

Research Statement

So far, there have been three main sources of ideas in my research. The first source are the economic problems that surround me. While living my every-day life, I often come up with questions that have no obvious answers and try to resolve them. In some cases such pursuit turns into a research project. Then, once I get familiar with a literature on a particular topic, I start to sense what may be missing and what my contribution to the existing literature might be. This is the second source. Finally, thanks to my interdisciplinary skills, I am often approached by people who already have research ideas and would like me to participate in their research projects. These interdisciplinary skills are what I consider to be my strongest asset, allowing me to conduct original research that not many other people would be able to do. These skills include (but are not limited to) mathematics training which goes far beyond of what is usually expected of economists and computer science skills at a level of a professional software developer.

My initial topic of interest (that is the topic of my Master's thesis at the Warsaw School of Economics) was a survey of the electricity generating industry in Poland. Even though I had a strong quantitative background, I wanted to learn how an industry operated in practice. I conducted thorough research, starting with the analysis of sources of primary energy (in Poland, coal and lignite are most popular) through types of generating technologies, the structure of the electrical grid, to the analysis of demand and consumer behavior. I analyzed geographical structure of the industry, ownership structure (including mines because parts of the industry tend to be vertically integrated), wholesale market, pricing schemes, functional separation between generating, transmission, and distribution (as mandated by law), and much more. In some cases I called and interviewed managers to get relevant information. I was also investigating the system of green certificates which, in line with European law, is supposed to facilitate smooth transition to more sustainable energy generation. I discovered a lot of interesting phenomena, for example, co-combustion of coal and biomass in coal power plants allowed the plants to obtain their green certificates but by dropping efficiency of the boiler, it led to much smaller drops in CO₂ emissions than expected. Thus, this was also the first time when I had to consider efficiency of environmental policies. The topic was fascinating and I am looking forward to build on my knowledge and to do further research project in this area.

While at University of Florida I was involved in a number of research projects. I started with the analysis of the economic effects of climate change to date. I did an extensive survey of studies analyzing changes that affects humans and which can be attributed to the climate change. The survey convinced me that this is a worthwhile topic, especially because there was no comprehensive and data-driven cost-benefit analysis of

climate change. I am looking forward to an opportunity to push the boundary of knowledge in this area.

I got another idea while reading an article about overfishing in the Economist. After a survey of literature I realized that there is a noticeable lack of a model for a fishery that would explain a number of observed phenomena. Following construction of such a model, it turned out that it could be used to analyze a situation in two fisheries in international setting. The niche idea evolved into political economy research involving regulation, international trade, and welfare analysis. I discovered many interesting and often counter-intuitive facts, for example, the ability of supposedly better domestic policies to have adverse effects in the implementing country, just because they are implemented only in a part of the market (while the other part is under control of the other country). I also discovered features of fisheries regulation that have not been mentioned in the literature. For example, one type of regulation is in general considered to be welfare improving but no one before has found that this improvement is entirely captured by producers, and consumer surplus in fact diminishes. This seems to be a significant addition to the vast literature on the topic. Moreover, this research (which is summarized in my job market paper) spawned further questions which I would love to address in the future.

While I was searching the literature for another potential topic, I came up with another idea. I really wanted to do an empirical research to show that I can do both theory and empirics. The idea emerged when I was thinking (for my own sake) about the researchers' incentives, publishers' incentives, and employers' incentives. I realized that due to imperfect information there is a mismatch in incentives that may results in inefficient allocations of resources in science. I built a game theory model to describe behavior of these three types of agents. Then, I collected data (I wrote software that processed data on publications and arranged them in a way suitable for Stata). It turned out that empirical analysis confirmed predictions of my theoretical model. Unfortunately, I had to temporarily suspend the project, but I am looking forward to resume it as soon as I finish working on my dissertation.

There were also three other research projects I was involved in, which were not my ideas. The most prominent is an analysis of Colonel Blotto game coauthored by me with Deborah Fletcher and Steven Slutsky. My contribution was to develop some of the theory and to do all numerical analysis. Working on this paper was exciting and I am glad and proud of the results. We are going to submit it to a journal soon.

Another research idea was to analyze pay-to-bid auctions, and I was working on it initially as a research assistant. I developed a software for numerically solving for mixed strategy Nash equilibria, simulating equilibrium behavior and running Monte Carlo simulations to get distributions of outcomes. My program generated nice reports with pictures. Over time I took over the initiative and the project is currently my own.

Finally, the last work in progress I have currently is a joint project with Chenxi Zhou, an Assistant Professor in marketing at Xiamen University in China. This project is aimed at comparison of different types of publicity and their effects on sales. I am responsible for collecting the data from Amazon.com (which has been already done) and parts of empirical analysis.

I cannot accurately predict how my research agenda is going to evolve over time. I am however certain that (1) my work thus far will inform my further research; I currently have enough untouched research topics for at least a couple of papers, (2) I will be finding new topics that interest me, and (3) I will keep on attracting people as a valuable coauthor.