Externalities of the Sharing Economy: Evidence from Ridesharing and the Local Housing Market
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Abstract

This study highlights sharing economy's externalities on the local economy. I find that local housing prices and market rents increase after the introduction of Uber X, especially in zip codes with greater access to public transit and lower driving probability. The price appreciation is stronger for zip codes with greater access to public transit and lower driving probability. Thus, ridesharing may impact households' home location decisions and the local housing market by releasing the transportation constraints.

Data

- Uber X entry data at the city level in 2012-2015
- Zillow monthly housing value and rent indices
- Zillow individual house transaction data
- Zip code-level economic and housing variables from Census
- Location of rail stations from Google Map
- Uber pickups in NYC from the NYC Taxi Limousine Commission

Motivation

- Housing and transportation expenditures are the largest components of household spending
- Ridesharing can either substitute or complement public transit
- Thus, ridesharing may impact households' home location decisions and the local housing market by releasing the transportation constraints

Zip code-level Heterogeneity

Table 1: The Effect of Uber X Entry by Public Transit Resources and Driving Probabilities

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The "Last Mile" Problem

- The difficulty of getting people from a transit to their final destinations
- I find the least affected houses are within 0.5 miles while the most affected ones locate 0.5-3 miles of a rail station
- Uber X can help the affected houses by complementing public transit

The "Last Mile" Analysis using Housing Transactions

\[ \log(P_{i,s}) = \alpha + \beta X_{i,s} + \theta_1 D_{i,s} + \theta_2 D_{i,s} + \gamma_1 D_{i,s} + \gamma_2 D_{i,s} + \theta TREATED_{i,s} + \Psi_{i,s} + \epsilon_{i,s} \]

- Sample: housing sales occurred within 6 miles of a rail station in 2011-2017
- Treated group: housing sales within 0.5 miles/0.5-3 miles of the closest rail station
- Post period: after Uber X launched service for the local community
- Controls: housing characteristics and housing type; station-by-quarter fixed effects

Other Findings

- Housing prices and rents increase more in zip codes with larger populations, lower median ages and more minorities
- Results hold when instrumenting Uber X entry decisions using VC investments to Uber or a Bartik IV
- Causal inference from ridesharing prohibition: Austin, Texas experienced lower rents when ridesharing was suspended
- The joint effect of Uber X and Lyft is even larger
- Higher Uber use intensity, higher housing Sale prices in the 'last mile' area
- Uber X entry does not affect commercial property prices in the 'last mile' area, suggesting my "last mile" results are not driven by increased economic activity

Conclusion

- The introduction of ridesharing increases local housing prices and rents by complementing public transit and solving the "last mile" problem

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Figure 1: Dynamic Coefficient plot of Housing Value Index
Figure 2: Dynamic Coefficient plot of Rent Index
Figure 3: Change in Housing Sale Prices in the least "last mile" Zone
Figure 4: Change in Housing Sale Prices in the most "last mile" Zone

* Indicates that Uber X complements public transit