

NBER Digitization Tutorial March 2016 Application

Contact Information

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Course of Study

I am a fifth year economics PhD student at Stanford University. My primary research field is industrial organization. My minor focus of study is economics of digitization and labor economics.

I am particularly interested in studying IT industry and telecommunications industry. During the course of my graduate studies, I took various courses in industrial organization, econometrics, labor economics, and public finance. During my second year of graduate studies, I also took “MGTECON 620: Economics of Electronic Commerce and the Internet” taught by Professor Susan Athey. I highly enjoyed the class because the class was very closely related to my research interests.

Research Interests

I am very interested in studying various implications of wide smartphone adoption. Recent rapid smartphone adoption has significantly impacted many individuals, firms, markets, and public policies.

My current research project examines the economic effects of smartphone introduction by measuring the extent to which smartphones have replaced other digital devices and the extent to which smartphones have expanded consumers’ overall digital device usage. Smartphones have revolutionized how individuals use digital devices and consume digital goods. Using detailed survey data on households’ digital device ownership and individuals’ digital device usage, I empirically find that after individuals adopt smartphones, they are less likely to own or use portable special purpose digital devices such as MP3 player and portable game device. At the same time, after individuals adopt smartphones, they are more likely to engage in digital activities such as listening to music and browsing the Internet. I additionally introduce and estimate a smartphone adoption and usage model to quantify such two effects and estimate welfare gains from smartphone adoption. Professor Liran Einav and Professor Tim Bresnahan have provided valuable advice and feedback on this project.

In a different project, I have empirically examined whether the bundling of telecommunications services makes individuals less likely to switch their service providers by increasing switching costs. Increasingly many telecommunications companies bundle two or more separate services together and offer them at a discounted price. I find that Internet subscribers who previously bundled are about 10 percent less likely to switch their Internet service provider than those who purchased the service separately. I also show that having one extra service included in the past bundle decreases the probability of switching Internet service providers by about 5 percent. In addition, I extend the analysis to show that similar results hold for wireless phone subscribers. The finding that bundling reduces the probability of switching service providers and locks-in existing users can have important implications for market competitiveness and consumer welfare.

I have also had an amazing opportunity to work as a research assistant for Professor Liran Einav, Professor Jon Levin, Professor Petra Moser, Professor Tim Bresnahan, and Professor Pai-Ling Yin. In a project with Professor Bresnahan and Professor Yin, we examine how individuals spend their times on different smartphone apps. We are also particularly interested in studying the implications of pre-installed smartphone apps. By participating in various research projects with professors, I could develop important quantitative skills, research skills, and a passion for research.

Although I am particularly interested in IT industry, my research projects are not limited to IT industry and span different topics including intellectual property rights. In a project with Professor Moser, we examine innovation in biology industry by exploiting restrictions in federal funding for human embryonic stem cells under President George W Bush in 2001. Also, in a separate project, we examined the effect of compulsory licensing on the incentive to innovate by studying the *World War II Trading with the Enemy Act*. In a project with Professor Levin and Professor Einav, we evaluate a company's wellness program and study whether strong financial incentives can improve employees' health outcomes.

I participated in NBER Digitization Tutorial in March 2015, and the tutorial was an invaluable learning experience. I hope to participate again to connect with and learn from other researchers who study economics of digitization.