

How Can Platforms' Consumer Protection Intervention Affect Platform Growth in a Sharing Economy?

Siliang Tong jack.tong@temple.edu (Presenter); Xueming Luo luoxm@temple.edu

Abstract

This research examines how a platform protection intervention (PPI) safeguarding end consumers promotes platform growth in a sharing economy. It addresses two nontrivial questions: 1) Can PPI drive buyers' expenditure and sellers' revenue? 2) If so, through what pathways it affects platform growth, i.e. changes in buyers, sellers, and the marketplace? A primary challenge to answer these questions is the lack of a valid control group as the platform policy applies to every user, making the identified effect confounded with time trends and unobserved variable bias. To tackle the challenge, we exploit a rich field data on a natural quasi-experiment with an exogenous PPI from a food-sharing platform. We decompose the effects of PPI into an immediate interruptive effect and a continuous delayed effect. To identify the interruptive effect, our empirical strategy follows the quasi experimental design with a single group and applies a widely used statistical model: Single-group Interrupted Time Series Analysis (SGITSA). Leveraging the fine-grained transaction data, we match buyers/sellers before and after PPI with observed individual characteristics to identify continuous delayed effect of PPI. We use the individual buyer/ seller characteristics in the transaction to match the buyer/seller before the PPI. In order to mitigate unobserved heterogenous concerns, we also conduct matching with restriction to match the same buyer/seller. In addition, we split the pre-PPI period post-PPI period into two observation windows separately (pre (-2), pre (-1), post (1), and post (2)), and match buyer/seller in two corresponding windows (pre (-2) with post (1), and pre (-1) with post (2)) to tackle time trends concerns. Moreover, we include keyword search volume of two major food takeout platforms on search engines during matching to control for any industry wide growth or shock. Finally, we also conduct nonparametric machine learning matching algorithm to provide additional robustness evidence. To further validate the identified PPI effect, we conduct a pseudo Difference-in-Differences analysis with additional data from two major food takeout platforms (B2C) that do not implement similar polices. Regarding the pathways to platform growth, we find that PPI boosts demand-side expenditure by encouraging variety-seeking behaviors with more purchases from different sellers. The demand-side boost then enables the supply-side sellers to drive business performance and improve their customer acquisition activities. This translates to a better marketplace efficiency: PPI leads to more stable pairs of buyers and sellers, better subsequent buyer experience and seller ratings.

Keywords: sharing economy, platform protection, quasi-experiment, platform reputation, information asymmetry