

Supplementary Appendix for:
Economic Perceptions and Electoral Choices:
A Design-Based Approach

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1 Appendix A: More About Cardinality Matching

How are the units paired when using cardinality matching? The algorithm focuses on achieving balance, and not on pairing most similar units. However, it is possible to pair the units to reduce heterogeneity using different techniques. For example, [Zubizarreta, Paredes and Rosenbaum \(2014\)](#) pair the units after obtaining balance by using a Mahalanobis distance computed with some prognostic covariates (a two-step procedure). Conversely, I use exact matching for voting for the incumbent (the strongest prognostic covariate), and therefore balance and pairing are achieved at the same time (a one-step procedure).

Why is pairing units important? [Rosenbaum \(2005\)](#) illustrates that the heterogeneity of the treated-minus-control response differences (Y), or its dispersions around the mean, can affect sensitivity to unmeasured biases. In particular, a greater dispersion should make the results more sensitive to hidden biases ([Sekhon, 2009](#)). In other words, an effect τ will be less sensitive to an unmeasured bias u if Y has a compact distribution around its center ([Zubizarreta, Paredes and Rosenbaum, 2014](#)). One alternative for reducing heterogeneity is to pair the units in a way that reduces dispersion of Y : for example, using prognostic covariates. Consequently, exact matching for voting for the incumbent should contribute to the general goal of reducing sensitivity to hidden biases.

2 Appendix B: Unmeasured Covariates

When covariate balance is achieved, matching will eliminate the biases coming from observables, but it cannot directly reduce biases coming from unobservables. Even after adjusting for all covariates x , there is a chance that an unobserved covariate u might introduce bias. Nevertheless, there are tactics for reducing sensitivity to hidden biases, as well as tools to assess the impact of these unmeasured factors. Regarding the latter, I conduct a Rosenbaum sensitivity test for hidden biases.

I assess how much hidden bias would need to be present to modify the results of this study. In particular, I check the impact of unmeasured biases using a sensitivity analysis for the one-sided Wilcoxon signed rank test. The parameter Γ represents the odds of differential assignment to treatment. When $\Gamma = 1.0$ it means that two individuals with the same observed covariates x have the same odds of being assigned to treatment, which can be seen as a naive assumption. When $\Gamma > 1.0$ it means that one of these two individuals will have greater odds of receiving the treatment due to the existence of an unobserved variable u . The results start to be sensitive to a particular value of Γ when the upper bound p-values are greater than 0.05.

The sociotropic treatment is sensitive to all values of Γ ; this was expected since according to table 2 of the paper there is no evidence of treatment effects. On the other hand, the egotropic treatment starts to be sensitive when $\Gamma > 1.32$ (i.e. the upper bound p-value is greater than 0.05). This means that in a pair of two individuals with the same observed covariates x , one of the two individuals may be 1.32 times more likely than the other to receive the treatment because of the existence of an unobserved covariate u , and that will not modify the results of this study. In other words, the null hypothesis of no treatment effects for the egotropic treatment begins to become plausible for a Γ greater than 1.32.

A useful aid for interpreting the values of Γ is the amplification of a sensitivity test (Rosenbaum and Silber, 2009). The parameter Γ assumes that the hidden factor is a very strong predictor of the outcome. The amplification interprets the parameter Γ in two new parameters: Λ, Δ . The first controls the relationship between the unobserved bias and treatment assignment, and the second controls the relationship between the unobserved bias and the outcome (Rosenbaum, 2015).¹ The amplification shows that a bias of $\Gamma = 1.32$ could be generated by an unobserved covariate that doubles the odds of a negative change in egotropic perceptions ($\Lambda = 2$) and more than doubles the odds of not voting for the incumbent ($\Delta = 2.4$). In summary, the results of the sensitivity and amplification tests show that the conclusions of this study are not sensitive to small biases generated by a failure to control for a hidden confounder.

¹ $\Gamma = (\Lambda\Delta + 1)/(\Lambda + \Delta)$. See Rosenbaum and Silber (2009) for mathematical proofs.

3 Appendix C: External Validity I (Mexico 2012 Panel Data)

In this observational study I focus on a smaller sample than usual to improve internal validity. In particular, I attempt to reduce unit heterogeneity by comparing subjects from the same neighborhoods from two cities in Brazil. This is a meaningful decision because it should reduce sensitivity to hidden biases. However, external validity emerges as a concern.

First, I provide evidence about the correlation between sociotropic and egotropic perceptions using a traditional approach. That analysis does not attempt to reduce heterogeneity by focusing on respondents with neutral opinions in wave 1, and does not exploit extreme conditions but rather uses a continuum (from 1 to 5, where 5 is a much worse perception). On the contrary, a design-based approach subsets the sample to subjects with neutral perceptions about the economy in wave 1 to reduce heterogeneity and exploits extreme treatment conditions. Additionally, it uses matching to obtain covariate balance and to decrease extrapolation.

In this analysis I use the same balance constraints implemented for the main design-based analysis. Additionally, I use the same covariates for exact matching and near-fine balance. I use fewer covariates for the mean balance constraints because not all the variables from the Two Cities Panel Data are available for the Mexico Panel Data. However, I select similar covariates such as subjects' political, economic, and social preferences, as well as their socioeconomic and demographic characteristics. I use an approximate solution for the cardinality matching problem because there are fewer treated units than in the Two Cities Panel Study.

The results are as expected: when using a traditional approach, sociotropic considerations are significant and the coefficient is larger than the egotropic one. Meanwhile, when using a design-based approach, the correlation between sociotropic perceptions and voting for the incumbent disappears, and the link between pocketbook considerations and electoral preferences seems to be stronger. These findings are congruent with the findings from the design-based approach implemented with the Two Cities Panel Data.

4 Appendix D: External Validity II (Brazil 2010 Panel Data)

Can the results from the Two Cities Panel Study be replicated in a national representative panel conducted in a different year? To answer that question I use the BEPS Panel conducted in Brazil in 2010 ([Ames et al., 2013](#)), and I replicate some of the main analysis. The BEPS 2010 Panel does not include egotropic questions in the second wave; therefore I was only able to test the sociotropic hypothesis with this new dataset.

Based on the previous findings, I will expect that a traditional design will show a significant effect between sociotropic perceptions and electoral preferences, but that association should disappear when using a design-based approach.

This new dataset is a national survey, therefore we are comparing subjects from multiple places of Brazil and not just from two cities. This increases unit heterogeneity but also improves the external validity of the original findings if the results point in the same direction. In the traditional approach I do not subset the sample to respondents with neutral sociotropic perceptions in the first wave and with extreme exposure to the treatment; additionally, I do not achieve covariate balance through matching. Meanwhile, for the design-based approach I replicate all the methodological decisions of the previous design used for the Mexico 2012 Panel Study.

Table 1: Regression results sociotropic treatment 2010 IDB Panel Study

	Voting for the incumbent	
	Traditional	Design-Based
Sociotropic perceptions (1-5)	-0.054** (0.023)	
Negative sociotropic treatment		-0.003 (0.767)
Controls	Yes	Yes
Neighborhood fixed effects	Yes	Yes
Observations	896	42

Note: *p<0.1; **p<0.05; ***p<0.01

As expected, the table shows a significant effect when using a traditional design.² However, when we follow some recommendations of the statistical theory of design sensitivity, the effect of sociotropic perceptions on electoral preferences disappears. This finding is congruent with the previous results obtained using the Two Cities Panel Study and the Mexico 2012 Panel Study.

In summary, when testing the sociotropic hypothesis in a national representative panel conducted in 2010, it is possible to observe the same pattern as before: traditional designs seem to overestimate the role of citizens' sociotropic evaluations when making electoral decisions.

5 Appendix E: Robustness Check

Tables 1 and 2 report the effects of two different treatments in two different samples: one composed of people in wave 1 claiming that the national economic conditions have remained the

² When we do not focus on reducing heterogeneity and exploiting extreme treatment conditions

same, and a second composed of people in wave 1 claiming their personal economic conditions have remained the same. Therefore, the differences between both treatments might be explained by the sample composition. People in the sociotropic sample might be different than people in the egotropic sample, and that might be generating the differences between them.

To address this problem I conduct an alternative matching procedure in where I use the same sample to construct both matched treated and control groups. I subset the sample to subjects that answered "remained the same" for national and personal economic perceptions in wave 1. Consequently, all the groups are generated from the same group of people that have neutral perceptions of their personal and the national economic conditions at time t .

These new subsets of subjects are much smaller than the two original matched samples used. Therefore, I expect larger standard errors, but similar coefficients for both treatments.³

³ I use 42 covariates in the matching procedure since I am excluding national (personal) economic perceptions (when using the egotropic (sociotropic) treatment), because all the subjects have the same national and personal economic perceptions in wave 1. Additionally, because this sample is smaller than the original, I allow the solver to find an approximate solution to the optimization problem (i.e. to find the largest matched sample that achieves covariate balance). Because of the fewer number of units and clusters, I exclude the models with neighborhoods fixed effects and do not compute cluster standard errors at the neighborhood level. For example, the egotropic sample only has 42 individuals, and 29 neighborhoods.

Table 2: Robustness check egotropic and sociotropic treatment

	Voting for the incumbent	
	(1)	(2)
Negative egotropic treatment	-0.099 (0.087)	
Negative sociotropic treatment		0.032 (0.050)
Controls	Yes	Yes
Neighborhood fixed effects	No	No
Observations	42	150

Note: *p<0.1; **p<0.05; ***p<0.01

Both coefficients are very similar to the main results. However, the standard errors are larger because the fewer observations available. Accordingly, this robustness check provides results that are congruent with the main estimation.

Finally, I implement a statistical test for the equality of regression coefficients ([Paternoster et al., 1998](#)). The results show that the difference between both coefficients is not statistically significant, or in other words, the effect of the egotropic and sociotropic shocks are similar between the main estimation and the robustness check

6 Appendix F: Covariates

Table 3: Covariates included in the matching (first part)

Variable	Categories
Neighborhood	1:44
Sociotropic/Egotropic economic evaluation	(1) Improved a lot, (2) Improved a little, (3) Remained the same, (4) Worsened a little, (5) Worsened a lot
Talk about politics with friends	(1) Frequently, (2) Sometimes, (3) Occasionally, (4) Never
Confidence in politicians	(1) A lot, (2) Some, (3) A little, (4) Nothing
Name of one presidential candidate	(1) Yes, (2) No
Vote for the incumbent	(1) Yes, (2) No
Who do you think will win next election?	(1) Ciro, (2) Lula, (3) Roseana, (4) Serra, (5) Garotinho, (6) Itamar, (7) Other
Opportunities or repression to address crime	(1) Opportunities; a lot, (2) Opportunities; a little, (3) It depends, (4) Repression; a little, (5) Repression; a lot
Democracy or military government	(1) Democracy; a lot, (2) Democracy; a little, (3) It depends, (4) Military government; a little, (5) Military government; a lot
Who is responsible for people's economic conditions?	(1) Government; a lot, (2) Government; a little, (3) It depends, (4) People; a lot, (5) People; a little
Competent or honest candidate	(1) Competent, (2) Honest
Attention to presidential elections	(1) A lot, (2) Some, (3) A little, (4) Very little, (5) Nothing
Have you persuaded others to vote?	(1) Yes, (2) No
Unions feeling thermometer	0,1,2,3,4,5,6,7,8,9,10
Business sector feeling thermometer	0,1,2,3,4,5,6,7,8,9,10
Lula feeling thermometer	0,1,2,3,4,5,6,7,8,9,10
Henrique Cardoso feeling thermometer	0,1,2,3,4,5,6,7,8,9,10
Jose Serra feeling thermometer	0,1,2,3,4,5,6,7,8,9,10
PSDB feeling thermometer	0,1,2,3,4,5,6,7,8,9,10
PT feeling thermometer	0,1,2,3,4,5,6,7,8,9,10

Table 4: Covariates included in the matching (second part)

Variable	Categories
Do you identify with a party?	(1) Yes, (2) No
Which party do you identify with?	(1) PMDB, (2) PFL, (3) PSDB, (4) PT, (5) PPB/PP, (6) PDT, (7) PTB, (8) PL, (9) PSB, (10) None
Do you always vote for the same party?	(1) Yes, (2) No
Do you tend to vote for the PSDB?	(1) Yes, (2) No
Do you tend to vote for the PT?	(1) Yes, (2) No
Importance of party when you vote	(1) Very important, (2) Important, (3) A little important, (4) No important
Ideology	(1) Left, (2) Center-left, (3) Center, (4) Center-right, (5) Right
Who did you vote for president in 1998?	(1) Fernando Henrique Cardoso, (2) Luiz Inácio Lula da Silva, (3) Ciro Gomes, (4) Enéas Carneiro, (5) Other
Opinion about privatization	(1) Very positive, (2) A little bit positive, (3) It depends, (4) A little bit negative, (5) A lot negative
Gender	(1) Male, (2) Female
Crime victim	(1) Yes, (2) No
Education	(1) No education, (2) First grade, (3) Second grade, (4) Third grade, (5) Four grade, (6) Fifth grade, (7) Sixth grade, (8) Seventh grade, (9) Eight grade, (10) First grade second level, (11) Second grade second level, (12) Third second level, (13) College incomplete, (14) College complete, (15) Graduate school incomplete, (16) Graduate school complete
Stable job	(1) Yes, (2) No
Job in the formal sector	(1) Yes, (2) No
Job in the public sector	(1) Yes, (2) No
Worried about losing job in the future	(1) A lot, (2) A little, (3) Nothing
Looking for a job now	(1) Yes, (2) No
Religion	(1) Catholic, (2) Evangelic, (3) Umbanda/Candomble, (4) Espirita, (5) Protestant, (6) Other, (7) No religion, (8) No response
Age	18:87
Race	(1) White, (2) Brown, (3) Black, (4) Asian, (5) Indigenous, (6) Other
Income	0:1500
Number of adults living in your house	0:18
Do you know the president's party?	(1) Yes, (2) No

7 Appendix G: Summary Statistics Before Matching

Table 5: Descriptive statistics before matching for egotropic sample

Statistic	N	Mean	St. Dev.
Neighborhood	912	24.73	12.05
Sociotropic economic evaluation	912	3.66	1.07
Talk about politics with friends	912	3.05	1.03
Confidence in politicians	912	3.41	0.76
Name of one presidential candidate	912	1.17	0.38
Vote for the incumbent	912	0.15	0.36
Who do you think will win next election?	912	4.10	1.91
Opportunities or repression to address crime	912	1.85	1.47
Democracy or military government	912	2.27	1.66
Who is responsible for people's economic conditions?	912	2.15	1.61
Competent or honest candidate	912	1.82	0.39
Attention to presidential elections	912	2.54	1.31
Have you persuaded others to vote?	912	1.90	0.30
Unions feeling thermometer	912	5.33	2.98
Business sector feeling thermometer	912	5.52	2.76
Lula feeling thermometer	912	5.18	3.31
Henrique Cardoso feeling thermometer	912	3.91	3.18
Jose Serra feeling thermometer	912	5.99	2.83
PSDB feeling thermometer	912	4.36	2.37
PT feeling thermometer	912	5.08	3.05
Do you identify with a party?	912	1.51	0.50
Which party do you identify with?	912	8.57	2.92
Do you always vote for the same party?	912	1.64	0.48
Do you tend to vote for the PSDB?	912	1.04	0.19
Do you tend to vote for the PT?	912	1.14	0.34
Importance of party when you vote	912	2.67	1.10
Ideology	912	3.08	1.28
Who did you for president in 1998?	912	2.71	1.72
Opinion about privatization	912	3.50	1.53
Gender	912	1.51	0.50
Crime victim	912	1.87	0.34
Education	912	9.40	3.63
Stable job	912	1.56	0.50
Job in the formal sector	912	1.23	0.42
Job in the public sector	912	1.92	0.28
Worried about losing job in the future	912	2.08	0.57
Looking for a job now	912	1.81	0.39
Religion	912	1.70	1.61
Age	912	41.84	17.42
Race	912	1.60	1.07
Income	912	1,318.32	1,261.69
Number of adults living in your house	912	2.70	1.31
Do you know the president's party?	912	0.46	0.50

Table 6: Descriptive statistics before matching for sociotropic sample

Statistic	N	Mean	St. Dev.
Neighborhood	453	24.16	12.49
Egotropic economic evaluation	453	3.13	1.01
Talk about politics with friends	453	3.17	0.99
Confidence in politicians	453	3.36	0.76
Name of one presidential candidate	453	1.24	0.43
Vote for the incumbent	453	0.14	0.35
Who do you think will win next election?	453	4.24	1.90
Opportunities or repression to address crime	453	2.06	1.63
Democracy or military government	453	2.55	1.64
Who is responsible for people's economic conditions?	453	2.23	1.66
Competent or honest candidate	453	1.79	0.41
Attention to presidential elections	453	2.55	1.28
Have you persuaded others to vote?	453	1.91	0.42
Unions feeling thermometer	453	5.97	2.99
Business sector feeling thermometer	453	5.43	2.96
Lula feeling thermometer	453	5.52	3.45
Henrique Cardoso feeling thermometer	453	4.06	3.34
Jose Serra feeling thermometer	453	6.59	2.87
PSDB feeling thermometer	453	4.60	2.52
PT feeling thermometer	453	5.70	3.14
Do you identify with a party?	453	1.51	0.50
Which party do you identify with?	453	8.77	2.82
Do you always vote for the same party?	453	1.65	0.48
Do you tend to vote for the PSDB?	453	1.04	0.18
Do you tend to vote for the PT?	453	1.14	0.35
Importance of party when you vote	453	2.56	1.11

8 Appendix H: Summary Statistics After Matching

Table 7: Descriptive statistics after matching for egotropic sample

Statistic	N	Mean	St. Dev.
Neighborhood	218	25.96	11.24
Sociotropic economic evaluation	218	3.86	1.07
Talk about politics with friends	218	3.08	1.00
Confidence in politicians	218	3.56	0.70
Name of one presidential candidate	218	1.22	0.42
Vote for the incumbent	218	0.12	0.32
Who do you think will win next election?	218	4.50	1.99
Opportunities or repression to address crime	218	1.66	1.31
Democracy or military government	218	2.24	1.62
Who is responsible for people's economic conditions?	218	1.82	1.42
Competent or honest candidate	218	1.83	0.38
Attention to presidential elections	218	2.80	1.40
Have you persuaded others to vote?	218	1.94	0.23
Unions feeling thermometer	218	5.44	2.96
Business sector feeling thermometer	218	5.41	2.90
Lula feeling thermometer	218	5.16	3.21
Henrique Cardoso feeling thermometer	218	3.37	3.39
Jose Serra feeling thermometer	218	5.84	3.09
PSDB feeling thermometer	218	4.43	2.54
PT feeling thermometer	218	4.98	3.10
Do you identify with a party?	218	1.47	0.50
Which party do you identify with?	218	8.83	2.68
Do you always vote for the same party?	218	1.63	0.48
Do you tend to vote for the PSDB?	218	1.03	0.18
Do you tend to vote for the PT?	218	1.13	0.34
Importance of party when you vote	218	2.63	1.17
Ideology	218	3.19	1.27
Who did you for president in 1998?	218	2.72	1.69
Opinion about privatization	218	3.68	1.46
Gender	218	1.66	0.48
Crime victim	218	1.89	0.31
Education	218	8.34	3.73
Stable job	218	1.68	0.47
Job in the formal sector	218	1.26	0.44
Job in the public sector	218	1.95	0.22
Worried about losing job in the future	218	2.08	0.57
Looking for a job now	218	1.78	0.41
Religion	218	1.57	1.38
Age	218	45.44	17.11
Race	218	1.69	1.14
Income	218	1,147.77	1,372.34
Number of adults living in your house	218	2.58	1.20
Do you know the president's party?	218	0.36	0.48

Table 8: Descriptive statistics after matching for sociotropic sample

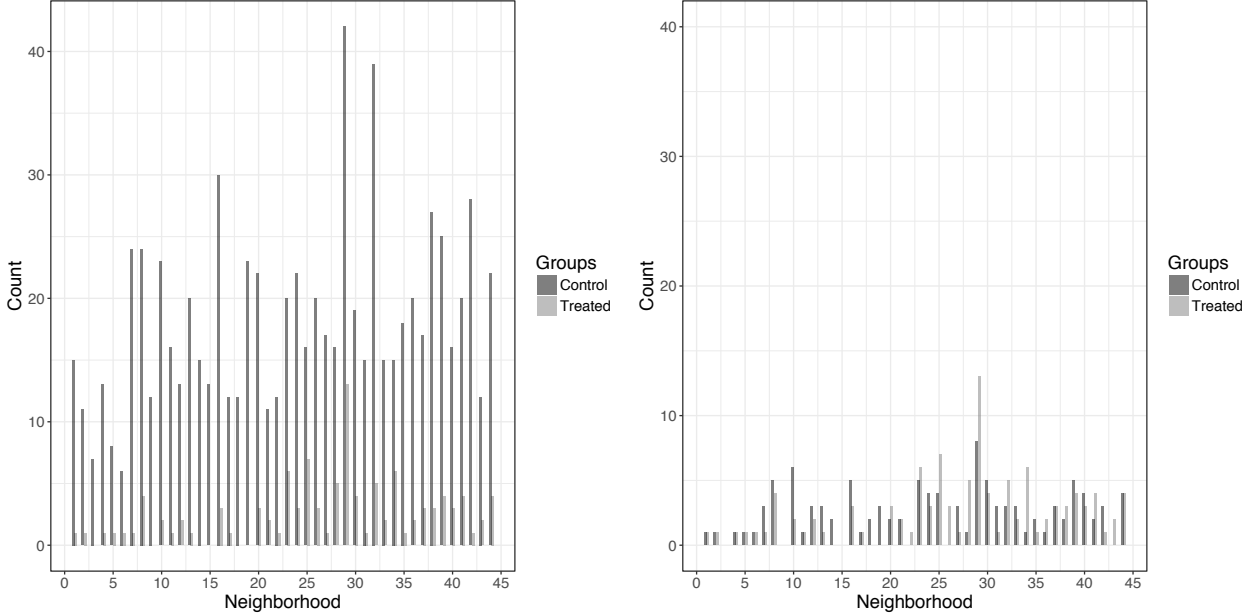
Statistic	N	Mean	St. Dev.
Neighborhood	316	24.11	12.49
Egotropic economic evaluation	316	3.15	1.02
Talk about politics with friends	316	3.13	0.98
Confidence in politicians	316	3.35	0.76
Name of one presidential candidate	316	1.22	0.42
Vote for the incumbent	316	0.16	0.37
Who do you think will win next election?	316	4.13	1.91
Opportunities or repression to address crime	316	2.14	1.66
Democracy or military government	316	2.58	1.64
Who is responsible for people's economic conditions?	316	2.26	1.66
Competent or honest candidate	316	1.78	0.42
Attention to presidential elections	316	2.47	1.26
Have you persuaded others to vote?	316	1.93	0.45
Unions feeling thermometer	316	6.10	2.86
Business sector feeling thermometer	316	5.39	3.01
Lula feeling thermometer	316	5.72	3.40
Henrique Cardoso feeling thermometer	316	3.80	3.25
Jose Serra feeling thermometer	316	6.61	2.95
PSDB feeling thermometer	316	4.45	2.62
PT feeling thermometer	316	5.76	3.12
Do you identify with a party?	316	1.49	0.50
Which party do you identify with?	316	8.80	2.79
Do you always vote for the same party?	316	1.65	0.48
Do you tend to vote for the PSDB?	316	1.04	0.19
Do you tend to vote for the PT?	316	1.15	0.36
Importance of party when you vote	316	2.54	1.12
Ideology	316	4.26	1.88
Who did you for president in 1998?	316	2.65	1.70
Opinion about privatization	316	3.73	1.48
Gender	316	1.55	0.50
Crime victim	316	1.86	0.34
Education	316	8.89	3.62
Stable job	316	1.61	0.49
Job in the formal sector	316	1.23	0.42
Job in the public sector	316	1.94	0.23
Worried about losing job in the future	316	2.08	0.57
Looking for a job now	316	1.79	0.41
Religion	316	1.60	1.41
Age	316	41.49	16.48
Race	316	1.80	1.23
Income	316	1,209.16	1,515.09
Number of adults living in your house	316	2.64	1.20
Do you know the president's party?	316	0.38	0.49

9 Appendix I: Type of Balance Achieved

Table 9: Type of balance

Variable	Categories
Neighborhood	Near-fine balance
Sociotropic/Egotropic economic evaluation	Mean balance
Talk about politics with friends	Mean balance
Confidence in politicians	Mean balance
Name of one presidential candidate	Mean balance
Vote for the incumbent	Exact matching
Who do you think will win next election?	Near-fine balance
Opportunities or repression to address crime	Mean balance
Democracy or military government	Mean balance
Who is responsible for people's economic conditions?	Mean balance
Competent or honest candidate	Mean balance
Attention to presidential elections	Mean balance
Have you persuaded others to vote?	Mean balance
Unions feeling thermometer	Mean balance
Business sector feeling thermometer	Mean balance
Lula feeling thermometer	Mean balance
Henrique Cardoso feeling thermometer	Mean balance
Jose Serra feeling thermometer	Mean balance
PSDB feeling thermometer	Mean balance
PT feeling thermometer	Mean balance
Do you identify with a party?	Mean balance
Which party do you identify with?	Near-fine balance
Do you always vote for the same party?	Mean balance
Do you tend to vote for the PSDB?	Mean balance
Do you tend to vote for the PT?	Mean balance
Importance of party when you vote	Mean balance
Ideology	Mean balance
Who did you vote for president in 1998?	Near-fine balance
Opinion about privatization	Mean balance
Gender	Mean balance
Crime victim	Mean balance
Education	Mean balance
Stable job	Mean balance
Job in the formal sector	Mean balance
Job in the public sector	Mean balance
Worried about losing job in the future	Mean balance
Looking for a job now	Mean balance
Religion	Near-fine balance
Age	Mean balance
Race	Near-fine balance
Income	Mean balance
Number of adults living in your house	Mean balance
Do you know the president's party?	Mean balance

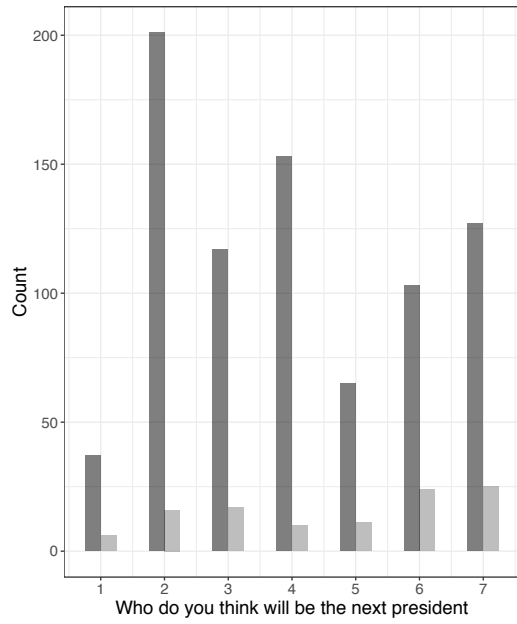
10 Appendix J: Near-Fine Balance Egotropic Treatment



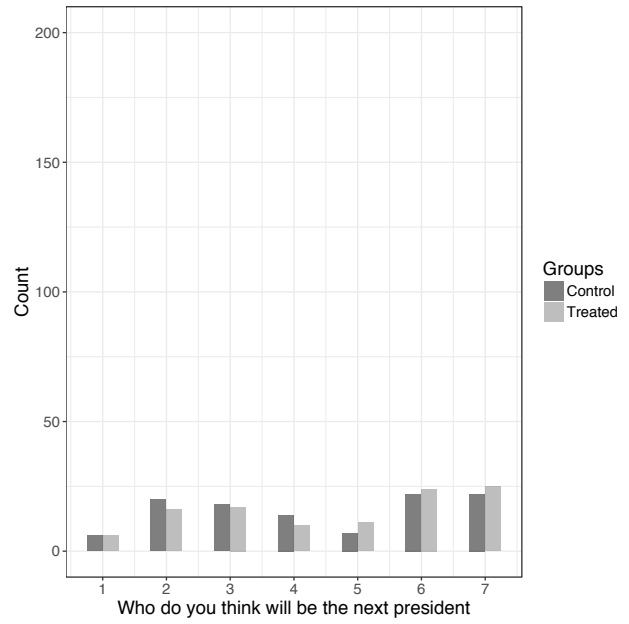
(a) Before matching

(b) After matching

Figure 1: Near-fine balance for "Neighborhood" (egotropic sample)

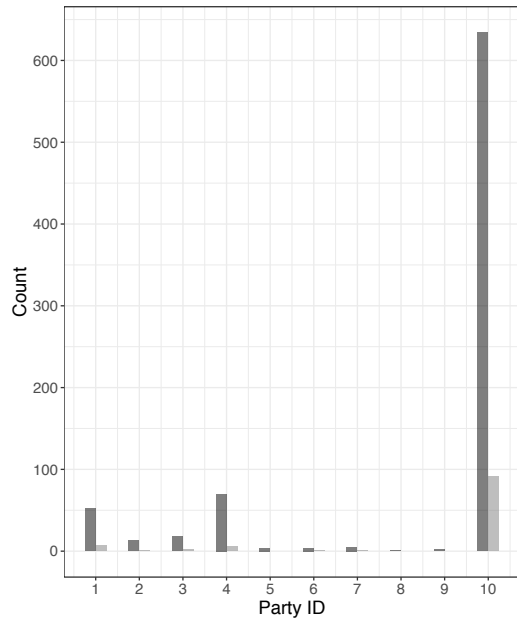


(a) Before matching

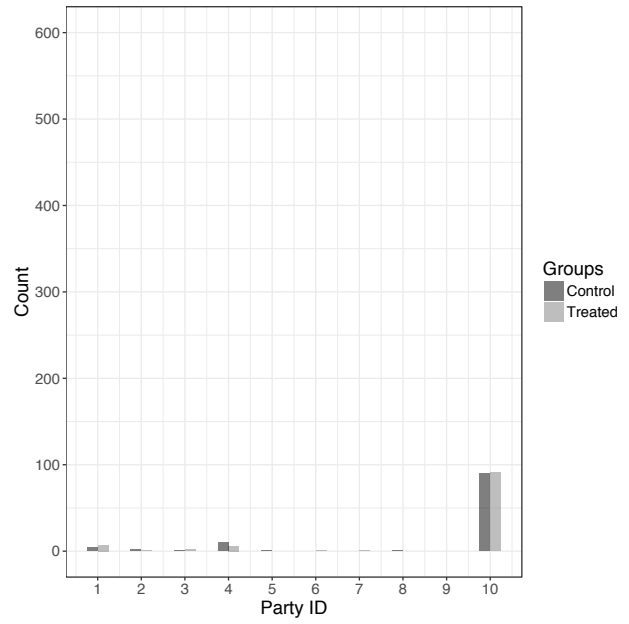


(b) After matching

Figure 2: Near-fine balance for "Who do you think will be the next president" (egotropic sample)

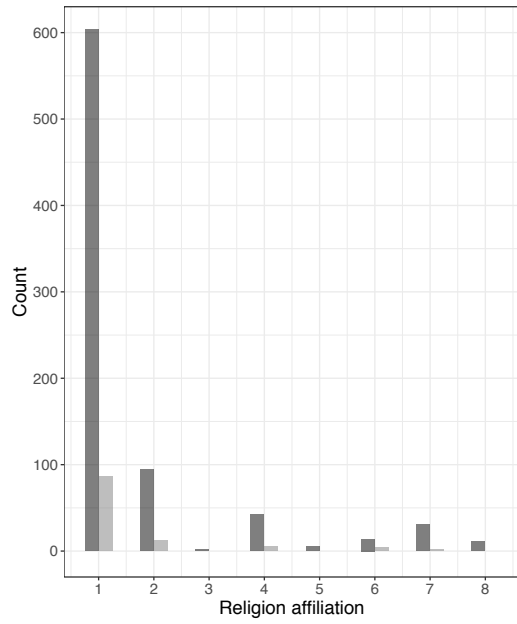


(a) Before matching

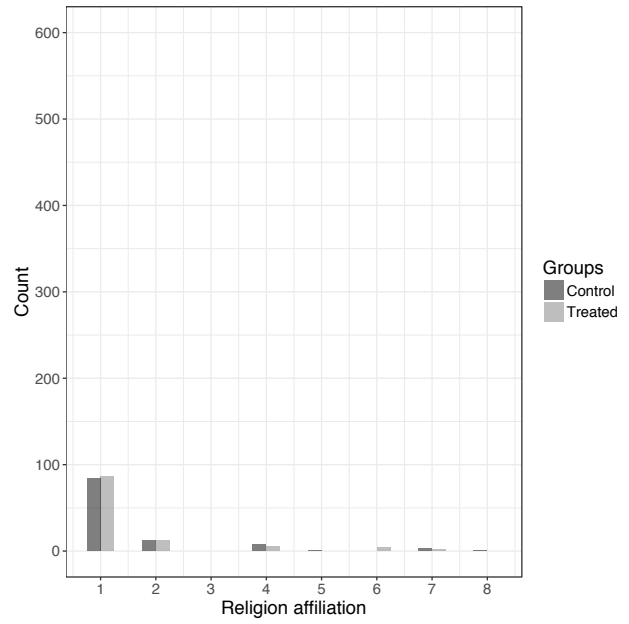


(b) After matching

Figure 3: Near-fine balance for "Party identification" (egotropic sample)

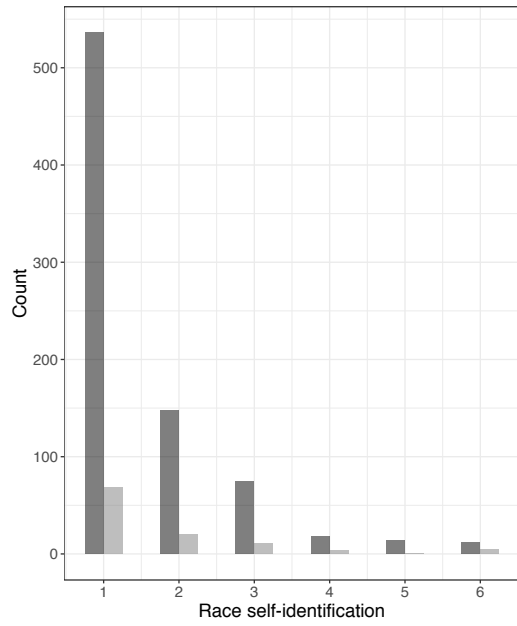


(a) Before matching

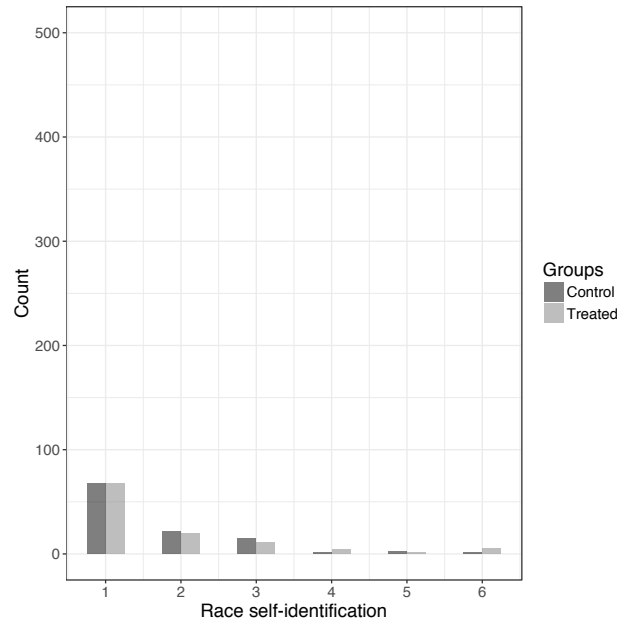


(b) After matching

Figure 4: Near-fine balance for "Religion affiliation" (egotropic sample)



(a) Before matching



(b) After matching

Figure 5: Near-fine balance for "Race self-identification" (egotropic sample)

11 Appendix I: Mean Balance Sociotropic Treatment

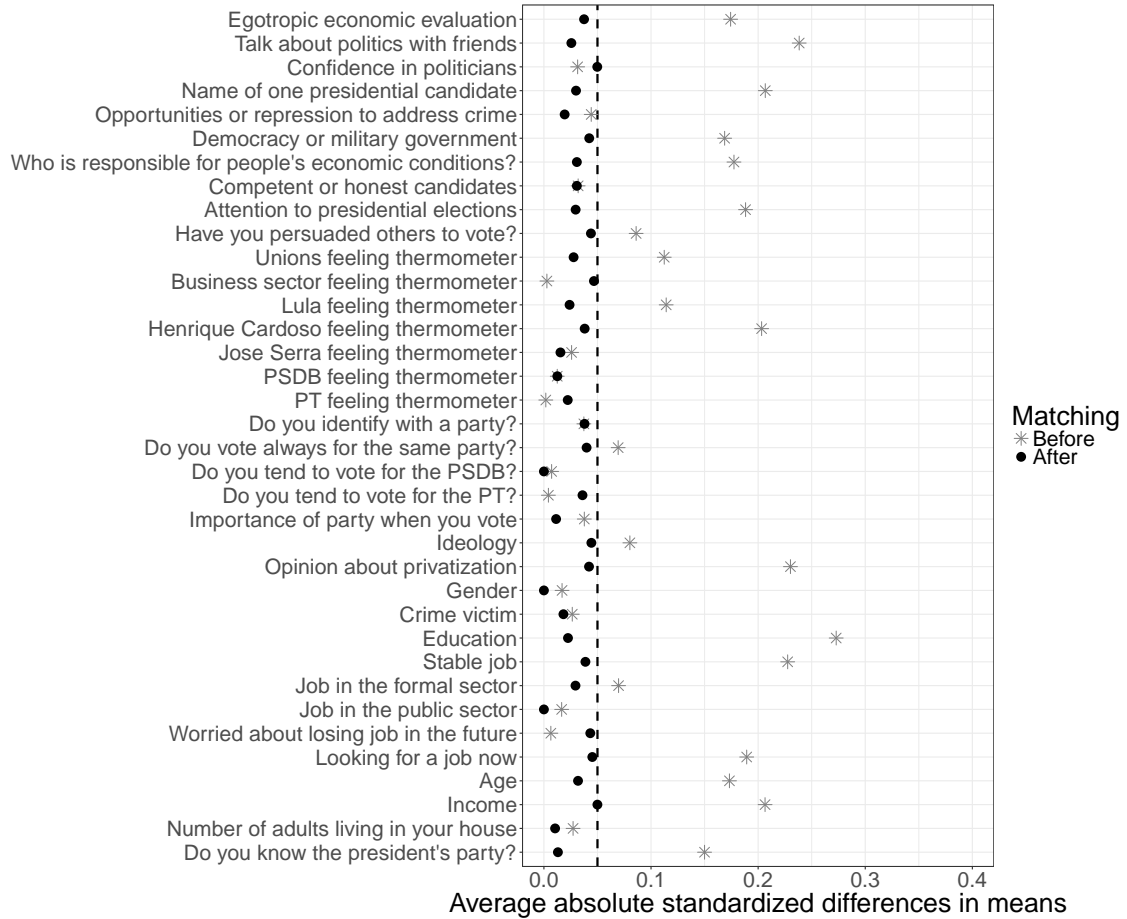
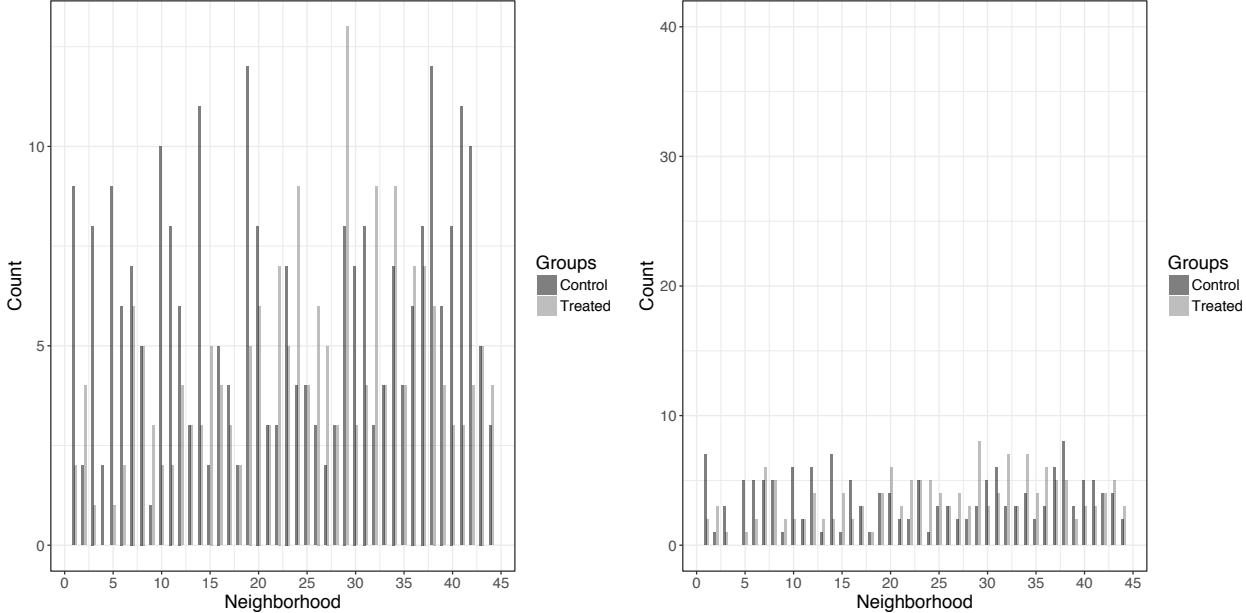


Figure 6: Mean balance (sociotropic sample)

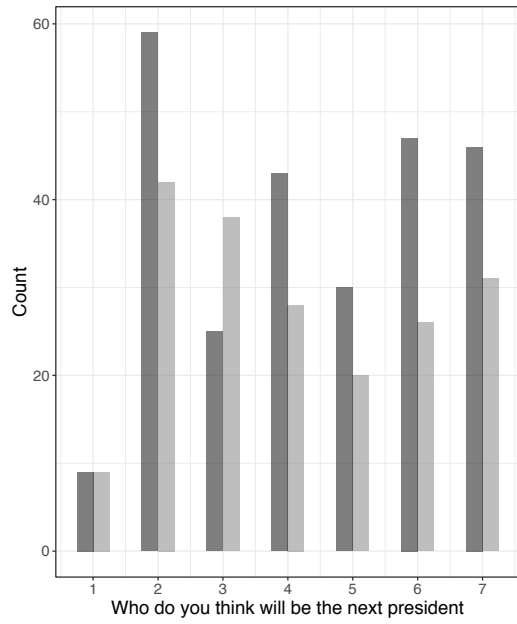
12 Appendix K: Near-Fine Balance Sociotropic Treatment



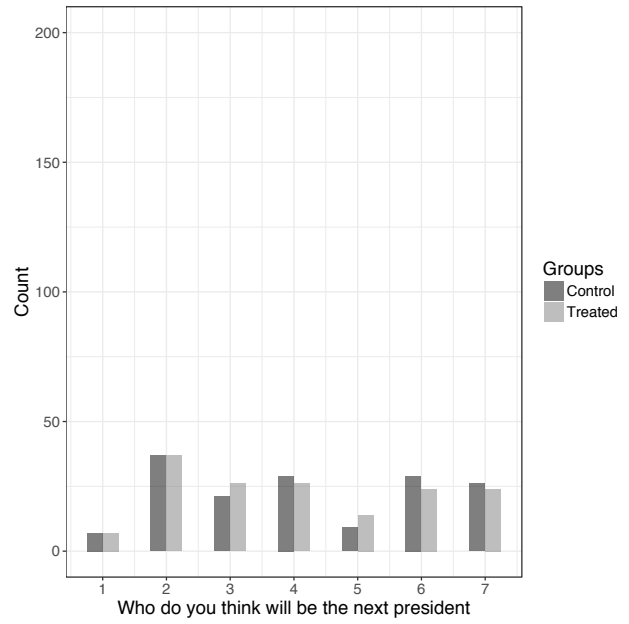
(a) Before matching

(b) After matching

Figure 7: Near-fine balance for "Neighborhood" (sociotropic sample)

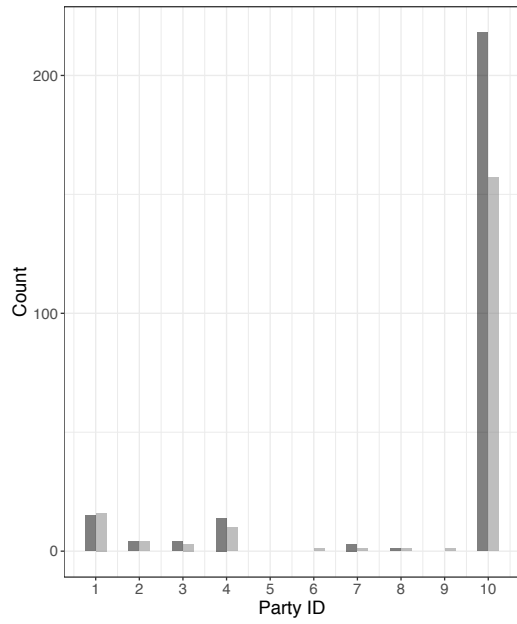


(a) Before matching

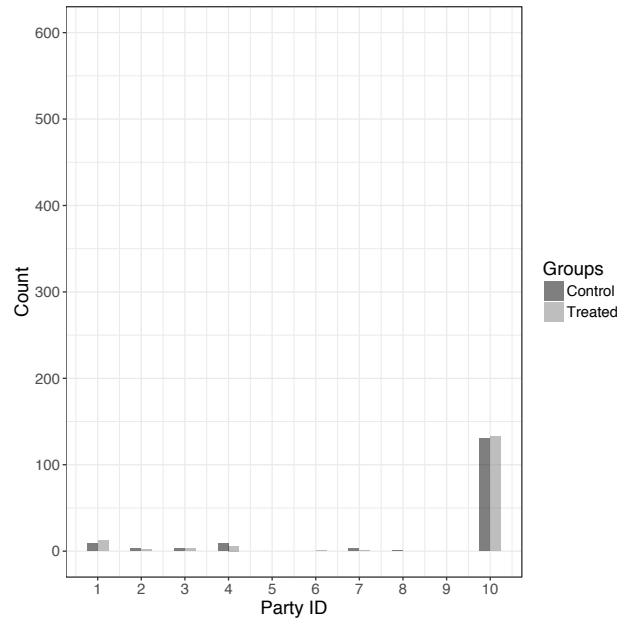


(b) After matching

Figure 8: Near-fine balance for "Who do you think will be the next president" (sociotropic sample)

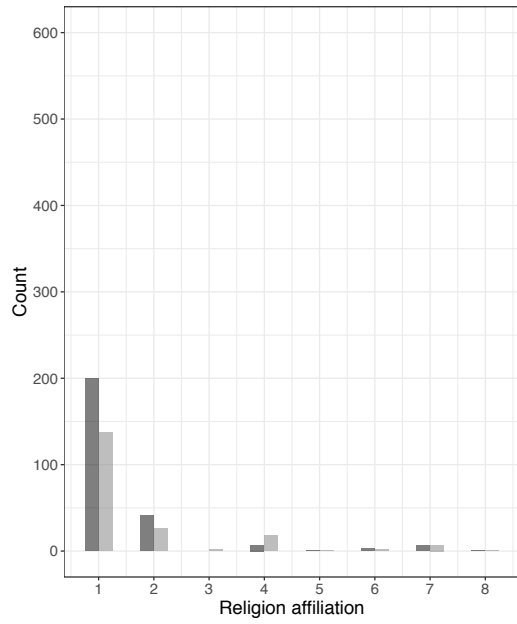


(a) Before matching

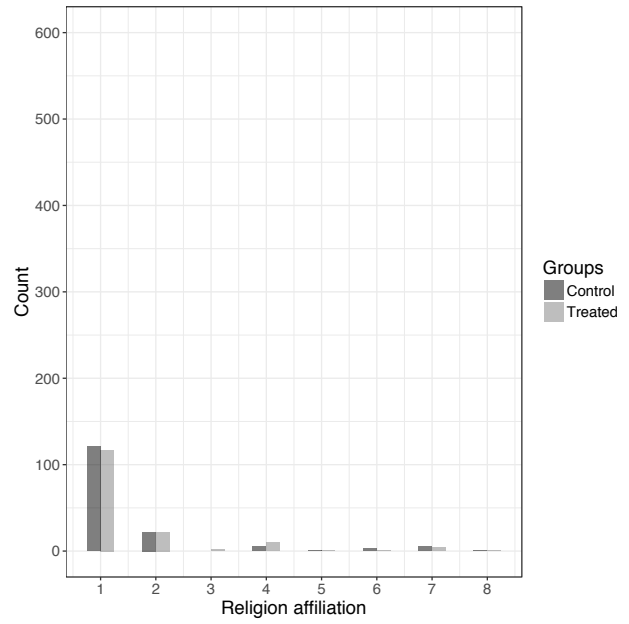


(b) After matching

Figure 9: Near-fine balance for "Party identification" (sociotropic sample)

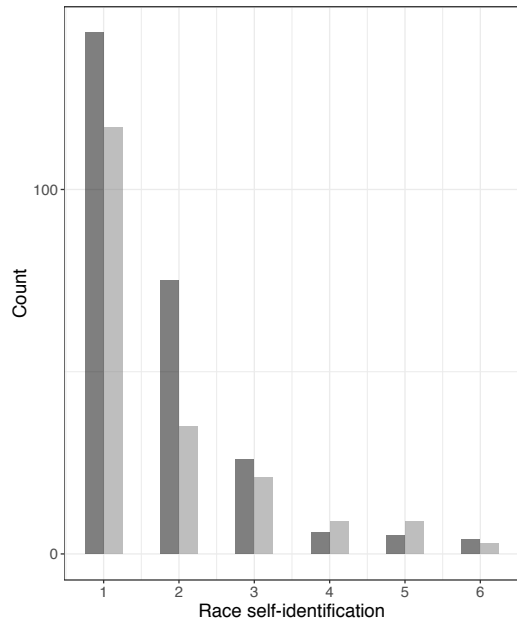


(a) Before matching

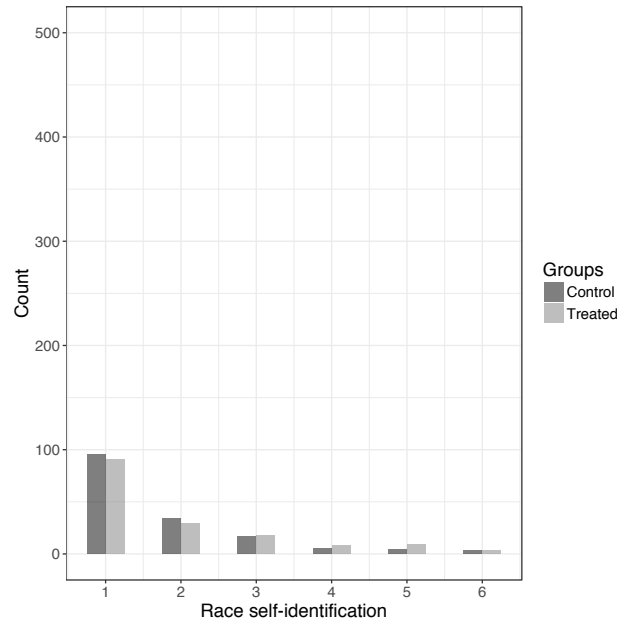


(b) After matching

Figure 10: Near-fine balance for "Religion affiliation" (sociotropic sample)

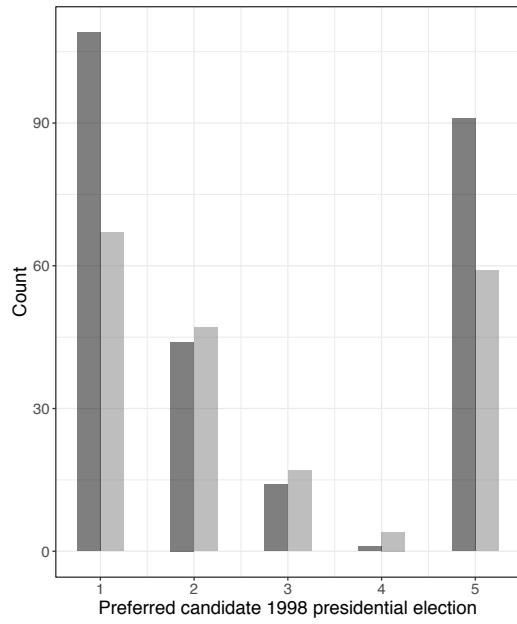


(a) Before matching

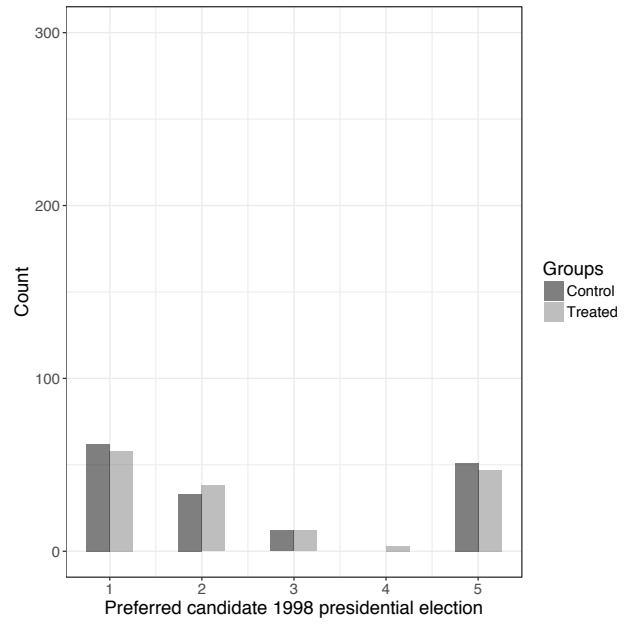


(b) After matching

Figure 11: Near-fine balance for "Race self-identification" (sociotropic sample)



(a) Before matching



(b) After matching

Figure 12: Near-fine balance for "1998 electoral decision" (sociotropic sample)

13 Appendix K: Exact Matching Sociotropic Treatment

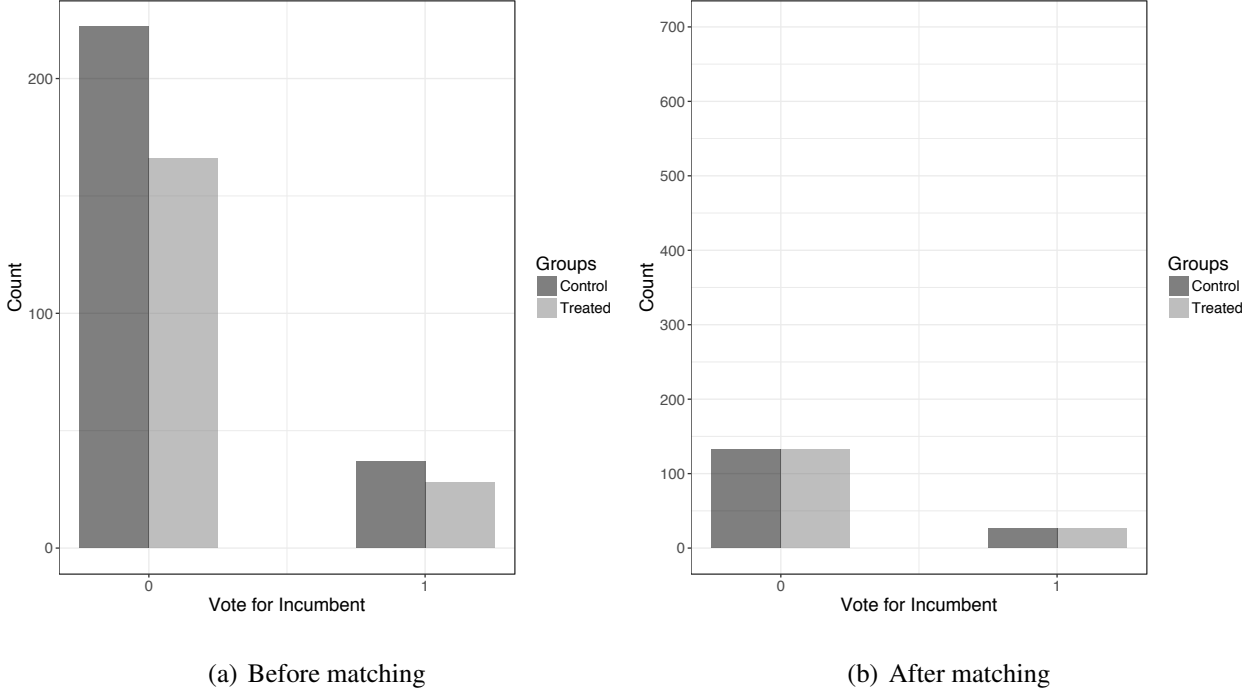


Figure 13: Exact matching for "voting for the incumbent" (sociotropic sample)

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