**Race and Responsiveness—Supplemental Materials**

In this appendix, I present summary statistics (Table A-1), present results for mean differences in ``answer” rates (Table A-2), test for covariate balance across treatment assignment within the sample of non-bounced emails (Tables A-3, A-4a-c), test for average treatment effects in districts with small percentages of the other-race group (Tables A-5a & A-5b), estimate average treatment effects while controlling for councillor and district covariates (Table A-6), present observational results incorporating interactions between treatment and contextual variables (Table A-7), and correct for multiple comparisons (Table A-8). I also provide a CONSORT diagram.

**Table A-1. Summary Statistics for Non-Bounced Email Exchanges**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variable | No. Obs | Mean | Standard Dev. | Min | Max |
| Responded | 1229 | 0.209 | 0.407 | 0 | 1 |
| ANC Cllr | 1229 | 0.578 | 0.494 | 0 | 1 |
| DA Cllr | 1229 | 0.357 | 0.479 | 0 | 1 |
| Other Party | 1229 | 0.065 | 0.247 | 0 | 1 |
| Ward Cllr | 1229 | 0.516 | 0.500 | 0 | 1 |
| Incumbent | 1229 | 0.463 | 0.499 | 0 | 1 |
| Uncertain Ethnicity | 1229 | 0.026 | 0.159 | 0 | 1 |
| Female | 1229 | 0.374 | 0.484 | 0 | 1 |
| Afrikaaner | 1229 | 0.179 | 0.384 | 0 | 1 |
| English | 1229 | 0.132 | 0.338 | 0 | 1 |
| Zulu | 1229 | 0.463 | 0.499 | 0 | 1 |
| Xhosa | 1229 | 0.225 | 0.417 | 0 | 1 |
| District Turnout (2011) | 1229 | 0.594 | 0.068 | 0.243 | 0.918 |
| 2011 District Vote Margin (wards) | 634 | 0.607 | 0.258 | 0.002 | 0.979 |
| 2001 Same-Race Majority (wards) | 634 | 0.696 | 0.461 | 0 | 1 |
| Shadow Cllr | 1229 | 0.159 | 0.366 | 0 | 1 |
| % Home Computer (2007) | 848 | 0.210 | 0.104 | 0.01 | 0.35 |
| % Piped Water (2001) | 1229 | 0.621 | 0.180 | 0.01 | 0.92 |
| % Black (2001) | 1229 | 0.665 | 0.282 | 0.01 | 0.99 |
| Racial Fractionalization (2001) | 1229 | 0.353 | 0.216 | 0.021 | 0.711 |

Note: Shadow councillors are PR councillors who have been assigned to communicate with constituents in a ward won by another party. District characteristics correspond to the ward for ward councillors and to the municipality for PR councillors. % Black, Racial Fractionalization (Herfindahl index across black, white, coloured and asian population categories) and % households with piped water in the home come from the 2001 census; % home computer comes from 2007 Community survey and is at the municipality level. Turnout and vote share come from elections.org.za and are from the 2011 May local elections. Same-race majority means that the councillor’s race group makes up more than 50% of the population in the councillor’s ward.

**Table A-2. Do Same-Race Constituents Receive More ``Answers” Than Other-Race Constituents? Yes.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | All Cllrs | English | Afrikaaner | Zulu | Xhosa |
| Same-Race Answer Rate | 15.6%  N=604 | 27.2%  N=81 | 20.0%  N=110 | 11.7%  N=274 | 12.9%  N=139 |
| Other-Race Answer Rate | 10.4%  N=625 | 17.3%  N=81 | 20.7%  N=111 | 6.1%  N=296 | 7.3%  N=137 |
| Difference | **+5.2**  (p=0.004) | **+9.9**  (p=0.066) | -0.7  (p=0.553) | **+5.6** (p=0.010) | **+5.7** (p=0.060) |

P-values are from one-sided t-tests with unequal variances.

**Table A-3. Percent Bounded Emails, By Treatment Group**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Same-Race Condition | Other-Race Condition | Difference |
| Bounced | 35.2%  N=965 | 37.8%  N=971 | -2.6  (p=0.242) |
|  | Roads Condition | Water Condition | Difference |
| Bounced | 35.7%  N=973 | 37.3%  N=963 | -1.5  (p=0.490) |
|  | No Partisanship | Co-Partisan Condition | Difference |
| Bounced | 37.9%  N=970 | 35.1%  N=966 | +2.8  (p=0.194) |

**Table A-4a. Log-likelihood Ratio Tests for Balance on Covariates, Non-Bounced**

|  |  |  |
| --- | --- | --- |
|  | DV=Same-Race Treatment  (Logit) | DV=Copartisan Treatment  (Logit) |
| Female | -0.118  (0.145) | -0.020  (0.145) |
| ANC | -0.690  (0.306) | -0.025  (0.302) |
| Ward | 0.137  (0.180) | -0.252  (0.181) |
| Pop. Computer Access | 0.988  (1.49) | 0.825  (1.49) |
| Pop. Race Fractionalization | -0.482  (0.375) | -0.432  (0.377) |
| Pop. Access Piped Water | -0.009  (0.790) | 0.530  (0.791) |
| Incumbent | 0.078  (0.143) | -0.131  (0.143) |
| DA | -0.470  (0.366) | -0.231  (0.364) |
| Afrikaaner Cllr | -0.156  (0.279) | -0.155  (0.279) |
| English Cllr | 0.134  (0.293) | -0.147  (0.294) |
| Zulu Cllr | -0.032  (0.184) | -0.498  (0.184) |
| Turnout | -0.199  (0.1211) | -1.337  (1.207) |
| Shadow | -0.187  (0.250) | -0.174  (0.249) |
| Log-Likelihood (unconstrained) | -579.85 | -578.93 |
| Log-Likelihood  (constrained) | -587.45 | -587.79 |
| LR chi2(7) | 15.20 | 17.71 |
| Prob > chi2 | 0.295 | 0.169 |

**Table A-4b. Same-Race Treatment Assignment: T-tests for Balance on Covariates, Sample of Non-Bounced Emails**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Same-Race** | **Other-Race** | **Difference** |
| Female | 0.368  N=604 | 0.381  N=625 | 0.013  (p=0.632) |
| ANC | 0.559  N=604 | 0.595  N=625 | 0.036  (p=0.207) |
| Ward | 0.533  N=604 | 0.499  N=625 | 0.034  (p=0.235) |
| Pop. Computer Access | 0.213  N=412 | 0.208  N=436 | 0.005  (p=0.499) |
| Pop. Race Fractionalization | 0.345  N=604 | 0.360  N=625 | 0.015  (p=0.229) |
| Pop. Access Piped Water | 0.624  N=604 | 0.618  N=625 | 0.008  (p=0.455) |
| Incumbent | 0.457  N=604 | 0.469  N=625 | 0.012  (p=0.677) |
| DA | 0.361  N=604 | 0.354  N=625 | 0.007  (p=0.789 |
| Other Party | 0.079  N=604 | 0.051  N=625 | 0.028  (p=0.045) |
| Afrikaaner Cllr | 0.182  N=604 | 0.178  N=625 | 0.004  (p=0.837) |
| English Cllr | 0.134  N=604 | 0.130  N=625 | 0.004  (p=0.816) |
| Zulu Cllr | 0.454  N=604 | 0.474  N=625 | 0.020  (p=0.483) |
| Xhosa Cllr | 0.230  N=604 | 0.219  N=625 | 0.011  (p=0.647) |
| Turnout (2011) | 0.593  N=604 | 0.594  N=625 | 0.001  (p=0.749) |
| Vote Margin (ward cllrs, 2011) | 0.610  N=322 | 0.604  N=312 | 0.006  (p=0.778) |
| Same Race in Majority | 0.702  N=322 | 0.689  N=312 | 0.013  (p=0.728) |
| Shadow Cllr | 0.154  N=604 | 0.163  N=625 | 0.009  (p=0.659) |

Note: P-values are from two-sided t-tests allowing unequal variance.

**Table A-4c. Co-Partisan Treatment Assignment: T-tests for Balance on Covariates, Sample of Non-Bounced Emails**

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | No Partisanship | Co-Partisan | Difference |
| Female | 0.369  N=602 | 0.380  N=627 | 0.011  (p=0.696) |
| ANC | 0.580  N=602 | 0.576  N=627 | 0.004  (p=0.888) |
| Ward | 0.510  N=602 | 0.522  N=627 | 0.012  (p=0.685) |
| Pop. Computer Access | 0.217  N=425 | 0.204  N=423 | 0.013  (p=0.068) |
| Pop. Race Fractionalization | 0.350  N=602 | 0.355  N=627 | 0.005  (p=0.639) |
| Pop. Access Piped Water | 0.629  N=602 | 0.613  N=627 | 0.016  (p=0.115) |
| Incumbent | 0.450  N=602 | 0.475  N=627 | 0.025  (p=0.378) |
| DA | 0.354  N=602 | 0.360  N=627 | 0.006  (p=0.809) |
| Other Party | 0.066  N=602 | 0.064  N=627 | 0.002  (p=0.851) |
| Afrikaaner Cllr | 0.178  N=602 | 0.182  N=627 | 0.004  (p=0.853) |
| English Cllr | 0.130  N=602 | 0.134  N=627 | 0.004  (p=0.820) |
| Zulu Cllr | 0.440  N=602 | 0.486  N=627 | 0.046  (p=0.104) |
| Xhosa Cllr | 0.252  N=602 | 0.198  N=627 | 0.054  (p=0.022) |
| Turnout (2011) | 0.593  N=602 | 0.594  N=627 | 0.001  (p=0.892) |
| Vote Margin (ward cllrs, 2011) | 0.622  N=307 | 0.594  N=327 | 0.028  (p=0.177) |
| Same Race in Majority (ward cllrs) | 0.674  N=307 | 0.716  N=327 | 0.041  (p=0.260) |
| Shadow Cllr | 0.166  N=602 | 0.152  N=627 | 0.014  (p=0.485) |

**Table A-5a. Racial Bias in Responsiveness and Answer Rates: Driven by Wards with Smaller Percentages of Other-Race Groups? No.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Other Race Greater than 10% | Other Race Less than 10% | Other Race Greater than 5% | Other Race Less than 5% |
| Same-Race *Response Rate* | 37.5%  N=135 | 15.5%  N=187 | 33.9%  N=183 | 13.0%  N=139 |
| Other-Race *Response Rate* | 24.1%  N=145 | 10.2%  N=167 | 22.2%  N=185 | 8.7%  N=127 |
| Difference | **+13.6**  (p=0.015) | +5.3  (p=0.137) | **+11.7**  (p=0.012) | +4.3  (p=0.264) |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Other Race Greater than 10% | Other Race Less than 10% | Other Race Greater than 5% | Other Race Less than 5% |
| Same-Race *Answer Rate* | 27.4%  N=135 | 8.1%  N=187 | 21.9%  N=183 | 8.7%  N=139 |
| Other-Race *Answer Rate* | 13.8%  N=145 | 6.1%  N=167 | 13.0%  N=185 | 4.7%  N=127 |
| Difference | **+13.6**  (p=0.005) | +2.0  (p=0.454) | **+8.9**  (p=0.025) | +3.9  (p=0.206) |

**Table A-5b. Racial Bias in Responsiveness: Higher Where Ward Councillors Enjoy a Majority or Super-Majority of Constituents that are His Same-Race? No.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Same Race Greater than 80% | Same Race Less than 80% | Same Race Greater than 50% | Same Race Less than 50% |
| Same-Race  Response Rate | 11.8%  N=161 | 37.9%  N=161 | 18.1%  N=226 | 40.6%  N=96 |
| Other-Race  Response Rate | 5.5%  N=145 | 26.3%  N=167 | 11.6%  N=215 | 27.8%  N=97 |
| Difference | **+6.3**  (p=0.053) | **+11.5**  (p=0.025) | **+6.5**  (p=0.056) | **+12.8**  (p=0.062) |

**Table A-6. Regression Results, DV=Responded**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Logit | Logit | Logit |
| Same-Race | 0.446\*\*  (0.198) | 0.620\*\*\*  (0.212) | 0.454\*\*  (0.207) |
| Roads | 0.365\*\*  (0.143) | 0.426\*\*\*  (0.151) | 0.461\*\*  (0.214) |
| Copartisan | -0.127  (0.216) | 0.026  (0.227) | -0.229  (0.185) |
| Same-Race\*Copartisan | 0.134  (0.286) | -0.169  (0.305) | 0.224  (0.238) |
| ANC Cllr | -- | -0.757\*\*\*  (0.211) | -0.439  (0.389) |
| Ward Cllr | -- | -0.004  (0.156) | -0.011  (0.156) |
| Incumbent Cllr | -- | -0.102  (0.151) | -0.291  (0.188) |
| Female Cllr | -- | 0.166  (0.157) | 0.094  (0.151) |
| English Cllr | -- | 0.320  (0.216) | 0.507  (0.354) |
| Xhosa Cllr | -- | -0.670\*\*  (0.269) | -0.424  (0.271) |
| Zulu Cllr | -- | -0.923\*\*\*  (0.249) | -0.421  (0.416) |
| % District w/ Home Internet | -- | -- | 1.319  (2.73) |
| % District Black | -- | -- | -1.343\*\*\*  (0.379) |
| % District w/ Piped Water | -- | -- | 1.151  (1.482) |
| Errors  N  Wald χ2  Prob > χ2 | Robust  1229  18.11  0.001 | Robust  1229  126.14  0.000 | Clustered  848  302.96  0.000 |

Note: \* p<0.1, \*\* p<0.05, \*\*\*p<0.01. In Models 2 and 3 white Afrikaaner is the omitted ethnic category. Model 3 clusters errors by municipality because % of the population with internet in the home is available for municipalities and not wards.

**Table A-7. Regression Results with Interaction Terms, DV=Responded**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Logit  Credible Subsample | Logit  All | Logit  All | Logit  Ward Cllrs | Logit  All |
| Same-Race | 1.002\*\*\*  (0.354) | 0.624\*\*\*  (0.167) | 0.493  (0.222) | 0.303  (0.552) | 0.589  (1.39) |
| Roads | 0.634\*\*  (0.251) | 0.436\*\*\*  (0.152) | 0.426  (0.151) | 0.439\*\*  (0.221) | 0.428\*\*\*  (0.151) |
| Copartisan | 0.466  (0.398) | -0.053  (0.150) | -0.067  (0.150) | -0.172  (0.220) | -0.065  (0.150) |
| Same Race\*Co-partisan | -0.931\*  (0.511) | -- | -- | -- | -- |
| Shadow | -- | -0.073  (0.278) | -- | -- | -- |
| Same Race\*Shadow | -- | -0.481  (0.392) | -- | -- | -- |
| Same Race\* Ward Cllr | -- | -- | 0.091  (0.303) | -- | -- |
| Vote Margin | -- | -- | -- | -0.254  (0.592) | -- |
| Same Race\* Vote Margin | -- | -- | -- | 0.545  (0.834) | -- |
| Turnout | -- | -- | -- | -- | 1.485  (1.624) |
| Same Race\* Turnout | -- | -- | -- | -- | -0.073  (2.26) |
| Ward Cllr | -0.049  (0.251) | -- | -0.052  (0.228) | -- | -0.029  (0.158) |
| ANC Cllr | -0.387  (0.344) | -0.874\*\*\*  (0.214) | -0.754\*\*\*  (0.211) | -0.937\*  (0.561) | -0.728  (0.212) |
| Incumbent | -0.161  (0.246) | -0.098  (0.151) | -0.098  (0.150) | -0.217  (0.217) | -0.115  (0.151) |
| Female | -0.065  (0.266) | 0.164  (0.157) | 0.168  (0.157) | 0.339  (0.227) | 0.173  (0.157) |
| English | 0.196  (0.370) | 0.361\*  (0.215) | 0.319  (0.216) | 0.842\*\*\*  (0.296) | 0.321  (0.215) |
| Xhosa | -1.142\*\*  (0.516) | -0.609\*\*  (0.262) | -0.663\*\*  (0.267) | -0.690  (0.630) | -0.671\*\*  (0.268) |
| Zulu | -0.668  (0.378) | -0.862\*\*\*  (0.246) | -0.921  (0.248) | -0.870  (0.584) | -0.852  (0.251) |
| N  Wald χ2  Prob > χ2 | 498  31.35  0.001 | 1229  125.88  0.000 | 1229  126.04  0.000 | 634  99.17  0.000 | 1229  125.46  0.000 |

**Note on Table A-7:** \* p<0.1, \*\* p<0.05, \*\*\*p<0.01. The “credible subsample” in the first column is the set of councillors in whose municipalities either the 2011 vote share of the DA exceeded the share of the non-Black population or the 2011 vote share of the ANC exceeded the share of the Black population (i.e. where there was likely some cross-racial voting). Here the co-partisan signal appears to reduce racial bias (perhaps because it is more “credible” in these places but this result is unfortunately not robust to different specifications of the credible subsample.

**Table A-8. Corrections for Multiple Hypothesis Testing on Responsiveness**

**Benjamini and Hochberg’s (1995) sequential correction, 26 tests**

|  |  |  |  |
| --- | --- | --- | --- |
| Hypothesis | p-value | Sig at 95% Level? | At 90%? |
| Same Race, All | 0.000 | Y | Y |
| Same Race, ANC Cllrs | 0.000 | Y | Y |
| Same Race Among Copartisans, All | 0.003 | Y | Y |
| Same Race Among Non-Shadow, PR | 0.003 | Y | Y |
| Same Race, PR Cllrs | 0.005 | Y | Y |
| Same Race, Ward Cllrs | 0.006 | Y | Y |
| Same Race, No Partisanship, Credible | 0.007 | Y | Y |
| Same Race No Partisanship, All | 0.010 | Y | Y |
| Same Race in District with Same Race <80%, Ward | 0.025 | N | Y |
| Same Race, Xhosas | 0.025 | N | Y |
| Same Race, Zulus | 0.030 | N | Y |
| Same Race, English | 0.040 | N | Y |
| Same Race, Afrikaaners | 0.041 | N | Y |
| Same Race, DA Cllrs | 0.046 | N | Y |
| Same Race in Districts with Same Race > 80%, Ward | 0.053 | N | Y |
| Same Race in Districts with Same Race > 50%, Ward | 0.056 | N | Y |
| Same Race in Districts with Same Race < 50%, Ward | 0.062 | N | Y |
| Same Race\*Copartisan, Credible | 0.068 | N | Y |
| Same Race\*Shadow | 0.219 | N | N |
| Same Race\*ANC | 0.233 | N | N |
| Same Race Among Co-partisans, Credible | 0.342 | N | N |
| Same Race\*Vote Margin | 0.668 | N | N |
| Same Race\*Copartisan, All | 0.579 | N | N |
| Same Race\*Ward | 0.763 | N | N |
| Same Race Among Shadow, PR | 0.804 | N | N |
| Same Race\*Turnout | 0.974 | N | N |

**CONSORT DIAGRAM**

