Application to attend March 2016 Meetings of the NBER project on the Economics of Digitization

Dmitri K. Koustas

Phone: 978-853-6693

Email: dkoustas@econ.berkeley.edu

I am a fourth year Ph.D. candidate at the University of California at Berkeley with research interests in the intersection of labor and macroeconomics. My main research for my dissertation explores employment contracts associated with the sharing/gig economy as well as other online freelance work in the United States. More broadly, I believe that new types of big data offer exciting opportunities to address open questions in the field.

As a research assistant on a project with Yuriy Gorodnichenko, Shachar Kariv and Steve Tadelis, I am working with data from a large personal financial management website. One particular research task has involved using machine learning to classify the transactions into spending categories (e.g. "Entertainment," "Fast Food," etc.). I use a random-forest model using words in the transaction strings as features of the model (an approach known as "bag of words"). A small subset of the data are already classified directly by credit and debit card companies which I use as the training and test data for the ML model.

My own project for my dissertation uses these same data to examine income processes across workers in different types of firms and employment contracts, and how these different contracts influence the consumption processes of workers. Estimates suggest that up to 10 million workers could receive some income from the sharing/gig economy or other online freelance work, and the government seems poised to regulate the industry. At the same time, comparatively little is known about the industry outside of occasional media articles. Personal financial management data are a unique dataset to study this problem because I can see sources of income in real-time. Using the data, I construct a pseudo matched worker-firm panel. I use the panel to evaluate the welfare of workers by comparing consumption behavior of sharing/gig economy workers with workers who have traditional employment income only. The members of my thesis committee are David Card, David Romer, Patrick Kline and Steve Tadelis. I expect to complete my dissertation in the next 1-2 years.

On the more mundane side of big data, I have spent time this semester working with partners in the statistics department and Berkeley Research Computing (BRC) to expand the big data resources of our economics compute cluster, and to expand our capacity to work with restricted-use data on our more powerful campus-wide compute cluster.

I would welcome the opportunity to learn from the expertise of the group next March, as well as participate in the discussions with the other graduate students and associated faculty. Thank you for your consideration.