Research Question on a Broad Level

How does economies of density shape the distribution of supply in spatial markets?

Focus on three more specific questions in the context of Ridesharing:

1. What does theory say about driver behavior, efficiency, and platform response?
2. How to empirically test whether density has an impact?
3. Implications for policy and business strategy?
Quick Answers: Theory

- Equilibrium distribution of **drivers** skewed towards regions with higher demand density.
  - ⇒ demand more likely to go unfulfilled in less dense regions.
- **Platform** desires some skew but not as much as arises in equilibrium.
- Platforms should encourage a more even distribution through using **wages and prices** as levers.
- All of the above are more pronounced for **smaller platforms**.
Objective: Test the implications of the model

- Demand more likely to go unfulfilled in less dense regions
- More pronounced for smaller platforms.

Challenge: Unfulfilled demand is unobserved.

- cannot tell whether percent fulfillment in region $i$ is more than $i'$.

Solution: For each trip there is a “trip back”

- If riders use Lyft to exit region $i$ consistently less than they do to enter it $\Rightarrow$ Lyft’s supply is skewed from $i$.
- Especially if the same is not true of Uber.

Findings: supply skewed towards denser areas:

- Skew is more pronounced for smaller platforms.
- Skew is much more pronounced for taxi (compared to rideshare)
Quick Answers: Implications for Policy and Business Strategy

Business Strategy:

- Platforms should incentivize drivers to operate in less dense areas through higher wages
  - but avoid passing the full extra cost to passengers.

Policy

- Breaking up or downsizing rideshare platforms can disproportionately hurt outer areas.
- Our analysis: minimum required size is 120K rides/day for NYC.