

# Personal charitable donation budgets flexible in aftermath of deadly storms

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Charitable donations account for about 2% of gross domestic product in the U.S., but it's not well-understood whether an event such as a deadly storm inspires increases in charitable giving or simply reallocates a fixed supply of donation dollars that would have otherwise gone to another cause.

A new paper from a team of University of Illinois Urbana-Champaign experts finds that, in the aftermath of catastrophic tornadoes, charitable giving to alleviate an unanticipated event doesn't necessarily crowd out monetary donations to other causes.

Research co-written by Tatyana Deryugina and Benjamin M. Marx uses comprehensive annual tax return data to estimate whether discrete but destructive events such as fatal tornadoes increase total charitable giving.

The paper, which will be published in the journal *American Economic Review: Insights*, finds that each tornado fatality increases total donations from individuals living nearby by almost \$2 million.

"There is an active debate in the research on charitable giving on the extent of donor substitution between charitable causes," said Deryugina, a professor of finance at Illinois. "By employing a natural experiment with both geographic and temporal variation as well as datasets that contain the majority of dollars donated across the U.S., our paper can rule out the possibility that individuals choose a set amount to donate to charity and then apportion that amount among charities."

The researchers measured charitable giving from 2002-17 using ZIP code-level individual income tax data from the Internal Revenue Service, which reports all income tax deductions claimed for donations to any registered charity.

By combining the IRS data with geospatial information on the incidence of tornadoes, the researchers were able to zero in on the destruction wrought by lethal tornadoes, allowing them to identify events that affected populated areas and caused tens of millions of dollars' worth of damage.

"We looked at tornadoes because they hit a very specific and limited area, which gives us a treatment area and a clean control area so we can get better estimates via comparison," said Marx, a professor of economics at Illinois.

Deryugina and Marx found that lethal tornadoes significantly increased total charitable donations from individuals living at least 20 miles away in the same state from a tornado's path by almost \$2 million per fatality.

"We excluded ZIP codes that were within 20 miles of the tornado's path, so we weren't looking at the places that were directly affected by property damage or loss of life," Marx said. "We went outside of that 20-mile ring and out to the rest of the state to estimate the effect on average giving in those other ZIP codes. And if you add up those effects across all of those ZIP codes, you arrive at a total state-level effect, which is where the \$2 million figure comes from."

Because total giving increases, the scholars were able to rule out perfect substitution between charitable causes and conclude that the supply of donations from an "altruism budget" can expand given exigent circumstances, Deryugina said.

"We can't rule out that there's some marginal crowding-out effects, because we just find that total giving goes up, but I'm comfortable speculating that there's not a lot of substitution because the total increase is fairly large," she said. "If there is some substitution, it's not huge. Basically, we see no evidence for the existence of a radical pullback in charitable giving to other causes after these [natural disasters](#)."

Using annual tax return data from charities, the researchers also found that there were no significant negative effects on charities in the locations from which increased donations to fatal [tornadoes](#) originated.

"That implies that giving in response to new needs doesn't come at the expense of these other causes," Marx said.

Charitable giving for natural disasters is common, with a nationally representative survey indicating that about 30% of U.S. households donated money in 2017-18. While the data in the paper covered the majority of dollars donated, it may not be representative of lower-income households, whose charitable donation budget may be more fixed, the researchers said.

"We only had aggregate, ZIP code-level data. We would have loved to break it down by income group, but we just didn't have the data," Deryugina said. "We do note in the paper that most charitable giving in the U.S. is by wealthier people. Lower-income individuals and households are less likely to file taxes, and all of our data came from the IRS. So our estimates are representative of individuals who filed a tax return, but those individuals make up a sizable share of total charitable giving."

**More information:** Tatyana Deryugina et al. Is the Supply of Charitable Donations Fixed? Evidence from Deadly Tornadoes, (2020). [DOI: 10.3386/w27078](https://doi.org/10.3386/w27078)

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