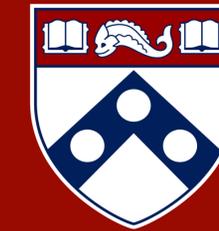


Amazon Facilities' Impact on Local Economies

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Introduction

The goal of this project is to analyze the impact of opening an Amazon facility on the local economy. When Amazon opens a new facility, there are direct and indirect mechanisms that may affect the local economy. Directly, Amazon hires thousands of people and pays them wages that are then used to purchase products and services locally. Indirectly, opening a facility leads to construction, maintenance jobs, and delivery jobs. Finally, a local facility expands consumers' choices for quick delivery of numerous low-priced goods sold by Amazon which should increase consumer welfare. However, it could be that jobs created by Amazon are not new, but they simply replace existing (inferior) jobs in the area and therefore whether Amazon has a positive impact on the local economy is an empirical question.

Method

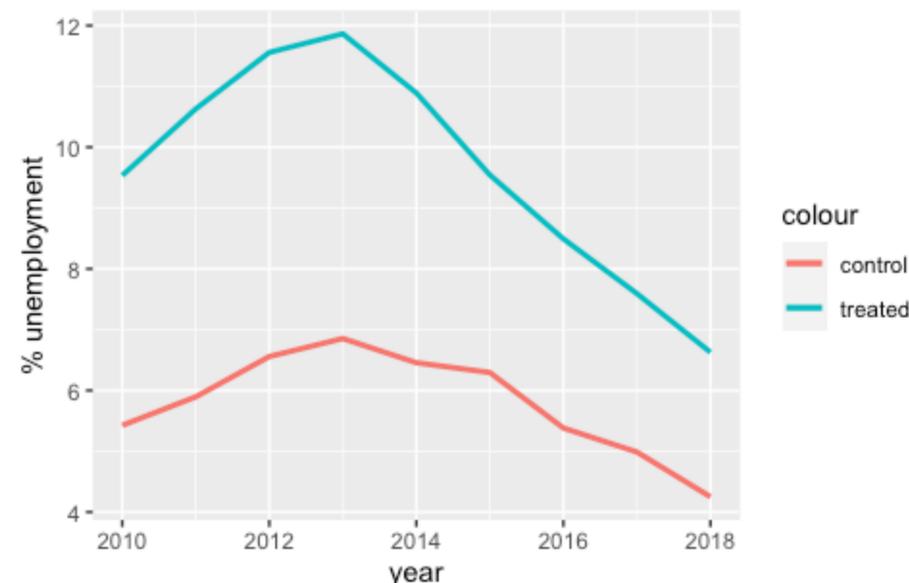
- 1 Gather, clean, and organize data from various sources including the U.S. Census. Data sets contained up to hundreds of fields and millions of observations
- 2 Use data to find where Amazon workers live. What local economies are affected by the facility? The areas with the most workers are the treatment group.
- 3 Run a synthetic control model, using economic and social characteristics as predictors, to find areas like those in treatment group. These areas are the control group.
- 4 Create a difference-in-difference model over a time period before and after the Amazon facility opened to see if the treatment group differs from the control group.

Results

After looking at many Amazon facilities in California, two groups stood out as having the best available data. In the 95304 ZIP code, there are two facilities at the same location that both opened between 2014-15. In the 92551 ZIP code, there are two neighboring facilities that opened at the same time in late 2014. Difference-in-difference analysis was run on each location for multiple variables of interest from 2010 to 2018:

Dependent Variable	P-Value (95304 ZIP)	P-Value (92551 ZIP)
Unemployment Rate	6.32x10 ⁻⁸ ***	0.0267 *
Number of Employed People	0.8777	0.8552
Percent of Families with Income below Poverty Level	0.2660	0.5490
Percent of Households with Food Stamps or other SNAP Benefits	0.0206 *	0.9824

This plot shows the unemployment rate over time for treatment tract-level groups (for both the 95304 and 92551 ZIP codes) compared to their respective control tract-level groups.



Discussion

There are several elements that this analysis did not consider:

1. Location decisions for Amazon facilities are endogenous, both in terms of place and time.
2. An Amazon facility's opening date is difficult to define. A facility may take many years after construction is completed to hire all its employees.
3. Data on employee residence was only available for a few locations – this data may not be the best indicator for which local areas are most affected by new Amazon locations.

One of the biggest challenges was finding geographically and temporally granular economic data. Without this data, any analysis on company or local policy impact is very difficult. Future research should look at facilities in states other than California.

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