

Covid-19 in Segmented Societies

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The views expressed herein are those of the author and not necessarily those of the Federal Reserve Bank of Dallas or the Federal Reserve System.

The contribution

- ▶ Using a large epidemiological panel survey conducted in Bogotá, this paper documents disparities in infections across socio-economic status:
 - ▶ 60 percent of low-income individuals estimated to have been infected (by February, 2021)
 - ▶ compared to 30 percent of high-income individuals
- ▶ Develop a two-agent MACRO-SIR model that is used to
 - ▶ study the distributional consequences of COVID-19 and mitigation/transfer policies
 - ▶ when calibrated to Bogotá, redistributive transfer policies can be Pareto improving relative to shutdown only
- ▶ Very nice paper!

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Outline of discussion

- ▶ Very brief review of model and main results
- ▶ Comments/suggestions

The model in one slide

- ▶ Two-agent macro-SIR model
 - ▶ high-income workers with access to financial markets
 - ▶ low-income workers who are hand-to-mouth and face higher infection risk, *ceterus paribus*
 - ▶ both agents derive utility from consumption (c), leisure ($1 - n$), and social interaction (a)
- ▶ Probability of infection depends on own consumption, labor, and social interactions AND those of infected low-income and high-income individuals
- ▶ Production is standard, except quantity restriction policy

$$y_t \leq \xi_t$$

- ▶ Small open economy

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Main results

1. Shutdown reduces welfare of both agents
 - ▶ and has little impact on long-run health outcomes
 - ▶ Redistributing transfers improve welfare of both agents, relative to shutdown only
 - ▶ low-income workers benefit from transfer
 - ▶ high-income benefit from higher wages (resulting from reduced labor supply of low-income workers + binding output constraint)

Main results

1. Shutdown reduces welfare of both agents
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2. Redistributing transfers improve welfare of both agents, relative to shutdown only
 - ▶ low-income workers benefit from transfer $\Rightarrow c \uparrow, n \downarrow$
 - ▶ high-income workers benefit from higher wages (GE effect resulting from reduced labor supply of low-income workers + inelastic labor demand due to binding output constraint)

Main results

1. Shutdown reduces welfare of both agents
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2. Redistributing transfers improve welfare of both agents, relative to shutdown only

⇒ No Pareto-improving policies relative to Laissez-Faire baseline

Comments/suggestions

Comment on calibration

- ▶ Assumption of symmetry in transmission (i.e. within group transmissions just as likely as across groups)
 - ▶ how important is “segmentation”?
 - ▶ do high-income individuals shop at different shops, work at different workplaces, and socially interact with other high-income individuals?
 - ▶ is there a way to better discipline the symmetry (or lack thereof)?
- ▶ Working less reduces transmission from the workplace but is *assumed* to increase the transmission from consumption and social interaction
 - ▶ e.g., transmission depends on number of parties I attend, not how much time I have
 - ▶ more on this later, but eliminating this assumption would

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Comment on model's quantitative fit

- ▶ Before moving onto the policy counterfactuals, important to examine the model's quantitative fit
- ▶ In the model, labor demand $\downarrow \gg \gg$ labor supply \downarrow , leading to a counterfactually large decline in real wages

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- ▶ In the model, labor demand $\downarrow \gg \gg$ labor supply \downarrow , leading to a counterfactually large decline in real wages
- ▶ Even though this comparison is not apples-to-apples (composition effects, trend growth, real vs. nominal, Bogotá vs Colombia, sector, etc), getting closer to the data is crucial, given that the main result depend on these price dynamics
- ▶ Potential solution has two sides

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- ▶ Even though this comparison is not apples-to-apples, getting closer to the data is crucial, given that the main result depend on these price dynamics
- ▶ Easy solution (two birds with one stone):
 - ▶ induce lower labor supply, by eliminating assumption that reduced labor increases transmission via other channels
 - ▶ this also brings labor supply closer to the data (currently decline in labor is too small, relative to data)

Comment on quantitative exercises

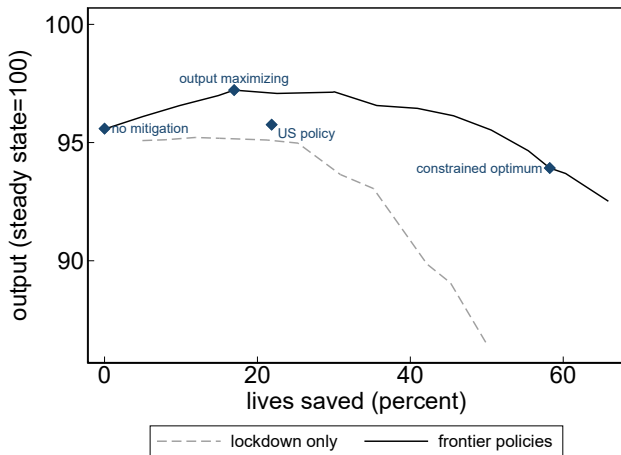
1. How important is the hand-to-mouth assumption?
 - ▶ presumably the effect of the transfer on welfare and labor supply (and price dynamics) would be smaller
 - ▶ could decompose the relative importance of the hand-to-mouth vs. the higher transmission assumption
- ▶ What other types of policy instruments could be studied?
 - ▶ This paper mainly focus on shutdowns and redistributionary lumpsum transfers
 - ▶ Policies that more directly address externalities may lead to better outcomes
 - ▶ e.g. Pigouvian taxes as in Kaplan, Moll, Violante (2021) and Hur (2021)

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Pareto improving policies

- ▶ Hur (2021) consider Pareto-improving policies that improve both economic and health outcomes



Concluding remarks

- ▶ Fantastic paper!
- ▶ First paper to use high-quality data to discipline the heterogeneous transmission across income groups
- ▶ Policy implications generalizable to many developing economies with stark inequalities