Online Appendix

The following materials are designed to accompany our article "Looking for Audience Costs in all the Wrong Places: Electoral Institutions, Media Access and Democratic Constraint."

Robustness Check: Multinomial and Ordered Logit

To determine whether or to what extent high-level (violent) reciprocation is driving the observed relationship with combined low- and high-level reciprocation indicator, we convert our dependent variables into a single scaled variable where 0=not reciprocated, 1=reciprocated with maximum of threat, 2=reciprocated with maximum of force deployment or employment. This change in the dependent variable requires a shift to an estimator that allows for more than two values on the dependent variable. At first glance the reformulation of the dependent variable appears best suited for an ordered logit analysis. However, reviewing the Tau Beta coefficients and standard errors from this model suggests potential overlap in the first two categories. The implication is that the categories may not be entirely distinct and evenly distributed, which violates an assumption of ordered logit. Consequently, we also present a second analysis employing unordered multinomial logit. The latter estimator has the benefit of relaxing the assumption of an ordered, evenly distributed scale. Appendix Table 1 presents the results from both models.

[Appendix Table 1 here]

In Appendix Figure 1 we separately plot the probabilities of non-reciprocation, non-violent reciprocation, and violent reciprocation for the ordered (top 3 charts) and unordered multinomial (bottom 3 charts) logit models, respectively.

[Appendix Figure 1]

The results in Appendix Figure 1 essentially replicate those from our prior analyses, in that variations in TV access have a large and statistically significant effect, in the predicted

directions, in high-party states but not in low-party states. Interestingly, however, both models represented in the Figure suggest that, as anticipated, the effects of variations in media access are greater for the movement from non-reciprocation to violent reciprocation than for movement from non-reciprocation to non-violent reciprocation. Though this is evident in both models, it is particularly so in the unordered multinomial logit, where the probability of low-level reciprocation varies hardly at all with TV access. The effect is somewhat larger and statistically significant in the ordered logit model, though still substantially more modest than with respect to violent reciprocation.

This distinction is not evident in the dichotomous specifications, presumably because the "all reciprocation" dependent variable treats both violent and non-violent reciprocation as a positive occurrence. Hence, as expected, these alternative models suggest that the interaction of party systems and media access matters more for violent than for non-violent reciprocation, with the strongest constraining effect apparent with respect to the latter, more serious types of disputes initiated by high-party systems with high media access.

Robustness Check: Measuring Opposition

To further establish the robustness of our findings we introduce an alternative operationalizations of the number of opposition parties. To accomplish this, we turn to Golder's measure of ENEP, representing the expected number of *electoral* parties. Golder (2005) defines ENEP, in turn, with the following formula, which like the measure of ENPP is taken from Laakso and Taagepera (1979):

$$\frac{1}{\Sigma v_i^2}$$

where *vi* is the percentage of votes won by the *ith* party, with Independents or "others" coded as a single party. The difference between ENPP and ENEP stems from the fact that not every party that competes in a given election wins a sufficient vote share to gain seats in the parliament. ENPP only takes into account those parties that win seats, which itself depends on electoral rules translating votes into seats. These, in turn, vary widely across countries. We believe ENPP, because it discounts small, outlier parties with no meaningful chance of winning seats or a place in a coalition government, is the better indicator. Nonetheless, because this is an uncertain judgment, in Appendix Table 2 we replicate our findings using ENEP.

[Appendix Table 2 here]

Because logit coefficients are difficult to interpret, in Appendix Figure 2 we also present these robustness findings as graphed probabilities.

[Appendix Figure 2 here]

Comparing Figure 1 from the article and Appendix Figure 2, it immediately becomes apparent that the results are virtually indistinguishable. The effects of increased TV access in high party states are slightly stronger in the ENEP reciprocation and violent reciprocation models, while the low-ENEP curves are somewhat flatter, as TV access varies. Both curves – representing "all reciprocation" or "violent reciprocation," as TV access varies – are highly significant ($p<.01$) given a high number of parties and insignificant given a low number of parties. The probabilities of reciprocation and violent reciprocation change slightly more dramatically (-0.64 for reciprocation and -0.57 for violent reciprocation) in the predicted direction.

Appendix Table 3 summarizes the probabilities at one standard deviation above and below the mean values of parties – operationalized through both ENPP (from the original paper) and ENPP as an alternative measure – and media access.

[Appendix Table 3 here]

In a subsequent section of this appendix we will introduce the logic behind a relationship between our proposed indicators and victory in MIDs. However, to presage, the effects of variations in TV access on the probability of victory, though a bit less pronounced than in the ENPP model (and with correspondingly wider confidence intervals), are also substantial in magnitude (0.54) and statistically significant at $p<.01$ given a high number of parties.

Finally, we replicate ordered and multivariate logit modes for the same variations in the measures of parties and media access. We plot the results in Appendix Figures 3-5.

[Appendix Figures 3-5 here]

The findings are generally quite consistent with those uncovered in Table 1 and graphed in Figure 1 and Appendix Figures 1 and 2. As with Appendix Figure 1, the one instance where the models employing dichotomous dependent variables differ from the 3-category models concerns the probability of non-violent reciprocation, which varies far less in all of the 3-category models than does the probability of violent reciprocation. These results once again imply that the effects of variations in media access primarily concern movement from non-reciprocation to violent reciprocation.

Extension: Audience Costs and Victory

Leaders who are subject to audience costs through the mechanisms we identify face increased costs for backing down throughout the conflict process. The credibility advantage that accompanies this vulnerability should, all else equal, carry through all the way to the conclusion of the altercation, meaning that we should be able to discern a relationship between the mechanisms we observe and dispute outcomes. This insight follows from Fearon's (1994)

assertion that states with greater credibility generated through audience costs should win their disputes more often then their counterparts that are unable to generate credible commitments. This leads us to three additional hypotheses, which are direct parallels of those already introduced in the article.

> **Appendix H1:** Ceteris paribus, as the number of parties increases, initiators become more likely to win disputes.
>
> **Appendix H2:** Ceteris paribus, as media access increases, initiators become more likely to win disputes.
>
> **Appendix H3:** Ceteris paribus, beyond some threshold of media access, as the number of parties increases, greater public access to the media will be more strongly associated with increases in the likelihood that initiators will win disputes.

To test these hypotheses we turn to a different facet of the correlates of war militarized interstate dispute dataset. Specifically, we code an event as a "win" for the initiating state if "Side A" obtains its preferred outcome. The models, which can be found in Appendix Table 4, otherwise replicate Model 1 from Table 1 and the robustness check for ENEP (Appendix Table 1, Model 1).

[Appendix Table 4 Here]

The hypotheses predict that as the number of parties (Appendix H1) or media access (Appendix H2) increases, initiator states will be more likely to win the MIDs they initiate. Appendix Figure 6 indicates that at nearly all values of TV access – the exception again being at the low end – the red curve (representing one standard deviation above the mean number of parties) is higher than the green curve (representing one standard deviation below the mean number of parties). This supports Appendix H1.

[Appendix Figure 6 Here]

Turning to Appendix H2, here the appropriate test is to observe the slope of the curves as media access increases. Consistent with Appendix H2, the red curve is upwardly sloping for the

victory graph ($p<.01$). As expected, the green curves are considerably shallower and statistically insignificant. In short, per Appendix H2, increased media access is indeed associated with an increased probability of victory, albeit again, as Appendix H3 predicts, only for high party states. Moreover, these effects become statistically distinguishable only when media access exceeds about one television per 2.5 residents, which is just above the overall mean among democracies in our data (about one TV per 2.8 residents).

These are substantial effects. Appendix Table 4 indicates that for high ENPP countries the shift from low to high media access corresponds with a 0.35 ($p<.05$) increase in the probability of victory. For high ENEP states the effect is similar – a 0.2 ($p<.01$) increase in the probability of victory as a hypothetical state shifts from low to high media access. Consistent with Appendix H3, these substantial results are apparent only for high opposition states. In contrast, when opposition is low the change in probability is small and insignificant.

[Appendix Table 5 here]

In sum, the intuition behind the results for victory mirror those generated by the analysis of both reciprocation of MID initiations and compellent threats in the main paper. States that have an independent opposition, which is able to blow the whistle when leaders fail, as well as the media access needed to get this message to the populace, appear to carry their advantage through the entire conflict process. This eventually manifests itself in the final outcome as a higher probability of victory.

The fact that the mechanisms that we argue differentiate democracies who are able to generate credibility from those who cannot translate clearly when explored in the context of this this alternative dependent variable should serve to increase confidence that the proposed theoretical mechanism has real implications.

Appendix Tables and Figures

APPENDIX TABLE 1. Ordered and Unordered Multinomial Logit Analyses of Effects of Variations in Parties and Media Access on Dispute Reciprocation

	Ordered Logit	*Multinomial Logit*[a]	
		Non-violent Reciprocation	Violent Reciprocation
ENPP	0.422+	-0.0139	0.445+
	(0.228)	(0.405)	(0.266)
TV Access	0.00448	0.00104	0.00423
	(0.00283)	(0.00450)	(0.00319)
ENPP x TV Access	-0.00282**	-0.00153	-0.00293**
	(0.000934)	(0.00161)	(0.00105)
Child Mortality	-0.00586	-0.000101	-0.00759
	(0.00532)	(0.00836)	(0.00622)
Major-Major Dyad	-0.443	-14.44***	-0.169
	(0.991)	(1.103)	(0.998)
Minor-Major Dyad	0.425	0.0278	0.507
	(0.629)	(0.941)	(0.727)
Major-Minor Dyad	0.683	1.811+	0.532
	(0.617)	(0.931)	(0.696)
Initiator Capability Share	0.856	-0.479	0.999
	(0.629)	(1.089)	(0.807)
Contiguity	0.396	0.106	0.439
	(0.399)	(0.653)	(0.428)
Ally	0.368	-0.500	0.439
	(0.569)	(0.942)	(0.637)
Alliance Portfolio Similarity	1.058	2.263	0.928
	(0.859)	(1.433)	(0.978)
Status Quo Initiator	0.426	3.088	0.299
	(1.293)		(1.593)
Status Quo Target	-0.758	-0.0981	-0.657
	(1.390)	(1.914)	(1.679)
Territory	0.590	1.256+	0.738
	(0.442)	(0.675)	(0.554)
Regime	-1.041	-1.241	-1.152
	(0.794)	(1.031)	(1.235)
Policy	-0.635	-1.328+	-0.513
	(0.406)	(0.678)	(0.449)
Other	-2.006	-16.39***	-1.734
	(1.388)	(0.742)	(1.367)
Constant 1	2.086+	-3.792+	-2.337+
	(1.164)	(2.211)	(1.367)
Constant 2	2.751*		
	(1.173)		
N	253	253	253

Robust standard errors in parentheses; *** p<.001, ** p<.01, * p<.05, + p<.10

[a] omitted category is non-reciprocation

APPENDIX TABLE 2. Logit Analysis of Likelihood of Dispute Reciprocation (ENEP)

	Model 1 Reciprocation β/(SE)	**Model 2** Violent Recip. β/(SE)
ENEP	0.585*	0.522*
	(0.275)	(0.252)
TV Access	0.006*	0.006*
	(0.003)	(0.003)
ENEPxTV	-0.003***	-0.003***
	(0.001)	(0.001)
Major - Major Dyad	-0.309	-0.087
	(1.011)	(1.002)
Minor - Major Dyad	0.068	0.467
	(0.673)	(0.698)
Major - Minor Dyad	0.993	0.190
	(0.750)	(0.733)
Initiator Capability Share	0.275	1.131
	(0.733)	(0.782)
Contiguity	0.354	0.448
	(0.440)	(0.401)
Ally	0.132	0.385
	(0.613)	(0.608)
Alliance Portfolio Similarity	1.212	0.666
	(0.863)	(0.939)
Status Quo Initiator	-0.019	-0.978
	(1.481)	(1.541)
Status Quo Target	0.006	-0.178
	(1.417)	(1.496)
Territory	1.240*	0.521
	(0.512)	(0.519)
Regime	-0.968	-0.902
	(0.893)	(1.235)
Policy	-0.619	-0.277
	(0.420)	(0.437)
Other	-2.052+	-1.327
	(1.225)	(1.298)
Child Mortality	-0.009	-0.011+
	(0.006)	(0.006)
N	250	250

*+<0.10, * p<0.05, ** p<0.01, ***p<0.001*

Note: Estimates are maximum likelihood coefficients obtained from logit equations with the militarized intersate dispute as the uit of anlaysis. Standard errors (clustered by initiator) are parentheses. Constants are suppressed to conserve space.

APPENDIX TABLE 3. Probability of Reciprocation and Violent Reciprocation as Number of Parties and TV Access Vary from One Standard Deviation Below to One Standard Deviation Above the Mean Values Among Democracies

All Reciprocation (Model 1)				
	Low TV Access	**High TV Access**	**Diff**	
Low-ENPP	0.45	0.36	-0.11	
High-ENPP	0.48	0.03	-0.45	**
Low-ENEP	0.37	0.36	-0.01	
High-ENEP	0.55	0.01	-0.54	**
Violent Reciprocation (Model 2)				
Low-ENPP	0.28	0.25	-0.03	
High-ENPP	0.37	0.02	-0.35	**
Low-ENEP	0.26	0.25	-0.01	
High-ENEP	0.40	0.01	-0.39	**

*p<.05, **p<.01

APPENDIX TABLE 4. Logit Analysis of Likelihood of Victory

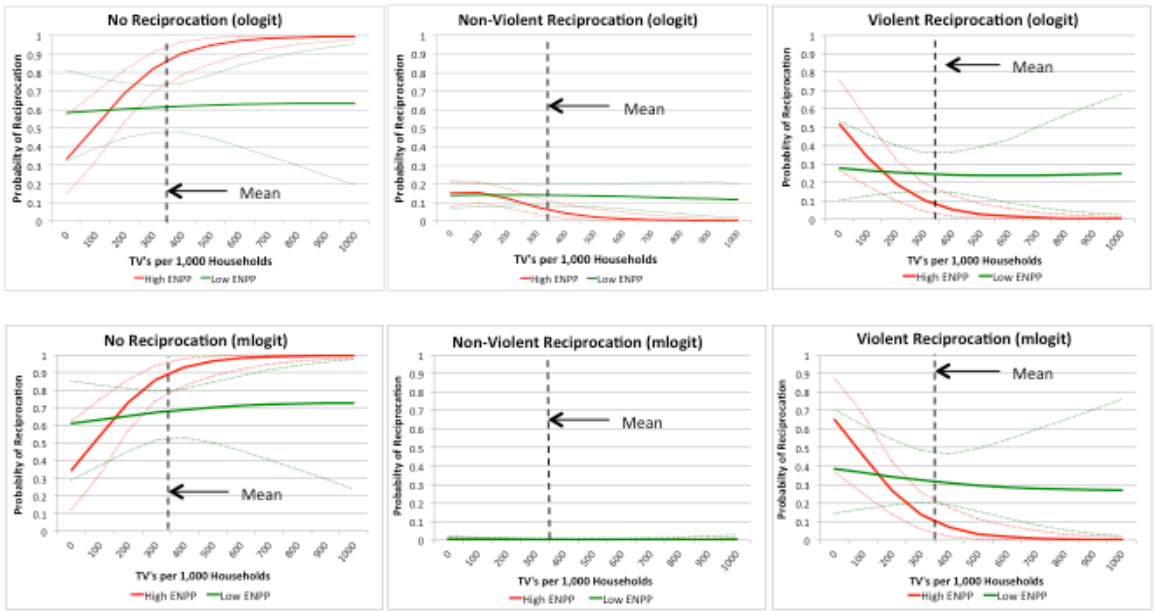
	Model 1 Victory (ENPP) β/(SE)	**Model 2** Victory (ENEP) β/(SE)
Opposition	-2.178*	-0.956
	(1.105)	(0.703)
TV Acces	-0.011+	-0.005
	(0.006)	(0.005)
Opposition*Access	0.005*	0.002
	(0.002)	(0.002)
Minor - Major Dyad	0.121	0.118
	(1.207)	(1.156)
Major - Minor Dyad	-2.783*	-2.552+
	(1.400)	(1.313)
Initiator Capability Share	3.803+	3.488+
	(2.118)	(1.950)
Contiguity	-2.762***	-2.524***
	(0.479)	(0.457)
Ally	-0.418	-0.168
	(1.052)	(1.070)
Alliance Portfolio Similarity	0.160	-0.300
	(1.268)	(1.267)
Status Quo Initiator	-0.109	-0.574
	(1.290)	(1.380)
Status Quo Target	2.584	2.265
	(2.151)	(2.100)
Territory	1.641	1.275
	(1.404)	(1.527)
Regime	3.856*	3.776*
	(1.825)	(1.875)
Policy	2.231	2.090
	(1.471)	(1.505)
Mortality	-0.016	-0.007
N	225	222

*+<0.10, * p<0.05, ** p<0.01, ***p<0.001*

Note: Estimates are maximum likelihood coefficients obtained from logit equations with the militarized intersate dispute as the uit of anlaysis. Standard errors (clustered by initiator) are parentheses. Constants are suppressed to conserve space.

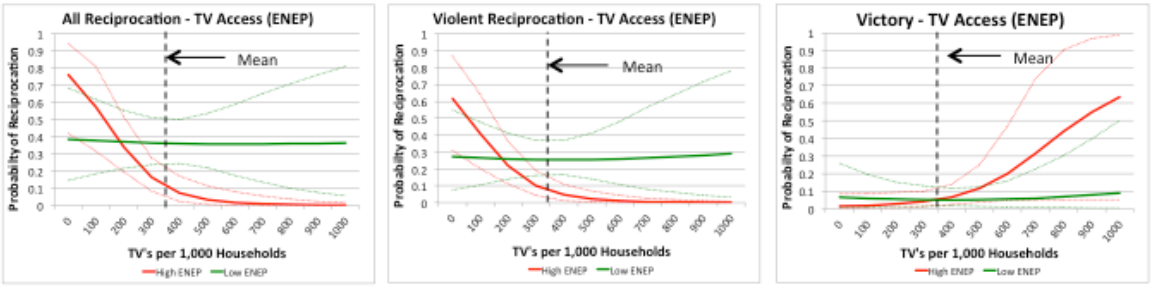
Appendix TABLE 5. Probability Victory, as Number of Parties and TV Access Vary from One Standard Deviation Below to One Standard Deviation Above the Mean Values Among Democracies				
All Reciprocation				
	Low TV Access	**High TV Access**	**Diff**	
Low-ENPP	0.10	0.04	-.06	
High-ENPP	0.01	0.35	0.35	*
Low-ENEP	0.05	0.05	0.00	
High-ENEP	0.02	0.20	0.20	**
*p<.05, **p<.01				

APPENDIX FIGURE 1. Probability of Reciprocating, as TV Access and Expected Number of Parliamentary Parties (ENPP) Vary (Ordered & Multinomial Logits)

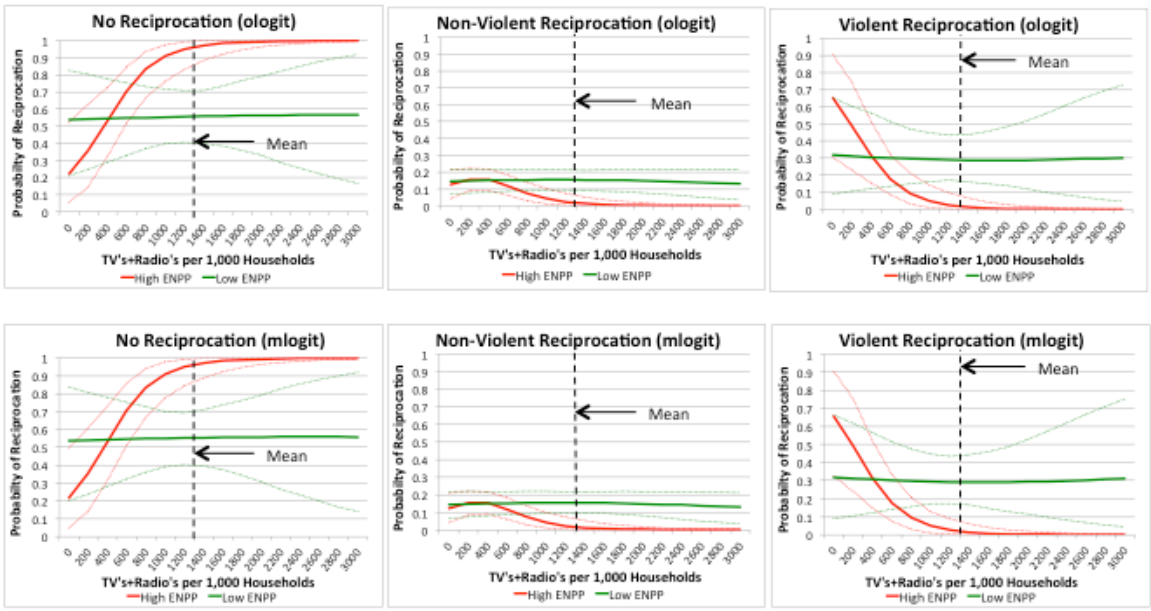


Note: Dotted lines represent 95% confidence intervals

APPENDIX FIGURE 2. Probability of Reciprocation or Victory, as TV Access or TV+Radio Access and Expected Number of Parties Vary

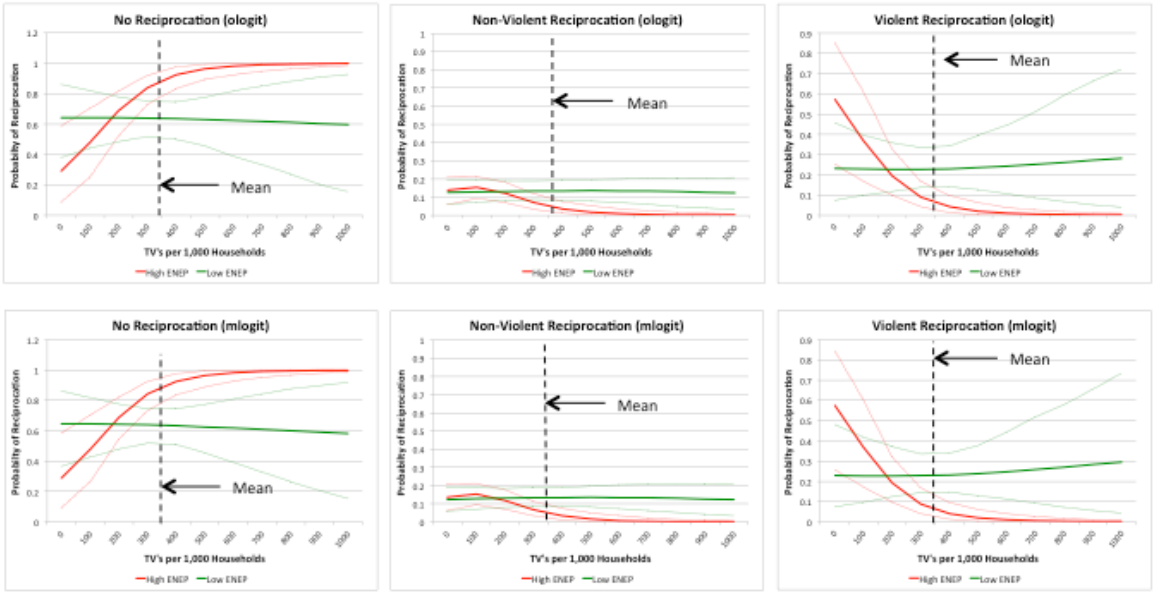


APPENDIX FIGURE 3. Probability of Reciprocating, as TV+ Radio Access and Expected Number of Parliamentary Parties (ENPP) Vary (Ordered & Multinomial Logits)



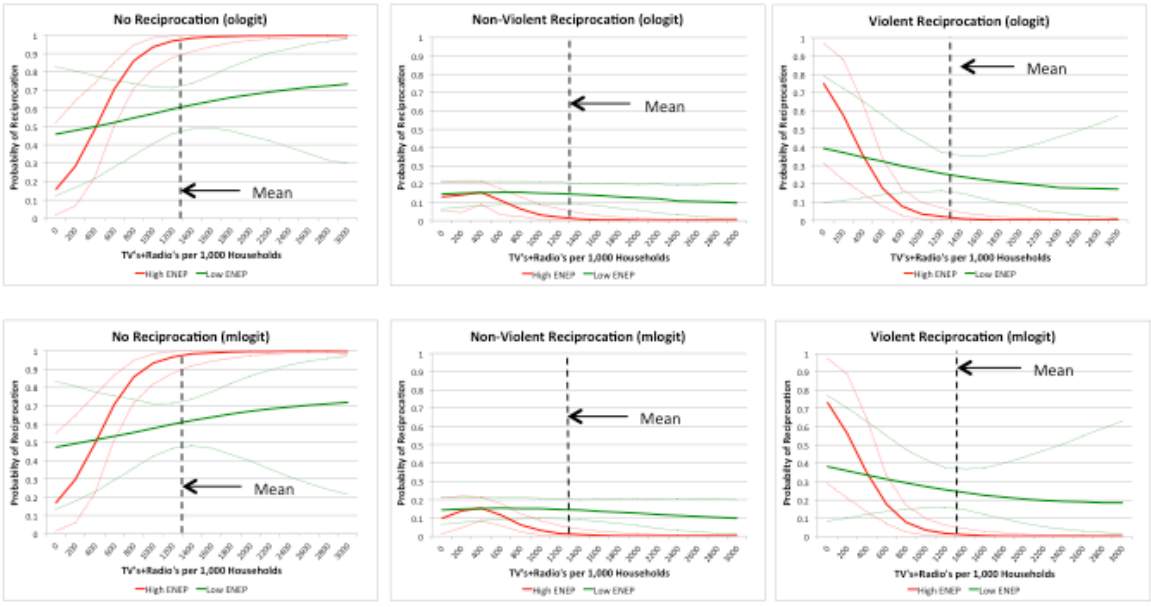
Note: Dotted lines represent 95% confidence intervals

APPENDIX FIGURE 4. Probability of Reciprocating, as TV and Expected Number of Electoral Parties (ENEP) Vary
(Ordered & Multinomial Logits)

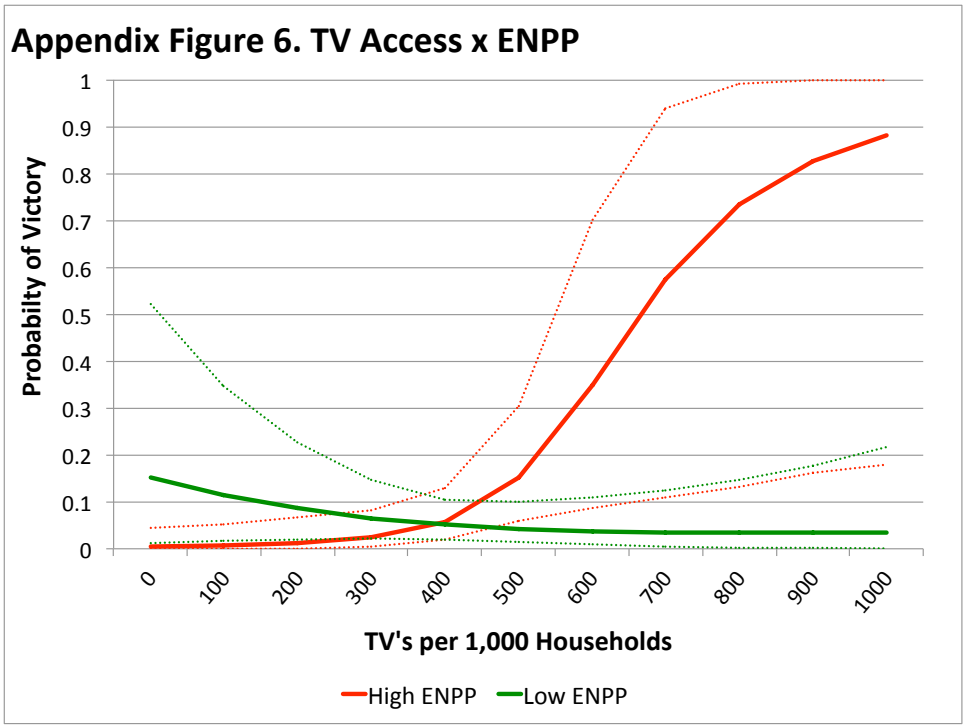


Note: Dotted lines represent 95% confidence intervals

APPENDIX FIGURE 5. Probability of Reciprocating, as TV + Radio Access and Expected Number of Electoral Parties (ENEP) Vary (Ordered & Multinomial Logits)



Note: Dotted lines represent 95% confidence intervals


Appendix Figure 6. TV Access x ENPP
Probabilty of Victory
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
100
200
300
400
500
600
700
800
900
1000
TV's per 1,000 Households
High ENPP
Low ENPP