Chandar et al 2019, A Nationwide Tipping Field Experiment
Gender Effects in UberX In-app Tipping

The Data

- UberX rides
- In-app Tipping Roll-Out Timeline
  - Rolled out June 20, 2017 – July 17, 2017
  - *Alpha* launch: June 20th; 3 random cities
  - *Beta* launch: July 6th; 50% of operational markets in North America
  - Full roll-out: July 17th
- Trip data
  - Aug. 18, 2017 – Sept. 14, 2017
  - 46 million trips … but some models have 23? million observations
  - Most of the US (NYC excluded)
  - 90% coverage
    - Drivers had to opt-in… most did
    - Riders needed to install recent app version
- Driver and rider data from Uber
- Other data: gender (SSA), demographics (US Census), Uber telematics

Dependent/LHS/y variables

Variation to be *explained* by the model
… What factors drive the different observed outcomes?
… and to what extent? (signs? statistical significance?)

- Tip decision (yes/no)
- Tip amount I: including $0s
- Tip amount II: $tip > 0

- Also: Driver ratings

Independent/RHS/explanatory variables… controls/covariates/x's

- Driver and rider gender: *in the spotlight* (*favorite coefficient* models)
- Other controls/covariates (Omitted variable bias/impact; *endogeneity*)
  - Temporal (time and day of week) effects
  - Spatial effects
  - Demand side effects: Rider…
    - Other demographics
    - Uber Rating
    - Uber Experience
  - Supply side effects: Driver …
    - Other demographics
    - Uber Rating
    - Uber Experience
  - Trip features/quality effects
    - On-time performance
    - On-trip experience
    - Car characteristics
  - Repeat interaction effects
  - Tip default menu effects

Uber trip data

- Date/time of request
- Date/time of pickup and delivery (estimates and actuals)
- Delay in pickup or delivery
- Driver ID
- Rider ID
- Fare
- In-app tip
- Tip options (amts)
- Pickup and delivery addresses (@ airport?)
- Distance from location at dispatch to pickup location
- Geography: pickup and dropoff locations (categorical/factor dummies for top 90% geohash5's)

Uber driver data

- ID
- Name
- Address including zipcode
- Age
- Sex
- App language preference
- Driver ratings
- Driver experience: Lifetime #trips, other?
- Car make, model and year

Telematics data

- Hard brakes
- Hard accelerations
- Speeding

Uber rider data

- ID
- Name (no age or sex)
- Rider ratings
- Address, including zipcode (credit card)
- Business trip? (*Uber for Business* expense account)
- Lifetime #trips

Social Security Administration gender data

- First name / gender frequencies
- 1916-2016 data

Demog data (@zipcode)

(quintile factor variables/dummies)

- Median HH income
- Race (%Black)
- Ethnicity (%Hispanic)
- Education (%BA+)

The Results: (direct quotes from the paper)

- 1: There is substantial temporal and spatial heterogeneity in tipping.
- 2: Demand side factors such as rider gender, rider rating, and their previous experience with Uber are each important in explaining the variation in tipping.
  - 2a: Men tip 12%-17% more than women. (The difference in average tip between women and men is 6 cents in this model.
  - 2b: Rider ratings are positively associated with tipping.
  - 2c: Riders tip less as they take more Uber trips, with both selection and treatment playing a role.
- 3: Supply-side factors such as driver gender, age, rating, and experience as well as trip features explain substantial variation in tipping.
  - 3a: Female drivers are tipped 10%-12% more than male drivers.
  - 3b: While younger female drivers receive more tips than comparably-aged male drivers, this disparity shrinks over time and disappears completely by age 65.
  - 3c: Driver ratings are positively associated with tipping.
  - 3d: Drivers receive less in tips as their number of trips increases, due to a lower likelihood of receiving a tip on any given trip; an effect largely driven by treatment

The Results, cont'd: (direct quotes from the paper)

- 4: Features of the trip, including the rider/driver gender match, the fare level, and quality of the service are correlated with tipping.
  - 4a: Both women and men tip female drivers more than male drivers. For male riders this gender gap disappears as the driver ages due to decreased tipping of older female drivers.
  - 4b: The level of tip and the fare are positively associated in a concave manner. On average, a 10% increase in fare is associated with a 2.5% increase in tip.
  - 4c: The size of tip is correlated with the quality of the trip. This is reflected in both the probability of a trip being tipped and in the tip size.
- 5: Demand-side variables explain roughly three times more of the observed tipping variation than the supply side or features of the trip explain.
- 6: Repeat rider/driver interactions increase tip levels, but the mechanism is not due to strategic reciprocity or conversation-based social interaction explanations; greater exposure itself seems to induce higher tips.
- 7: Defaults affect tip levels, but are much less powerful than comparable estimates from the literature exploring tips in the taxi cab industry.