

Ridesourcing Platforms Thrive on Socio-Economic Inequality

Arjan de Ruijter, Oded Cats & Hans van Lint



Background

Ridesourcing platforms (Uber, Lyft, Bolt) target:

- Time-sensitive** travellers by offering a **taxi-like** service.
- Job seekers with limited access to alternative employment.



Hypotheses

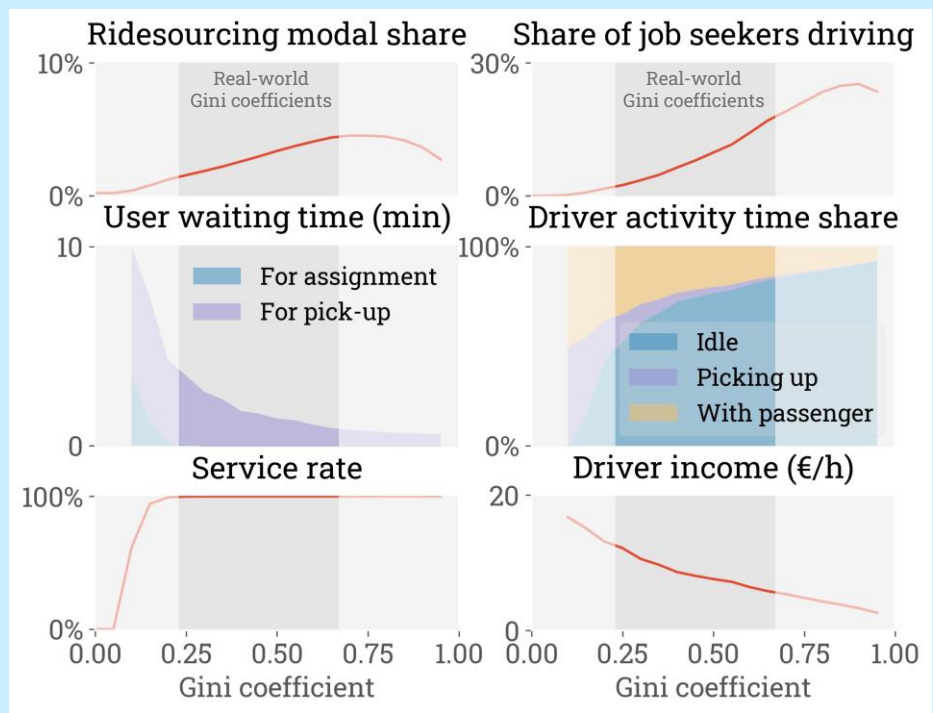
In societies with great **socio-economic inequality**, both target groups are large. This is crucial for the success of ridesourcing platforms, as they benefit from **network effects** in matching (more users & drivers = better matches).

Methodology

- Agent-based simulation** of the ridesourcing market.
- Case study resembling **Amsterdam**, The Netherlands.
- We vary the **Gini coefficient**, an indicator for the **degree of income inequality** in a society, from 0 (perfect equality) to 0.95 (near-maximal inequality).

Key results

- Number of **riders** and **drivers** highly depends on socio-economic inequality.
- Supply** is more **elastic** to income inequality in the population than demand.
- Hence, in socio-economically unequal societies:
- User waiting time** (for a match and to be picked up) is **short**.
- Driver earnings** are **low**.

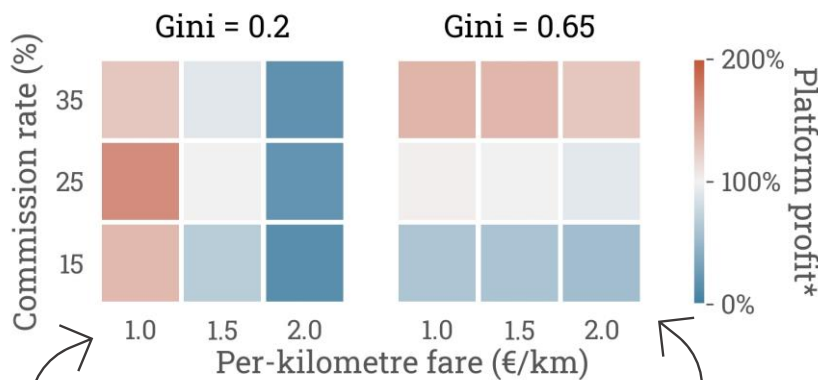


Real-world Gini-coefficients (World Cities Report 2020):

Astana - 0.23, Oslo - 0.27, Bangkok - 0.32, Amsterdam - 0.37, New York - 0.42, Mexico City - 0.49, Bogota - 0.50, Johannesburg - 0.67

Platform pricing

Furthermore, platforms can adjust their **pricing** strategy (**fares** and its **commission**) to the level of socio-economic inequality to maximise their profit.



In relatively **equal** societies, platforms will opt for **lower fares**.

Few travellers are willing to pay high fares to use the service.

In relatively **unequal** societies, platforms will opt for a **higher commission rate**.

Given limited opportunities for alternative income, drivers use platform when reward is low.

* Relative to the profit when fares are set to 1.5 € per km and commission rate to 25%.

Conclusions

In socio-economically **unequal societies**, ridesourcing platforms:

- Charge a **high commission rate**.
- Yet, end up being **oversupplied**.

Consequently, in such societies:

- Platforms** are highly profitable.
- User **waiting time** is **low**.
- Driver **income** is (very) **low**.