

# The COVID epidemic and the economic activity with acquired immunity

Download Other Working Papers Keep in mind

The series Working Papers on Economics is published by the Office for Economic Studies at the *Banco de la República* (Central Bank of *Colombia*). It contributes to the dissemination and promotion of the work by researchers from the institution. This series is indexed at Research Papers in Economics (RePEc).

On multiple occasions, these works have been the result of collaborative work with individuals from other national or international institutions. The works published are provisional, and their authors are fully responsible for the opinions expressed in them, as well as for possible mistakes. The opinions expressed herein are those of the authors and do not necessarily reflect the views of Banco de la República or its Board of Directors.

AUTHOR OR EDITOR Juan Esteban Carranza Juan David Martin Álvaro José Riascos

The series Borradores de Economía (Working Papers on Economics) contributes to the dissemination and promotion of the work by researchers from the institution. On multiple occasions, these works have been the result of collaborative work with individuals from other national or international institutions. This series is indexed at Research Papers in Economics (RePEc)

Publication Date: Monday, 21 of December 2020

The opinions contained in this document are the sole responsibility of the author and do not commit Banco de la República or its Board of Directors.

Abstract

We calibrate a macroeconomic model with epidemiological restrictions using Colombian data. The key feature of our model is that a portion of the population is immune and cannot transmit the virus, which improves substantially the fit of the model to the observed contagion and economic activity data. The model implies that government restrictions and the endogenous changes in individual behavior saved around 15,000 lives and decreased consumption in 2020 by about 4.7%. The results suggest that most of this effect was the result of the government policies