Why Botter:

How Pro-Government Bots Fight Opposition in Russia

Regression Results Appendix

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Table 1: Main Results (Figures 2–5)

	(1)	(2)	(3)	(4)
Protest days	0.169*	0.158*	-0.193*	0.852*
	(0.012)	(0.011)	(0.016)	(0.030)
Online spikes	0.307*	0.251*	0.251*	0.384*
	(0.011)	(0.010)	(0.015)	(0.031)
10 placebo days	0.025	0.020	0.073	0.015
	(0.018)	(0.018)	(0.025)	(0.092)
Constant	0.449*	0.356*	-0.120*	-2.495*
	(0.024)	(0.019)	(0.027)	(0.089)
N	438,974	438,974	438,974	438,974

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in Fig 2 – 5 of the main paper. Dependent variables are: (1) Volume, (2) Retweet diversity, (3) Cheerleading, (4) Negative campaigning. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 2: Appendix F, Fig. 3 (protest lags)

	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Protest days (lagged)	0.169* (0.012)	0.178* (0.010)	0.141* (0.009)	0.111* (0.008)	0.106* (0.007)	0.095* (0.007)	0.074* (0.006)	0.056* (0.006)
Online spikes	0.307* (0.011)	0.310* (0.011)	0.316* (0.011)	0.321* (0.011)	0.324* (0.011)	0.318* (0.011)	0.321* (0.011)	0.322* (0.011)
10 placebo days	0.025 (0.018)	0.026 (0.018)	0.027 (0.018)	0.033 (0.018)	0.029 (0.018)	0.026 (0.018)	0.033 (0.018)	0.026 (0.018)
Constant	0.449* (0.024)	0.448* (0.024)	0.461* (0.024)	0.458* (0.024)	0.463* (0.024)	0.442* (0.024)	0.449* (0.024)	0.450* (0.024)
N	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix F, Fig 3. The lagged variable is the dummy for protest days. Lags are cumulative. Dependent variable is volume. Models 0 – 7 correspond to lags 0 – 7 respectively. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 3: Appendix F, Fig. 3 (online spikes lags)

	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Protest days	0.169*	0.171*	0.162*	0.161*	0.164*	0.177*	0.181*	0.181*
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Online spikes (lagged)	0.307*	0.203*	0.156*	0.158*	0.135*	0.101*	0.087*	0.085*
	(0.011)	(0.008)	(0.007)	(0.007)	(0.006)	(0.006)	(0.005)	(0.005)
10 placebo days	0.025	0.024	0.025	0.028	0.027	0.029	0.026	0.039
	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)
Constant	0.449*	0.453*	0.451*	0.447*	0.444*	0.463*	0.452*	0.450*
	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)
N	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix F, Fig 3. The lagged variable is the dummy for days with online spikes. Lags are cumulative. Dependent variable is volume. Models 0 – 7 correspond to lags 0 – 7 respectively. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 4: Appendix F, Fig. 4 (protest lags)

	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Protest days (lagged)	0.158* (0.011)	0.162* (0.010)	0.120* (0.008)	0.097* (0.007)	0.090* (0.007)	0.085* (0.006)	0.068* (0.006)	0.052* (0.006)
Online spikes	0.251* (0.010)	0.253* (0.010)	0.259* (0.010)	0.260* (0.010)	0.264* (0.010)	0.260* (0.010)	0.262* (0.010)	0.263* (0.010)
10 placebo days	0.020 (0.018)	0.024 (0.018)	0.020 (0.018)	0.020 (0.018)	0.027 (0.018)	0.021 (0.018)	0.020 (0.018)	0.025 (0.018)
Constant	0.356* (0.019)	0.354* (0.019)	0.357* (0.019)	0.354* (0.019)	0.355* (0.019)	0.349* (0.019)	0.351* (0.019)	0.354* (0.019)
N	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix F, Fig 4. The lagged variable is the dummy for protest days. Lags are cumulative. Dependent variable is retweet diversity. Models 0 – 7 correspond to lags 0 – 7 respectively. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 5: Appendix F, Fig. 4 (online spikes lags)

	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Protest days	0.158*	0.158*	0.149*	0.150*	0.152*	0.160*	0.165*	0.168*
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Online spikes (lagged)	0.251*	0.160*	0.127*	0.128*	0.109*	0.080*	0.069*	0.062*
	(0.010)	(0.008)	(0.007)	(0.006)	(0.006)	(0.005)	(0.005)	(0.005)
10 placebo days	0.020	0.020	0.025	0.025	0.023	0.022	0.024	0.022
	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)
Constant	0.356*	0.357*	0.356*	0.354*	0.354*	0.355*	0.356*	0.355*
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.020)	(0.019)
N	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix F, Fig 4. The lagged variable is the dummy for days with online spikes. Lags are cumulative. Dependent variable is retweet diversity. Models 0 – 7 correspond to lags 0 – 7 respectively. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 6: Appendix F, Fig. 5 (protest lags)

	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Protest days	-0.193*	-0.195*	-0.201*	-0.183*	-0.156*	-0.174*	-0.165*	-0.180*
(lagged)	(0.016)	(0.013)	(0.011)	(0.010)	(0.009)	(0.008)	(0.008)	(0.008)
Online spikes	0.251*	0.255*	0.251*	0.246*	0.241*	0.242*	0.237*	0.237*
	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
10 placebo days	0.073	0.078	0.074	0.073	0.066	0.069	0.071	0.067
	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)
Constant	-0.120*	-0.098	-0.114*	-0.100*	-0.107*	-0.108*	-0.107*	-0.094
	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)
N	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix F, Fig 5. The lagged variable is the dummy for protest days. Lags are cumulative. Dependent variable is cheerleading. Models 0 – 7 correspond to lags 0 – 7 respectively. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 7: Appendix F, Fig. 5 (online spikes lags)

	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Protest days	-0.193*	-0.181*	-0.168*	-0.170*	-0.171*	-0.166*	-0.171*	-0.175*
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
Online spikes (lagged)	0.251*	0.119*	0.064*	0.048*	0.036*	0.022	0.041*	0.073*
	(0.015)	(0.011)	(0.010)	(0.009)	(0.008)	(0.008)	(0.007)	(0.007)
10 placebo days	0.073	0.074	0.080	0.083	0.073	0.075	0.074	0.075
	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)
Constant	-0.120*	-0.117*	-0.106*	-0.112*	-0.115*	-0.112*	-0.119*	-0.121*
	(0.027)	(0.027)	(0.026)	(0.028)	(0.027)	(0.027)	(0.027)	(0.027)
N	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix F, Fig 5. The lagged variable is the dummy for days with online spikes. Lags are cumulative. Dependent variable is cheerleading. Models 0 – 7 correspond to lags 0 – 7 respectively. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 8: Appendix F, Fig. 6 (protest lags)

	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Protest days (lagged)	0.852*	0.724*	0.664*	0.557*	0.486*	0.424*	0.405*	0.380*
	(0.030)	(0.026)	(0.023)	(0.021)	(0.020)	(0.019)	(0.018)	(0.018)
Online spikes	0.384*	0.428*	0.460*	0.499*	0.505*	0.499*	0.521*	0.523*
	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)
10 placebo days	0.015	0.031	0.035	0.016	0.032	0.043	0.040	0.022
	(0.092)	(0.092)	(0.094)	(0.094)	(0.095)	(0.094)	(0.092)	(0.094)
Constant	-2.495*	-2.497*	-2.514*	-2.501*	-2.511*	-2.519*	-2.494*	-2.508*
	(0.089)	(0.089)	(0.092)	(0.089)	(0.090)	(0.091)	(0.093)	(0.093)
N	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix F, Fig 6. The lagged variable is the dummy for protest days. Lags are cumulative. Dependent variable is negative campaigning. Models 0 – 7 correspond to lags 0 – 7 respectively. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 9: Appendix F, Fig. 6 (online spikes lags)

	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Protest days	0.852*	0.797*	0.758*	0.777*	0.789*	0.806*	0.829*	0.853*
	(0.030)	(0.029)	(0.029)	(0.029)	(0.029)	(0.030)	(0.030)	(0.030)
Online spikes (lagged)	0.384*	0.479*	0.474*	0.464*	0.427*	0.393*	0.332*	0.273*
	(0.031)	(0.024)	(0.022)	(0.020)	(0.019)	(0.018)	(0.017)	(0.017)
10 placebo days	0.015	-0.029	0.053	0.040	0.030	0.043	0.064	0.025
	(0.092)	(0.102)	(0.093)	(0.094)	(0.096)	(0.095)	(0.092)	(0.097)
Constant	-2.495*	-2.460*	-2.520*	-2.526*	-2.521*	-2.513*	-2.513*	-2.516*
	(0.089)	(0.095)	(0.088)	(0.089)	(0.089)	(0.090)	(0.088)	(0.091)
N	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix F, Fig 6. The lagged variable is the dummy for days with online spikes. Lags are cumulative. Dependent variable is negative campaigning. Models 0 – 7 correspond to lags 0 – 7 respectively. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 10: Appendix F, Fig. 7 (protest leads)

	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Protest days (lead)	0.169* (0.012)	0.144* (0.009)	0.146* (0.008)	0.139* (0.008)	0.119* (0.007)	0.100* (0.007)	0.085* (0.006)	0.065* (0.006)
Online spikes	0.307* (0.011)	0.302* (0.011)	0.302* (0.011)	0.291* (0.011)	0.287* (0.011)	0.298* (0.011)	0.299* (0.011)	0.303* (0.011)
10 placebo days	0.025 (0.018)	0.025 (0.018)	0.031 (0.018)	0.029 (0.018)	0.031 (0.018)	0.032 (0.018)	0.030 (0.018)	0.028 (0.018)
Constant	0.449* (0.024)	0.451* (0.024)	0.467* (0.024)	0.443* (0.024)	0.440* (0.024)	0.452* (0.024)	0.443* (0.024)	0.445* (0.024)
N	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix F, Fig 7. The lead variable is the dummy for protest days. Leads are cumulative. Dependent variable is volume. Models 0 – 7 correspond to leads 0 – 7 respectively. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 11: Appendix F, Fig. 7 (online spikes leads)

	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Protest days	0.169*	0.183*	0.197*	0.202*	0.200*	0.202*	0.205*	0.204*
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Online spikes (lead)	0.307*	0.264*	0.207*	0.167*	0.139*	0.127*	0.110*	0.096*
	(0.011)	(0.009)	(0.008)	(0.007)	(0.006)	(0.006)	(0.006)	(0.005)
10 placebo days	0.025	0.021	0.019	0.028	0.021	0.023	0.026	0.011
	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)
Constant	0.449*	0.445*	0.453*	0.457*	0.444*	0.450*	0.461*	0.449*
	(0.024)	(0.024)	(0.024)	(0.023)	(0.024)	(0.024)	(0.024)	(0.024)
N	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix F, Fig 7. The lead variable is the dummy for days with online spikes. Leads are cumulative. Dependent variable is volume. Models 0 – 7 correspond to leads 0 – 7 respectively. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 12: Appendix F, Fig. 8 (protest leads)

	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Protest days (lead)	0.158* (0.011)	0.133* (0.009)	0.126* (0.007)	0.120* (0.007)	0.102* (0.006)	0.086* (0.006)	0.072* (0.006)	0.054* (0.006)
Online spikes	0.251* (0.010)	0.246* (0.010)	0.242* (0.010)	0.237* (0.010)	0.235* (0.010)	0.240* (0.010)	0.244* (0.010)	0.250* (0.010)
10 placebo days	0.020 (0.018)	0.020 (0.018)	0.022 (0.018)	0.022 (0.018)	0.022 (0.018)	0.022 (0.018)	0.022 (0.018)	0.022 (0.018)
Constant	0.356* (0.019)	0.355* (0.019)	0.354* (0.019)	0.352* (0.019)	0.352* (0.019)	0.351* (0.019)	0.353* (0.019)	0.354* (0.019)
N	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix F, Fig 8. The lead variable is the dummy for protest days. Leads are cumulative. Dependent variable is retweet diversity. Models 0 – 7 correspond to leads 0 – 7 respectively. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 13: Appendix F, Fig. 8 (online spikes leads)

	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Protest days	0.158*	0.167*	0.175*	0.177*	0.184*	0.180*	0.181*	0.182*
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Online spikes (lead)	0.251*	0.213*	0.164*	0.130*	0.106*	0.092*	0.076*	0.067*
	(0.010)	(0.008)	(0.007)	(0.006)	(0.006)	(0.006)	(0.005)	(0.005)
10 placebo days	0.020	0.018	0.017	0.017	0.017	0.016	0.018	0.009
	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)
Constant	0.356*	0.353*	0.354*	0.353*	0.360*	0.354*	0.355*	0.357*
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
N	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix F, Fig 8. The lead variable is the dummy for days with online spikes. Leads are cumulative. Dependent variable is retweet diversity. Models 0 – 7 correspond to leads 0 – 7 respectively. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 14: Appendix F, Fig. 9 (protest leads)

	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Protest days (lead)	-0.193* (0.016)	-0.145* (0.012)	-0.100* (0.011)	-0.073* (0.010)	-0.032 (0.009)	-0.032* (0.009)	-0.019 (0.008)	-0.034* (0.008)
Online spikes	0.251* (0.015)	0.256* (0.015)	0.259* (0.015)	0.252* (0.015)	0.250* (0.015)	0.247* (0.015)	0.248* (0.015)	0.247* (0.015)
10 placebo days	0.073 (0.025)	0.080 (0.025)	0.078 (0.025)	0.076 (0.025)	0.077 (0.025)	0.086 (0.025)	0.087 (0.025)	0.077 (0.025)
Constant	-0.120* (0.027)	-0.092 (0.028)	-0.089 (0.028)	-0.119* (0.027)	-0.110* (0.027)	-0.109* (0.027)	-0.100 (0.028)	-0.114* (0.027)
N	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix F, Fig 9. The lead variable is the dummy for protest days. Leads are cumulative. Dependent variable is cheerleading. Models 0 – 7 correspond to leads 0 – 7 respectively. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 15: Appendix F, Fig. 9 (online spikes leads)

	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Protest days	-0.193*	-0.179*	-0.173*	-0.169*	-0.168*	-0.170*	-0.166*	-0.169*
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
Online spikes	0.251*	0.160*	0.107*	0.078*	0.030	0.002	-0.014	0.008
(lead)	(0.015)	(0.012)	(0.010)	(0.009)	(0.009)	(0.008)	(0.008)	(0.007)
10 placebo days	0.073	0.077	0.070	0.073	0.070	0.067	0.067	0.067
	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)
Constant	-0.120*	-0.109*	-0.120*	-0.097	-0.113*	-0.108*	-0.110*	-0.109*
	(0.027)	(0.026)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)
N	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix F, Fig 9. The lead variable is the dummy for days with online spikes. Leads are cumulative. Dependent variable is cheerleading. Models 0 – 7 correspond to leads 0 – 7 respectively. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 16: Appendix F, Fig. 10 (protest leads)

	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Protest days (lead)	0.852* (0.030)	0.860* (0.025)	0.746* (0.022)	0.522* (0.022)	0.402* (0.021)	0.355* (0.020)	0.322* (0.019)	0.296* (0.019)
Online spikes	0.384* (0.031)	0.272* (0.030)	0.311* (0.030)	0.329* (0.031)	0.372* (0.030)	0.389* (0.031)	0.418* (0.030)	0.437* (0.030)
10 placebo days	0.015 (0.092)	0.020 (0.094)	0.037 (0.094)	0.004 (0.095)	0.014 (0.094)	0.052 (0.093)	0.018 (0.095)	-0.003 (0.096)
Constant	-2.495* (0.089)	-2.524* (0.089)	-2.523* (0.089)	-2.488* (0.091)	-2.479* (0.090)	-2.503* (0.089)	-2.506* (0.089)	-2.497* (0.090)
N	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix F, Fig 10. The lead variable is the dummy for protest days. Leads are cumulative. Dependent variable is negative campaigning. Models 0 – 7 correspond to leads 0 – 7 respectively. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 17: Appendix F, Fig. 10 (online spikes leads)

	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Protest days	0.852*	0.868*	0.887*	0.901*	0.913*	0.918*	0.916*	0.923*
	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)
Online spikes (lead)	0.384*	0.430*	0.335*	0.262*	0.205*	0.168*	0.160*	0.144*
	(0.031)	(0.025)	(0.023)	(0.021)	(0.021)	(0.020)	(0.019)	(0.018)
10 placebo days	0.015	0.042	0.094	0.058	0.021	0.018	0.044	-0.006
	(0.092)	(0.093)	(0.089)	(0.091)	(0.095)	(0.094)	(0.094)	(0.093)
Constant	-2.495*	-2.532*	-2.527*	-2.508*	-2.518*	-2.502*	-2.501*	-2.520*
	(0.089)	(0.089)	(0.090)	(0.090)	(0.091)	(0.093)	(0.090)	(0.092)
N	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix F, Fig 10. The lead variable is the dummy for days with online spikes. Leads are cumulative. Dependent variable is negative campaigning. Models 0 – 7 correspond to leads 0 – 7 respectively. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 18: Appendix J, Fig. 15–18

	Volume		Retweet diversity		Cheerleading		Negative campaigning	
	(Aug.)	(Main)	(Aug.)	(Main)	(Aug.)	(Main)	(Aug.)	(Main)
Protest days	0.082*	0.169*	0.091*	0.158*	-0.117*	-0.193*	0.624*	0.852*
	(0.010)	(0.012)	(0.009)	(0.011)	(0.013)	(0.016)	(0.029)	(0.030)
Online spikes	0.307*	0.307*	0.250*	0.251*	0.251*	0.251*	0.403*	0.384*
	(0.011)	(0.011)	(0.010)	(0.010)	(0.015)	(0.015)	(0.031)	(0.031)
10 placebo days	-0.031	0.025	-0.012	0.020	-0.004	0.073	0.648*	0.015
	(0.018)	(0.018)	(0.017)	(0.018)	(0.024)	(0.025)	(0.069)	(0.092)
Constant	0.451*	0.449*	0.358*	0.356*	-0.120*	-0.120*	-2.500*	-2.495*
	(0.024)	(0.024)	(0.019)	(0.019)	(0.027)	(0.027)	(0.090)	(0.089)
N	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix J, Fig 15–18. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 19: Appendix K, Fig. 19

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Protest days	0.169*	0.188*	0.141*	0.206*	0.158*	0.144*	0.211*	0.180*	0.171*	0
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0
Online spikes	0.307*	0.232*	0.291*	0.287*	0.336*	0.338*	0.367*	0.359*	0.310*	0
	(0.011)	(0.011)	(0.009)	(0.011)	(0.010)	(0.009)	(0.011)	(0.011)	(0.011)	(0
10 placebo days	0.025	0.026	0.027	0.025	0.026	0.023	0.022	0.023	0.032	0
	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.019)	(0.018)	(0.019)	(0.018)	(0
Constant	0.449*	0.452*	0.447*	0.449*	0.446*	0.444*	0.444*	0.448*	0.447*	0
	(0.024)	(0.024)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.024)	(0
N	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974	43

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix K, Fig 19. Dependent variable is volume. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 20: Appendix K, Fig. 20

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Protest days	0.158*	0.173*	0.133*	0.186*	0.147*	0.135*	0.189*	0.165*	0.160*	0
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0
Online spikes	0.251*	0.197*	0.244*	0.236*	0.277*	0.281*	0.305*	0.297*	0.265*	0
	(0.010)	(0.010)	(0.008)	(0.010)	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)	(0
10 placebo days	0.020	0.023	0.022	0.021	0.021	0.018	0.019	0.018	0.026	0
	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0
Constant	0.356*	0.359*	0.354*	0.356*	0.354*	0.352*	0.353*	0.355*	0.354*	0
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.018)	(0.019)	(0.019)	(0
N	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974	43

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix K, Fig 20. Dependent variable is retweet diversity. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 21: Appendix K, Fig. 21

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Protest days	-0.193*	-0.180*	-0.227*	-0.157*	-0.190*	-0.208*	-0.163*	-0.177*	-0.187*	-(
	(0.016)	(0.016)	(0.017)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(
Online spikes	0.251*	0.264*	0.318*	0.297*	0.236*	0.265*	0.128*	0.241*	0.222*	0
	(0.015)	(0.014)	(0.012)	(0.014)	(0.013)	(0.013)	(0.014)	(0.014)	(0.014)	(
10 placebo days	0.073	0.076	0.078	0.074	0.074	0.071	0.070	0.073	0.081	0
	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(
Constant	-0.120*	-0.119*	-0.126*	-0.123*	-0.121*	-0.124*	-0.116*	-0.120*	-0.121*	-(
	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(
N	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974	43

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix K, Fig 21. Dependent variable is cheerleading. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 22: Appendix K, Fig. 22

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Protest days	0.852*	0.887*	0.866*	0.933*	0.856*	0.746*	0.943*	0.879*	0.833*	0
	(0.030)	(0.031)	(0.030)	(0.031)	(0.030)	(0.030)	(0.031)	(0.030)	(0.030)	(
Online spikes	0.384*	0.315*	0.156*	0.181*	0.344*	0.483*	0.385*	0.272*	0.547*	0
	(0.031)	(0.031)	(0.028)	(0.035)	(0.030)	(0.026)	(0.029)	(0.033)	(0.027)	(
10 placebo days	0.015	0.005	0.004	0.003	0.012	0.023	0.010	0.008	0.025	0
	(0.092)	(0.095)	(0.094)	(0.096)	(0.097)	(0.092)	(0.095)	(0.092)	(0.095)	(
Constant	-2.495*	-2.490*	-2.489*	-2.494*	-2.499*	-2.505*	-2.502*	-2.493*	-2.504*	-2
	(0.089)	(0.090)	(0.089)	(0.091)	(0.091)	(0.089)	(0.090)	(0.090)	(0.089)	(
N	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974	438,974	43

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix K, Fig 22. Dependent variable is negative campaigning. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 23: Appendix L, Fig. 23

	Model 1	Model 2	Model 3
Protest days	-0.193*	-0.384*	-0.118*
	(0.016)	(0.041)	(0.030)
Online spikes	0.251*	0.217*	0.161*
	(0.015)	(0.030)	(0.025)
10 placebo days	0.073	-0.179	0.070
	(0.025)	(0.072)	(0.048)
Constant	-0.120*	-1.965*	-1.450*
	(0.027)	(0.033)	(0.031)
N	438,974	438,974	438,974

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix L, Fig 23. Dependent variable is cheerleading. Model 1 uses no sentiment; model 2 uses positive sentiment; model 3 uses negative sentiment. * marks $p < 0.05/\#$ models, where # models equals 191.

Table 24: Appendix L, Fig. 24

	Model 1	Model 2	Model 3
Protest days	0.852*	0.886*	0.292
	(0.030)	(0.044)	(0.108)
Online spikes	0.384*	0.330*	0.434*
	(0.031)	(0.044)	(0.094)
10 placebo days	0.015	0.059	-0.193
	(0.092)	(0.161)	(0.326)
Constant	-2.495*	-3.438*	-4.584*
	(0.089)	(0.090)	(0.110)
N	438,974	438,974	438,974

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix L, Fig 24. Dependent variable is negative campaigning. Model 1 uses no sentiment; model 2 uses negative sentiment; model 3 uses positive sentiment. * marks p $< 0.05/\#$ models, where # models equals 191.

Table 25: Appendix M, Fig. 25

	Model 1	Model 2
Protest days	0.158*	0.151*
	(0.011)	(0.011)
Online spikes	0.251*	0.222*
	(0.010)	(0.010)
10 placebo days	0.020	0.006
	(0.018)	(0.017)
Total tweets		0.020*
		(0.0001)
Constant	0.356*	0.326*
	(0.019)	(0.017)
N	438,974	438,974

Note: Results are for the fixed effects part of the Poisson mixed effects regression models with account-level intercept and slope effects and year-month-level intercept effects reported in the Online Appendix M, Fig 25. Dependent variable is retweet diversity. Model 1 is the benchmark model from main analysis; model 2 controls for the total number of tweets. * marks p $< 0.05/\#$ models, where # models equals 191.