Using Big Data to Estimate Consumer Surplus: The Case of Uber

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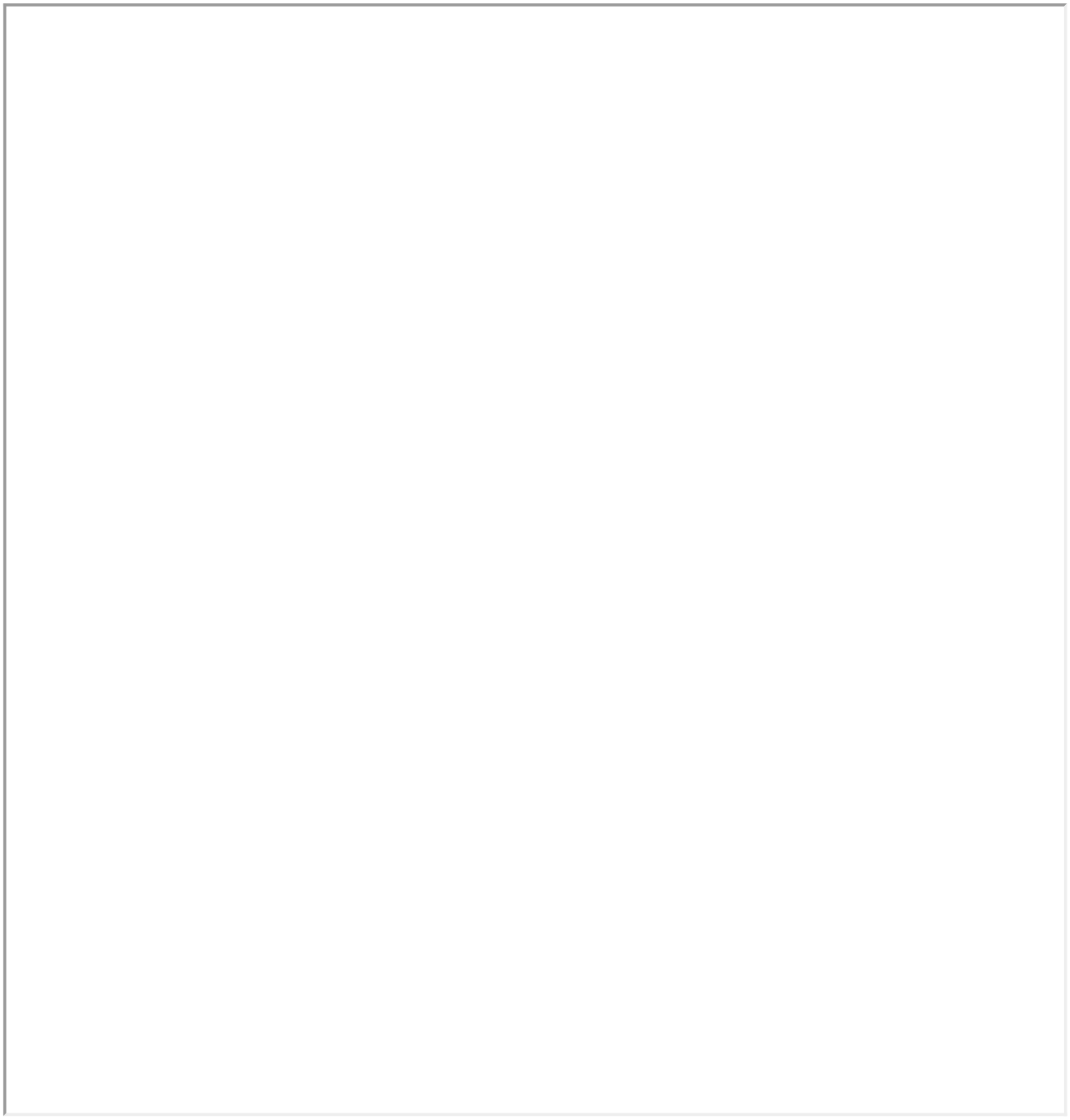
Why did we select this research?

Data generated by online peer-to-peer platforms offer an unprecedented level of detail on individual behaviour, allowing economists to measure actual demand more accurately than ever before. In this paper, Peter Cohen et al. exploit the richness of Uber's data to measure the impact of the UberX service on consumer welfare in the U.S.

Key findings

Using a sample of nearly 50 million UberX consumer sessions from Uber's four biggest U.S. markets (Chicago, Los Angeles, New York, and San Francisco) combined with the company's surge pricing algorithm, the authors find higher than expected demand inelasticity. In other words, despite the availability of other options, including public transport or taxis, consumers show a relatively strong preference for UberX even at higher prices. With many cities currently seeking to strike the right balance for ride-sharing regulation, this research provides useful insight on the potential impacts of such decisions on consumer welfare.

- Consumer demand for UberX is inelastic, despite the existence reasonably close substitutes (e.g. competitors, taxis, public transportation, driving one's self).
- In 2015 the UberX service generated about $2.9 billion in consumer surplus in Uber's four biggest markets, which together account for more than 40% of all bookings. Overall consumer surplus generated by the UberX service in the United States in 2015 was estimated at $6.8 billion.
- For each dollar spent by consumers, about $1.60 of consumer surplus is generated. This estimate of consumer surplus is two times larger than the revenues received by Uber drivers and six times greater than the revenue captured by Uber after the driver's share is removed.



Reference

Cohen, P., Hahn, R., Hall, J., Levitt, S., & Metcalfe, R. (2016). Using big data to estimate consumer surplus: The case of uber (No. w22627). National Bureau of Economic Research. Retrieved from: https://cbpp.georgetown.edu/sites/cbpp.georgetown.edu/files/ConsumersurplusatUber_PR.PDF