

**COVID-19 lockdown and municipal solid waste: evidence from the
discarding records of 252 communities in China**

Dongmin Kong^{1*}, Chenhao Liu² and Ling Han³

¹School of Economics, Huazhong University of Science and Technology, Wuhan, China, ²Guanghua School of Management, Peking University, Beijing, China and ³College of Environmental Sciences and Engineering, Peking University, Beijing, China

*Corresponding author. E-mail: kongdm@hust.edu.cn

ONLINE APPENDIX

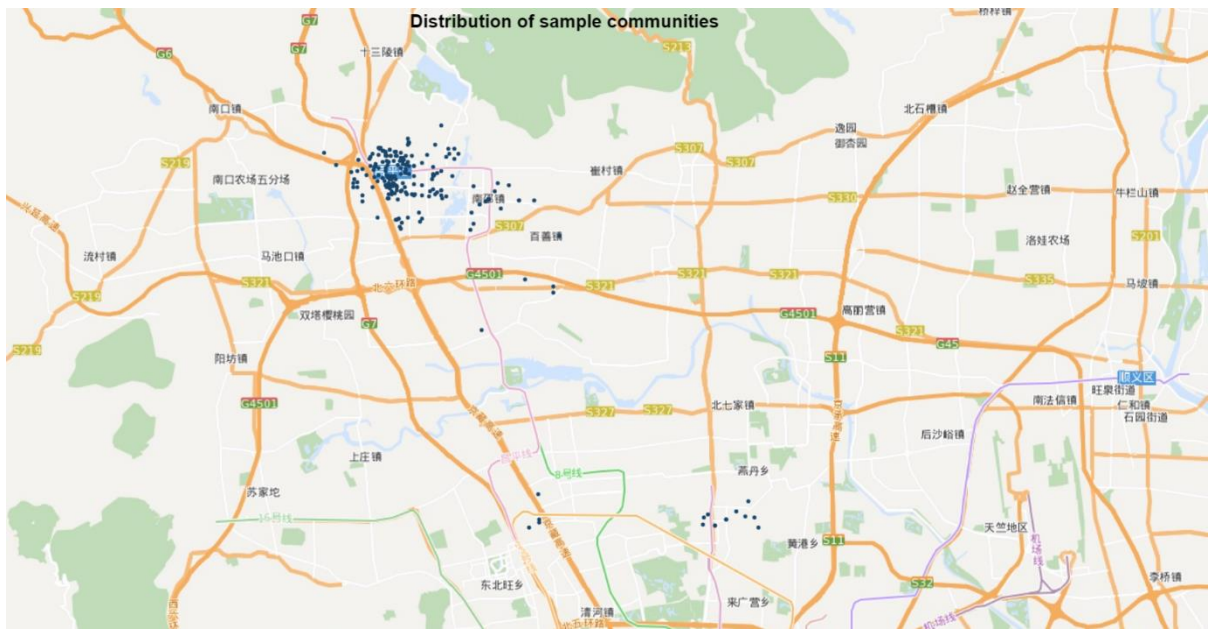


Figure A1. Geographical distribution of our sample communities.

Notes: This figure shows the map for the sample communities in Changping District, Beijing. Due to the existence of mountains, parks and rivers, the samples are relatively concentrated. However, these sample communities still cover the main areas in Changping District.

Source: Baidu Map.

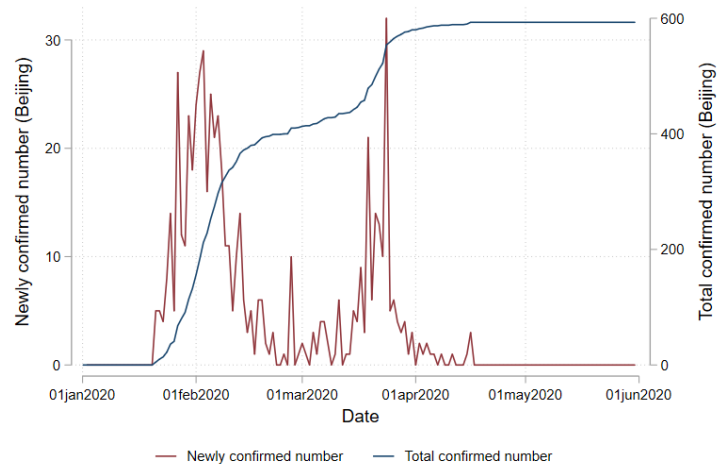
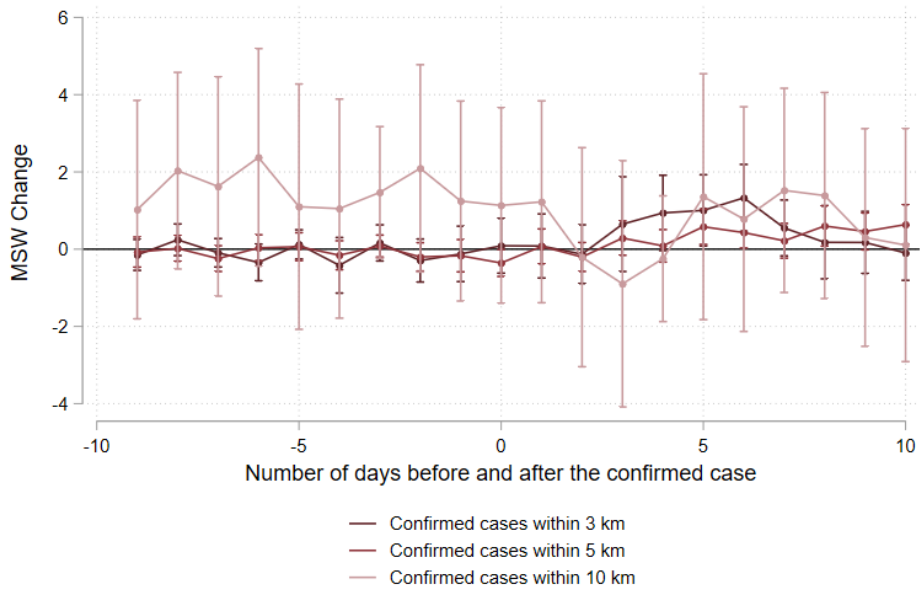
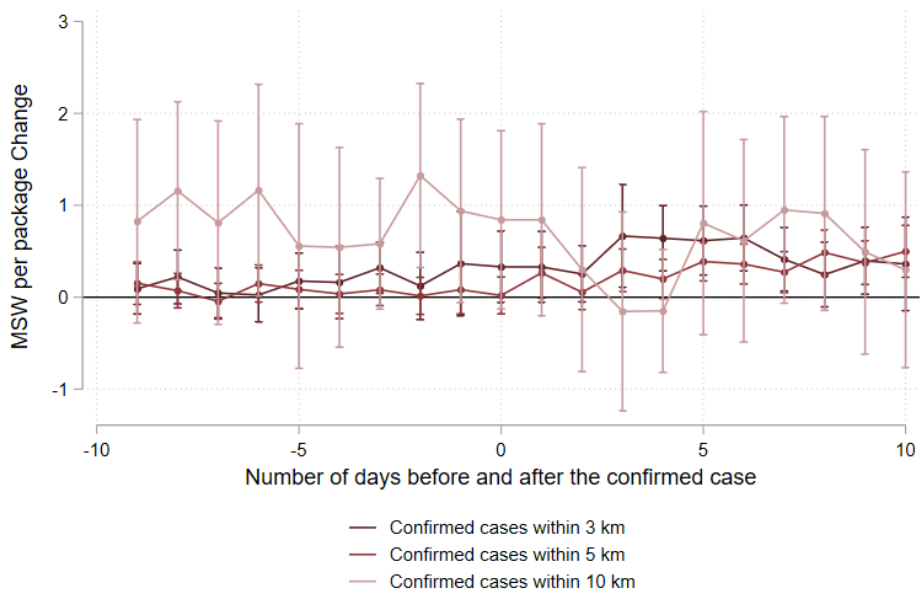


Figure A2. COVID Cases in Beijing.

Note: This figure reports the newly confirmed cases and the total number of confirmed cases in Beijing from January to May 2020.



(a)



(b)

Figure A3. Effect of local COVID cases.

Notes: This figure reports the event-study analysis of the effect of local COVID cases and 95% confidence intervals for the period from 9 days before to 10 days after the lockdown. Panel (a) reports the effect on total MSW and panel (b) reports the result of MSW per package. Each color represents the communities in different ranges around the new cases, which have high infection risk exposure and are more afraid of going out.

Table A1. Response of municipal solid waste per household to the COVID-19 lockdown

	(1)	(2)	(3)	(4)
	Based on the solar calendar		Based on the lunar calendar	
treat×after	-0.220 (0.038)	-0.219 (0.038)	-0.198 (0.036)	-0.205 (0.037)
after	0.022 (0.012)	0.000 (0.013)	-0.001 (0.012)	-0.015 (0.013)
Temperature max		0.001 (0.002)		0.002 (0.002)
Temperature min		0.006 (0.002)		0.006 (0.002)
Wind speed		0.001 (0.001)		0.001 (0.001)
Constant	0.096 (0.074)	0.081 (0.055)	0.110 (0.074)	0.088 (0.055)
Weekday FE	Yes	Yes	Yes	Yes
Community FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	5326	5326	5326	5326
r2	0.453	0.454	0.453	0.454

Notes: This table shows the effects of the COVID-19 lockdown on the weight of MSW per household. Standard errors are clustered at the community level and are reported in parentheses.