What *Drives* the Efficiency in Ridesharing Markets? Evidence from Austin, Texas

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Abstract

In decentralized transportation markets, search and match frictions lead to inefficient outcomes. Ridesharing platforms, who act as intermediaries in traditional taxi markets, improve upon the status quo along two key dimensions: surge pricing and centralized matching. We study how and why these two features make the market more efficient; and explore how alternate pricing and matching rules can improve outcomes further. To this end, we develop a structural model of the ridesharing market with four components: (1) dynamically optimizing drivers who make entry, exit and search decisions; (2) stochastic demand; (3) surge pricing rule and (4) a matching technology. Relative to our benchmark model, surge pricing generates large gains for all agents; primarily during late nights. This is driven by the role surge plays in inducing drivers to enter the market. In contrast, centralized matching reduces match frictions and increases surplus for consumers, drivers, and the ridesharing platform, irrespective of the time of the day. We then show that a simple, more flexible pricing rule can generate even larger welfare gains for all agents. Our results highlight how centralized matching and surge pricing are able to make the market more efficient. We conclude by drawing policy implications for improving the competitiveness between taxis and ridesharing platforms.

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