Title: COVID-19 and Silent Transmission

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Abstract (4/19/2020):
This paper studies silent transmission of the COVID-19 pandemic in the U.S. Silent transmission occurs when someone who does not realize about contracting the virus and passes it to someone else. In the standard SIR framework, the transition from being susceptible to catching the virus depends on two objects: the encounter rate and the probability that the encountered party is infected. When testing is far from being ubiquitous, spreading of the virus affects the latter probability and is abstract from the canonical framework. I parameterize a simple extended SIR framework to match the U.S. data. I collect information on the counts of tests, infection, recovery, and death in the U.S. at the county-level for the period of Mar 22 to April 18, 2020. I merge this information with demographic information from the American Community Surveys at county-level. I also collect contact information from SafeGraph. I calibrate the model and assess alternative less sweeping intervention policies.

Data: I collect information from John Hopkins University on the counts of tests, infection, recovery, and death in the U.S. at the county-level for the period of Mar 22 to April 18, 2020. To the best of my knowledge, this pandemic information in the U.S. is the most disaggregated to date available to the public. I merge this information with demographic information from the American Community Surveys at county-level. I also collect contact information from SafeGraph

JEL: I10, H0

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