

---

## [Document](#)

Keep in mind

The series *Documentos de trabajo sobre economía regional y urbana* (only in Spanish, Working Papers on Regional and Urban Economics) is a publication of Banco de la República in Cartagena. The opinions contained in this document are the sole responsibility of the authors and do not commit Banco de la República or its Board of Directors.

### AUTHOR OR EDITOR

Ayala-García, Jhorland

Dall'erba, Sandy

Ridley, William C.

The series [Documentos de Trabajo Sobre Economía Regional y Urbana](#) is a publication of Banco de la República in Cartagena. The opinions contained in this document are the sole responsibility of the authors and do not commit Banco de la República or its Board of Directors.

---

---

Publication Date:

Wednesday, 14 July 2021

## **Abstract**

This paper studies the impact of extreme weather events on the local tax revenue across Colombian municipalities. We follow a two-step approach to evaluate to what extent a municipality's tax revenue depends on natural disasters taking place both locally and in its trade partners. In the first step, we estimate a gravity model of bilateral trade and construct a trade flow matrix allowing us to measure the strength of the economic relationships between cities. To do so, we build a novel dataset describing the inter-city trade flows for road transported goods in Colombia for the period 2015–2019. In the second step, we use spatial models to estimate the externalities of extreme weather events. Our results reveal that natural disasters in the destination cities increase the tax revenue in the origin city. We provide evidence of the capacity of trade to mitigate the negative effects of natural disasters.