Abstract: How does the risk of a disaster, such as a climate disaster or an epidemic, affect the default risk of a sovereign country and its ability to issue debt? To analyze this question, we introduce disaster risk into a small open economy model with endogenous sovereign default as in Eaton Gersovitz (1981) and growth shocks as in Aguiar Gopinath (2006). We analytically show that an increase in the disaster risk reduces the economy’s ability to borrow by raising the default risk. The effect is quantitatively pronounced if the country exhibits Epstein-Zin preferences. We also examine the interaction between the disaster’s impact, its risk, the default risk, and the country’s business cycles. We also study the implications of changes in the probability and intensity of disasters. This is an important question as agents learn about the exposure of different countries to COVID-19 and other pandemics, and as climate change is expected to increase the risk of natural disasters. Finally, we investigate the implications of making sovereign bonds more contingent on disasters, such as debt forgiveness or the recent introduction of catastrophic (CAT) bonds, on the welfare of disaster-prone countries.

Data description: COVID-19 confirmed cases and deaths per country at daily frequency; JP Morgan EMBI sovereign spread for emerging market economies at daily frequency; EM-DAT international disasters database.

JEL codes: F34, G15, H64

Keywords: sovereign default; default risk; disaster risk; epidemics; COVID-19; climate change