**Adam Smith***Doctoral Candidate*

Ohio State University

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***Where:*** 741 JMHH  
***When:*** 12:00 PM to 1:20 PM

**Inference for Product Competition and Separable Demand**

*ABSTRACT*: This paper presents a methodology for identifying demand groups and measuring competition for differentiated products using store-level sales data. We use the concept of economic separability as an identification condition for different product groups, and build a weakly separable model of aggregate demand. One common issue with separable demand models is that the partition of products into separable groups must be known a priori, which severely shrinks the set of admissible substitution patterns. This paper relaxes this assumption and allows the partition to be an estimated model parameter. We focus on estimating partitions within a log-log demand system where weak separability induces equality restrictions on a subset of cross-price elasticity parameters. An advantage of our approach is that we are able to find groups of separable products rather than just test whether a given set of groups is separable. Our method is applied to two aggregate, store-level data sets. The first is in the jams, jellies, and spreads category where the nature of competition between products is straightforward. The second is within the juice category where the structure of demand is less obvious. We find that the estimated demand groups do not necessarily coincide with predefined category labels. Our approach also provides gains in efficiency and predictive ability over unrestricted models, and is useful for answering questions about brand positioning and the boundaries of product competition.