Supplementary Material

Gendered Bureaucracies: Women Mayors and the Size and Composition of Local Governments

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Appendix A: Women and Politics in Chile

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a) Party Leaders:

Between 2008 and 2016, there were only four women party leaders across the country's eight largest parties: Isabel Allende (PS), Marilén Cabrera (PH), Carolina Toha (PPD), and Carolina Goic (PPD). Conversely, in the same amount of time, there were twenty men party leaders.

Table A1: List of party leaders

Party	2008	2009	2010	2011	2012	2013	2014	2015	2016
UDI	Juan Antonio Coloma	Juan Antonio Coloma	Juan Antonio Coloma	Juan Antonio Coloma	Patricio Melero	Patricio Melero	Ernesto Silva	Hernán Larraín	Hernán Larraín
RN	Carlos Larraín	Carlos Larraín	Carlos Larraín	Carlos Larraín	Carlos Larraín	Carlos Larraín	Cristián Monckeberg	Cristián Monckeberg	Cristián Monckeberg
PS	Camilo Escalona	Camilo Escalona	Osvaldo Andrade	Osvaldo Andrade	Osvaldo Andrade	Osvaldo Andrade	Osvaldo Andrade	Isabel Allende	Isabel Allende
PRS	José Antonio Gómez	José Antonio Gómez	José Antonio Gómez	José Antonio Gómez	José Antonio Gómez	José Antonio Gómez	Ernesto Velasco	Ernesto Velasco	Ernesto Velasco
PPD	Pepe Auth	Pepe Auth	Carolina Tohá	Carolina Tohá	Jaime Quintana	Jaime Quintana	Jaime Quintana	Jaime Quintana	Gonzalo Navarrete
PH	Marilén Cabrera	Efrén Osorio	Danilo Monteverde	Danilo Monteverde	Danilo Monteverde	Danilo Monteverde	Octavio González	Octavio González	Octavio González
PDC	Juan Carlos Latorre	Juan Carlos Latorre	Ignacio Walker	Ignacio Walker	Ignacio Walker	Ignacio Walker	Ignacio Walker	Jorge Pizarro Soto	Carolina Goic
PC	Guillermo Teiller	Guillermo Teiller	Guillermo Teiller	Guillermo Teiller	Guillermo Teiller	Guillermo Teiller	Guillermo Teiller	Guillermo Teiller	Guillermo Teillier

b) Data on the discrepancy between the share of women candidates and the percentage of women mayors:

Data on the discrepancy between the share of women candidates and the percentage of women mayors is not available for all countries. We decided to focus on Latin American countries for which data on this discrepancy was available to draw some tentative conclusions about the comparison of these cases with Chile. We obtained data for Ecuador (2009-2014), Peru (2002-2010), and Colombia (2007-2015) from the following sources:

- Ecuador: Consejo Nacional Electoral. (N.d). Participación Política de la Mujer. Available at: Link
- Peru: IDEA Internacional. (2012). Igualdad: ¿para cuando?. Género y elecciones peruanas 2010- 2011. Lima: IDEA.
- Colombia: El Tiempo. (2016). "Las Mujeres en el Poder Político Local (2016-2019)." Link
- Women mayors in Latin America (2008-2016): Economic Commission for Latin America and the Caribbean, CEPALSTAT Link

Appendix B: Comparison of Different Samples

Since the RDD estimates a local treatment effect, it is important to make sure that the characteristics of the samples generated using optimal bandwidths are not very different from the sample with all of the units and the eligible sample.[4] In table A2, we compare the mean for the four outcomes across six different samples: the sample with all of the units, the eligible sample, and the four samples constructed using the MSE-optimal bandwidths.[5] All of the bandwidth samples report similar results when compared to sample with all of the units.[6]

Table A2: Comparing outcomes and covariates across samples

Outcomes	All units	Eligible units	Bandwidth 1	Bandwidth 2	Bandwidth 3	Bandwidth 4
Municipal employees	112.94	129.26	113.94	116.35	109.71	123.64
Female municipal employees	49.25	54.95	44.57	45.02	43.12	51.12
Male municipal employees	63.68	74.31	69.37	71.32	66.59	72.52
Share of female municipal employees	0.45	0.45	0.44	0.44	0.44	0.44
Right-wing candidate	0.47	0.47	0.46	0.46	0.46	0.47
Left-wing candidate	0.53	0.53	0.54	0.54	0.54	0.53
Development	0.69	0.70	0.69	0.69	0.68	0.69
Health	167.32	150.95	159.01	158.76	165.69	160.21
Education	167.30	155.38	171.76	170.17	178.04	175.13
Income	166.94	152.71	173.12	172.01	180.68	169.47
County size	1.49	1.54	1.47	1.45	1.44	1.53
Distance	514.56	535.08	599.14	544.79	591.57	592.82

Appendix C: List of Interviewees

[4] The complete sample corresponds to all municipalities-year observations before excluding cases where the winner or runner up were two women or two men.
[5] Each outcome has a different bandwidth and as a result a different sample.
[6] Regarding the number of municipalities in each sample, there are 345 municipalities in Chile, and we use 94 of them in the bandwidth sample used to analyze the impact of woman mayors on the composition of the bureaucracy.

List of interviewees		
Position	**Type of Interview**	**Date**
Woman Mayor, Independent	Semi-structured	March 6th, 2020
Woman Mayor, Nueva Mayoria	Semi-structured	January 31, 2020.
Woman Mayor, Chile Vamos	Semi-structured	January 21, 2020
Man Mayor, Chile Vamos	Semi-structured	December 23rd, 2019
Man Mayor, Chile Vamos	Semi-structured	November 4th, 2019
Man Mayor, Nueva Mayoria	Semi-structured	December 19th, 2019

Appendix D: Main Results

We use the *rdrobust* package in R to estimate the effects of electing women mayors. The package reports conventional, bias-corrected, and robust point estimates and standard errors. The conventional estimates could introduce a first-order misspecification bias, which can be removed using the bias-corrected approach. The robust approach removes the misspecification bias and also adjusts the standard errors to account for this correction (Cattaneo and Escanciano 2017). Table A3 reports the three versions of these results for the four outcomes of interest.

Table A3: Effects of electing a woman mayor on the bureaucracy

	Municipal employees	Women municipal employees	Men municipal employees	Share of women municipal employees
Conventional	-145.951***	-53.445***	-88.970***	0.082***
	(43.238)	(18.761)	(24.450)	(0.016)
Bias-corrected	-166.600***	-61.553***	-100.943***	0.082***
	(43.238)	(18.761)	(24.450)	(0.016)
Robust	-166.600***	-61.553***	-100.943***	0.082***
	(46.572)	(20.619)	(26.361)	(0.020)
N	221	207	224	365
MSE bandwidth	0.091	0.086	0.096	0.166

Note: *p<0.1; **p<0.05; ***p<0.01. We cluster the standard errors at the municipality-term level (4 years).

Appendix E: Continuity Assumptions

Our design assumes that there are no abrupt changes at the cutoff (except for the treatment). We use the *rdrobust* package to check whether political alignment affects eight different placebo outcomes and pretreatment covariates (with data from 2008 to 2016). First, we use two political variables: the electoral results of the presidential second-round election for right- and left-wing candidates (held in January 2006). Then, we use four socioeconomic variables: the human development index computed, and the health, education, and income ranking of the county (with data computed in 1998). Finally, we use an ordinal variable that captures the size of the county (using data from the 2002 census) and the distance to the capital city in kilometers. We use the same observed covariates for the local randomization approach for RDDs.

Table A4: Effects of political alignment on placebo and pretreatment covariates (part I)

	Right-wing candidate	Left-wing candidate	Development	Health
Conventional	0.012	-0.012	-0.019	28.460
	(0.010)	(0.010)	(0.016)	(19.141)
Bias-corrected	0.007	-0.007	-0.021	23.558
	(0.010)	(0.010)	(0.016)	(19.141)
Robust	0.007	-0.007	-0.021	23.558
	(0.011)	(0.011)	(0.020)	(23.228)
N	251	251	369	343
MSE bandwidth	0.107	0.107	0.176	0.163

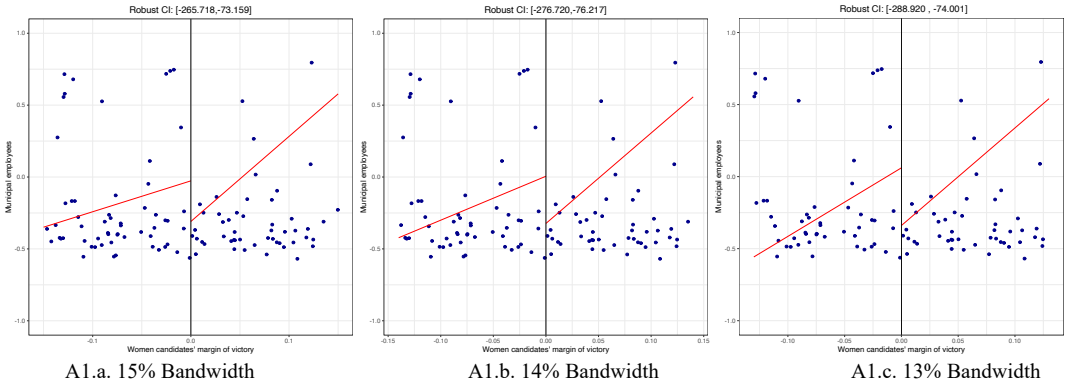
Table A5: Effects of political alignment on placebo and pretreatment covariates (part II)

	Education	Income	County size	Distance
Conventional	6.706	15.746	-0.145	160.319
	(21.745)	(22.881)	(0.093)	(106.754)
Bias-corrected	3.953	13.879	-0.172	206.360
	(21.745)	(22.881)	(0.093)	(106.754)
Robust	3.953	13.879	-0.172	206.360
	(27.440)	(28.878)	(0.111)	(122.938)
N	330	335	355	349
MSE bandwidth	0.155	0.158	0.161	0.151

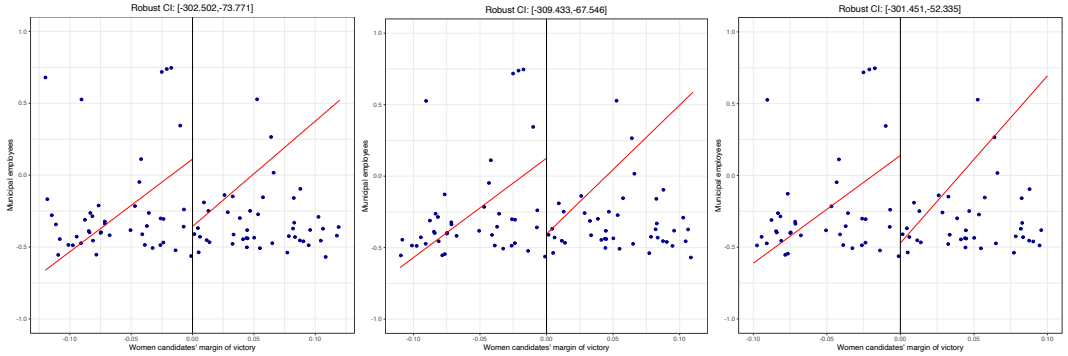
The results provide support for the continuity assumption, as there is no abrupt change at the cutoff for any of the pretreatment or placebo covariates.

Appendix F: Other Bandwidths

Figures A1, A2, A3, and A4 replicate the results for the main four outcomes using six alternative bandwidths: 15%, 14%, 13%, 12%, 11%, and 10%. Results are consistent across all of the plots. See appendix G for results when using much smaller bandwidths (e.g., 1% or 1.5%).

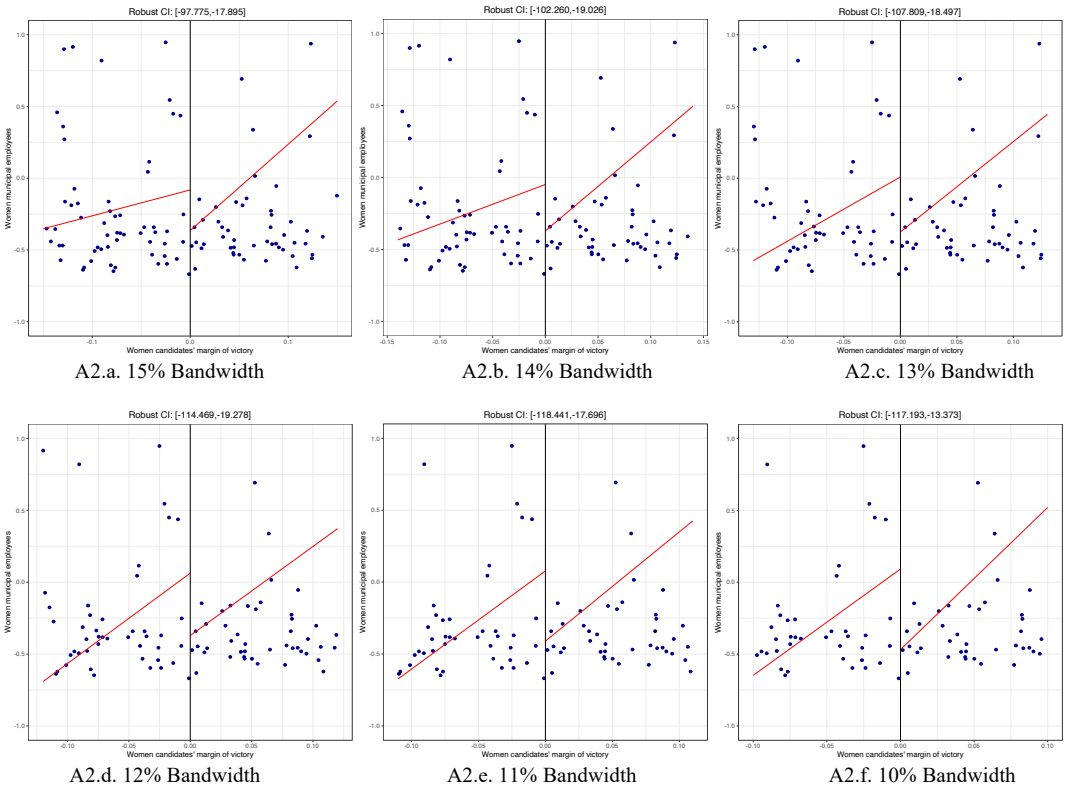


A1.a. 15% Bandwidth A1.b. 14% Bandwidth A1.c. 13% Bandwidth



A1.d. 12% Bandwidth A1.e. 11% Bandwidth A1.f. 10% Bandwidth

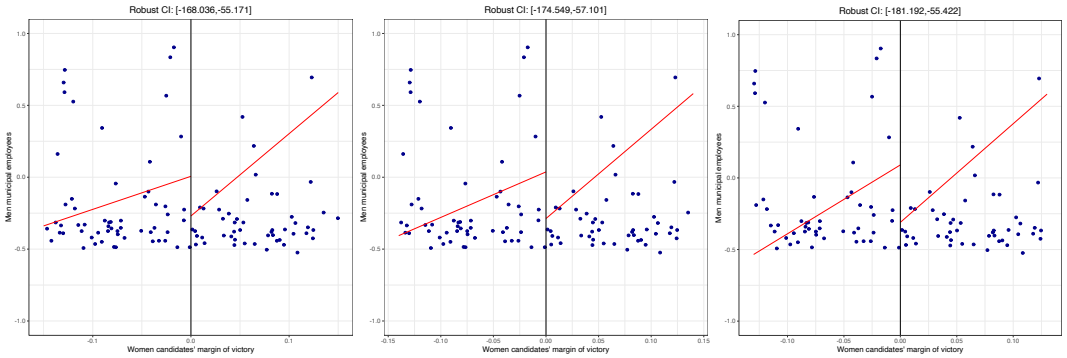
Figure A1: Municipal Employees



A2.a. 15% Bandwidth A2.b. 14% Bandwidth A2.c. 13% Bandwidth

A2.d. 12% Bandwidth A2.e. 11% Bandwidth A2.f. 10% Bandwidth

Figure A2: Women Municipal Employees



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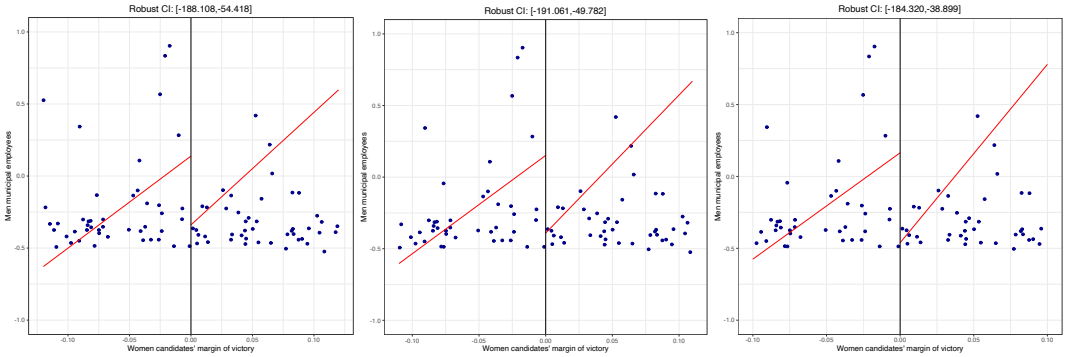
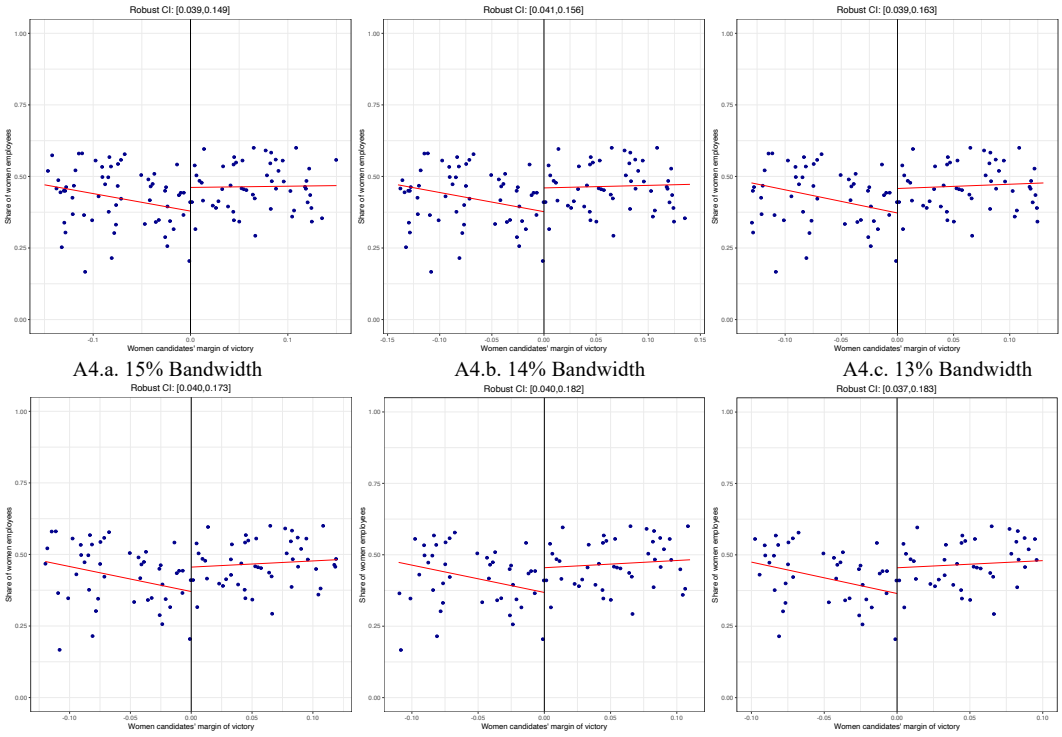


A2.d. 12% Bandwidth A2.e. 11% Bandwidth A2.f. 10% Bandwidth

Figure A3: Men Municipal Employees



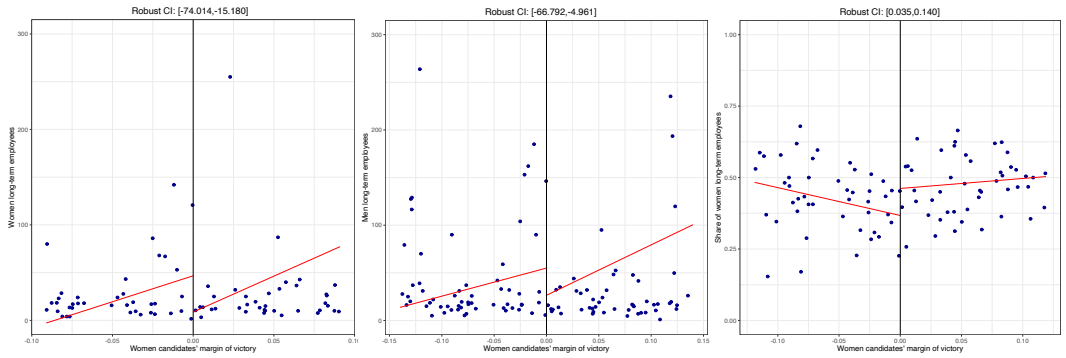
A4.a. 15% Bandwidth A4.b. 14% Bandwidth A4.c. 13% Bandwidth

A4.d. 12% Bandwidth A4.e. 11% Bandwidth A4.f. 10% Bandwidth

Figure A4: Share of Women Employees

Appendix G: Type of Contracts

Public employees can have two main types of contracts in Chile: long-term (*planta*) and short-term (*contrata*). Figure 5A reports the effect of electing women mayors on each of these subgroups to explore whether the main results are conditional on the type of contract.



A5.a. Women long-term employees | A5.b. Men long-term employees | A5.c. Share of women long-term employees

A5.d. Women short-term employees | A5.e. Men short-term employees | A5.f. Share of women short-term employees

Figure A5: RDD plots for electing women mayors on the bureaucracy by type of contract

The results illustrate the same patterns regardless of whether or not we separate public employees by type of contract. Women mayors reduce the number of both long-term and short-term employees and the proportion of women workers increases across both groups.

Appendix H: Local Randomization for RDD

Here we report the results when using the local randomization framework for RDD for the three other windows where covariate balance is also achieved: [-0.010,0.010], [-0.015,0.015], [-0.018,0.018].[7] We use the same eight covariates from appendix E.

Table A6: Randomization inference (window: [-0.10,0.10])

	Difference-in-mean	P-value
Municipal employees	-106.338	0.018
Women municipal employees	-40.034	0.021
Men municipal employees	-66.304	0.014
Share of women employees	0.089	0.012

Table A7: Randomization inference (window: [-0.15,0.15])

	Difference-in-mean	P-value
Municipal employees	-103.943	0.002
Women municipal employees	-40.391	0.004
Men municipal employees	-63.552	0.001
Share of women employees	0.074	0.022

Table A8: Randomization inference (window: [-0.18,0.18])

	Difference-in-mean	P-value
Municipal employees	-111.551	0.001
Women municipal employees	-41.983	0.001
Men municipal employees	-69.568	0.001
Share of women employees	0.078	0.012

As tables 2, A6, A7, and A8 illustrate, the results are consistent across the four windows used to estimate the effects of electing women on the local bureaucracy when relying on a local randomization approach for regression discontinuity designs.

[7] These include 35, 43, and 44 observations, respectively.