Foot Traffic Dynamics Following Natural Disasters

SCAN ME

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Abstract

How do natural disasters reshape county-level economic landscapes? We analyze foot traffic to local businesses and find little change after disasters at the monthly level. However, public companies capture a larger share of foot traffic after disasters, especially in retail where traffic closely tracks sales. This is not explained by business size alone but is related to the geographic footprint and cost of capital of firms. The greatest shift is for smaller counties with predominantly minority populations. Dollar stores, which are known to target these areas, see a sharp increase in foot traffic share that endures post-disaster, a trend mirrored in their stock performance. These findings reveal how certain business models benefit from disruptions in disaster-stricken communities.

How Do Natural Disasters Impact Businesses?

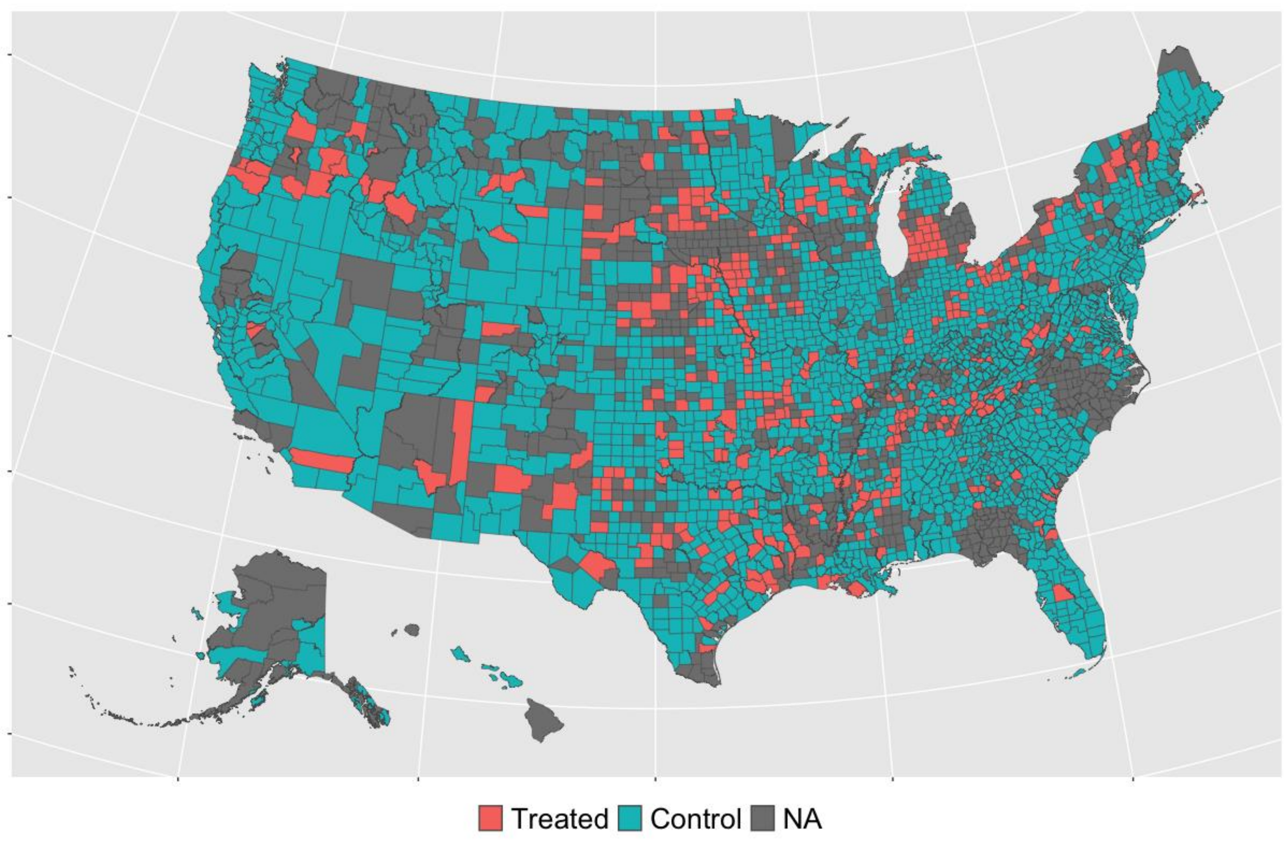
Data—county-level, monthly observations from 2019 (pre-pandemic)

- SafeGraph: Foot Traffic to Businesses
- SHELDUS: Natural Disasters in the US

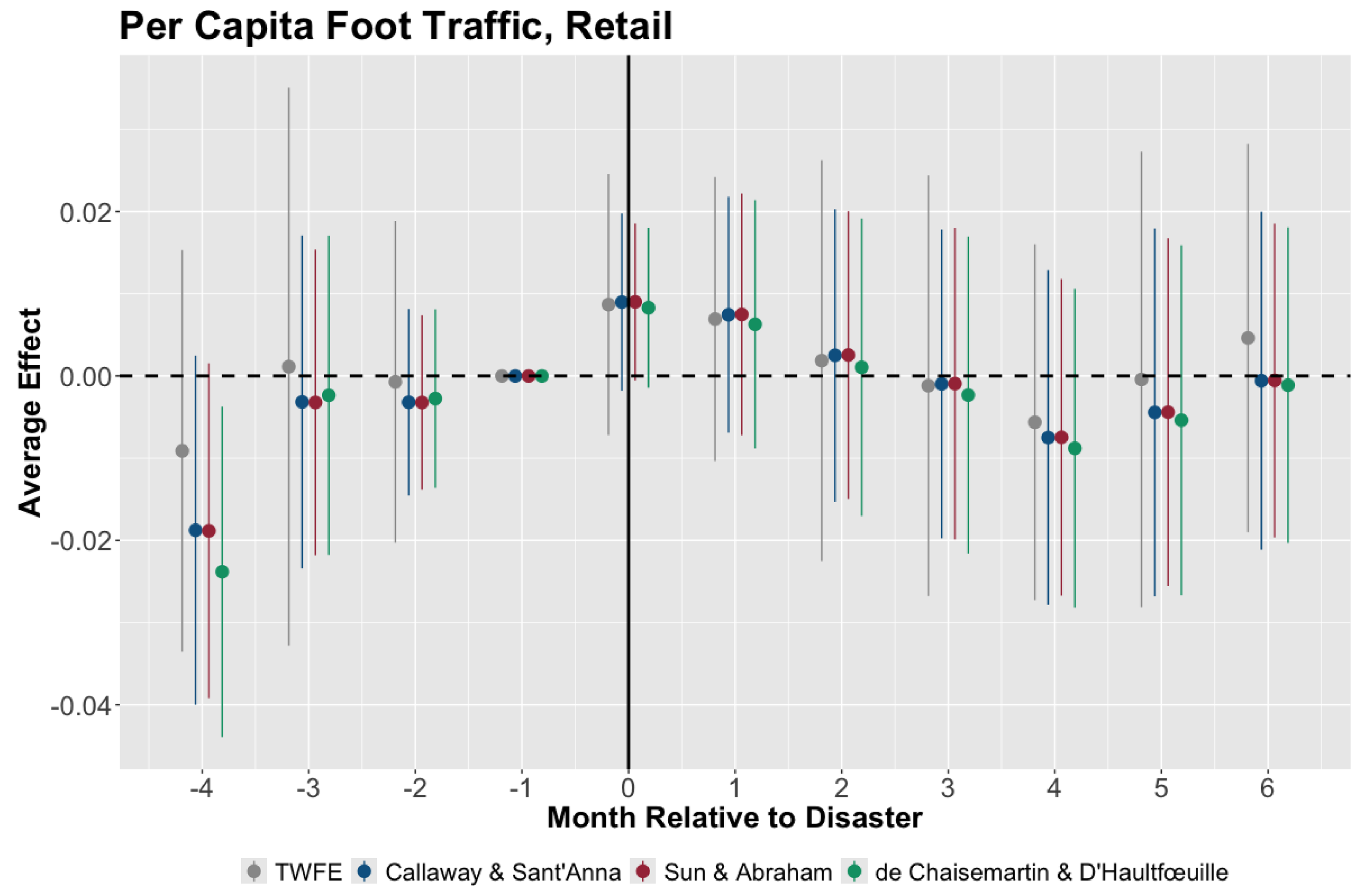
Methodology

We study dynamics of foot traffic following natural disasters in the United States by comparing treated and control counties in a staggered differences-in-differences framework (e.g., Callaway and Sant'Anna, 2021).

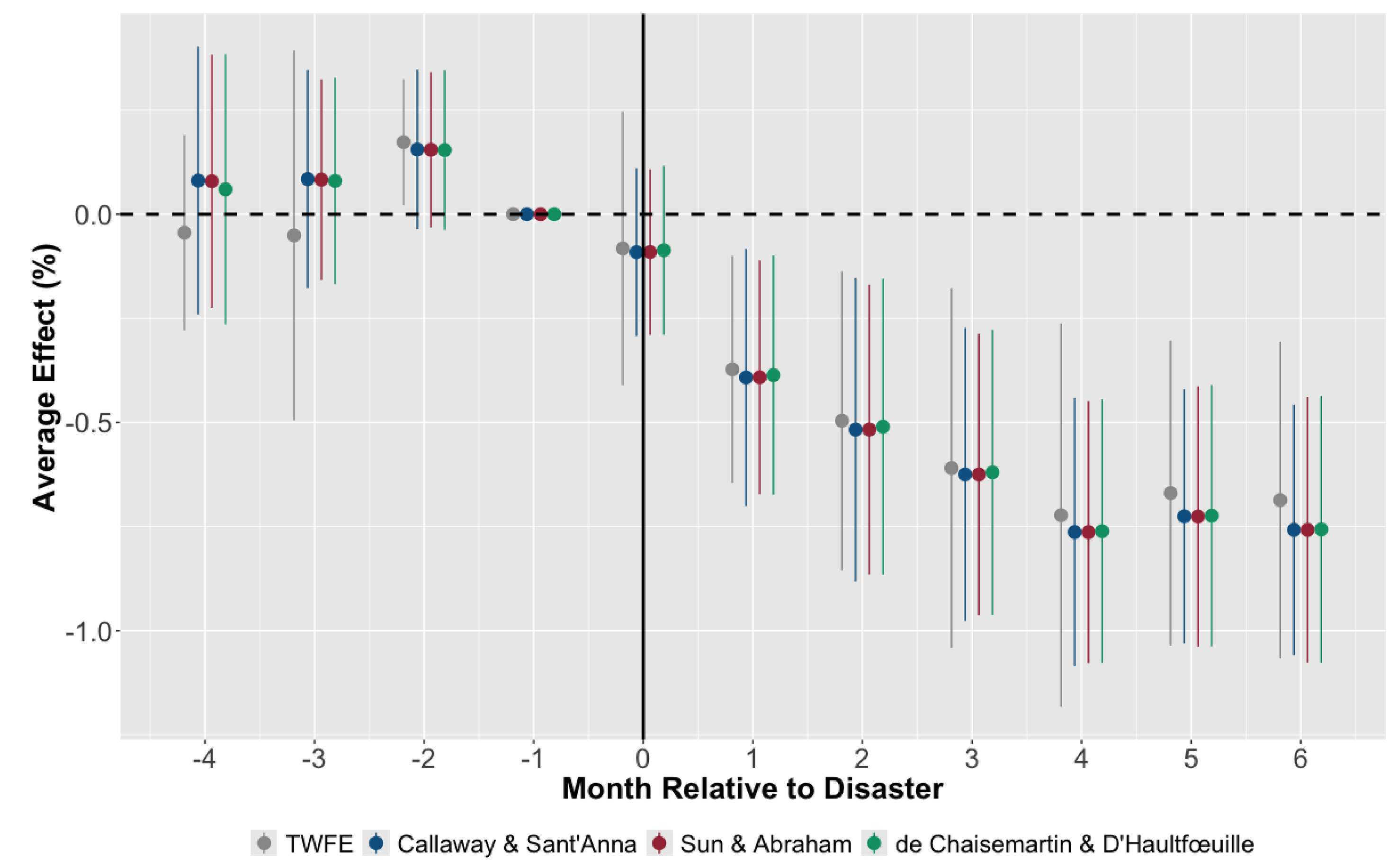
Treated and Control Counties



Result 1: No Change to Foot Traffic Levels Following Disasters



Result 2: Share of Foot Traffic to Private Businesses Decreases Following Disasters



Why Are Small Private Businesses Losing Market Share Following Disasters?

- **Not purely size effect**: Large private firms also see decreases in foot traffic
- **Geographic diversification matters**: Effect is concentrated in stores with nearby locations
- **Cost of capital drives findings**: Public companies only increase share when their WACC (Weighted Average Cost of Capital is low
- **Small counties with large minority populations hit hardest**

Result 3: Foot Traffic to Dollar Stores Increases Following Natural Disasters

Stock Market Reactions

In months following large losses due to natural disasters…

- Retail industry (FF49 industry portfolio) and Shops industry (FF10 industry portfolio) perform well
- Dollar store stocks perform especially well (1.2% higher risk-adjusted return)

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