Application - NBER Digital Economics and AI Tutorial

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Academic Background

I am currently a third-year PhD student in Economics at the University of Wisconsin-Madison, specializing in industrial organization. My main research interests are in empirical IO, particularly digital markets, antitrust, consumer behavior, and regulation.

I completed my undergraduate degree in Economics at the Federal University of Rio Grande do Sul (UFRGS), in Brazil, where my interests were initially more methodological. I particularly enjoyed mathematics, econometrics, programming, and computational methods. During this period, I also worked on research using machine learning methods for economic forecasting, which resulted in two publications. However, I had relatively little exposure to research in industrial organization or digital economics.

My interest in IO developed during my Master's in Economics at the University of Mannheim, where I specialized in Competition and Regulation. I had never formally taken an IO course before, but quickly found that it combined the quantitative methods I enjoyed with questions I had always been curious about. I have long been interested in technology and the development of digital markets, and at Mannheim I began to understand how these interests could translate into economic research. Through courses in empirical IO, internet economics, and law and economics, I became particularly interested in platform competition, antitrust, and how economic tools can help us understand markets that are changing rapidly with technological progress.

At Wisconsin, I completed the first-year core sequences and subsequently took courses in industrial organization, economic theory, applied econometrics, urban economics and computational economics. My second-year coursework has been particularly helpful in developing my understanding of structural estimation, empirical methods, and the economics of platforms.

Research Interests and Current Projects

My research interests are centered on understanding how firms compete in modern markets, particularly digital ones, and how their strategies affect consumer behavior and welfare. I am especially interested in questions involving network effects, switching costs, algorithmic pricing, and the role of new technologies in shaping competition. More generally, I am interested in using empirical IO methods to study questions that are both economically interesting and relevant to current regulatory debates.

My second-year paper, *Demand for Social Media Applications: Market Definition and the Welfare Effects of a TikTok Ban*, studies how consumers allocate their attention across social media applications and what happens when one of these platforms becomes unavailable. The project was partly motivated by my earlier research experience at Harvard Business School, where I worked with smartphone usage and telecommunications data.

In the paper, I develop a structural model in which consumers make two decisions: which social media apps to keep in their active portfolio, accounting for the costs of maintaining multiple

applications, and how to allocate their daily attention across those apps and other activities. One of the main motivations was to understand substitution patterns in markets where products have zero monetary prices and consumers frequently use several competing platforms.

A feature of the model that I find particularly interesting is that it distinguishes between mechanical substitution, arising simply because consumers have a fixed amount of time, and interactions between applications. For example, people who use Instagram may also use TikTok because they have similar tastes for both, or because using one app actually increases the value of the other. These are different economic mechanisms, but difficult to distinguish using observational data alone. To address this, I use experimental evidence from Aridor (2025), who temporarily restricted access to Instagram and YouTube, as part of my estimation.

I then use the model to study two policy questions: the welfare effects of a permanent TikTok ban and the definition of relevant markets in the social media industry. The model predicts that approximately two-thirds of the attention freed by a TikTok ban moves to offline activities rather than other major social media platforms. I also estimate an average welfare loss of 33 daily minute-equivalents, with substantially larger losses among younger consumers. Finally, I use the framework to implement a hypothetical monopolist test based on a model-implied quality degradation rather than a price increase.

I am now considering extensions of this work, particularly incorporating the advertising side of these platforms and further studying the relationship between digital services and consumer attention.

Beyond this project, I am involved in research related to telecommunications and competition, and I am developing other projects involving dynamic pricing, entry, and regulation in Brazil. Part of my motivation is to apply tools from modern empirical IO to questions relevant to Brazil, where I see opportunities for more research using these methods.

More recently, I have also become interested in the economics of AI adoption. One question I have started exploring is whether generative AI can lower the barriers for smaller firms to adopt digital technologies or whether it will instead increase the advantages of already technologically sophisticated firms. This is particularly interesting to me in the context of developing economies such as Brazil, where technology adoption has historically been uneven across firms.

I have not yet formed a formal dissertation committee. The faculty members I have worked most closely with at Wisconsin include Karam Kang and Alan Sorensen, and I have also had several research discussions with Jean-François Houde.

Interest in the Tutorial

I am now at a stage of my PhD in which I have completed most of my coursework and am actively developing my dissertation research agenda. While I already have several projects underway, I am still exploring the questions I would like to pursue in my dissertation, particularly those involving digital platforms and new technologies.

This is why I am particularly interested in attending the NBER Digital Economics and AI Tutorial. I would value the opportunity to learn about research at the frontier of digital economics, understand which questions and methods are currently shaping the field, and interact with researchers working on these topics. As a third-year student, exposure to different research approaches and feedback on my ideas would be especially valuable in helping me identify promising directions for my dissertation.