



Imposing restrictions in the fight against COVID-19: the case of Bogotá

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Appendix A Additional Figures and Tables

Table A.1: Summary statistics

	Control		Treatment	
	Mean	Std Dev	Mean	Std Dev
	(1)	(2)	(3)	(4)
Panel A: Localities/bi-day				
Deaths per 100.000 pop. (L7)	2.67	1.95	3.01	1.84
Deaths per 100.000 pop. (L8)	2.50	1.83	2.99	2.00
Deaths per 100.000 pop. (L7) Elder	13.31	9.75	16.27	10.92
Deaths per 100.000 pop. (L8) Elder	12.42	9.07	16.62	11.00
N	55	55	40	40
Panel B: Localities				
Informality rate	33.88	8.42	45.97	4.36
% Privation of health insurance	11.80	3.39	13.37	2.05
Median of estrato (Inverse)	4.09	0.70	4.88	0.99
% Illiteracy	2.22	0.80	4.26	1.51
% Households in indigence	4.86	1.90	8.10	3.32
% Households in poverty	9.97	4.47	18.77	7.82
Quality of life (Inverse)	5.06	1.60	8.76	2.91
% Absenteeism in elections	34.64	4.25	40.50	2.56
% Internet deprivation	0.77	0.08	0.58	0.11
N	11	11	8	8

Table A.2: Results without time fixed effects

Dependent variable:	Deaths per 100.000 population		Deaths per 100.000 population elder	
Days lag	8	7	8	7
	(1)	(2)	(3)	(4)
Lockdown	0.59 [0.13] (-0.21, 1.34)	0.89** [0.04] (0.05, 1.62)	1.82 [0.44] (-2.95, 6.34)	4.35* [0.10] (-0.84, 9.07)
Mean Dep. Variable	2.72	2.85	14.16	14.31
Adjusted R ²	0.21	0.22	0.08	0.08
Observations	190	190	190	190

Notes: Columns (1) and (2) refers to the mortality rate of the whole population. Columns (3) and (4) are computed as the mortality rate of people older than 60 years. P-value is reported in square brackets and confidence intervals at 95% in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Figure A.1: Steps to build BRT mobility variable

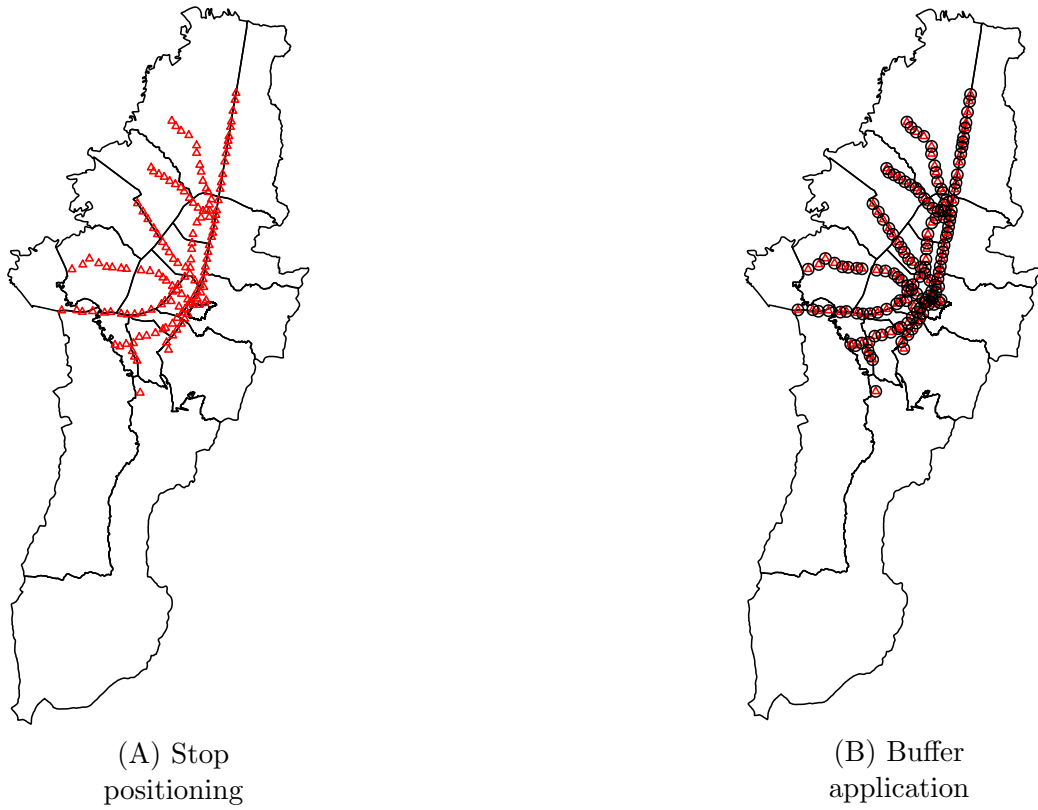


Figure A.2: Detailed sample of buffer computing

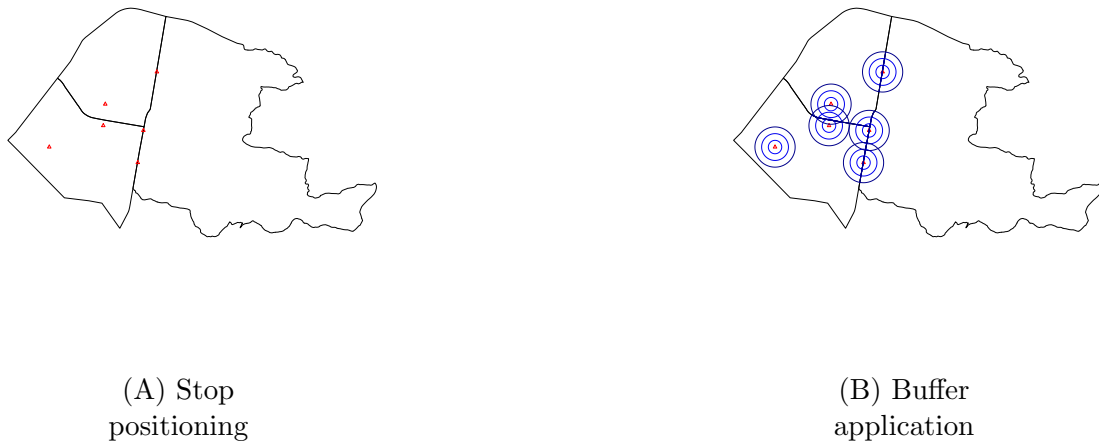


Figure A.3: Steps to build Facebook movement data

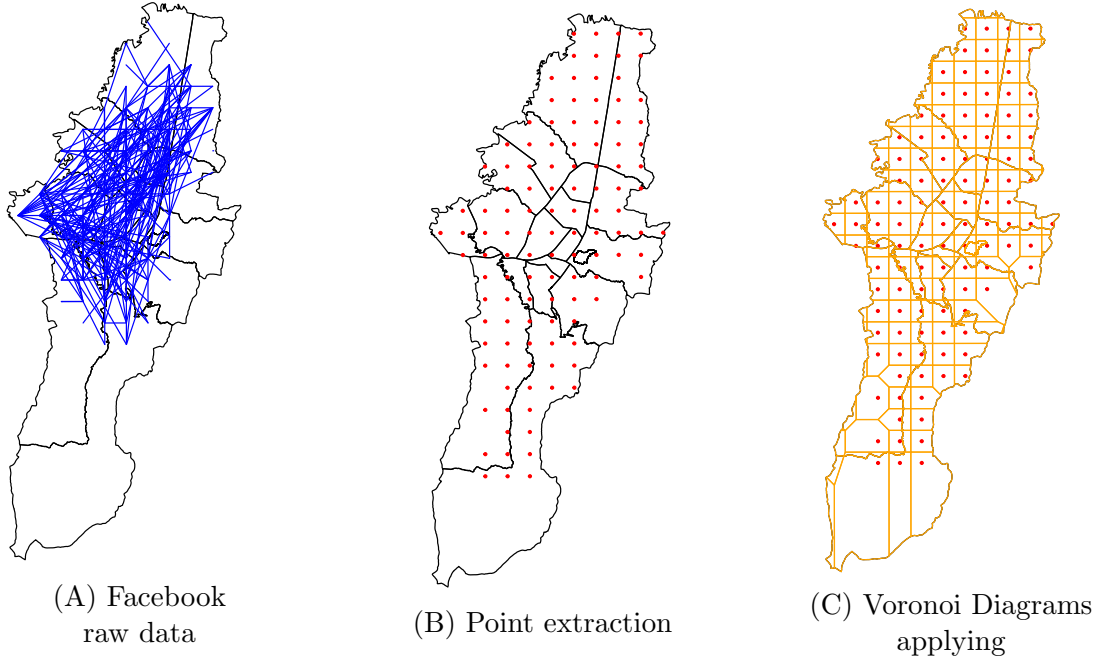


Figure A.4: Errors specification robustness

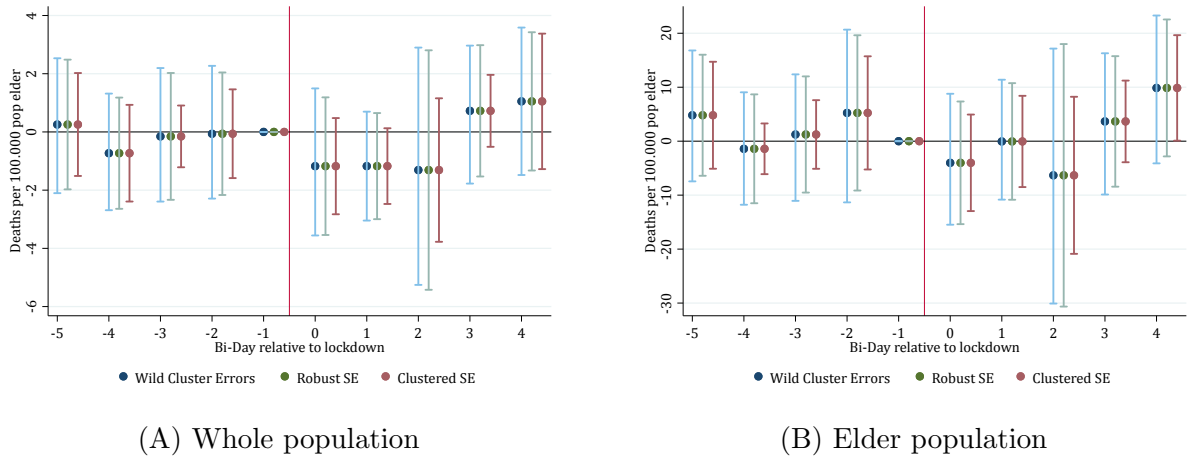


Figure A.5: Robustness to Difference in Difference estimator

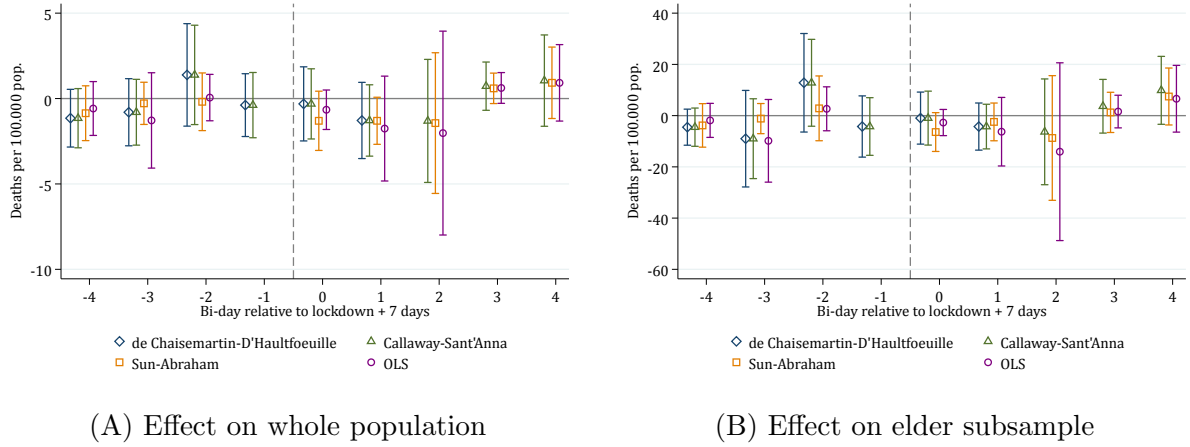


Table A.3: Results with logarithmic dependent variable

Dependent variable:	Log of deaths per 100.000 population		Log of deaths per 100.000 population elder	
Days lag	8	7	8	7
	(1)	(2)	(3)	(4)
Lockdown	-0.011 [0.91] (-0.22, 0.22)	0.044 [0.72] (-0.20, 0.27)	0.086 [0.69] (-0.32, 0.48)	0.20 [0.38] (-0.26, 0.62)
Mean Dep. Variable	1.20	1.24	2.48	2.49
Adjusted R ²	0.38	0.31	0.15	0.14
Observations	190	190	190	190

Notes: Columns (1) and (2) refers to the mortality rate of the whole population. Columns (3) and (4) are computed as the mortality rate of people older than 60 years. P-value is reported in square brackets and confidence intervals at 95% in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Figure A.6: Buffer robustness

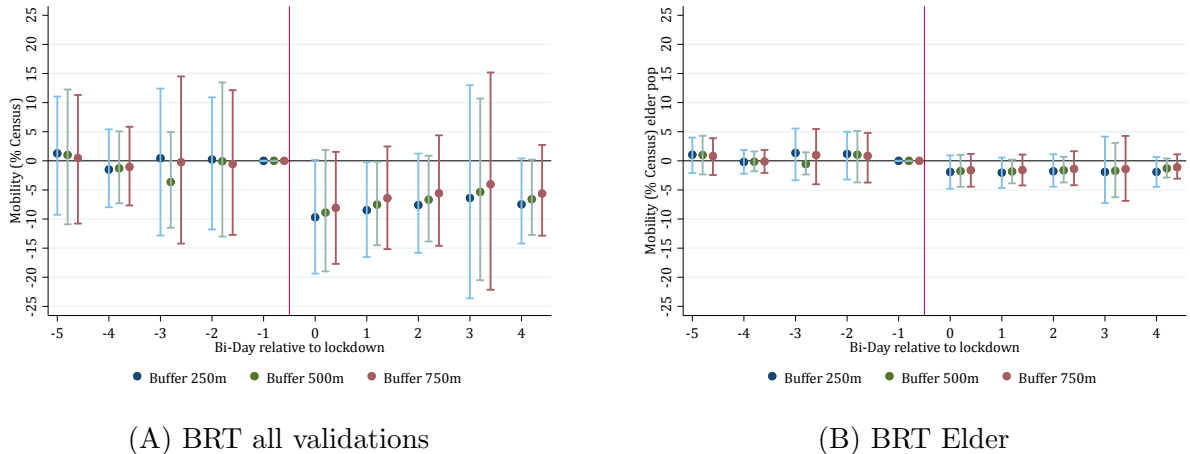


Table A.4: Heterogeneity results

Dependent variable: Deaths per 100.000 pop. (Lag of 8 days)										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Lockdown	-0.24 [0.70] (-1.34, 0.94)	4.04 [0.52] (-7.12, 15.32)	2.11 [0.64] (-5.72, 0.57)	1.38 [0.67] (-2.04, 2.90)	0.55 [0.66] (-0.36, 0.10)	0.85 [0.50] (-1.76, 3.18)	0.69 [0.63] (-2.18, 3.30)	0.56 [0.68] (-2.12, 2.96)	1.04 [0.87] (-11.51, 12.66)	-1.81 [0.34] (-5.72, 2.10)
LockdownXInformality		-0.09 [0.47] (-0.33, 0.14)								
LockdownXHealthDeprivation			-0.18 [0.58] (-0.69, 0.34)							
LockdownXEstratoMedian				-0.33 [0.58] (-1.35, 0.68)						
LockdownXIlliteracy					-0.18 [0.39] (-0.61, 0.25)					
LockdownXIndigence						-0.14 [0.22] (-0.36, 0.10)				
LockdownXPoverty							-0.05 [0.38] (-0.16, 0.06)			
LockdownXLife Quality								-0.09 [0.41] (-0.30, 0.13)		
LockdownXPollingAbstention									-0.03 [0.84] (-0.33, 0.28)	
LockdownXInternetDeprivation										2.71 [0.46] (-4.35, 9.42)
Mean Dep.Variable	2.72	2.72	2.72	2.72	2.72	2.72	2.72	2.72	2.72	2.72
Observations	190	190	190	190	190	190	190	190	190	190
Adjusted R ²	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.30	0.31

Notes: P-value is reported in square brackets and confidence intervals at 95% in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table A.5: Public transport results

Dependent Variable:	Validations			
	(1)	(2)	(3)	(4)
BRT	Total	0h-8h	8h-16h	16h-0h
Lockdown	-6.21*** [0.01] (-10.96, -1.30)	-0.38 [0.16] (-0.89, 0.17)	-2.48** [0.02] (-4.40, -0.39)	-3.35** [0.02] (-6.20, -0.38)
Mean Dep. Variable	28.12	3.85	12.39	11.87
Adjusted R ²	0.88	0.91	0.89	0.84
Elder BRT	Total	0h-8h	8h-16h	16h-0h
Lockdown	-1.91*** [0.01] (-3.29, -0.42)	-0.10 [0.14] (-0.24, 0.04)	-1.05*** [0.01] (-1.81, -0.25)	-0.76** [0.03] (-1.44, -0.05)
Mean Dep. Variable	7.66	1.00	4.14	2.51
Adjusted R ²	0.86	0.89	0.86	0.82
Other buses	Total	0h-8h	8h-16h	16h-0h
Lockdown	-3.04*** [0.00] (-4.25, -1.71)	-0.31*** [0.00] (-0.49, -0.13)	-1.33*** [0.00] (-1.90, -0.70)	-1.40*** [0.00] (-2.00, -0.74)
Mean Dep. Variable	15.34	3.22	6.74	5.39
Adjusted R ²	0.91	0.94	0.90	0.88
Observations	190	190	190	190

Notes: P-value is reported in square brackets and confidence intervals at 95% in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table A.6: Facebook mobility results

Dependent Variable	FB movements per population			
	(1)	(2)	(3)	(4)
Entrances	Total	0h-8h	8h-16h	16h-0h
Lockdown	-2.74 [0.16] (-6.36, 1.20)	-0.49 [0.48] (-1.75, 0.86)	-1.31* [0.07] (-2.61, 0.09)	-0.95 [0.27] (-2.52, 0.74)
Mean Dep. Variable	60.89	18.37	20.07	22.44
Adjusted R ²	0.99	0.98	0.99	0.99
Departures	Total	0h-8h	8h-16h	16h-0h
Lockdown	-2.96 [0.14] (-6.61, 0.93)	-0.41 [0.58] (-1.61, 0.85)	-0.56 [0.37] (-1.70, 0.65)	-1.99** [0.05] (-3.80, -0.04)
Mean Dep. Variable	60.93	18.46	20.07	22.40
Observations	190	190	190	190
Adjusted R ²	0.99	0.99	0.99	0.98
Internal mobility	Total	0h-8h	8h-16h	16h-0h
Lockdown	1.55 [0.40] (-1.73, 4.72)	0.18 [0.75] (-0.69, 1.00)	0.50 [0.50] (-0.72, 1.70)	0.87 [0.33] (-0.88, 2.54)
Mean Dep. Variable	109.28	36.91	36.00	36.38
Adjusted R ²	1.00	1.00	1.00	1.00
Observations	190	190	190	190

Notes: P-value is reported in square brackets and confidence intervals at 95% in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table A.7: Facebook mobility results at UPZ level

Dependent Variable	FB movements per population			
	(1)	(2)	(3)	(4)
Entrances	Total	0h-8h	8h-16h	16h-0h
Lockdown	1.56 [0.99] (-197.4, 200.3)	-0.31 [0.98] (-25.43, 25.36)	-0.02 [1.00] (-25.44, 26.16)	-2.09 [0.91] (-33.06, 29.61)
Mean Dep. Variable	290.16	46.79	48.58	56.55
Adjusted R ²	0.16	0.27	0.25	0.24
Departures	Total	0h-8h	8h-16h	16h-0h
Lockdown	-2.36 [0.96] (-83.27, 81.27)	-0.52 [0.97] (-27.83, 26.97)	-1.16 [0.94] (-27.88, 25.94)	-0.67 [0.96] (-28.61, 27.76)
Mean Dep. Variable	151.63	49.08	50.58	51.98
Adjusted R ²	0.25	0.25	0.25	0.25
Internal mobility	Total	0h-8h	8h-16h	16h-0h
Lockdown	3.87 [0.957] (-137.6, 142.5)	0.35 [0.99] (-47.49, 47.32)	1.50 [0.95] (-44.36, 47.00)	2.02 [0.93] (-45.33, 48.11)
Mean Dep. Variable	144.08	49.39	46.85	47.85
Adjusted R ²	0.12	0.12	0.12	0.12
Observations	1,130	1,130	1,130	1,130

Notes: P-value is reported in square brackets and confidence intervals at 95% in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table A.8: Facebook mobility spillovers

Dependent Variable	FB movements per population			
	(1)	(2)	(3)	(4)
Entrances	Total	0h-8h	8h-16h	16h-0h
Lockdown	-1.32 [0.53] (-5.01, 2.71)	-0.37 [0.67] (-1.85, 1.20)	-1.07 [0.20] (-2.56, 0.58)	0.12 [0.83] (-1.00, 1.17)
Spillovers onto control	60.65*** [0.00] (55.69, 66.66)	19.50*** [0.00] (17.88, 21.09)	20.90*** [0.00] (19.35, 22.67)	20.25*** [0.00] (17.82, 23.39)
Spillovers onto treated	56.85*** [0.00] (49.46, 62.52)	19.18*** [0.00] (16.81, 21.31)	20.26*** [0.00] (17.77, 22.33)	17.42*** [0.00] (14.17, 19.77)
Mean Dep. Variable	60.89	18.37	20.07	22.44
Observations	190	190	190	190
Adjusted R ²	0.99	0.98	0.99	0.99
Departures	Total	0h-8h	8h-16h	16h-0h
Lockdown	-1.81 [0.37] [-5.54, 2.39]	-0.23 [0.62] (-1.11, 0.71)	-0.08 [0.88] (-1.10, 1.00)	-1.50 [0.22] (-3.72, 0.98)
Spillovers onto control	60.63*** [0.00] (55.72, 66.12)	17.30*** [0.00] (15.35, 19.33)	19.70*** [0.00] (18.08, 21.54)	23.63*** [0.00] (21.66, 25.97)
Spillovers onto treated	57.57*** [0.00] (50.49, 63.33)	16.84*** [0.00] (14.5, 18.89)	18.41*** [0.00] (16.26, 20.22)	22.32*** [0.00] (18.86, 25.06)
Mean Dep. Variable	60.93	18.46	20.07	22.40
Observations	190	190	190	190
Adjusted R ²	0.99	0.99	0.99	0.98
Internal mobility	Total	0h-8h	8h-16h	16h-0h
Lockdown	-0.74 [0.43] (-2.66, 1.18)	-0.09 [0.72] (-0.64, 0.47)	-0.28 [0.50] (-1.09, 0.58)	-0.36 [0.46] (-1.29, 0.59)
Spillovers onto control	38.51*** [0.00] (31.43, 43.24)	13.04*** [0.00] (11.42, 14.34)	13.35*** [0.00] (10.96, 15.09)	12.12*** [0.00] (8.40, 14.62)
Spillovers onto treated	44.62*** [0.00] (39.22, 50.76)	13.76*** [0.00] (12.29, 15.37)	15.44*** [0.00] (13.42, 17.77)	15.41*** [0.00] (12.82, 18.53)
Mean Dep. Variable	109.28	36.91	36.00	36.38
Observations	190	190	190	190
Adjusted R ²	1.00	1.00	1.00	1.00

Notes: P-value is reported in square brackets and confidence intervals at 95% in brackets. *** p<0.01, ** p<0.05, * p<0.1.