Appendix for:

One for All?

State Violence and Insurgent Cohesion

This appendix provides additional information and robustness tests of the results presented in the main paper.

Cross-sectional Analysis

Table 5 shows the proportion of dyads affected by state-led campaigns of collective violence during at least one year of the conflict; this applies to 51% of cases in this dataset. Examples include multiple dyads in Burma, Sri Lanka, and Sudan.

Table 5: State-led Collective Violence

Dyad affected?	Freq.	Percent
No	187	48.95
Yes	195	51.05
Total	382	100.00

Table 6: Insurgent Fragmentation

Fragmentation	Freq.	Percent
No	330	86.39
Yes	52	13.61
Total	382	100.00

Table 7: Summary statistics

Variable	Mean	Std. Dev.	Min.	Max.	N
Insurgent Fragmentation	0.14	0.34	0	1	382
State-led Coll. Targeting	0.51	0.50	0	1	382
Prior Fragmentation	0.05	0.22	0	1	382
Irregular War	0.75	0.44	0	1	381
Ext. Rebel Support	0.53	0.50	0	1	354
Recr. from Excl. Groups	0.69	0.46	0	1	303
Previously Active	0.20	0.40	0	1	375
Fighting Capacity	0.32	0.47	0	1	360
Territorial Control	0.37	0.48	0	1	367
Neopatrimonial Rule	0.33	0.24	0.01	0.94	380
Dyads at Conflict Onset	1.66	1.05	1	8	382
Excl. Population	0.25	0.23	0	0.97	380
Fighting Intensity	1.18	0.38	1	2	382

Table 6 shows the distribution of the outcome variable, the occurrence of insurgent fragmentation. It refers here to the period after the onset of state-led mass killings or, in the absence of such violence, the period that follows the first five years of the conflict. As outlined in the main text, about 14% of all insurgent organizations in the dataset underwent major splits after the initial conflict period or the onset of state-led mass killings. Of all armed groups affected by state-led collective targeting, 22% experienced splintering as opposed to 5% of those non-affected. The proportion of splinters changes to 16% overall and 9% among unaffected groups with the alternative definition of the initial conflict period (two instead of five years following conflict onset) and to 16% overall and 11% among unaffected groups without taking initial fragmentation into account (see replication code).

Table 7 shows the summary statistics for all variables. Due to missing values on some variables, the models with entropy balancing and/or covariate inclusion contain fewer observations.

Table 8 describes the data before and after entropy balancing in terms of mean, variance, and skewness. Entropy weighing clearly improves balance between treated and control units.

Table 8: Entropy Balancing: State-led Collective Targeting (0/1)

	No Weighting					
	Treated			Control		
Variable	Mean	Variance	Skewness	Mean	Variance	Skewness
Prior Frag.	.01961	.01935	6.93	.09009	.08272	2.863
Irregular War	.8235	.1463	-1.697	.6757	.2211	-.7506
Ext. Reb. Support	.5752	.246	-.3041	.5225	.2518	-.09018
Recr. Excl.Groups	.7582	.1846	-1.206	.6126	.2395	-.4623
Prev. Active	.2222	.174	1.336	.2072	.1658	1.445
Fighting Capacity	.281	.2034	.9742	.3514	.23	.6228
Territorial Control	.4379	.2478	.2503	.3153	.2179	.795
Neopatrim.	.2571	.03629	.6945	.4242	.06904	.2957
Dyads 1st Year	1.961	1.748	1.991	1.477	.6154	1.777
Excl. Pop.	.3446	.06438	.8412	.2153	.04036	1.01
Fighting Int.	1.229	.1776	1.292	1.126	.1112	2.252
	With Entropy Weights					
	Treated			Control		
Variable	Mean	Variance	Skewness	Mean	Variance	Skewness
Prior Frag	.01961	.01935	6.93	.01969	.01948	6.914
Irregular War	.8235	.1463	-1.697	.8232	.1468	-1.695
Ext. Reb. Support	.5752	.246	-.3041	.5751	.2466	-.304
Recr. Excl. Groups	.7582	.1846	-1.206	.7576	.1853	-1.202
Prev. Active	.2222	.174	1.336	.2222	.1744	1.337
Fighting Capacity	.281	.2034	.9742	.2811	.2039	.9738
Territorial Control	.4379	.2478	.2503	.4376	.2483	.2515
Neoptatrimon.	.2571	.03629	.6945	.2577	.04809	1.43
Dyads 1st Year	1.961	1.748	1.991	1.96	1.336	1.102
Excl. Pop.	.3446	.06438	.8412	.3441	.04759	.5274
Fighting Int.	1.229	.1776	1.292	1.228	.1779	1.293

Table 9 repeats the analysis presented in table 3 the main paper, but with binary logistic instead of linear regressions. Tables 10 and 11 replicate the same results, but with the alternative *prior insurgent fragmentation* measurement. Tables 12, 13, 14, and 15 present the same four regression results (linear and logistic regressions with original and alternative prior outcome measure) without entropy balancing. In each table, columns I and II present results without covariates, columns III and IV with adjustments for prior fragmentation, and columns V and VI with the full set of covariates. Within each pair of columns, the standard errors are either robust under heteroscedasticity or clustered at the country level.

Finally, tables 16, 17, 18, and 19 present regression results without adjusting for past outcomes and with the most basic version of the dependent variable. The coefficients remain positive, although they lose significance in the models with entropy balancing. While the set of covariates is less complete in this last set of models, this specification does not require a definition of quasi-periods. To further explore the results without such periods, I also explore two different approaches with time-series data, a Cox duration analysis[1] and a propensity score weighting approach for time-series data,[2] discussed below.

[1] Metzger and Jones 2022.
[2] Imai, Kim, and Wang 2018.

Table 9: State Violence and Insurgent Fragmentation (Binary Logistic Regression)

	I	II	III	IV	V	VI
State-led Coll. Targeting	3.330***	3.330***	4.902***	4.902***	4.959***	4.959***
	(0.667)	(0.678)	(0.932)	(0.864)	(0.933)	(0.918)
Prior Fragmentation			5.987***	5.987***	5.980***	5.980***
			(1.238)	(1.503)	(1.209)	(1.395)
Irregular War					0.054	0.054
					(0.466)	(0.465)
Ext. Rebel Support					0.627	0.627
					(0.419)	(0.458)
Recr. from Excl. Groups					-0.060	-0.060
					(0.524)	(0.510)
Previously Active					-0.080	-0.080
					(0.513)	(0.660)
Fighting Capacity					0.584	0.584
					(0.428)	(0.491)
Territorial Control					-0.063	-0.063
					(0.390)	(0.440)
Neopatrimonial Rule					0.166	0.166
					(1.067)	(0.998)
Dyads at Conflict Onset					-0.146	-0.146
					(0.185)	(0.135)
Excl. Population					-0.201	-0.201
					(0.848)	(0.809)
Fighting Intensity					-0.324	-0.324
					(0.518)	(0.543)
Constant	-4.473***	-4.473***	-6.129***	-6.129***	-6.003***	-6.003***
	(0.640)	(0.598)	(0.915)	(0.857)	(1.300)	(1.320)
Log-Likelihood	-94.096	-94.096	-84.867	-84.867	-82.233	-82.233
χ^2	24.92073	24.11991	31.28146	32.74616	39.13699	34.68243
Clusters		71		71		71
N	264	264	264	264	264	264
Entropy Weights	Yes	Yes	Yes	Yes	Yes	Yes

Robust/clustered standard errors in parentheses.
+ p < .10 * p < 0.05 ** p < 0.01 p < *** 0.001.

Table 10: State Violence and Insurgent Fragmentation (OLS)

	I	II	III	IV	V	VI
State-led Coll. Targeting	0.140*	0.140*	0.140*	0.140*	0.140**	0.140**
	(0.063)	(0.066)	(0.062)	(0.068)	(0.053)	(0.051)
Prior Fragmentation (alt.)			0.395	0.395	0.457*	0.457*
			(0.241)	(0.242)	(0.188)	(0.194)
Irregular War					0.009	0.009
					(0.081)	(0.076)
Ext. Rebel Support					0.079	0.079
					(0.049)	(0.054)
Recr. from Excl. Groups					0.010	0.010
					(0.062)	(0.063)
Previously Active					0.165+	0.165
					(0.099)	(0.104)
Fighting Capacity					0.150+	0.150*
					(0.079)	(0.073)
Territorial Control					-0.023	-0.023
					(0.057)	(0.066)
Neopatrimonial Rule					-0.055	-0.055
					(0.117)	(0.103)
Dyads at Conflict Onset					-0.031	-0.031
					(0.020)	(0.022)
Excl. Population					0.073	0.073
					(0.131)	(0.135)
Fighting Intensity					-0.029	-0.029
					(0.075)	(0.076)
Constant	0.102+	0.102*	0.094+	0.094+	0.050	0.050
	(0.052)	(0.049)	(0.052)	(0.051)	(0.132)	(0.143)
R2	0.034	0.034	0.056	0.056	0.142	0.142
Clusters		71		71		71
N	264	264	264	264	264	264
Entropy Weights	Yes	Yes	Yes	Yes	Yes	Yes

Robust/clustered standard errors in parentheses.
+ p < .10 * p < 0.05 ** p < 0.01 p < *** 0.001.

Table 11: State Violence and Insurgent Fragmentation (Binary Logistic Regression)

	I	II	III	IV	V	VI
State-led Coll. Targeting	1.036+	1.036+	1.061+	1.061	1.158*	1.158*
	(0.600)	(0.614)	(0.620)	(0.648)	(0.508)	(0.477)
Prior Fragmentation (alt.)			1.977*	1.977*	2.731**	2.731**
			(0.959)	(0.954)	(0.877)	(0.866)
Irregular War					0.009	0.009
					(0.581)	(0.508)
Ext. Rebel Support					0.641	0.641
					(0.444)	(0.462)
Recr. from Excl. Groups					0.069	0.069
					(0.521)	(0.506)
Previously Active					1.172+	1.172+
					(0.598)	(0.664)
Fighting Capacity					1.165*	1.165*
					(0.525)	(0.585)
Territorial Control					-0.221	-0.221
					(0.484)	(0.485)
Neopatrimonial Rule					-0.037	-0.037
					(0.974)	(0.986)
Dyads at Conflict Onset					-0.315	-0.315
					(0.256)	(0.255)
Excl. Population					0.428	0.428
					(0.865)	(0.926)
Fighting Intensity					-0.266	-0.266
					(0.652)	(0.676)
Constant	-2.178***	-2.178***	-2.253***	-2.253***	-2.661*	-2.661*
	(0.569)	(0.531)	(0.598)	(0.574)	(1.182)	(1.257)
Log-Likelihood	-134.948	-134.948	-132.467	-132.467	-118.687	-118.687
χ^2	2.978617	2.841315	5.851708	5.692514	35.75604	33.12877
Clusters		71		71		71
N	264	264	264	264	264	264
Entropy Weights	Yes	Yes	Yes	Yes	Yes	Yes

Robust/clustered standard errors in parentheses.
+ p < .10 * p < 0.05 ** p < 0.01 p < *** 0.001.

Table 12: State Violence and Insurgent Fragmentation (OLS)

	I	II	III	IV	V	VI
State-led Coll. Targeting	0.172***	0.172***	0.199***	0.199***	0.244***	0.244***
	(0.034)	(0.038)	(0.032)	(0.033)	(0.048)	(0.045)
Prior Fragmentation			0.374***	0.374**	0.391**	0.391**
			(0.107)	(0.137)	(0.120)	(0.130)
Irregular War					0.031	0.031
					(0.052)	(0.051)
Ext. Rebel Support					0.069	0.069
					(0.044)	(0.046)
Recr. from Excl. Groups					0.013	0.013
					(0.050)	(0.051)
Previously Active					-0.012	-0.012
					(0.054)	(0.072)
Fighting Capacity					0.074	0.074
					(0.052)	(0.052)
Territorial Control					0.010	0.010
					(0.050)	(0.056)
Neopatrimonial Rule					0.152	0.152
					(0.100)	(0.100)
Dyads at Conflict Onset					-0.016	-0.016
					(0.020)	(0.012)
Excl. Population					-0.057	-0.057
					(0.111)	(0.109)
Fighting Intensity					-0.034	-0.034
					(0.065)	(0.069)
Constant	0.048**	0.048*	0.016	0.016	-0.053	-0.053
	(0.016)	(0.020)	(0.012)	(0.017)	(0.097)	(0.096)
R2	0.063	0.063	0.118	0.118	0.132	0.132
Clusters		93		93		71
N	382	382	382	382	264	264
Entropy Weights	No	No	No	No	No	No

Robust/clustered standard errors in parentheses.
+ p < .10 * p < 0.05 ** p < 0.01 p < *** 0.001.

Table 13: State Violence and Insurgent Fragmentation (Binary Logistic Regression)

	I	II	III	IV	V	VI
State-led Coll. Targeting	1.722***	1.722***	2.520***	2.520***	2.503***	2.503***
	(0.383)	(0.512)	(0.541)	(0.731)	(0.563)	(0.669)
Prior Fragmentation			3.170***	3.170***	2.902***	2.902***
			(0.650)	(0.860)	(0.664)	(0.783)
Irregular War					0.254	0.254
					(0.441)	(0.449)
Ext. Rebel Support					0.671+	0.671
					(0.384)	(0.415)
Recr. from Excl. Groups					0.105	0.105
					(0.486)	(0.516)
Previously Active					0.009	0.009
					(0.450)	(0.590)
Fighting Capacity					0.529	0.529
					(0.396)	(0.454)
Territorial Control					0.061	0.061
					(0.360)	(0.395)
Neopatrimonial Rule					1.353	1.353
					(0.899)	(0.999)
Dyads at Conflict Onset					-0.102	-0.102
					(0.166)	(0.110)
Excl. Population					-0.499	-0.499
					(0.793)	(0.765)
Fighting Intensity					-0.344	-0.344
					(0.482)	(0.509)
Constant	-2.985***	-2.985***	-3.842***	-3.842***	-4.179***	-4.179***
	(0.342)	(0.447)	(0.521)	(0.715)	(0.879)	(0.957)
Log-Likelihood	-138.958	-138.958	-127.654	-127.654	-100.038	-100.038
χ^2	20.17622	11.31509	27.92758	16.172	38.82858	40.28203
Clusters		93		93		71
N	382	382	382	382	264	264
Entropy Weights	No	No	No	No	No	No

Robust/clustered standard errors in parentheses.
+ p < .10 * p < 0.05 ** p < 0.01 p < *** 0.001.

Table 14: State Violence and Insurgent Fragmentation (OLS)

	I	II	III	IV	V	VI
State-led Coll. Targeting	0.130***	0.130***	0.151***	0.151***	0.158**	0.158**
	(0.036)	(0.036)	(0.034)	(0.036)	(0.056)	(0.058)
Prior Fragmentation (alt.)			0.653***	0.653***	0.604***	0.604***
			(0.121)	(0.119)	(0.146)	(0.151)
Irregular War					0.006	0.006
					(0.060)	(0.056)
Ext. Rebel Support					0.032	0.032
					(0.047)	(0.051)
Recr. from Excl. Groups					0.060	0.060
					(0.052)	(0.051)
Previously Active					0.003	0.003
					(0.060)	(0.072)
Fighting Capacity					0.059	0.059
					(0.056)	(0.054)
Territorial Control					0.010	0.010
					(0.053)	(0.061)
Neopatrimonial Rule					0.051	0.051
					(0.108)	(0.101)
Dyads at Conflict Onset					-0.018	-0.018
					(0.020)	(0.017)
Excl. Population					0.014	0.014
					(0.118)	(0.114)
Fighting Intensity					-0.013	-0.013
					(0.072)	(0.072)
Constant	0.091***	0.091***	0.059**	0.059**	0.016	0.016
	(0.021)	(0.022)	(0.018)	(0.021)	(0.102)	(0.106)
R2	0.032	0.032	0.129	0.129	0.119	0.119
Clusters		93		93		71
N	382	382	382	382	264	264
Entropy Weights	No	No	No	No	No	No

Robust/clustered standard errors in parentheses.
+ p < .10 * p < 0.05 ** p < 0.01 p < *** 0.001.

Table 15: State Violence and Insurgent Fragmentation (Binary Logistic Regression)

	I	II	III	IV	V	VI
State-led Coll. Targeting	1.040***	1.040**	1.422***	1.422***	1.259**	2.018***
	(0.308)	(0.321)	(0.356)	(0.416)	(0.471)	(0.573)
Prior Fragmentation (alt.)			3.586***	3.586***	3.213***	2.383***
			(0.708)	(0.698)	(0.854)	(0.658)
Irregular War					0.083	0.312
					(0.448)	(0.451)
Ext. Rebel Support					0.263	0.645
					(0.370)	(0.407)
Recr. from Excl. Groups					0.488	0.178
					(0.451)	(0.489)
Previously Active					0.038	0.070
					(0.440)	(0.591)
Fighting Capacity					0.413	0.582
					(0.399)	(0.468)
Territorial Control					0.082	0.130
					(0.354)	(0.436)
Neopatrimonial Rule					0.339	1.039
					(0.845)	(0.854)
Dyads at Conflict Onset					-0.135	-0.102
					(0.184)	(0.102)
Excl. Population					0.065	-0.378
					(0.762)	(0.769)
Fighting Intensity					-0.119	-0.320
					(0.505)	(0.500)
Constant	-2.303***	-2.303***	-2.748***	-2.748***	-2.966***	-3.820***
	(0.255)	(0.267)	(0.313)	(0.361)	(0.829)	(0.868)
Log-Likelihood	-159.840	-159.840	-145.582	-145.582	-112.333	-103.290
χ^2	11.40854	10.50062	33.03557	29.9329	30.2128	59.23169
Clusters		93		93		71
N	382	382	382	382	264	264
Entropy Weights	No	No	No	No	No	No

Robust/clustered standard errors in parentheses.
+ p < .10 * p < 0.05 ** p < 0.01 p < *** 0.001.

Table 16: State Violence and Insurgent Fragmentation (OLS)

	I	II	III	IV	V	VI
State-led Coll. Targeting	0.065	0.065	0.065	0.065	0.065	0.065
	(0.081)	(0.076)	(0.081)	(0.076)	(0.068)	(0.060)
Irregular War					-0.086	-0.086
					(0.108)	(0.093)
Ext. Rebel Support					0.117+	0.117+
					(0.060)	(0.063)
Recr. from Excl. Groups					-0.067	-0.067
					(0.080)	(0.071)
Previously Active					0.136	0.136
					(0.101)	(0.109)
Fighting Capacity					0.076	0.076
					(0.093)	(0.099)
Territorial Control					0.059	0.059
					(0.068)	(0.080)
Neopatrimonial Rule					0.208	0.208
					(0.171)	(0.170)
Dyads at Conflict Onset					-0.022	-0.022
					(0.024)	(0.020)
Excl. Population					0.043	0.043
					(0.140)	(0.143)
Fighting Intensity					0.052	0.052
					(0.084)	(0.095)
Constant	0.177*	0.177**	0.177*	0.177**	0.066	0.066
	(0.074)	(0.062)	(0.074)	(0.062)	(0.155)	(0.166)
R2	0.006	0.006	0.006	0.006	0.099	0.099
Clusters		71		71		71
N	264	264	264	264	264	264
Entropy Weights	Yes	Yes	Yes	Yes	Yes	Yes

Robust/clustered standard errors in parentheses.
+ p < .10 * p < 0.05 ** p < 0.01 p < *** 0.001.

Table 17: State Violence and Insurgent Fragmentation (Binary Logistic Regression)

	I	II	III	IV	V	VI
State-led Coll. Targeting	0.395	0.395	0.395	0.395	0.489	0.489
	(0.539)	(0.497)	(0.539)	(0.497)	(0.449)	(0.377)
Irregular War					-0.515	-0.515
					(0.535)	(0.428)
Ext. Rebel Support					0.815+	0.815+
					(0.439)	(0.474)
Recr. from Excl. Groups					-0.486	-0.486
					(0.530)	(0.479)
Previously Active					0.897	0.897
					(0.554)	(0.621)
Fighting Capacity					0.486	0.486
					(0.519)	(0.574)
Territorial Control					0.354	0.354
					(0.433)	(0.500)
Neopatrimonial Rule					1.518	1.518
					(1.042)	(1.107)
Dyads at Conflict Onset					-0.144	-0.144
					(0.162)	(0.131)
Excl. Population					0.220	0.220
					(0.852)	(0.894)
Fighting Intensity					0.251	0.251
					(0.511)	(0.576)
Constant	-1.538**	-1.538***	-1.538**	-1.538***	-2.427**	-2.427*
	(0.505)	(0.428)	(0.505)	(0.428)	(0.941)	(1.040)
Log-Likelihood	-156.034	-156.034	-156.034	-156.034	-141.341	-141.341
χ^2	.5361375	.6315192	.5361375	.6315192	15.90793	16.43867
Clusters		71		71		71
N	264	264	264	264	264	264
Entropy Weights	Yes	Yes	Yes	Yes	Yes	Yes

Robust/clustered standard errors in parentheses.
+ p < .10 * p < 0.05 ** p < 0.01 p < *** 0.001.

Table 18: State Violence and Insurgent Fragmentation (OLS)

	I	II	III	IV	V	VI
State-led Coll. Targeting	0.114**	0.114**	0.114**	0.114**	0.109+	0.109+
	(0.037)	(0.036)	(0.037)	(0.036)	(0.060)	(0.062)
Irregular War					0.025	0.025
					(0.063)	(0.056)
Ext. Rebel Support					0.046	0.046
					(0.050)	(0.057)
Recr. from Excl. Groups					0.062	0.062
					(0.055)	(0.053)
Previously Active					-0.034	-0.034
					(0.061)	(0.074)
Fighting Capacity					0.024	0.024
					(0.061)	(0.057)
Territorial Control					0.040	0.040
					(0.058)	(0.066)
Neopatrimonial Rule					0.046	0.046
					(0.112)	(0.100)
Dyads at Conflict Onset					-0.017	-0.017
					(0.021)	(0.013)
Excl. Population					0.018	0.018
					(0.123)	(0.117)
Fighting Intensity					0.027	0.027
					(0.075)	(0.085)
Constant	0.107***	0.107***	0.107***	0.107***	0.005	0.005
	(0.023)	(0.022)	(0.023)	(0.022)	(0.111)	(0.122)
R2	0.023	0.023	0.023	0.023	0.043	0.043
Clusters		93		93		71
N	382	382	382	382	264	264
Entropy Weights	No	No	No	No	No	No

Robust/clustered standard errors in parentheses.
+ p < .10 * p < 0.05 ** p < 0.01 p < *** 0.001.

Table 19: State Violence and Insurgent Fragmentation (Binary Logistic Regression)

	I	II	III	IV	V	VI
State-led Coll. Targeting	0.860**	0.860**	0.860**	0.860**	0.739+	0.739+
	(0.293)	(0.289)	(0.293)	(0.289)	(0.418)	(0.423)
Irregular War					0.185	0.185
					(0.431)	(0.376)
Ext. Rebel Support					0.318	0.318
					(0.348)	(0.395)
Recr. from Excl. Groups					0.460	0.460
					(0.417)	(0.415)
Previously Active					-0.227	-0.227
					(0.422)	(0.505)
Fighting Capacity					0.144	0.144
					(0.388)	(0.370)
Territorial Control					0.257	0.257
					(0.350)	(0.400)
Neopatrimonial Rule					0.266	0.266
					(0.749)	(0.656)
Dyads at Conflict Onset					-0.108	-0.108
					(0.158)	(0.095)
Excl. Population					0.116	0.116
					(0.725)	(0.686)
Fighting Intensity					0.140	0.140
					(0.446)	(0.498)
Constant	-2.122***	-2.122***	-2.122***	-2.122***	-2.781***	-2.781***
	(0.237)	(0.230)	(0.237)	(0.230)	(0.763)	(0.828)
Log-Likelihood	-166.471	-166.471	-166.471	-166.471	-123.701	-123.701
χ^2	8.586828	8.860327	8.586828	8.860327	13.28136	19.63209
Clusters		93		93		71
N	382	382	382	382	264	264
Entropy Weights	No	No	No	No	No	No
Robust/clustered standard errors in parentheses.						
+ p < .10 * p < 0.05 ** p < 0.01 p < *** 0.001.						

TSCS Analysis

Cox Proportional Hazards Approach

This section shows additional results for the Cox proportional hazards approach. Information on several covariates is missing for years in which conflicts are inactive (in terms of not reaching conventional battle-related death thresholds), which reduces the number of observations in the models with covariates. The fighting intensity variable, which equals one here if a conflict is active and zero otherwise, is omitted from the main analysis (table 4) due to the lack of variation within risk sets. Table 20 replicates the results shown in the main paper with this variable added. Tables 21 and 22 present results for models with the state violence variable only including the first episode of state violence in cases of exposure to more than one episode (with the Efron and Breslow method respectively), to match the focus on first episodes in the cross-sectional approach. The substantive results remain unchanged.

Propensity Score Weighting for TSCS Data

This section reports the results of the time-series cross-section approach proposed by Imai, Kim and Wang (2018).[3] Here, only units with an identical treatment history over the exact same time period are taken into account. For each "treated" unit, a set of control units with an identical treatment history up to the year before the treatment is selected first. Second, a matching or weighting technique is employed on pre-treatment covariates to maximize the observable comparability of treated and untreated units. Finally, the average treatment effect on the treated (ATT) is calculated, based on an estimator that Imai, Kim and Wang (2018) show to be equivalent to a weighted linear two-way fixed effects regression approach. I use propensity score weighting as a refinement method to take into account the covariate history of treatment and control units. This method performs comparatively well in terms of balancing. Moreover, unlike with matching approaches, it is not necessary to specify the maximum size of matched sets after refinement, a choice that can affect the results.

[3]These results are generated with the R package PanelMatch (Imai, Kim, and Wang 2018).

Table 20: State Violence and Insurgent Fragmentation (Cox Proportional Hazards)

	I	II	III	IV	V	VI
State-led Coll. Targeting	0.517*	0.520+	1.371*	1.447*	1.422+	1.505+
	(0.263)	(0.266)	(0.693)	(0.733)	(0.734)	(0.780)
Fighting Intensity	-0.272	-0.274	35.110	36.059	34.768	36.418
	(0.280)	(0.283)	(.)	(.)	(.)	(.)
Irregular War			0.833	0.824	0.794	0.796
			(0.565)	(0.587)	(0.580)	(0.602)
Ext. Rebel Support			0.396	0.395	0.421	0.419
			(0.591)	(0.614)	(0.641)	(0.671)
Recr. from Excl. Groups			0.750	0.811	0.895	0.961
			(0.745)	(0.778)	(0.892)	(0.942)
Previously Active			-1.204*	-1.188+	-1.440*	-1.424*
			(0.592)	(0.631)	(0.572)	(0.622)
Fighting Capacity			0.292	0.340	0.130	0.175
			(0.479)	(0.509)	(0.502)	(0.530)
Neopatrimonial Rule			1.788	1.864	2.188+	2.275+
			(1.141)	(1.195)	(1.196)	(1.256)
Dyads at Conflict Onset			0.239	0.256	0.322	0.340
			(0.223)	(0.232)	(0.226)	(0.237)
Excl. Population			-0.881	-0.992	-0.933	-1.042
			(1.083)	(1.152)	(1.096)	(1.162)
Territorial Control†			0.444	0.432	0.266**	0.267**
			(0.490)	(0.514)	(0.089)	(0.091)
Log-Likelihood	-325.692	-325.033	-65.186	-64.496	-62.755	-62.035
Clusters	382	382	267	267	267	267
N	2993	2993	503	503	503	503

Breslow (col. I, III, V) and Efron method (col. II, IV, VII) for ties.
† Territorial control variable interacted with duration in models V and VI.
+ p < .10 * p < 0.05 ** p < 0.01 p < *** 0.001.

Table 21: State Violence and Insurgent Fragmentation (Cox Proportional Hazards)

	I	II	III	IV	V	VI
State-led Coll. Targeting (first)	0.405	0.472+	1.464*	1.450*	1.524+	1.505+
	(0.259)	(0.268)	(0.740)	(0.729)	(0.791)	(0.779)
Fighting Intensity		-0.263		36.053		32.412***
		(0.287)		(.)		(0.996)
Irregular War			0.802	0.824	0.778	0.796
			(0.582)	(0.586)	(0.600)	(0.602)
Ext. Rebel Support			0.370	0.399	0.398	0.420
			(0.621)	(0.614)	(0.674)	(0.671)
Recr. from Excl. Groups			0.788	0.810	0.957	0.961
			(0.781)	(0.776)	(0.950)	(0.941)
Previously Active			-1.240+	-1.179+	-1.453*	-1.422*
			(0.640)	(0.630)	(0.628)	(0.622)
Fighting Capacity			0.325	0.331	0.168	0.174
			(0.510)	(0.512)	(0.530)	(0.531)
Neopatrimonial Rule			1.847	1.851	2.257+	2.271+
			(1.207)	(1.196)	(1.270)	(1.256)
Dyads at Conflict Onset			0.254	0.253	0.340	0.339
			(0.233)	(0.233)	(0.239)	(0.237)
Excl. Population			-0.923	-1.006	-1.013	-1.046
			(1.129)	(1.157)	(1.162)	(1.164)
Territorial Control†			0.461	0.429	0.269**	0.265**
			(0.514)	(0.512)	(0.091)	(0.092)
Log-Likelihood	-325.797	-325.364	-64.750	-64.456	-62.203	-62.028
Clusters	382	382	267	267	267	267
N	2993	2993	503	503	503	503

Efron method for ties.

† Territorial control variable interacted with duration in models V and VI.

+ p < .10 * p < 0.05 ** p < 0.01 p < *** 0.001.

Table 22: State Violence and Insurgent Fragmentation (Cox Proportional Hazards)

	I	II	III	IV	V	VI
State-led Coll. Targeting (first)	0.402	0.469+	1.390*	1.375*	1.441+	1.422+
	(0.256)	(0.265)	(0.699)	(0.689)	(0.744)	(0.733)
Fighting Intensity		-0.261		36.361		34.737
		(0.284)		(.)		(.)
Irregular War			0.812	0.833	0.777	0.794
			(0.560)	(0.564)	(0.578)	(0.580)
Ext. Rebel Support			0.371	0.399	0.400	0.422
			(0.597)	(0.591)	(0.643)	(0.641)
Recr. from Excl. Groups			0.728	0.749	0.891	0.895
			(0.748)	(0.743)	(0.899)	(0.891)
Previously Active			-1.253*	-1.194*	-1.467*	-1.438*
			(0.601)	(0.591)	(0.577)	(0.571)
Fighting Capacity			0.278	0.283	0.124	0.129
			(0.480)	(0.482)	(0.502)	(0.502)
Neopatrimonial Rule			1.772	1.775	2.170+	2.184+
			(1.152)	(1.142)	(1.209)	(1.195)
Dyads at Conflict Onset			0.237	0.236	0.322	0.321
			(0.224)	(0.224)	(0.227)	(0.226)
Excl. Population			-0.818	-0.896	-0.905	-0.937
			(1.063)	(1.088)	(1.095)	(1.097)
Territorial Control†			0.471	0.440	0.269**	0.265**
			(0.491)	(0.488)	(0.089)	(0.089)
Log-Likelihood	-326.443	-326.017	-65.425	-65.145	-62.914	-62.748
Clusters	382	382	267	267	267	267
N	2993	2993	503	503	503	503

Breslow method for ties.

† Territorial control variable interacted with duration in models V and VI.

+ p < .10 * p < 0.05 ** p < 0.01 p < *** 0.001.

For cases where the treatment status does not change before the outcome is measured, I estimate average treatment effects from one up to three post-treatment years after exposure to state violence. Ideally, one could adjust for several pre-treatment years. However, the number of control units gets very small with multiple pre-treatment years, and hence only one pre-treatment lag is used in this analysis. With 1 lag, the number of treated units is 11, with the size of the matched set per treated unit varying from 2 to 18. The small sample size, which is due to the treatment distribution over time and fact that this method matches exactly on the treatment year and treatment history, underscores that causal inference in this setting is very challenging. Figure 2 illustrates the covariate balance before and after refinement (propensity score weighting) of the matched sets.[4] A circle below the 45 degree line indicates that the standardized mean difference is reduced after propensity score weighting for a particular covariate. While balance does not improve for all covariates, it improves for most. Moreover, while the standardized mean difference remains larger than ideal for some covariates for which the balance improves, variation in the pre-treatment outcome is very limited throughout for this set of observations. While this is reassuring in terms of the plausibility of the parallel trends assumption, of course more data points would be needed to increase confidence in the appropriateness of this assumption here.

Turning to the results, the first panel in table 23 shows the estimated ATT if 1 pre-treatment year is considered to identify matches, and if propensity score weighting is performed with the covariates irregular war, external rebel support, recruitment from excluded ethnic groups, previously active, territorial control, fighting capacity, neopatrimonial rule, dyads at conflict onset, excluded population, and fighting intensity. The second panel repeats this analysis, but with matching on missing values as well.[5] Next, I include a variable

[4]The balance is explored for the most complete specification shown in table 14, i.e., the last panel. Note that prior fragmentation and external rebel support are not included in this figure due to lack of variation.

[5]As outlined in the main paper, there is no information for several conflict-specific variables during years in which fighting does not reach conventional thresholds for inclusion into major datasets. However, as many armed conflicts fall below the activity threshold for certain periods of time, and as fragmentation can occur in periods with below-threshold activity, spells without fighting activity as defined by UCDP are included in the analysis as long as an armed group is clearly or potentially active.

previous mass killings that indicates whether state-led mass killings already affected the country before the onset of this particular conflict, and/or ended prior to that particular year, to capture prior violence histories not necessarily covered by the 1 year lag. Finally, the analysis is repeated with *past outcomes* as an additional covariate. The final specification includes past outcomes and previous mass killings. The standard errors are expectantly large and the confidence intervals include zero throughout. The coefficients in the first four panels tentatively suggest a potentially positive effect for years 1 and 3 post exposure to state-led collective targeting, an estimate that is however not statistically significant. Moreover, when adjusting for past outcomes, these coefficients fall to zero. The results also suggest a potential negative effect for year 2 post treatment, though again this result is not significant. The results remain substantively unchanged if the focus is on the first mass killing episode in case of multiple exposures.[6] In general, the samples are too small here and the bootstrap confidence intervals too large to allow for any conclusions. Future research should further explore the possibility of time-varying effects as more data become available.

References

Imai, Kosuke, In Song Kim, and Erik Wang (2018). *Matching Methods for Causal Inference with Time-Series Cross-Sectional Data*. Working Paper.

Metzger, Shawna K. and Benjamin T. Jones. 2022. Getting Time Right: Using Cox Models and Probabilities to Interpret Binary Panel Data. *Political Analysis*. 30 (2): 151â166.

[6]See additional results generated by replication code.

Figure 2: Covariate Balance

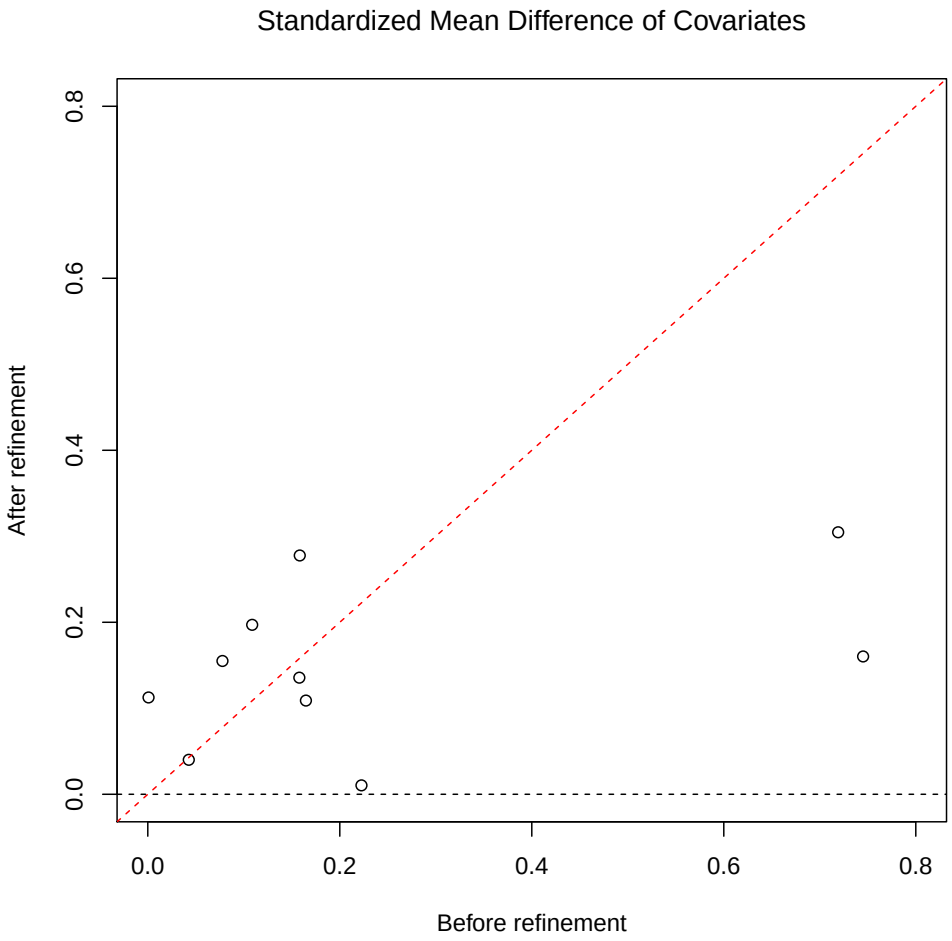

Table 23: ATT by Period

Period	Estimate	Std. Error	2.5%	97.5%
1 lag				
t+1	0.007	0.008	0.000	0.029
t+2	-0.009	0.011	-0.036	0.000
t+3	0.007	0.008	0.000	0.029
1 lag, missing values				
t+1	0.007	0.008	0.000	0.029
t+2	-0.009	0.011	-0.036	0.000
t+3	0.007	0.008	0.000	0.029
1 lag, previous MKs				
t+1	0.007	0.008	0.000	0.029
t+2	-0.009	0.011	-0.036	0.000
t+3	0.007	0.008	0.000	0.029
1 lag, previous MKs, missing values				
t+1	0.007	0.008	0.000	0.029
t+2	-0.009	0.011	-0.036	0.000
t+3	0.007	0.008	0.000	0.029
1 lag, past outcome				
t+1	0.000	0.000	0.000	0.000
t+2	-0.017	0.016	-0.058	0.000
t+3	0.000	0.000	0.000	0.000
1 lag, past outcome, missing values				
t+1	0.000	0.000	0.000	0.000
t+2	-0.017	0.016	-0.058	0.000
t+3	0.000	0.000	0.000	0.000
1 lag, previous MKs, past outcome				
t+1	0.000	0.000	0.000	0.000
t+2	-0.017	0.016	-0.058	0.000
t+3	0.000	0.000	0.000	0.000
1 lag, previous MKs, past outcome, missing values				
t+1	0.000	0.000	0.000	0.000
t+2	-0.017	0.016	-0.058	0.000
t+3	0.000	0.000	0.000	0.000

Propensity score weighting.

11 treated units; 2 (min) to 18 (max) controls per matched set.

Standard errors based on 1000 weighted bootstrap samples.