

The Economic Consequences of Marketplace Production
Research Proposal for NBER Grant in Digitization
Andrey Fradkin

The internet and digitization have profoundly affected the organization of economic activity.¹ One of the most important consequences of digitization is the rise of the marketplace business model. In this model, production decisions are not dictated hierarchically, as in traditional firms, but are instead determined jointly by the actions of independent sellers and the coordinating activity of the marketplace. The marketplace provides tools and services complimentary to the end product such as search engines, payments processing, and customer service which allow sellers to cheaply and quickly enter the market and to operate on a small scale. Many sellers have found this option attractive - over 1 million hosts operate on Airbnb and over 150 thousands drivers participate in the Uber platform [1]. These marketplaces are important to understand because they grow quickly, they generate income for an increasing share of the labor force, and they challenge existing regulatory frameworks. However, we still know little about how these marketplaces operate in practice. My research seeks to address the following questions empirically and theoretically:

1. What economic, technological, and regulatory conditions enable marketplace production?
2. How have online marketplaces affected traditional firms and the labor market?
3. How should these marketplaces be regulated?

I aim to address these questions in ongoing research projects which combine data uniquely suited to answer these questions with economic theory. In the first project (joint with Chiara Farronato), we use internal data from Airbnb and data on hotel pricing and occupancy in the US to study these issues. On the supply side, we seek to understand how host participation decisions are affected by economic conditions (such as unemployment rates), the capacity of existing hotels, and the level and variability of demand in the market. On the demand side, we try to understand the extent to which Airbnb has expanded the overall market or has taken business from traditional hotels. Preliminary results show that the market expansion and business stealing effects differ by location. We attribute this heterogeneity to supply constraints - legal and geographic - relative to the level of demand. We also derive a simple model of competition between

¹The share of all sales that originate on the internet has increased from less than 1% to over 6% between 2000 and 2014.

a peer-to-peer marketplace and hotels to explain these findings. The model allows us to quantify the welfare gains from marketplace entry in the accommodation industry. In turn, the size of welfare gains should guide regulatory actions, specifically with regards to constraints on the growth of the peer-to-peer sector.

In a second project, joint with Scott R. Baker and Lorenz Kueng, we study the effects of marketplaces on labor supply and consumption. Proponents of marketplaces suggest that driving an UberX car or delivering for Postmates allows people to work flexibly, generating liquidity in a convenient manner. Alternatively, critics suggest that marketplaces are simply skirting labor laws by calling service providers “partners” rather than workers. To properly evaluate these claims, we need to understand who chooses to participate in marketplace labor and what happens to their consumption and labor supply afterwards. In this project, we will use proprietary data from a financial data aggregator to study the work and consumption behavior of a large sample of marketplace labor providers. We would like to study the extent to which the participation of these sellers is influenced by debt levels, spousal insurance, and other time commitments such as schooling or children. Secondly, we want to understand how people use the extra liquidity gained by marketplace participation as measured by consumption and savings decisions. The answers to these questions are independently interesting because they shed light on more classic issues in labor economics, such as the importance of liquidity constraints and the elasticity of labor supply.

Lastly, I (joint with Chiara Farronato and Rover.com) have ongoing work which uses a large-scale survey to quantify the overall size of the peer-to-peer sector. I hope the results of these research projects eventually inform the regulation of online marketplaces. Existing land-use, labor, and safety regulations were not designed with the possibility of marketplace production. This has caused regulators to race to create new rules. However, until we understand what causes marketplace growth and its effects, we cannot design effective regulation.

References

- [1] **Hall, Jonathan, and Alan B. Krueger.** 2015. “An Analysis of the Labor Market for Uber’s Driver-Partners in the United States.”