Impact of climate and governments measures on COVID-19 spread : Evidence from data

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Abstract

This paper investigates the effects of climate and governments responses on the spread of the COVID-19. Our strategy is empirical. Our model is based on an accounting equation derived from the SIR model, and estimates the relationship between the growth of the daily COVID-19 confirmed cases on the one hand, and climatic variables (such as the daily average temperature and the wind speed) and governments responses to COVID-19 on the other hand. We also develop a theoretical approach to test the presence of a threshold in the effect of the temperature on the COVID-19 spread. Using a panel data on a sample of 294 territories overs 106 days (from 22 January, 2020 to 06 May, 2020), we find significant negative effect of temperature and temperature variability and significant positive effect of wind speed and precipitation on the growth of the COVID-19 confirmed cases. We also find that governments responses are associated to a lower growth of confirmed cases. But we do not find any universally applicable threshold effect in the relationship between the average temperature and the confirmed cases growth.

JEL Classification: C12, C15, C23, C60

Full Text

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