poisson regression. DV: Yearly number of protest events.

Unit of observation: Country-year.

Models 23-25: OLS regressions. DVs: Issue strengths.

Unit of analysis: Protest events. Robust standard errors clustered by country.

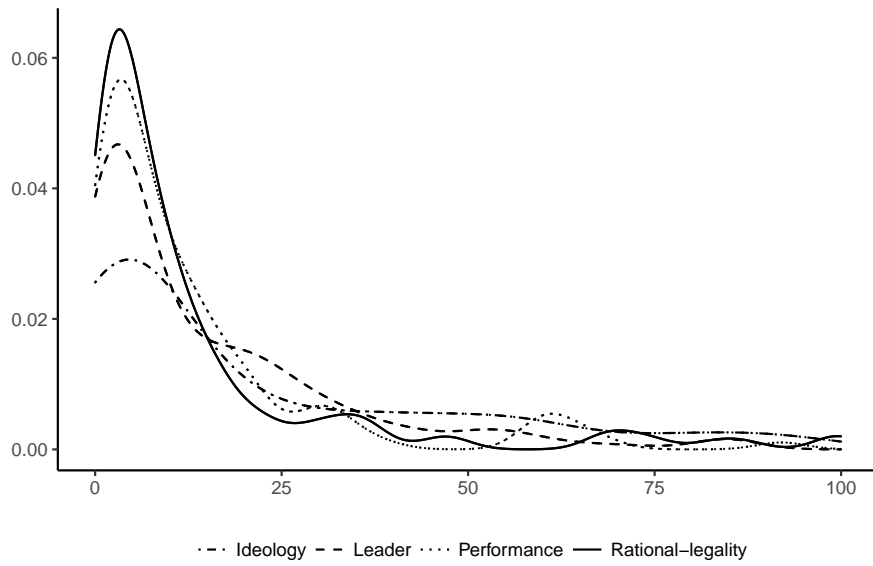


Figure A.9: Density of event counts per country-year by strongest legitimacy claim

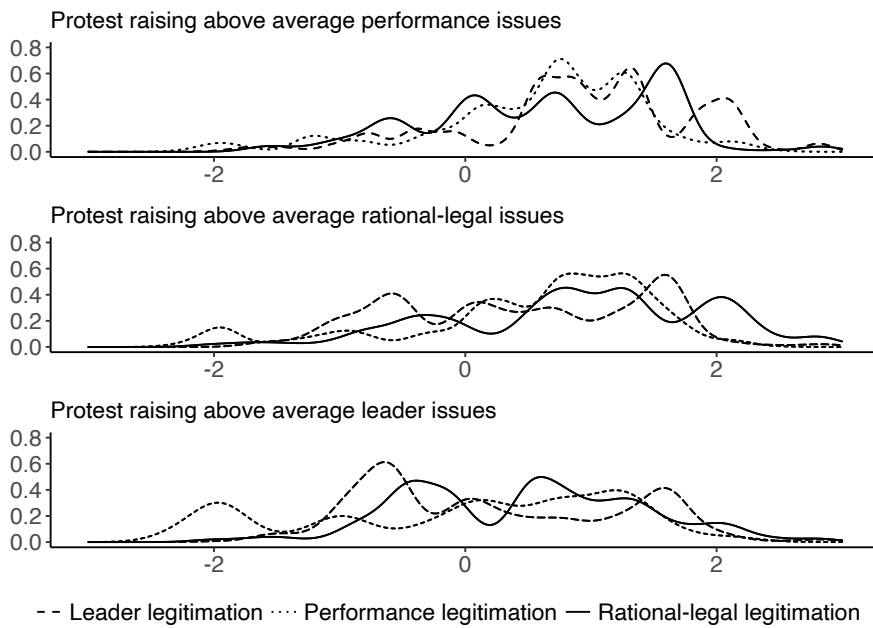


Figure A.10: Density of event counts with above average issue strength by legitimacy claim

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