Contact Information:
Yanchi Yu
Department of Economics
University of Virginia
248 McCormick Road
Charlottesville, VA 22903
Email: yy5dp@virginia.edu

I am a fourth-year graduate student at UVa. I am interested in analyzing consumers' shopping behaviors and firms' competition at e-commerce environments. In the past three years, I have been preparing myself by taking a series of field courses and doing research on consumers' online review and firms' pricing behaviors.

Courses:
To equip myself with theoretical models and empirical approaches analyzing firms' behaviors, I took a sequence of Industrial Organization field courses. In the theoretical IO course, I worked on how U.S. women magazine publishers allocate ads and content to maximize profits and serve both advertisers and subscribers. Given that subscribers dislike ads, the main tradeoff for magazine publishers is to balance attracting subscribers by adding more content and increasing revenue by adding ads. The model explains that the percentage of ads does not reach the government's limit, which is 75 percentages, but ads are more likely to be allocated in the first third of the magazine and on the right-hand side pages.

In the empirical IO course, I studied how to estimate the effect of social media platform advertising. Like the magazine industry, social media platforms serve a two-sided market, however, due to advancements in technology, social media platforms are able to collect multiple user characteristics, including hobbies, interests, education, and so on. These user characteristics allow social media platforms to send personalized ads.

To analyze consumers' shopping behaviors with continuously increasing size and complexity of data, I took a course introducing econometrics methods for data-rich environments. After becoming familiar with theoretical methods in cross-section theory, I worked on analyzing consumers' bundle shopping behaviors. The project was implemented by two stages: in the first stage, I used unsupervised learning approaches, including K Means cluster and Spectral clustering, to find the shopping basket; in the second stage, I implemented a supervised learning approach, Lasso, analyzing consumers' shopping behaviors, where the purchase decision of one given product is dependent on both its own characteristics and characteristics of other products in the same bundle.

Besides taking field courses in IO and Econometrics, I have been doing research on consumers' online review behaviors and firms' dynamic pricing decisions for multiple products.

Research:

I have passed the dissertation proposal, and my proposal topic is market structure and pricing dynamics: evidence from the US brewing industry. IO economists are interested in the unilateral and coordinated effects of horizontal mergers, which helps shaping antitrust, regulatory and trade policies. The existing empirical literature focused on the unilateral effects that arise from internalization of the business stealing effect between the two merging firms. However, 60 percent of the merger complaints filed by DOJ and FTC from 1994 to 2014 claim the coordinated effects after mergers and few empirical works study the coordinated effects of horizontal mergers.

I study the coordinated effects of a market structure change in the US brewing industry by MillerCoors, a joint venture formed by second largest brewing company SABMiller and third largest brewing company Molson Coors in the US market. The joint venture was completed and operated as a combined entity on June 30th 2008. After the market structure change, the US beer market is highly concentrated by two big firms, Anheuser-Busch InBev(AB InBev) of 48.2% market share and MillerCoors(MC) of 29.5% market share. This high level of concentration raises the question whether MillerCoors coordinates with AB InBev after the formation of joint venture.

To study the possibility of coordinated effects, besides the simultaneous retail price increase, I compare AB InBev and MC's pricing dynamics (promotion decisions) from pre- to post-merger periods. Theory indicates that firms use temporary promotions to inter-temporally price discriminate against consumers. The change of pricing dynamics indicates the possibility of coordinated effects. I use a VAR-regression to test whether the pricing dynamics of AB InBev and MC have changed from pre- to post-merger periods. I find that firms set simultaneous promotions in the pre-merger periods while alternate promotions in the post-merger periods. In the pre-merger periods, firms compete for consumers and choose to match promotion prices of competitors. In the post-merger periods, firms collude and only set one product at promotion price to capture the profit margin of other products. I expect to finish my dissertation in May, 2017, and graduate in May, 2018.

Currently, I am also working on a project about consumer online review behaviors. I use consumer beer reviews at www.RateBeer.com from 2008 to 2016 to study how beer reviewers make review decisions. For instance, do active beer reviewers tend to review on small local beer, or tend to review on popular beer? Do high-reputation reviewers show any inflation or deflation on review score? For active beer reviewers, is there any spillover effect within the group? I use text analysis and machine learning techniques to analyze beer reviewers' decisions, which sheds some light on understanding the behaviors of reviewers at e-commerce environments.

My interest in firms' competition and consumer behaviors at online environments, background in Industrial Organization and Econometrics, and research experience on studying firms' pricing decisions make me an excellent candidate for NBER Economics of Digitization tutorial. The NBER Economics of Digitization tutorial will bring interesting insights into the analysis of consumers and firms at e-commerce environments.