Title: Willingness to pay for morbidity and mortality risk reductions during an epidemic. Theory and preliminary evidence from the COVID-19 epidemic

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Abstract
As a result of the ongoing coronavirus (COVID-19) pandemic, individuals and governments around the world are undertaking very costly actions to prevent the rapid spread of the disease and potentially millions of deaths (e.g. social distancing interventions resulting in sharp decreases in economic activity and asset values). This situation creates an ideal natural experiment to evaluate the value of statistical lives (VSL) and also the willingness to pay (WTP) for decreases in morbidity risks at the national and international levels. We first adapt the standard model of VSL/WTP by incorporating four aspects that are highly relevant during an epidemic:

1) Health care capacity constraints
2) Dynamic aspects of prevention (i.e. interventions aimed at flattening the epidemic curve)
3) High uncertainty about key epidemiological parameters and aversion to ambiguity
4) Distributional issues due to high heterogeneity in the underlying risks (e.g. infection mortality risk correlated with age and pre-existing conditions)

We use currently available epidemiological data to calibrate the model and calculate the maximum willingness to pay for public interventions that reduce contagion risks. We show that, under reasonable parameters, the WTP is around 10% of GDP and can be as high as 20 percent of GDP. The model calibration generates around 275,000 lives saved in the United States (many from reducing or avoiding capacity constraints), implying a VSL of around $7 million dollars.
The next step of the project is to conduct a survey to elicit WTP directly.

Data description: Secondary data and statistics (CDC, European Centre for Disease Prevention and Control, COVID-19 Open Research Dataset, https://www.worldometers.info/coronavirus/). Survey data.

JEL codes for the project: I12, D81

Keywords: Willingness to pay; Value of statistical lives; Morbidity, Social distancing cost-benefit analysis; Ambiguity; Heath-care capacity constraints