DIW Applied Micro Seminar

Networks, Frictions, and Price Dispersion

Gregory Veramendi (Arizona State University), joint with Javier Donna and Pablo Schenone

Abstract:

This paper studies price dispersion in buyer-seller markets using networks to model frictions, where buyers are linked with a subset of sellers and sellers are linked with a subset of buyers. Given a network, we characterize the set of prices that support a pairwise-stable matching when there is ex-post competition. Our approach allows for indirect competition, where a buyer who is not directly linked with a seller affects the price obtained by that seller. Indirect competition generates the central finding of our paper: price dispersion depends on both the number of links in the network and the structure of the network (how links are distributed). Networks with very few links can have no price dispersion, while networks with many links can still support significant price dispersion. We develop a decomposition of the network that characterizes which links are redundant (i.e. have no effect on prices). We show that a particular network structure (Hamiltonian Cycle) with only two links per node has no price dispersion. We then show that the probability that this structure arises in a randomly drawn network is asymptotically one even as the probability of an individual link goes to zero. We also show the finite sample properties of this relationship and find that even small sparse networks have very little price dispersion. In an application to eBay, we show that our model reproduces the price dispersion seen in the data and that more than 25% of the price dispersion at eBay is a result of the network structure. In an application to labor markets, we show that lowering frictions leads to *lower* worker mobility due to indirect competition, providing one possible explanation for the decline in job-to-job mobility in the US.