

Demand Analysis under Latent Choice Constraints

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Abstract :

Consumer choices are constrained in many markets due to either supply-side rationing or information frictions. Examples include matching markets for schools and colleges; entry-level labor markets; consumer inattention; markets with limited brand awareness; and healthcare services. Separating these choice constraints from latent consumer demand is essential for analyzing policy counterfactuals and welfare. We use a general random utility model for consumer preferences that allows for endogenous characteristics and a reduced-form choice-set formation rule that can be derived from models of the examples described above. The choice-sets can be arbitrarily correlated with preferences. We study non-parametric identification of this model, propose an estimator, and apply these methods to study admissions in the market for kidney dialysis in California. Our results establish identification of the model using two sets of instruments, one that only affects consumer preferences and the other that only affects choice sets. Moreover, these instruments are necessary for identification – our model is not identified without further restrictions if either set of instruments does not vary. These results also suggest tests of choice-set constraints, which we apply to the dialysis market. We find that dialysis facilities are less likely to admit new patients when they have higher than normal caseload and that patients are more likely to travel further when nearby facilities, and high quality facilities in particular, have high caseloads. Finally, we use these data to estimate the preferences of consumers and the rationing rules used by facilities using a Gibbs' sampler.