

Stephen Bruestle’s Research Statement

My research is in the field of Industrial Organization, the economics of firms and markets. My focus has been in media economics and online markets. In this research statement, I will tell you about my current research and future research, and explain the kind of colleague I will be at your institution.

Research Agenda

In this section I describe several papers that I plan to write within my next three years. I evaluate my current research projects and describe how these future projects are the logical next step in my research.

Imperfect Targeting of Advertising, Privacy Regulations, and Ad Annoyance

In my recent applied theory paper “Imperfect Targeting of Advertising and Privacy Regulations”, I investigate how privacy regulations affect consumer welfare. Tougher privacy regulations reduce the accuracy of information collected on consumers. Less accurate information decreases welfare by discouraging targeted advertising. When firms target advertise, privacy regulations have an ambiguous effect on welfare. Less accurate information decreases welfare by inducing a smaller, less-targeted selection of products. Yet less accurate information increases welfare by inducing fewer annoying ads, even without any pricing effects.

The results of this paper depend on how much more or less annoying consumers find an additional ad compared to the previous ad (i.e. the change in the marginal ad annoyance). Wilbur et al. (2012) found something similar; He found the elasticity between the number of ads on a television program and the number of viewers.

During the next three years, I plan on improving this result by identifying the ad annoyance function with empirical and experimental analysis. TiVo collects (and sells) the instant data on what people watch and when they fast forward. I plan on acquiring this data set to see which ads viewers choose to skip and use it to identify the ad annoyance function. In addition, I plan on running a web-based laboratory experiment where participants pay different amounts to block individual advertisements.

The ad annoyance function is not just relevant to my work on privacy, it is an important part of many economic models of advertising (see for example: Anderson and Renault, 1999). Knowing how consumers are annoyed by ads will improve our welfare analysis of advertising and allow us to make more informed policy choices when it comes to advertising.

Online Field Experiments in Google Advertising

One of the goals of my research is to develop empirical tools to study targeted advertising and advertising content. We need these empirical tools so we can regulate information and advertising content. Despite the recent theoretical economic literature on targeted advertising (see for example: Bergemann and Bonatti, 2011; Iyer et al., 2005; Johnson, 2013), there has not been much empirical analysis of targeted advertising and the content of advertising.

I have been running a series of online field experiments where I statistically measure the content of webpage text advertising. The latest is in my working paper “As Webpages Get Narrower Do Ads Get Nicer? An Online Field Experiment in Google Contextual Ads.” In this working paper I: (1) develop a unique (and cheap) online field experiment and (2) adapt a statistical method from the machine learning literature that categorizes text by looking at word clustering. I create many differentiated webpages in an experimental fashion and observe the Google text ads that are placed on them. Then, I compare general webpages (like a ‘Ford’ webpage) with more narrowly-focused webpages (like a ‘Ford Truck’ webpage) by using a measure of ad niche-ness. Then I use the statistical method from the machine learning literature to empirically measure the content of the text in the ads. Although this experiment is a work in progress, I have already found an interesting relationship between the narrowness of webpages and the “niche-ness” of ads.

During the next three years, I plan on expanding on this experiment by (1) developing and adapting new empirical methods to analyze the content of advertising and (2) developing theoretical and structural models that explain the role of advertising content in advertising.

Amazon as a Mixed Two-Sided-One-Sided Market

In an ongoing collaborative project with Federico Ciliberto, Simon Anderson, and Julian Wright (NUS), we are empirically and theoretically exploring Amazon and its third party sellers. We collected a daily panel dataset of the product information (like: reviews, product dimensions, etc.) and offers from sellers (which includes prices, shipping cost, shipping speed, merchant reviews, etc.) of toys for children ages 2-4. This market has the advantage of an almost non-existent used market, and participation by both Amazon and third party sellers. During my position at your institution, we plan on continuing this work by testing the price dispersion of third party sellers, and possibly explore Amazon's role as a combined two-sided platform and direct seller.

My Research Philosophy and My Research Process

The most important part of any economics paper is the question. It doesn't matter if the project is empirical, theoretical, or experimental. If the question is interesting and relevant, then the paper will be relevant and interesting.

With this in mind, I like to start a research project by first finding an interesting question. Only once I have a polished question, do I like to proceed to try to answer it; sometimes the question is empirical, sometimes theoretical, sometimes experimental, and sometimes a mixture.

A good example of this is my paper "Imperfect Targeting of Advertising and Privacy Regulations." I started with a simple question: why do consumers want advertisers to have incomplete information about them? Specifically, I wanted to know if consumers could value their privacy because they wanted to avoid annoying ads. Only once I had this question, did I try to answer it.

I find a question-driven approach makes me a stronger and more creative researcher. Because one research paper always creates more questions, I find that I become an expert in a research topic, instead of just the empirical, theoretical, or experimental approaches related to a topic. For example, with my privacy paper (which was an applied theory paper), I found my results depended heavily on whether marginal ad annoyance increases or decreases in the number of ads. This led me to an interesting empirical/experimental question: what does the ad annoyance function look like? From writing an applied theory paper, I discovered how important this empirical question is to how we regulate consumer privacy and the economics literature on advertising.

During my one year term at the Federal Housing Finance agency, I was tasked with the interesting question of finding a lower bound to housing prices. Although this was not my field of study, I found the work fascinating. I was asked a question that was very relevant and interesting. I now hope to apply the skills I learned to answering my own research questions.

My Experience in and Thoughts on Collaborative Research

I was introduced to economics research through a collaborative project with W. Mark Crain, which would eventually become "Forecasting Household Expenditures Using the Consumer Confidence Index: A Mean-Variance Approach." I owe a great debt to Mark Crain, he taught me how much fun, relevant, and interesting economics research can be.

Working with others on research is fun, productive, and can produce a quality paper. I have had the privilege of working on four separate collaborative research papers (each with different collaborators). Each of my collaborators exposed me to different ways of doing economics research and taught me different ways of thinking about economic problems. And, hopefully, I had a similar beneficial effect on my collaborators.

Yet working on a project by myself can also be fun, productive, and produce a quality paper. I find that it is important as an economist to establish myself as an independent thinker and work on progressing my own research agenda. Therefore I plan on working on both kinds of projects. I plan on maintaining a balance between the two.

Student Participation in My Research

Both my students and I benefit from their participation in my research.

Teaching economics continuously grew my ability to present economics concepts in an organized, focused,

and clear fashion. And it taught me to to motivate my ideas and give real world examples. Teaching improves and hones my ability to present my own research and write my own papers. Teaching makes my research more understandable and more relevant. During my one year term at the Federal Housing Finance Agency, I learned how important this perspective and experience is to me.

I think the course that I could offer that would be most beneficial to my research would be the “Economics of the Digital Age.” Students would be constantly challenging the economics in my current area of research. And I would be constantly asking relevant economics questions that fit well with my research. I would like to keep the material up to date with the current research and current policy issues, which would encourage me to keep my research relevant.

Also I know from my own experience how mutually beneficial it is to use students as research assistants. As a research assistant to professors Mark Crain and Michel Kelly, I actively participated in research and was taught how to think as an economist. My experience resulted in my first publication and inspired me to pursue my own career doing economics. At your institution, I plan on working with student research assistants. My research will benefit from their natural talents, inquisitive nature, and different perspectives. And I will be using my research to encourage my student to think and grow.

References

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