After wildfires, California communities struggle with budgets

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California is a wildfire hot spot: each year, homes, businesses, and ecosystems are destroyed by fires exacerbated by climate change. But even after the blazes subside, wildfires can still threaten community wellbeing. A new paper by scholars Yanjun (Penny) Liao and Carolyn Kousky, published in the *Journal of the Association of Environmental and Resource Economists* (*JAERE*), finds that wildfires increase both revenues and expenditures in California municipalities, but that the combined effect is a budget shortfall over many years.

"The effects of wildfires tend to be highly localized," Liao, coauthor and fellow at Resources for the Future (RFF), said. "There's a striking gap in the literature on how wildfires affect local government budgets. If we want communities to support residents after a disaster, we need to consider the fiscal impacts that these disasters cause in the first place, and where they may need help in the future."

Using GIS data from the California Fire and Resource Assessment Program and financial reports from the State Controller's Office, Liao and Kousky surveyed revenues and expenditures for California municipalities between 1990 and 2015. They focused specifically on wildfires that affected at least 10 percent of residents—a notable parameter since most fires burn in wildlands with low population density. They examined each community for up to five years post-fire to understand the fiscal implications of such a disaster in the long term. To make comparisons, the authors compared an affected municipality with a similar one that would be affected later in the study timeframe.

Liao and Kousky came to the following conclusions:

- A municipality's total general revenues increased by 10.5 percent on average in the five years following a fire. Specifically, real property transfer taxes and property taxes increased due to a unique aspect of California property law. Sales taxes also increased, likely due to spending on rebuilding.
- Functional revenue—which is collected for specific purposes through special taxes—increased 12.6 percent on average starting

from the second year post-wildfire. Functional revenue needs to be voted upon, which likely explains the time lag.
- Total expenditures increased by an average of 17.3 percent in the five years following a wildfire. Most taxpayer dollars were spent on public safety measures, community development, and transportation. Notably, investments in community development and public safety were persistently high over the five-year timeframe, which suggests a long frame of recovery. Investments in safety involved significant expenditures on fire and disaster preparedness.
- The overall impact on municipal budgets was negative. Communities hurt by wildfires saw a 25-percentage-point increase in the probability of a budget deficit and saw a net decrease in excess revenues of $97 per capita, equivalent to 10.7 percent of the total budget size.

Interestingly, California's increase in property taxes (an average of 21.2 percent over five years) may be unique to the state. Proposition 13, a constitutional amendment passed in 1978, limits property assessments to when a home is built or sold. Because wildfires lead to a turnover in housing—further exemplified by an observed 57 percent increase in real property transfer tax—there is a boom in housing reassessments in a state where housing prices have skyrocketed in recent years.

"The presence of this unique constitutional amendment indicates that negative fiscal impacts of wildfires may be more pronounced outside of California, since higher property taxes represent one of the main sources of higher revenues for communities," said Kousky, RFF university fellow and executive director of the University of Pennsylvania's Wharton Risk Management and Decision Processes Center. "But even with these higher property taxes, California municipalities still suffered."

Kousky and Liao noted that because the federal government often takes on a significant amount of the expense of managing wildfires, many communities are insulated from the initial monetary fallout of a wildfire. But once the flames are extinguished, municipalities are often left to pick up the pieces with significantly less federal support.

Most of the wildfires recorded in the study were of moderate strength, but the state has seen more severe fires in recent years. In 2017 and 2018—years that were not included in this study—California experienced some of the deadliest and most destructive wildfire seasons on record.

"The climate is changing, and wildfires are getting worse," Liao said. "Communities will need to adapt with the times—hopefully our new paper can help pinpoint where some of those changes need to be made."

More information: Yanjun (Penny) Liao et al, The Fiscal Impacts of Wildfires on California Municipalities, *Journal of the Association of Environmental and Resource Economists* (2021). DOI: 10.1086/717492

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