NBER Project on the Economics of Digitization

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Graduate Coursework

My research interests are in applied microeconomics. I have finished the labor economics and experimental economics sequences. I am expecting to advance in Spring 2017.

Research Proposal

Online shopping has become increasingly prevalent in our life. Recent statistics have shown that it substitutes for traditional shopping at brick-and-mortar stores. In 2015, online sales reached $1.73 billion on Thanksgiving Day, a 25% increase from 2014. In contrast, brick-and-mortar sales dropped to $1.8 billion from $2 billion in 2014. According to the latest statistics from Alibaba, the total sales reached $17.79 billion on 2016 Single's Day (November 11th), which is a significant online shopping event in China.

As online purchases become prevalent, user-generated reviews have become the new word of mouth and substitute for traditional reputation. Recent literature has found that online stores with higher ratings attract more shoppers and that restaurant ratings on Yelp causally lead to higher market demand and higher revenues. When consumers read online reviews, they are not as alert as watching advertisements. In addition, compared with traditional ads, online reviews can reach wider people for a more lasting period at a lower cost. All these factors make online reputation more influential than traditional reputation, and it becomes tempting for sellers to manipulate their online reputation by committing review fraud. There is a growing literature studying online reputation and user-generated information, and they find that businesses are more likely to commit review fraud when the cost is lower, their reputation is weaker and the competition is harder. However, according to my best knowledge, one drawback in the literature is that none of these papers can directly identify fake reviews from authentic reviews. They either compare ratings from different platforms to compare their difference, or use the filtering algorithm from the platform as a proxy for fake reviews. Since review fraud is an endogenous decision, inability to identify fake reviews will bias the effect of online reputation.

I have a special data set from two large online stores at Alibaba that can enable me to overcome this drawback. These two online stores are large merchants with over

1,000 orders per month and have over 10,000 reviews on their products. They bought fake reviews when they first opened their stores to quickly accumulate larger transaction volumes and higher ratings and make their store profiles more attractive. This special data set enables me to directly identify fake transactions and reviews from authentic ones, and thus I can examine the effect of fake reviews on store revenue and the persistence of the effects.

Another challenge in the literature is that it is difficult to identify the effect of online reputation net of the effect of traditional reputation. In this special data set, one of the two businesses have over 100 brick-and-mortar retail stores. This special design enables me to compare transactions and reviews from online buyers who are in the regions where there are local stores with those who are in the regions where there are no local stores. Further, I can also examine how the prevalence of online shopping may affect traditional purchases at brick-and-mortar local stores.