Online Appendix

How Do Voters Respond to Information?
Evidence from a Randomized Campaign[*]

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Abstract

This Appendix provides additional materials that are also discussed in the paper. In Section A1, we report the English translation of the texts of the campaign mailers sent by the candidate. In Section A2, we report the English translation of the candidate's recorded messages for the campaign phone calls. In Section A3, we provide a vast array of validity tests and heterogeneity results.

Keywords: voting, information, beliefs elicitation, randomized controlled trial.

Online Appendix

For all materials related to our randomized controlled trial (including survey questionnaires; colored treatment flyers; audio files of the treatment phone calls; and maps of the treatment groups) please refer to the website: www.igier.unibocconi.it/randomized-campaign.

In Section A1, we report the English translation of the texts of the mail flyers (which are showed in Figures A4 and A5). In Section A2, we report the English translation of the candidate's recorded messages for the campaign phone calls (which can be listened online).

In Section A3, we report the following figures and tables:

- examples of voters' marginal and joint belief distributions (Figures A1, A2, and A3);

- flyers for both the valence and ideology message (Figures A4 and A5);

- balancing tests of precinct characteristics across treatment groups (Table A1);

- balancing tests of individual characteristics across treatment groups (Table A2);

- balancing tests of 2001 Census characteristics across treatment groups (Table A3);

- estimates of potential spillover effects (Table A4);

- complete summary of the structural model estimations (Tables A5 and A6);

- LR and Voung tests of the model selection (Tables A7, A8, and A9);

- heterogeneity estimates in different subsamples (Table A10).

A1 Mail Flyers: English Translation

Valence flyer. *COMPETENCE AND EFFORT. 100 million worth of investments: Spent in part on the Fortress, squares, streets, and parking lots. PIUSS, the integrated plan for the development of the city: The city of Arezzo was ranked first in Tuscany; this is an important accomplishment. Innovation: The digital center, the hydrogen pipeline, and the energy house. FANFANI FOR MAYOR.*

Ideology flyer. *AWARENESS AND SOLIDARITY. Children: Created an integrated system to cater the needs of all, opened 3 new public nursery schools. Elderly: In-home assistance, new public services to help families. A network of solidarity for the neediest: Housing, meal centers, work integration services. FANFANI FOR MAYOR.*

A2 Phone Call Recorded Messages: English Translation

Valence message. *Dear Voter, the 15th and 16th of May, the citizens of Arezzo will vote to elect the mayor and city councilmen. We all therefore have the opportunity to make an informed choice for the future of Arezzo. Over the last years, my administration invested 100 million Euros to develop and improve our city. Results are under the eyes of everyone and can be observed by simply looking at the Fortress, the squares, the streets, and the parking lots. Thanks to the quality of our work, the PIUSS—the plan for the development of the city of Arezzo—was ranked first among those in Tuscany. This was an important accomplishment that also enabled us to gain access to important financial resources to improve the prominence of our city. However, we did much more than this, we strived to boost innovation with the digital center, the hydrogen pipeline, and the energy house. Given also all these reasons, I take the liberty to ask for your vote in the election of the 15th and 16th of May. Reward our COMPETENCE and our EFFORT. Best regards from Giuseppe Fanfani.*

Ideology message. *Dear Voter, the 15th and 16th of May, the citizens of Arezzo will vote to elect the mayor and city councilmen. We all will have the opportunity to make an informed choice for the future of Arezzo. For us, future stands for SOLIDARITY. In these five years of city government, we dealt with issues regarding childhood creating an integrated system of services able to provide answers to all families and opening three new public nursery schools. We also took care of our elderly people, providing new services to help families assist them and increasing in-home assistance. At the same time, we definitely did not forget about those that found themselves living in difficult circumstances also because they were affected by the international crisis that severely struck our region. In fact, we increased housing, meal centers, and professional integration services for all those in need. Given also all these reasons, I take the liberty to ask for your vote in the election of the 15th and 16th of May. Make SOLIDARITY win! For an "Arezzo" careful and open to the hardships of those in need. Best regards from Giuseppe Fanfani.*

Valence plus ideology message. *Dear Voter, the 15th and 16th of May, the citizens of Arezzo will vote to elect the mayor and city councilmen. We all therefore have the opportunity to make an informed choice for the future of Arezzo. Over the last years, my administration invested 100 million Euros to develop and improve our city. Results are under the eyes of everyone and can observed by simply looking at the Fortress, the squares, the streets, and the parking lots. Thanks to the quality of our work, the PIUSS—the plan for the development of the city of Arezzo—was ranked first among those in Tuscany. At the same time, we definitely did not forget about those that found themselves living in difficult circumstances also because they were affected by the international crisis that severely struck our region. In fact, we increased housing, meal centers, and professional integration services for all those in need. Given also all these reasons, I take the liberty to ask for your vote in the election of the 15th and 16th of May. Reward our COMPETENCE and our EFFORT. Make SOLIDARITY win! For an Arezzo careful and open to the hardships of those in need. Best regards from Giuseppe Fanfani.*

A3 Appendix Figures and Tables

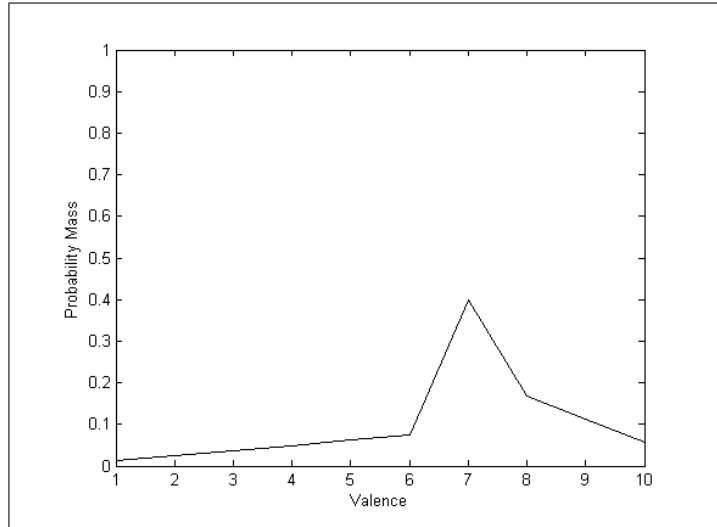Figure A1 – Prior Valence Marginal Distribution for Voter #371

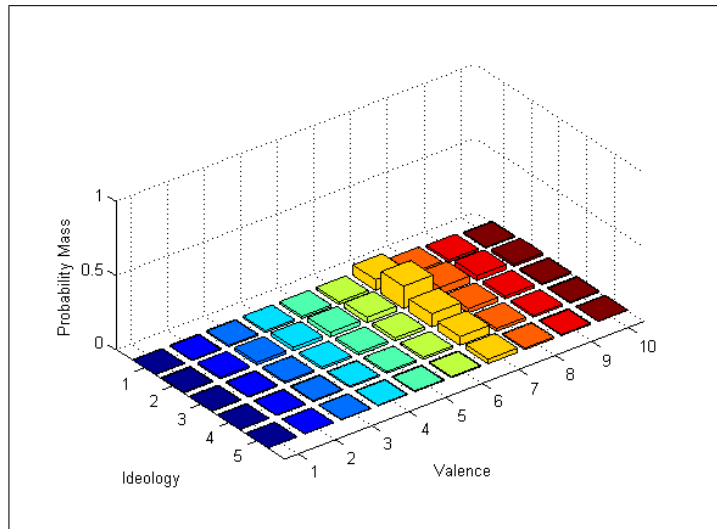Figure A2 – Prior Joint Probability Distribution for Voter #369

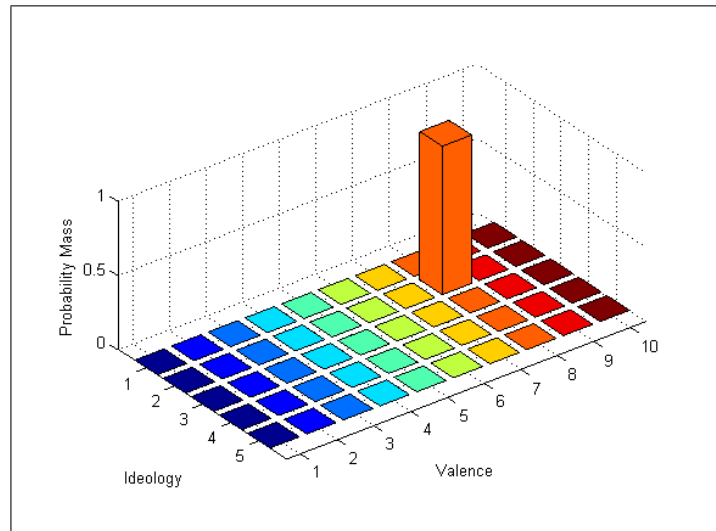Figure A3 – Posterior Joint Probability Distribution for Voter #369

Figure A4 – Campaign Flyer with the Valence Message

Figure A5 – Campaign Flyer with the Ideology Message

Table A1 – Ex-Ante Balancing Tests at the Precinct Level

	Reference group: no message					
	Valence by phone	Valence by mail	Ideology by phone	Ideology by mail	Double by phone	Double by mail
Eligible voters	-66.083	-101.583	19.250	-63.667*	-65.500	-6.083
	[96.591]	[70.235]	[57.771]	[36.922]	[66.886]	[56.033]
First neighborhood	0.036	0.036	0.203	-0.047	0.203	-0.047
	[0.136]	[0.112]	[0.178]	[0.112]	[0.123]	[0.109]
Second neighborhood	0.116	-0.051	-0.051	-0.051	-0.051	0.033
	[0.188]	[0.140]	[0.151]	[0.154]	[0.086]	[0.128]
Third neighborhood	-0.014	0.236	-0.098	0.152	-0.014	-0.098
	[0.190]	[0.172]	[0.134]	[0.199]	[0.169]	[0.134]
Fourth neighborhood	-0.138	-0.221	-0.054	-0.054	-0.138	0.112
	[0.149]	[0.141]	[0.146]	[0.164]	[0.139]	[0.129]
Regional '10 turnout	-0.005	-0.003	0.016	0.012	0.000	-0.002
	[0.025]	[0.016]	[0.010]	[0.010]	[0.010]	[0.014]
Regional '10 left	0.011	0.013	0.013	0.012	0.004	-0.021
	[0.015]	[0.019]	[0.013]	[0.017]	[0.013]	[0.013]
Regional '10 right	-0.015	-0.017	0.011	0.007	-0.006	0.019
	[0.015]	[0.014]	[0.012]	[0.018]	[0.011]	[0.018]
European '09 turnout	-0.004	0.008	0.019	0.013	0.002	0.007
	[0.026]	[0.012]	[0.012]	[0.013]	[0.011]	[0.012]
European '09 left	-0.012	0.015	-0.016	-0.014	0.018	-0.028
	[0.030]	[0.026]	[0.016]	[0.025]	[0.019]	[0.021]
European '09 right	0.009	-0.015	0.018	0.009	-0.014	0.026
	[0.022]	[0.021]	[0.015]	[0.024]	[0.020]	[0.020]
National '08 turnout	-0.014	0.012	0.002	0.002	0.005	0.000
	[0.025]	[0.008]	[0.006]	[0.007]	[0.007]	[0.009]
National '08 left	0.016	0.026	-0.015	-0.004	0.020	-0.019
	[0.019]	[0.019]	[0.019]	[0.028]	[0.020]	[0.017]
National '08 right	-0.018	-0.023	0.013	0.004	-0.024	0.023
	[0.020]	[0.017]	[0.017]	[0.028]	[0.021]	[0.018]
City '06 turnout	-0.002	0.008	0.012	0.009	0.011	-0.006
	[0.020]	[0.011]	[0.009]	[0.013]	[0.011]	[0.013]
City '06 left	0.016	0.035	-0.029	-0.017	0.009	-0.029
	[0.029]	[0.024]	[0.023]	[0.034]	[0.021]	[0.022]
City '06 right	-0.014	-0.037	0.028	0.014	-0.008	0.022
	[0.029]	[0.024]	[0.022]	[0.033]	[0.021]	[0.024]

Notes. Observations: 95 precincts, 86 (European), 84 (National), 83 (City). OLS coefficients reported; dependent variables in row headings and treatment groups in column headings. *Eligible voters* is the number of eligible voters in the precinct (average 820.168). The *neighborhood* dummies capture the city-wide neighborhood the precinct belongs to. The other variables are the electoral outcomes in past elections and are expressed as vote shares. Robust standard errors clustered at the polling place level in brackets. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table A2 – Ex-Post Balancing Tests at the Individual Level

	Reference group: no message					
	Valence by phone	Valence by mail	Ideology by phone	Ideology by mail	Double by phone	Double by mail
Male	0.008	0.014	0.034	0.004	0.006	0.042
	[0.039]	[0.050]	[0.038]	[0.038]	[0.047]	[0.039]
Over 65	-0.035	0.004	-0.012	0.086	-0.046	0.056
	[0.053]	[0.048]	[0.048]	[0.053]	[0.042]	[0.048]
College graduate	-0.004	-0.027	0.010	0.008	0.035	-0.016
	[0.035]	[0.041]	[0.041]	[0.047]	[0.045]	[0.040]
Out of labor force	-0.019	0.010	-0.037	0.048	-0.041	0.050
	[0.052]	[0.054]	[0.058]	[0.059]	[0.050]	[0.053]
White collar	0.029	-0.005	0.032	-0.013	0.008	-0.013
	[0.045]	[0.043]	[0.038]	[0.041]	[0.039]	[0.038]
Other occupation	-0.010	-0.005	0.006	-0.035	0.033	-0.037
	[0.049]	[0.041]	[0.040]	[0.039]	[0.042]	[0.051]
Center-left	0.045	0.058	-0.009	-0.033	-0.059	0.014
	[0.044]	[0.055]	[0.048]	[0.040]	[0.042]	[0.059]
Home owner	-0.017	-0.007	-0.045	0.027	0.007	-0.037
	[0.040]	[0.030]	[0.039]	[0.036]	[0.033]	[0.028]
Read the press	0.037	-0.007	0.025	-0.024	0.032	0.048
	[0.036]	[0.038]	[0.042]	[0.052]	[0.049]	[0.047]
Watch TV	0.034	-0.016	0.038	0.068	-0.033	0.055
	[0.042]	[0.055]	[0.039]	[0.046]	[0.042]	[0.038]

Notes. Observations: 1,455 eligible voters. OLS coefficients reported; dependent variables in row headings and treatment groups in column headings. All variables are dummies. *Read the press* and *Watch TV* capture whether the voter declares to do this "very often" or "often." Fixed effects for survey date included. Robust standard errors clustered at the precinct level in brackets. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table A3 – Ex-Post Balancing Tests of 2001 Census Characteristics

	Valence by phone	Valence by mail	Ideology by phone	Ideology by mail	Double by phone	Double by mail
			Reference group: no message			
Males	-5.112	-1.318	-8.103	-1.957	-2.587	1.187
	[7.450]	[6.922]	[6.353]	[7.245]	[5.220]	[8.773]
Married people	-5.780	-1.608	-8.986	-2.040	-2.863	1.256
	[8.041]	[7.496]	[6.905]	[7.955]	[5.697]	[9.541]
College graduates	-0.507	0.093	-0.712	0.473	-0.177	0.748
	[0.661]	[0.568]	[0.492]	[0.725]	[0.499]	[1.058]
Foreigners	-0.400	-0.178	-0.311	-0.255	-0.395	-0.129
	[0.339]	[0.339]	[0.330]	[0.339]	[0.310]	[0.395]
Employment rate	0.002	-0.003	-0.000	-0.002	0.005	-0.001
	[0.006]	[0.006]	[0.005]	[0.004]	[0.005]	[0.004]
Unemployment rate	-0.001	0.004	0.001	0.000	-0.001	0.003
	[0.005]	[0.004]	[0.004]	[0.004]	[0.005]	[0.004]
Home ownership	0.011	-0.028	-0.012	-0.023	-0.012	-0.003
	[0.025]	[0.038]	[0.030]	[0.025]	[0.027]	[0.025]

Notes. Observations: 95 precincts. OLS coefficients reported; dependent variables in row headings and treatment groups in column headings. All variables are imputed at the precinct level from information on the 2001 Census cells. *Males*, *Married people*, *College graduates*, and *Foreigners* capture the average number of individuals with that attribute at the precinct level. *Employment rate*, *Unemployment rate*, and *Home ownership* are expressed as shares. In particular, *home ownership* is the share of houses occupied by the owner. Robust standard errors clustered at the polling place level in brackets. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table A4 – Reduced-Form Aggregate Estimates, Phone Calls

| | Reference group: mail or no message | | |
	Valence by phone	Ideology by phone	Double by phone
Turnout	-0.012	0.012	-0.006
	[0.030]	[0.011]	[0.010]
Incumbent share	0.040**	0.012	0.026*
	[0.019]	[0.015]	[0.013]
Incumbent parties	0.026	0.008	0.014
	[0.020]	[0.016]	[0.012]

Notes. Observations: 95 precincts. OLS coefficients reported; dependent variables in row headings and treatment groups in column headings. Robust standard errors clustered at the polling place level in brackets. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table A5 – Reduced-Form Individual Estimates, Phone Calls

| | Reference group: mail or no message | | |
	Valence by phone	Ideology by phone	Double by phone
Turnout	-0.026	0.005	-0.021
	[0.023]	[0.023]	[0.023]
Incumbent share	0.110***	0.035	0.051
	[0.033]	[0.043]	[0.045]
Incumbent parties	0.123***	0.005	0.022
	[0.032]	[0.053]	[0.044]

Notes. Observations: 1,455 eligible voters (turnout); 1,306 actual voters (vote shares). Probit marginal effects reported; dependent variables in row headings and treatment groups in column headings. Fixed effects for survey date included. Robust standard errors clustered at the precinct level in brackets. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table A6 – Evaluating Potential Spillovers, All Groups

	Reference group: no message					
	Valence by phone spillovers	Valence by mail spillovers	Ideology by phone spillovers	Ideology by mail spillovers	Double by phone spillovers	Double by mail spillovers
Turnout	0.032	-0.034	0.010	0.047	0.003	0.028
	[0.048]	[0.055]	[0.044]	[0.060]	[0.042]	[0.054]
Incumbent share	0.099	-0.113	0.064	-0.020	0.124	0.005
	[0.077]	[0.082]	[0.080]	[0.100]	[0.076]	[0.099]
Incumbent parties	0.081	-0.147	-0.035	-0.118	0.038	0.006
	[0.079]	[0.098]	[0.096]	[0.104]	[0.089]	[0.115]

Notes. Observations: 1,455 eligible voters (turnout); 1,306 actual voters (vote shares). OLS coefficients reported; dependent variables in row headings and treatment groups in column headings. Each *spillovers* variable captures the share of observations who received the corresponding treatment in the same polling place of every observation. Average values are: 0.135 (valence by phone); 0.099 (valence by mail); 0.151 (ideology by phone); 0.106 (ideology by mail); 0.135 (double by phone); 0.113 (double by mail). Fixed effects for survey date included. Robust standard errors clustered at the precinct level in brackets. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table A7 – Model Estimates with Heterogeneous Preference Parameters

Model description										
Copula family:	FGM	Frank	Indp	FGM	FGM	FGM	Frank	Frank	Frank	Indp
Same alpha:	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Rho specification:	Standard	Standard	-	Standard	Hetero	Restricted	Standard	Hetero	Restricted	-
Parameter										
β_A=Pr(response|A)	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
β_B=Pr(response|B)	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
γ/γ^L	1.08	1.08	1.07	1.09	1.09	1.09	1.10	1.10	1.08	1.08
	(0.23)	(0.23)	(0.21)	(0.23)	(0.23)	(0.22)	(0.23)	(0.23)	(0.22)	(0.21)
γ^C	1.11	1.11	1.11	1.10	1.11	1.11	1.10	1.12	1.11	1.10
	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.15)	(0.15)	(0.14)
γ^R	0.36	0.37	0.36	0.36	0.35	0.35	0.35	0.33	0.37	0.37
	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.14)	(0.13)	(0.13)
ζ/ζ^L	0.34	0.34	0.34	0.34	0.34	0.34	0.33	0.33	0.34	0.34
	(0.22)	(0.22)	(0.21)	(0.22)	(0.22)	(0.22)	(0.21)	(0.21)	(0.22)	(0.21)
ζ^C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.49)	(0.49)	(0.48)	(0.48)	(0.47)	(0.47)	(0.49)	(0.45)	(0.45)	(0.49)
ζ^R	1.03	1.03	1.00	1.02	1.04	1.02	1.03	1.10	0.98	0.98
	(0.33)	(0.32)	(0.32)	(0.32)	(0.33)	(0.32)	(0.32)	(0.33)	(0.31)	(0.32)
χ/χ^L	0.18	0.18	0.18	0.19	0.19	0.18	0.19	0.20	0.19	0.18
	(0.15)	(0.15)	(0.14)	(0.15)	(0.15)	(0.15)	(0.15)	(0.15)	(0.15)	(0.14)
χ^C	0.02	0.02	0.02	0.03	0.03	0.03	0.02	0.04	0.04	0.02
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.10)	(0.09)	(0.09)
χ^R	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.05	-0.03	-0.03
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.05)	(0.05)
$\phi_{V,3}$	0.38	0.37	0.40	0.37	0.37	0.36	0.36	0.36	0.40	0.40
	(0.15)	(0.15)	(0.15)	(0.15)	(0.16)	(0.16)	(0.15)	(0.16)	(0.16)	(0.15)
$\phi_{V,2}$	0.38	0.37	0.40	0.37	0.37	0.36	0.36	0.36	0.40	0.40
	(0.32)	(0.32)	(0.31)	(0.29)	(0.30)	(0.29)	(0.28)	(0.28)	(0.30)	(0.28)
$\alpha_V/\alpha_{V,3}$	0.59	0.58	0.59	0.56	0.56	0.56	0.56	0.56	0.56	0.56
	(0.06)	(0.06)	(0.07)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)	(0.05)
$\alpha_{V,2}$	0.51	0.51	0.51	-	-	-	-	-	-	-
	(0.10)	(0.10)	(0.10)	-	-	-	-	-	-	-
$\phi_{P,3}$	0.58	0.58	0.59	0.57	0.57	0.57	0.57	0.55	0.56	0.58
	(0.17)	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)	(0.15)	(0.15)	(0.16)
$\phi_{P,2}$	0.38	0.38	0.38	0.37	0.36	0.37	0.37	0.33	0.37	0.38
	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.19)	(0.19)	(0.19)	(0.19)
$\alpha_P/\alpha_{P,3}$	0.71	0.71	0.72	0.70	0.69	0.70	0.69	0.68	0.70	0.71
	(0.23)	(0.23)	(0.24)	(0.18)	(0.18)	(0.18)	(0.18)	(0.17)	(0.18)	(0.19)
$\alpha_{P,2}$	0.69	0.69	0.69	-	-	-	-	-	-	-
	(0.30)	(0.30)	(0.30)	-	-	-	-	-	-	-
ρ_A/ρ_A^L	-1.00	-13.67	-	-1.00	-1.00	-1.00	-8.24	-30.00	-30.00	-
	(10.62)	(261.31)	-	(10.37)	(11.69)	(11.58)	(90.46)	(1703.1)	(1717.1)	-
ρ_A^C	-	-	-	-	1.00	1.00	-	14.17	13.22	-
	-	-	-	-	(134.16)	(136.54)	-	(4054.00)	(4003.60)	-
ρ_A^R	-	-	-	-	1.00	-	-	30.00	-	-
	-	-	-	-	(15.42)	-	-	(786.89)	-	-
ρ_B/ρ_B^L	-1.00	-30.00	-	-1.00	-1.00	-1.00	-30.00	-30.00	-29.99	-
	(18.42)	(2035.20)	-	(17.90)	(18.95)	(13.53)	(1952.30)	(1969.40)	(1796.20)	-
ρ_B^C	-	-	-	-	1.00	1.00	-	8.43	8.23	-
	-	-	-	-	(190.48)	(195.53)	-	(2618.30)	(3160.70)	-
ρ_B^R	-	-	-	-	-1.00	-	-	-30.00	-	-
	-	-	-	-	(42.58)	-	-	(5325.70)	-	-
Loglikelihood	-1043.20	-1042.90	-1043.30	-1043.40	-1043.30	-1043.40	-1043.10	-1042.60	-1043.10	-1043.60
Observations	1,306	1,306	1,306	1,306	1,306	1,306	1,306	1,306	1,306	1,306

Notes. Asymptotic standard errors in brackets. Preference parameters are allowed to vary with voter's ideology (L,C,R); based on LR tests, our preferred specification is with independent copula and same alpha. *Copula family*: "FGM" stands for Farlie-Gumbel-Morgensen; "Frank" stands for Frank family; "Indp" for . *Same alpha*: "yes" forces skew of marginals to be the same for each level of stated uncertainty; "no" allows the skew to differ. *Rho specification*: "standard" means baseline ρ_A and ρ_B; "hetero" allows ρ_A and ρ_B to vary with voter's ideology; "restricted" forces $\rho_A^L = \rho_B^R$ and $\rho_A^R = \rho_B^L$.

Table A8 – Model Estimates without Heterogeneous Preference Parameters

Model description										
Copula family:	FGM	Frank	Indp	FGM	FGM	FGM	Frank	Frank	Frank	Indp
Same alpha:	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Rho specification:	Standard	Standard	-	Standard	Hetero	Restricted	Standard	Hetero	Restricted	-
Parameter										
β_A =Pr(response|A)	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
β_B =Pr(response|B)	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
γ/γ^L	0.89	0.91	0.90	0.88	0.88	0.90	0.91	0.91	0.91	0.89
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
γ^C	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
γ^R	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
ζ/ζ^L	0.65	0.68	0.69	0.69	0.68	0.65	0.66	0.66	0.68	
	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)
ζ^C	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
ζ^R	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
χ/χ^L	0.05	0.06	0.05	0.04	0.04	0.05	0.06	0.06	0.06	0.05
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
χ^C	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
χ^R	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
$\phi_{V,3}$	0.40	0.35	0.35	0.34	0.40	0.34	0.34	0.34	0.34	0.34
	(0.17)	(0.16)	(0.15)	(0.15)	(0.17)	(0.17)	(0.16)	(0.16)	(0.16)	(0.16)
$\phi_{V,2}$	0.40	0.35	0.35	0.34	0.40	0.34	0.34	0.34	0.34	0.34
	(0.30)	(0.29)	(0.29)	(0.24)	(0.30)	(0.25)	(0.28)	(0.29)	(0.29)	(0.28)
$\alpha_V/\alpha_{V,3}$	0.54	0.54	0.54	0.51	0.52	0.52	0.52	0.52	0.52	0.52
	(0.07)	(0.06)	(0.06)	(0.05)	(0.06)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
$\alpha_{V,2}$	0.50	0.50	0.50	-	-	-	-	-	-	-
	(0.11)	(0.10)	(0.10)	-	-	-	-	-	-	-
$\phi_{P,3}$	0.60	0.58	0.61	0.65	0.65	0.60	0.61	0.58	0.62	0.65
	(0.17)	(0.15)	(0.15)	(0.17)	(0.17)	(0.15)	(0.16)	(0.15)	(0.15)	(0.15)
$\phi_{P,2}$	0.60	0.55	0.61	0.65	0.65	0.60	0.61	0.58	0.61	0.65
	(0.33)	(0.32)	(0.32)	(0.27)	(0.28)	(0.26)	(0.26)	(0.27)	(0.26)	(0.26)
$\alpha_P/\alpha_{P,3}$	0.80	0.77	0.81	0.81	0.82	0.77	0.77	0.74	0.77	0.81
	(0.26)	(0.23)	(0.27)	(0.28)	(0.28)	(0.22)	(0.23)	(0.20)	(0.23)	(0.27)
$\alpha_{P,2}$	0.69	0.65	0.70	-	-	-	-	-	-	-
	(0.42)	(0.35)	(0.44)	-	-	-	-	-	-	-
ρ_A/ρ_A^L	-1.00	-30.00	-	-1.00	-1.00	1.00	-30.00	-30.00	29.99	-
	(18.09)	(1993.00)	-	(22.79)	(38.48)	(24.90)	(2120.70)	(3038.50)	(2786.20)	-
ρ_A^C	-	-	-	-	1.00	1.00	-	30.00	29.60	-
	-	-	-	-	(53.29)	(41.32)	-	(1849.70)	(7268.40)	-
ρ_A^R	-	-	-	-	-1.00	-	-	-30.00	-	-
	-	-	-	-	(41.50)	-	-	(2997.90)	-	-
ρ_B/ρ_B^L	1.00	29.99	-	1.00	-1.00	-1.00	29.99	-30.00	-30.00	-
	(29.21)	(1633.70)	-	(37.36)	(51.93)	(22.23)	(3674.60)	(4066.60)	(2467.70)	-
ρ_B^C	-	-	-	-	1.00	1.00	-	22.42	27.94	-
	-	-	-	-	(86.81)	(63.35)	-	(6915.90)	(11627.00)	-
ρ_B^R	-	-	-	-	-1.00	-	-	-30.00	-	-
	-	-	-	-	(81.43)	-	-	(7895.00)	-	-
Loglikelihood	-1057.70	-1057.40	-1057.70	-1057.90	-1057.94	-1057.70	-1057.50	-1057.50	-1057.40	-1057.90
Observations	1,306	1,306	1,306	1,306	1,306	1,306	1,306	1,306	1,306	1,306

Notes. Asymptotic standard errors in brackets. Unlike Table A3, preference parameters are not allowed to vary with voter's ideology (L,C,R); based on LR tests, these are not our preferred specifications but we report them for completeness. *Copula family*: "FGM" stands for Farlie-Gumbel-Morgensen; "Frank" stands for Frank family; "Indp" for . *Same alpha*: "yes" forces skew of marginals to be the same for each level of stated uncertainty; "no" allows the skew to differ. *Rho specification*: "standard" means baseline ρ_A and ρ_B; "hetero" allows ρ_A and ρ_B to vary with voter's ideology; "restricted" forces $\rho_A^L = \rho_B^R$ and $\rho_A^R = \rho_B^L$.

Table A9 – LR Tests: Restriction of Preference Parameters
To Be the Same across Voter's Ideology

Copula	Test statistic	P-value
FGM	28.94	0.00
Frank	28.86	0.00
Independent	28.62	0.00

Notes. Skew restricted to be the same across levels of stated uncertainty. Standard ρ specification.

Table A10 – LR Tests: Restriction of Skew
To Be the Same across Levels of Uncertainty

Preferences	Copula	Test statistic	P-value
Homogeneous	FGM	0.29	0.86
Homogeneous	Frank	0.37	0.83
Homogeneous	Indp	0.38	0.83
Heterogeneous	FGM	0.49	0.78
Heterogeneous	Frank	0.39	0.82
Heterogeneous	Indp	0.54	0.76

Notes. Standard ρ specification.

Table A11 – Vuong Tests: Copula Comparisons

Preferences	Copula comparison	Rho specification	Test statistic	P-value	Preferred copula
Homogeneous	Frank vs. FGM	Standard	0.76	0.45	Frank
Homogeneous	Independent vs. FGM	Standard	39.48	0.00	Independent
Homogeneous	Independent vs. Frank	Standard	17.93	0.00	Independent
Heterogeneous	Frank vs. FGM	Standard	1.05	0.29	Frank
Heterogeneous	Independent vs. FGM	Standard	22.67	0.00	Independent
Heterogeneous	Independent vs. Frank	Standard	12.61	0.00	Independent
Heterogeneous	Independent vs. FGM	Heterogeneous	52.08	0.00	Independent
Heterogeneous	Independent vs. Frank	Heterogeneous	26.59	0.00	Independent
Homogeneous	Independent vs. FGM	Heterogeneous	12.9	0.00	Independent
Homogeneous	Independent vs. Frank	Heterogeneous	35.93	0.00	Independent
Heterogeneous	Independent vs. FGM	Restricted	37.19	0.00	Independent
Heterogeneous	Independent vs. Frank	Restricted	30.78	0.00	Independent
Homogeneous	Independent vs. FGM	Restricted	40.57	0.00	Independent
Homogeneous	Independent vs. Frank	Restricted	34.77	0.00	Independent

Notes. Skew restricted to be the same across level of stated uncertainty.

Table A12 – Beliefs about Incumbent from Model Estimates

| | Reference group: mail or no message | | |
	Valence by phone	Ideology by phone	Double by phone
Average valence	0.310** [0.148]	-0.022 [0.142]	-0.100 [0.098]
Valence std. dev.	0.005 [0.082]	0.063 [0.095]	0.025 [0.093]
Average ideology	0.015 [0.063]	-0.121** [0.056]	-0.102* [0.055]
Ideology std. dev.	-0.036 [0.060]	-0.090** [0.039]	-0.127*** [0.044]

Notes. Observations: 1,306 actual voters. OLS coefficients reported; dependent variables in row headings and treatment groups in column headings. Fixed effects for survey date included. Robust standard errors clustered at the precinct level in brackets. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table A13 – Beliefs about Opponent from Model Estimates

| | Reference group: mail or no message | | |
	Valence by phone	Ideology by phone	Double by phone
Average valence	-0.127 [0.081]	-0.045 [0.133]	-0.071 [0.094]
Valence std. dev.	-0.077 [0.110]	-0.096 [0.107]	-0.048 [0.132]
Average ideology	-0.075 [0.067]	0.189** [0.075]	-0.032 [0.070]
Ideology std. dev.	0.041 [0.075]	-0.177*** [0.064]	-0.091 [0.057]

Notes. Observations: 1,306 actual voters. OLS coefficients reported; dependent variables in row headings and treatment groups in column headings. Fixed effects for survey date included. Robust standard errors clustered at the precinct level in brackets. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table A14 – Heterogeneity Results by Individual Characteristics and Beliefs

	Turnout	Incumbent share	Incumbent parties	Incumbent valence	Opponent valence	Incumbent ideology	Opponent ideology
Valence by phone	-0.020	0.008	0.021	0.325*	-0.362**	0.014	0.019
on males	[0.050]	[0.073]	[0.072]	[0.185]	[0.154]	[0.062]	[0.098]
Valence by phone	-0.026	0.163***	0.174***	0.312	0.027	-0.082	0.029
on females	[0.031]	[0.054]	[0.048]	[0.213]	[0.153]	[0.069]	[0.060]
P-value of the difference	*0.897*	*0.142*	*0.132*	*0.785*	*0.086*	*0.771*	*0.854*
Ideology by phone	-0.003	-0.036	-0.047	-0.115	-0.069	-0.020	0.216**
on males	[0.039]	[0.068]	[0.066]	[0.217]	[0.160]	[0.086]	[0.093]
Ideology by phone	0.012	0.078	0.043	0.011	-0.057	-0.145**	0.120
on females	[0.028]	[0.054]	[0.064]	[0.190]	[0.167]	[0.061]	[0.073]
P-value of the difference	*0.745*	*0.050*	*0.086*	*0.457*	*0.892*	*0.729*	*0.263*
Double by phone	-0.053	0.083	0.013	0.107	-0.149	-0.007	-0.008
on males	[0.046]	[0.074]	[0.084]	[0.211]	[0.188]	[0.103]	[0.129]
Double by phone	-0.002	0.036	0.026	-0.195	-0.012	-0.081	-0.018
on females	[0.028]	[0.065]	[0.061]	[0.146]	[0.103]	[0.056]	[0.089]
P-value of the difference	*0.386*	*0.844*	*0.634*	*0.326*	*0.705*	*0.873*	*0.911*
Valence by phone	0.012	0.180***	0.204***	0.443	-0.206	0.127	0.046
on over 65	[0.044]	[0.056]	[0.054]	[0.326]	[0.253]	[0.089]	[0.112]
Valence by phone	-0.045*	0.074*	0.084*	0.292*	-0.072	-0.109*	-0.016
on under 65	[0.026]	[0.043]	[0.047]	[0.153]	[0.114]	[0.061]	[0.065]
P-value of the difference	*0.379*	*0.147*	*0.182*	*0.361*	*0.681*	*0.094*	*0.585*
Ideology by phone	0.020	0.042	0.061	-0.241	-0.253	-0.126	0.177*
on over 65	[0.040]	[0.084]	[0.085]	[0.289]	[0.259]	[0.090]	[0.101]
Ideology by phone	-0.010	0.018	-0.033	0.036	0.050	-0.110	0.110
on under 65	[0.032]	[0.041]	[0.056]	[0.179]	[0.159]	[0.074]	[0.075]
P-value of the difference	*0.931*	*0.590*	*0.196*	*0.680*	*0.172*	*0.449*	*0.615*
Double by phone	-0.014	-0.027	-0.018	-0.454**	-0.058	0.031	-0.115
on over 65	[0.068]	[0.088]	[0.084]	[0.222]	[0.134]	[0.139]	[0.125]
Double by phone	-0.027	0.079	0.031	0.102	-0.039	-0.065	-0.006
on under 65	[0.029]	[0.054]	[0.051]	[0.141]	[0.124]	[0.067]	[0.066]
P-value of the difference	*0.792*	*0.410*	*0.583*	*0.120*	*0.845*	*0.955*	*0.353*
Valence by phone	0.008	0.060	0.028	0.068	0.181	-0.028	-0.021
on college grads	[0.050]	[0.096]	[0.086]	[0.204]	[0.255]	[0.119]	[0.124]
Valence by phone	-0.034	0.114***	0.139***	0.365**	-0.150	-0.064	0.034
on non-college	[0.026]	[0.040]	[0.041]	[0.173]	[0.116]	[0.070]	[0.056]
P-value of the difference	*0.874*	*0.483*	*0.163*	*0.214*	*0.199*	*0.562*	*0.710*
Ideology by phone	0.007	0.263***	0.139	0.177	-0.355	-0.211*	0.014
on college grads	[0.037]	[0.086]	[0.101]	[0.217]	[0.332]	[0.112]	[0.125]
Ideology by phone	0.003	-0.022	-0.027	-0.088	0.031	-0.079	0.170**
on non-college	[0.024]	[0.050]	[0.051]	[0.170]	[0.118]	[0.057]	[0.069]
P-value of the difference	*0.276*	*0.028*	*0.254*	*0.407*	*0.403*	*0.292*	*0.235*
Double by phone	0.003	0.020	0.023	-0.432	-0.048	-0.051	-0.078
on college grads	[0.038]	[0.085]	[0.099]	[0.416]	[0.247]	[0.109]	[0.116]
Double by phone	-0.027	0.069	0.023	0.021	-0.055	-0.057	-0.013
on non-college	[0.028]	[0.052]	[0.043]	[0.149]	[0.117]	[0.061]	[0.069]
P-value of the difference	*0.941*	*0.397*	*0.657*	*0.255*	*0.630*	*0.791*	*0.590*

Table A14 (contd.) – Heterogeneity Results by Individual Characteristics and Beliefs

	Turnout	Incumbent share	Incumbent parties	Incumbent valence	Opponent valence	Incumbent ideology	Opponent ideology
Valence by phone	0.004	0.078*	0.116***	0.251	-0.140	-0.066	0.075
on center-left	[0.023]	[0.044]	[0.039]	[0.209]	[0.145]	[0.064]	[0.073]
Valence by phone	-0.073	0.106*	0.079	0.362	0.005	-0.031	-0.072
on center-right	[0.045]	[0.055]	[0.061]	[0.246]	[0.168]	[0.072]	[0.103]
P-value of the difference	*0.080*	*0.532*	*0.874*	*0.742*	*0.980*	*0.876*	*0.383*
Ideology by phone	0.028	0.034	0.005	-0.092	-0.225	-0.095	0.137*
on center-left	[0.020]	[0.046]	[0.061]	[0.210]	[0.199]	[0.069]	[0.071]
Ideology by phone	-0.011	0.055	0.018	0.109	0.207	-0.105	0.167*
on center-right	[0.042]	[0.055]	[0.046]	[0.193]	[0.211]	[0.107]	[0.100]
P-value of the difference	*0.496*	*0.516*	*0.523*	*0.315*	*0.332*	*0.851*	*0.641*
Double by phone	-0.030	0.080	0.080	0.083	-0.018	0.005	-0.001
on center-left	[0.029]	[0.055]	[0.057]	[0.121]	[0.134]	[0.065]	[0.080]
Double by phone	-0.002	0.085	0.015	-0.181	-0.136	-0.119	-0.009
on center-right	[0.038]	[0.062]	[0.058]	[0.185]	[0.165]	[0.104]	[0.090]
P-value of the difference	*0.355*	*0.601*	*0.620*	*0.567*	*0.287*	*0.267*	*0.873*
Valence by phone	-0.063*	0.061	0.081	0.008	-0.121	-0.055	0.005
on informed voters	[0.037]	[0.062]	[0.056]	[0.204]	[0.168]	[0.074]	[0.084]
Valence by phone	0.005	0.148***	0.155***	0.571***	-0.070	-0.061	0.042
on uninformed voters	[0.034]	[0.050]	[0.055]	[0.192]	[0.143]	[0.062]	[0.070]
P-value of the difference	*0.265*	*0.597*	*0.632*	*0.031*	*0.786*	*0.406*	*0.271*
Ideology by phone	0.002	0.037	0.005	-0.062	0.084	-0.140*	0.114
on informed voters	[0.045]	[0.076]	[0.065]	[0.183]	[0.241]	[0.080]	[0.090]
Ideology by phone	0.006	0.043	0.013	0.024	-0.134	-0.098	0.168*
on uninformed voters	[0.031]	[0.071]	[0.072]	[0.180]	[0.145]	[0.090]	[0.091]
P-value of the difference	*0.934*	*0.769*	*0.795*	*0.936*	*0.452*	*0.492*	*0.130*
Double by phone	-0.019	0.032	-0.023	-0.207	0.017	-0.116*	0.079
on informed voters	[0.033]	[0.052]	[0.059]	[0.139]	[0.170]	[0.062]	[0.096]
Double by phone	-0.025	0.067	0.056	-0.027	-0.115	-0.002	-0.098
on uninformed voters	[0.031]	[0.073]	[0.052]	[0.136]	[0.096]	[0.093]	[0.080]
P-value of the difference	*0.855*	*0.872*	*0.298*	*0.479*	*0.459*	*0.786*	*0.499*
Valence by phone	-0.028	0.206***	0.206***	0.318	-0.156	-0.012	0.047
if candidates close	[0.036]	[0.053]	[0.053]	[0.256]	[0.149]	[0.066]	[0.070]
Valence by phone	-0.007	-0.021	0.009	0.308	-0.012	-0.084	-0.009
if candidates far away	[0.035]	[0.061]	[0.059]	[0.192]	[0.120]	[0.073]	[0.063]
P-value of the difference	*0.936*	*0.004*	*0.025*	*0.794*	*0.272*	*0.267*	*0.680*
Ideology by phone	0.006	0.048	0.050	-0.034	-0.036	-0.136**	0.139*
if candidates close	[0.027]	[0.061]	[0.065]	[0.152]	[0.190]	[0.067]	[0.078]
Ideology by phone	0.002	-0.001	-0.085	-0.044	0.023	-0.070	0.112
if candidates far away	[0.042]	[0.065]	[0.066]	[0.247]	[0.172]	[0.112]	[0.096]
P-value of the difference	*0.756*	*0.350*	*0.156*	*0.766*	*0.583*	*0.646*	*0.806*
Double by phone	-0.018	0.007	0.041	-0.027	-0.084	-0.104	-0.041
if candidates close	[0.023]	[0.054]	[0.063]	[0.124]	[0.116]	[0.086]	[0.087]
Double by phone	-0.036	0.173*	-0.019	-0.201	0.048	0.041	0.029
if candidates far away	[0.041]	[0.095]	[0.077]	[0.234]	[0.149]	[0.128]	[0.092]
P-value of the difference	*0.569*	*0.250*	*0.622*	*0.632*	*0.154*	*0.465*	*0.721*

Notes. Observations: 1,455 eligible voters (turnout); 1,306 actual voters (vote shares and beliefs). OLS coefficients reported; dependent variables are specified in column headings, treatment groups and heterogeneity subsamples are specified in row headings. *P-value of the difference* captures the statistical significance of the difference of the point estimates in the two heterogeneity subsamples. Fixed effects for survey date included. Robust standard errors clustered at the precinct level in brackets. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.