Online Appendix:

Personalist Regimes and Rebel Sponsorships in Civil Conflicts

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Mediation Analysis

Besides shaping the sponsor's perception and objective, the target's level of personalism can also indirectly influence the sponsor's provision of combat support to the rebels by affecting the target's military effectiveness. To test this indirect effect, I conduct a mediation analysis using a method developed by Imai, Keele, and Tingley (2010). As the method is based on the potential outcomes framework, I follow Imai et al. (2011) in specifying the treatment, mediator, and outcome. I rely on the State Security Forces Dataset (SSFD) collected by De Bruin (2021) to construct the mediator. The data contains information on the total number of heavily armed security forces existing in a given country-year that serve as counterweights to the military. According to De Bruin (2018), to be considered a counterweight, a security force must be independent of the military. It is either directly controlled by the executive or other government agencies like the Interior Ministry. It must also have access to the political center.

The expectation is that there is a positive association between this variable and target personalism. When heavily armed, a counterweight possesses infantry support weapons such as heavy machine guns, automatic grenade launchers, armored combat vehicles, and/or aircraft (De Bruin, 2021). Compared to units only with access to small arms, a heavily-armed counterweight might be more capable of preventing coup attempts from the military. However, the existence of these units might further undermine military effectiveness since they divert important resources from the military and intensify competition between different forces. The treatment is whether the target state is personalist in a given country-year, using data from Geddes et al. (2014). To identify the mediation effect, it is necessary to assign a set of regressors that can be regarded as "pretreatment" confounders for each observation and meet the assumption of sequential ignorability. Due to the observational nature of the data, it cannot be guaranteed that there is no endogenous issue in this assignment process. However, the mediation analysis is still valuable tool to showcase the underlying mechanism

that connects the personalist target state with sponsors' provision of combat support to the rebels. With observational data, the recommendation given by Imai et al. (2010) is to collect as many pretreatment confounders as possible so that the ignorability of treatment assignment is more credible. Therefore, I include the same control variables used in the main models as well as region and decade fixed effects.

Table A1 and A2 report the results of the mediation analysis. Table A1 presents the regression results of both outcome and mediator equations while Table A2 reports the average mediation effect, average direct effect, and toral effect. Table A1 reports results from two different specifications. While the sample is limited to authoritarian regimes in the first model, the second model includes democracies. The results indicate that counterbalancing is indeed a mediator between target personalism and combat support for the rebels. Table A1 shows that the personalist target state has a positive and statistically significant association with counterbalancing, which is consistent with the results from Escriba-Folch, et al. (2020). Both personalist target state and counterbalancing have positive and statistically significant correlations with combat support to the rebels from the sponsor.

TableA2 presents the average mediation effect and average direct effect for all model specifications. Depending on model specifications, around 35.7% to 37.1% of the total effect of personalism on combat support to the rebels is mediated through counterbalancing. Both the average mediation effect and average direct effect for all model specifications are positive and statistically significant since their lower 95% confidence intervals are all above zero. Although it cannot be guaranteed that the endogeneity issue is not present in all models given the nature of the data, the results do provide some support that the effect of personalism on combat support for the rebels is partially mediated through the target state's practice of counterbalancing.

Table A1: Mediation analysis estimates

	Mediation Model 1		*Mediation Model 2*	
	(9)	(10)	(11)	(12)
Personalism	3.311^{***}	1.025^{***}	3.143^{***}	0.734^{**}
	(0.276)	(0.383)	(0.261)	(0.329)
Counterbalancing		1.288^{***}		0.973^{***}
		(0.384)		(0.340)
Constant	-4.796^{***}	-6.057^{**}	-20.054	-22.748
	(1.756)	(2.446)	(5,376.725)	(3,261.274)
Model	Logit	Logit	Logit	Logit
Control	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes
DV	Counterbalancing	Combat Support	Counterbalancing	Combat Support
Observations	1,257	1,257	1,610	1,610
Log Likelihood	-375.427	-215.460	-398.914	-303.342
Akaike Inf. Crit.	790.855	472.920	839.827	650.684

Note: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

Table A2: Average mediation effects

	Mediation Model 1			*Mediation Model 2*		
	Estimate	*Confidence interval*		*Estimate*	*Confidence interval*	
Average mediation effects	0.03684	0.01496	0.06	0.02776	0.00961	0.05
Average direct effects	0.06415	0.01660	0.12	0.04989	0.00706	0.10
Total effects	0.10099	0.05630	0.15	0.07765	0.03774	0.13
% of total effects mediated	0.37149	0.13494	0.73	0.35775	0.09541	0.84
N	1257			1610		
Mediator	Counterbalancing			Counterbalancing		
Region fixed effects	Yes			Yes		
Decade fixed effects	Yes			Yes		

Personalist target state and troop support to the rebels

In Table A3, I limited the sample to observations in which the rebels already received certain types of support from external sponsors. The DV is binary and takes a value of 1 when the rebel receives troop support from the sponsor in a given triad year. It takes a value of 0 when the rebel only receives other types of support from the sponsors. Besides this binary measure, I also created an ordinal categorical variable that has a value of 0 when the sponsor only provided material support to the rebels, a value of 1 when the sponsor provided safe haven and training to the rebels, and a value of 2 when the sponsor provided troop support. While model 13 and model 14 used the continuous personalism index and only included autocracies, model 15 and model 16 used the binary IV that included democracies. Finally, model 17 presented the result from the ordered logit model.

Since coefficients from logit models cannot be directly interpreted, I calculated predicted probabilities of combat support using results from model 14 and model 16. As shown in Figure A1, the predicted probability of combat support to the rebels varies significantly as the target state's level of personalism changes. When the target state's level of personalism is at the10th percentile, the predicted probability of combat support to the rebel is around 0.0. Atthe 50th percentile, the predicted probability is around 0.11. It further increases to around 0.14 when a target state's level of personalism is at the 90th percentile. The result from model 7 shows a similar trend. For non-personalist target states, including democracies, the predicted probability of combat support to the rebel is around 0.13; this predicted probability increased to around 0.156 when the target state is under personalist rule. Despite overlapped confidence intervals, post-estimation t-tests indicated that the differences between the predicted probabilities were statistically significant in both Model 14 and Model 16.

Predicted probabilities estimated from the ordered logit show a similar picture. For in-

direct support, which only includes material support such as funding and weapons, the predicted probability is around 0.39 when the target state's level of personalism is at the 10th percentile. The value drops to around 0.33 when the level of personalism is at the 50th percentileand further to around 0.25 at the 90th percentile. Therefore, as the target state's level ofpersonalism increases, the sponsor is less likely only to provide material support and try notto become directly involved in the target state's civil war.

In terms of the sponsor's provision of safe haven and training, the trend is reversed. When-the target state's level of personalism is at the 10th percentile, the predicted probability isaround 0.54 and increases to around 0.58 at the 50th percentile. The value eventually reachesaround 0.62 when the level of personalism is at the 90th percentile. Direct combat supportfrom the sponsor shows a similar trend. While the predicted probability for this type ofsupport is generally low compared to other types of support, it was around 0.07 when the target state's level of personalism is at the 10th percentile. The value becomes 0.09 at the 50th percentile and finally increases to 0.13 when the target state's level of personalism isat the 90th percentile. In general, these findings provide support for H2. Personalism of the target state is closely associated with the type of support sponsors provide to the rebels once they have decided to act as sponsors.

Table A3: Personalist target state and troop support to the rebels

	Dependent variable:				
	(13)	(14)	(15)	(16)	(17)
Personalism	2.248***	3.204***	1.399***	1.287**	1.033**
	(0.510)	(0.889)	(0.468)	(0.622)	(0.409)
GDP per capita		−0.644		−0.632	−0.247
		(0.581)		(0.431)	(0.250)
Rivalry		1.492*		0.589	0.303
		(0.810)		(0.849)	(0.415)
Sponsor Xpolity		0.055		0.047	−0.004
		(0.068)		(0.054)	(0.039)
Number of rebel groups		0.049		0.166*	−0.082
		(0.123)		(0.098)	(0.099)
Post-Cold War		4.017*		1.790	−0.371
		(2.147)		(1.319)	(0.315)
Rebel strength		0.058		0.087	−0.004
		(0.156)		(0.131)	(0.114)
Transborder kin		1.429**		1.143*	0.920**
		(0.589)		(0.646)	(0.363)
Ethnic fractionalization		1.900		0.425	−0.005
		(1.220)		(1.111)	(0.870)
Defense pact		−0.762		−0.635	0.132
		(0.776)		(0.624)	(0.505)
Oil rent per capita		0.0003		0.0003	0.0003
		(0.0002)		(0.0002)	(0.0003)
Rebel group duration		−0.215**		−0.259**	0.021
		(0.096)		(0.110)	(0.017)
Troop support last year		10.727***		11.566***	
		(2.642)		(2.716)	
Support last year					0.286
					(0.184)
Constant	−2.603***	1.685	−18.355***	−11.761**	
	(0.825)	(5.072)	(2.502)	(4.698)	
IV	Continous	Continous	Binary	BInary	Continous
Region FEs	Yes	Yes	Yes	Yes	No
Decade FEs	Yes	Yes	Yes	Yes	No
Model	Logit	Logit	Logit	Logit	Ordered Logit
Observations	2,063	1,604	3,007	2,237	1,609
Log Likelihood	−517.337	−85.045	−725.882	−110.043	
Akaike Inf. Crit.	1,068.675	226.090	1,489.765	278.085	

*Robust standard errors clustered by target-sponsor dyad in parentheses.
*$p<0.1$; **$p<0.05$; ***$p<0.01$

Figure A1: Predicted probabilities of troop support: logit model (continuous IV)

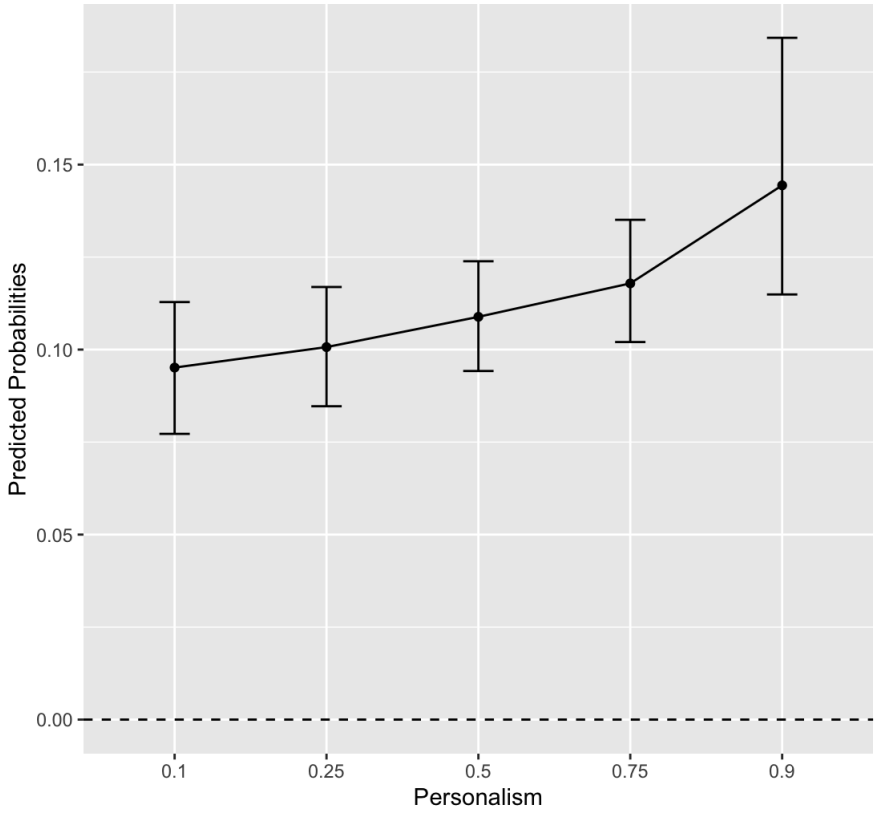


Figure A2: Predicted probabilities of troop support: logit model (binary IV)

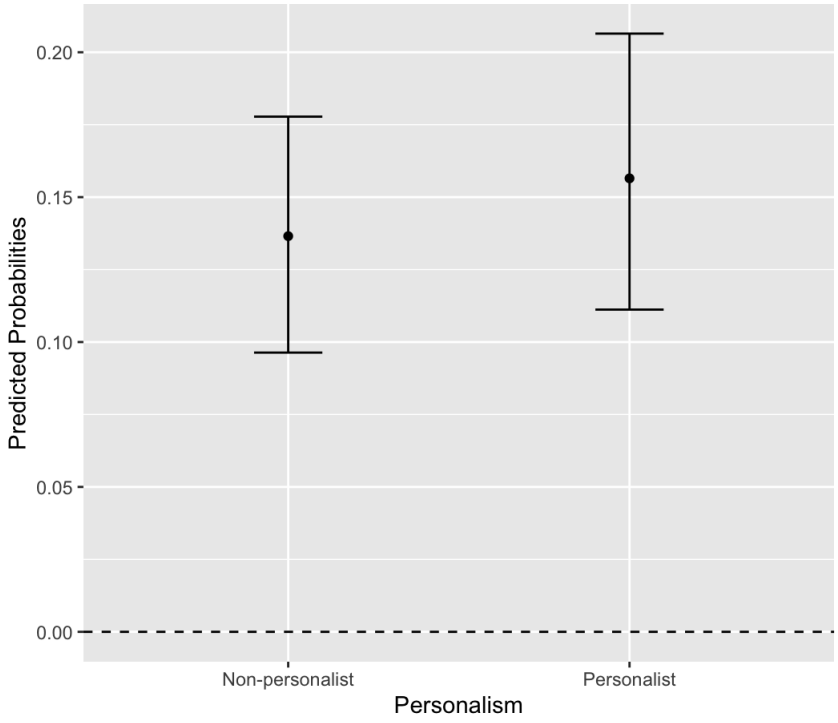
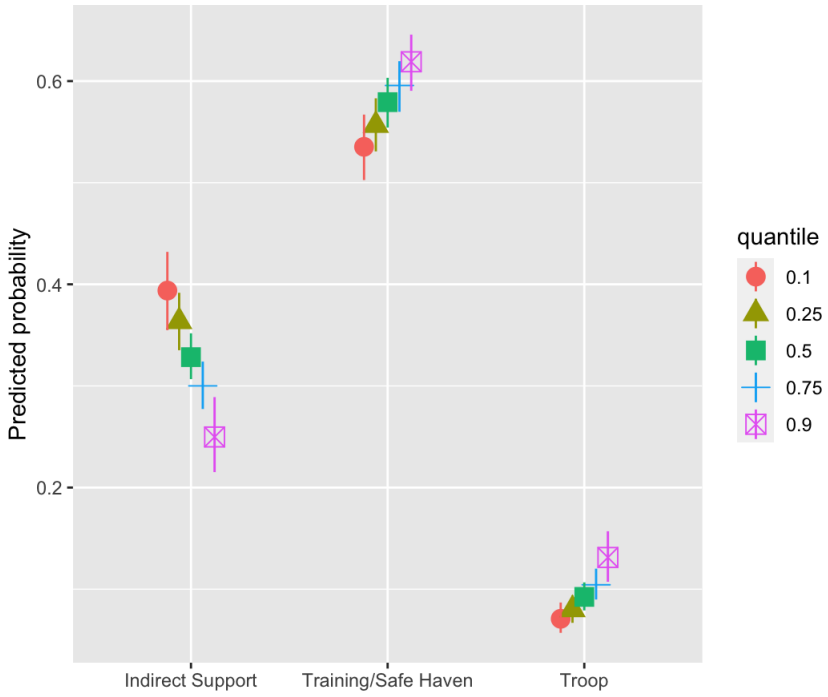


Figure A3: Personalist target state and varieties of rebel sponsorship: Ordered Logit



In Table A4, I divided the sample into two subsamples: a Cold War one and a post-Cold War one. I reran the multinomial logit model (Models 1 and 2 from Table 1) in the main text. The results were substantively unchanged for the post-Cold War subsample. For the Cold War subsample, while the coefficient on other support was no longer statistically significant, the coefficient on troop support continued to be positive and statistically significant, which indicates that the rebels were more likely to receive troop support when the target state was personalist during the Cold War period. These alternative model specifications provided further support for both H1 and H2.

Table A4: Personalist target state and rebel sponsorship: Cold War and Post-Cold War subsamples

	Dependent variable:			
	Cold War		*Post-Cold War*	
	Other support	Troop support	Other support	Troop support
	(18)	(19)	(20)	(21)
Personalism	-0.535^{**}	2.503^{***}	-0.248	0.986^{***}
	(0.259)	(0.557)	(0.174)	(0.291)
GDP per capita	-0.319^{**}	-1.575^{***}	-0.199^{***}	0.339^{***}
	(0.137)	(0.307)	(0.037)	(0.075)
Rivalry	0.295	1.773^{**}	1.172^{***}	3.586^{***}
	(0.221)	(0.693)	(0.158)	(0.042)
Number of rebel groups	-0.074	0.204	-0.142^{***}	0.330^{***}
	(0.051)	(0.162)	(0.029)	(0.049)
Rebel strength	0.226^{***}	0.048	0.052	0.387^{***}
	(0.066)	(0.133)	(0.049)	(0.099)
Transborder kin	0.221	1.874^{***}	0.334^{**}	-0.302
	(0.184)	(0.444)	(0.144)	(0.326)
Ethnic fractionalization	1.229^{***}	-0.441	-0.865^{**}	1.371^{***}
	(0.465)	(1.327)	(0.354)	(0.141)
Defense pact	-0.751^{***}	-1.219^{**}	-0.083	0.363
	(0.227)	(0.491)	(0.143)	(0.264)
Oil rent per capita	0.001	-0.008^{***}	0.0003^{***}	0.001^{***}
	(0.001)	(0.002)	(0.0001)	(0.0001)
Rebel group duration	-0.027^{***}	-0.079^{***}	-0.022^{***}	-0.070^{***}
	(0.009)	(0.027)	(0.008)	(0.016)
Support last year	4.955^{***}	5.061^{***}	4.968^{***}	5.499^{***}
	(0.162)	(0.383)	(0.128)	(0.319)
Constant	-10.928^{***}	-12.113^{***}	9.829^{***}	-18.258^{***}
	(1.149)	(2.215)	(0.092)	(0.042)
Region FEs	Yes	Yes	Yes	Yes
Decade FEs	Yes	Yes	Yes	Yes
Observations	3285		5321	
Akaike Inf. Crit.	1,946.980	1,946.980	3,302.542	3,302.542
Note:				*p<0.1; **p<0.05; ***p<0.01

In Table A5, I excluded all triad years when the target was occupied by a foreign power or in total anarchy, according to Polity IV (Marshall and Gurr, 2020). I reran Models from Table 1 in the main text and the results continued to be robust.

Table A5: Personalist target state and rebel sponsorship: excluding foreign occupation and total anarchy

	Dependent variable:			
	Binary		*Continuous*	
	Other support	Troop support	Other support	Troop support
	(22)	(23)	(24)	(25)
Personalism	-0.473^{***}	0.952^{***}	-0.449^{**}	1.252^{***}
	(0.146)	(0.246)	(0.205)	(0.364)
GDP per capita	-0.166^{***}	0.339^{***}	-0.489^{***}	0.263^{***}
	(0.034)	(0.072)	(0.050)	(0.085)
Rivalry	1.066^{***}	2.268^{***}	0.907^{***}	3.343^{***}
	(0.130)	(0.406)	(0.150)	(0.092)
Number of rebel groups	-0.133^{***}	0.248^{***}	-0.183^{***}	0.126^{***}
	(0.026)	(0.047)	(0.031)	(0.049)
Post-Cold War	-0.196	-0.173	-0.287	0.021
	(0.236)	(0.149)	(0.296)	(0.174)
Rebel strength	0.121^{***}	0.188^{**}	0.108^{**}	0.338^{***}
	(0.041)	(0.083)	(0.045)	(0.090)
Transborder kin	0.111	0.454^{*}	0.192	0.757^{***}
	(0.114)	(0.238)	(0.121)	(0.250)
Ethnic fractionalization	-0.107	0.872^{***}	0.148	2.053^{***}
	(0.280)	(0.102)	(0.323)	(0.107)
Defense pact	-0.313^{***}	0.336	-0.491^{***}	1.259^{***}
	(0.114)	(0.220)	(0.152)	(0.289)
Oil rent per capita	0.0003^{***}	0.0005^{***}	0.0003^{**}	0.0005^{***}
	(0.0001)	(0.0001)	(0.0001)	(0.0002)
Rebel group duration	-0.023^{***}	-0.064^{***}	-0.004	-0.036^{**}
	(0.006)	(0.013)	(0.007)	(0.016)
Support last year	5.066^{***}	5.514^{***}	4.832^{***}	5.262^{***}
	(0.103)	(0.264)	(0.125)	(0.305)
Constant	0.630^{***}	-19.288^{***}	-7.826^{***}	-17.195^{***}
	(0.090)	(0.078)	(0.088)	(0.066)
Region FEs	Yes	Yes	Yes	Yes
Decade FEs	Yes	Yes	Yes	Yes
Observations	8240		4883	
Akaike Inf. Crit.	4,747.527	4,747.527	3,222.216	3,222.216
Note:				*p<0.1; **p<0.05; ***p<0.01

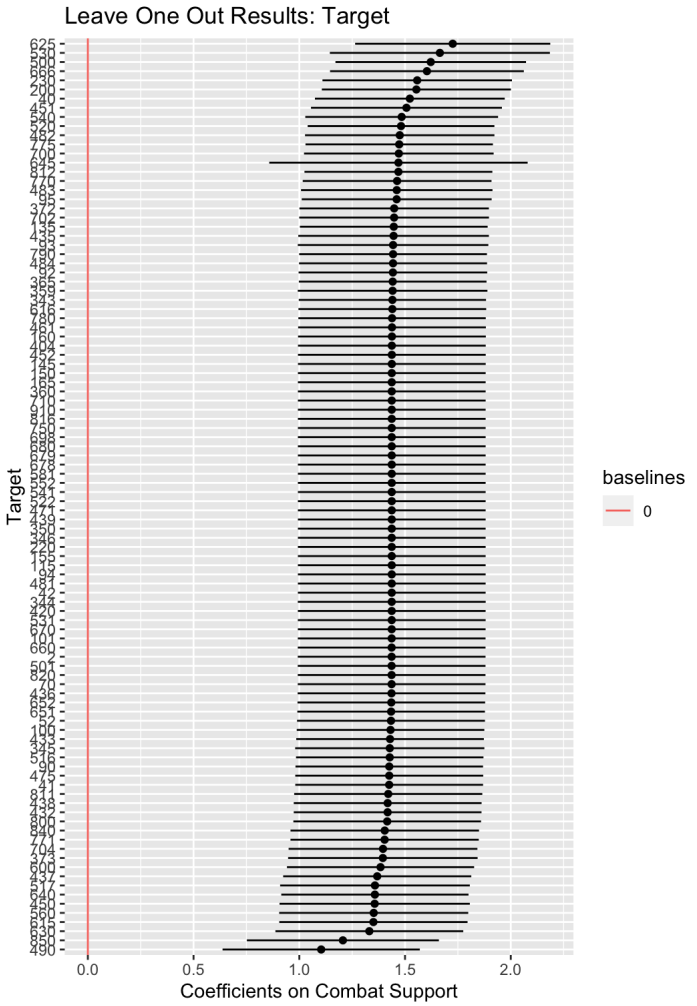
In Table A6, I used the UCDP External Support Dataset as an alternative DV to test the association between personalism and troop support to the rebels. I reran Models 13 to 16 from Table A3 with the same control variables, and the results remained robust with the use of this alternative DV. Personalism continued to have a positive and statistically significant association with troop support.

Table A6: Personalist target state and troop support for the rebels: logit models with UCDP data

	Dependent variable:			
	(26)	(27)	(28)	(29)
Personalism	2.290**	4.477***	1.272**	2.046***
	(1.062)	(0.957)	(0.515)	(0.764)
GDP per capita		−0.230		0.035
		(0.311)		(0.268)
Rivalry		15.275***		15.378***
		(0.640)		(0.811)
Sponsor Xpolity		0.178***		0.196***
		(0.042)		(0.046)
Number of rebel groups		−0.708***		−0.730**
		(0.242)		(0.310)
Post-Cold War		0.334		0.810
		(0.533)		(0.598)
Rebel strength		0.347*		0.221
		(0.190)		(0.167)
Ethnic fractionalization		0.274		−0.366
		(1.169)		(1.196)
Defense pact		−2.129***		−2.466***
		(0.696)		(0.729)
Oil rent per capita		0.001*		0.001**
		(0.0003)		(0.0003)
Troop support last year		5.569***		4.198***
		(0.977)		(0.839)
Constant	−4.181***	−19.114***	−3.578***	−18.619***
	(0.752)	(3.006)	(0.316)	(2.984)
IV	Continous	Continous	Binary	Binary
Observations	1,391	949	1,829	1,157
Log Likelihood	−247.967	−88.187	−285.543	−110.128
Akaike Inf. Crit.	499.933	200.373	575.086	244.256

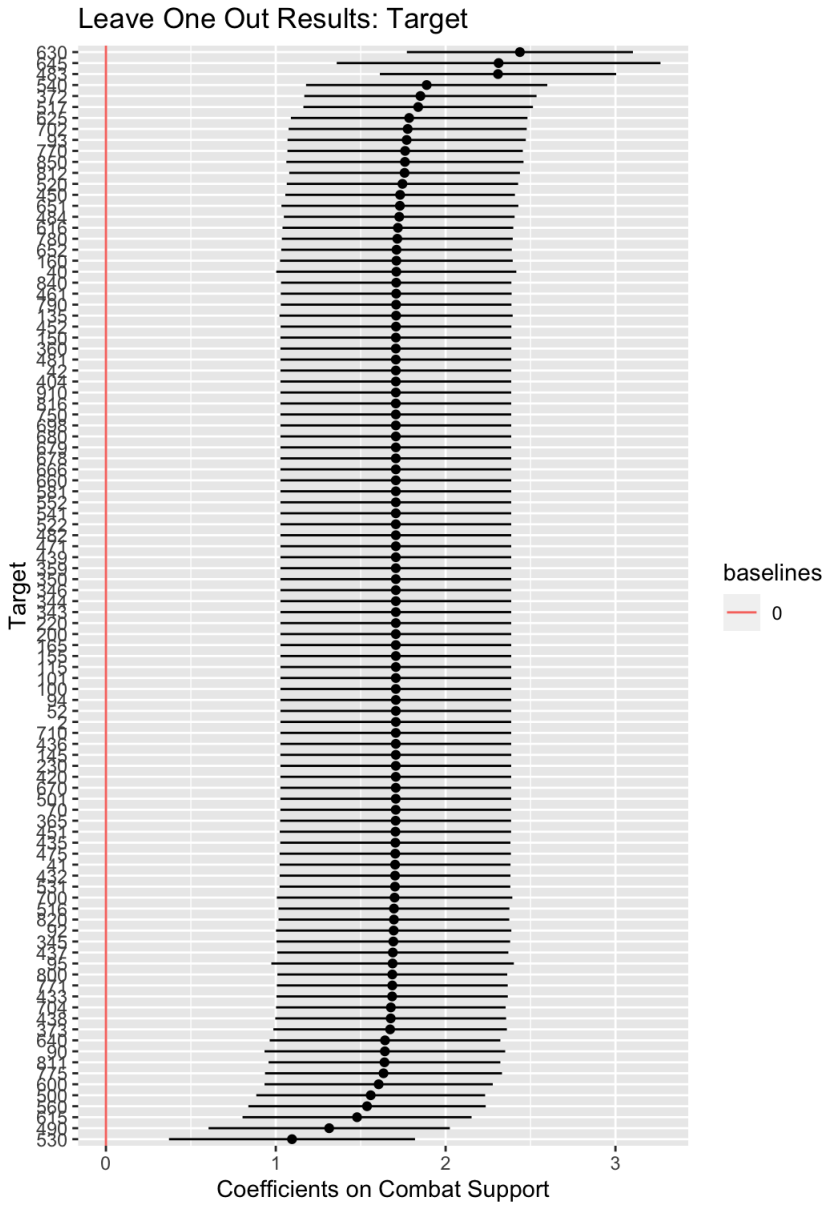
Robust standard errors clustered by target-sponsor dyad in parentheses.
$^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

Figure A4: Leave one target out: personalist target state (binary) and combat support



In Figure A4 and Figure 5, I systematically removed every target state from the sample and reran multinomial logit models from Table 1 in the main text. In Figure A4, the IV was the binary indicator of personalist regime. In Figure A5, the IV was the continuous personalism index. As both figures indicated, the results presented in Table 1 in the main text was not influenced by any individual target state.

Figure A5: Leave one target out: personalist target state (continuous) and combat support



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