Abstract
We investigate how two signals of restaurant quality, hygiene grade cards and online reviews, affect consumer choice and restaurant hygiene. Unlike hygiene cards, online reviews contain information about multiple dimensions of restaurant quality. To extract signals of hygiene from online reviews, we exploit the fact that health inspectors look for different types of violations and apply machine learning methods to predict the occurrence of individual violations from review text. Using out-of-sample prediction accuracy as a measure of signal informativeness, we find substantial heterogeneity in how informative reviews are about different violations. Reviews are more informative about food handling and pest violations than facilities and maintenance violations. Next, we estimate the effect of hygiene information contained in online reviews on consumer demand and restaurant hygiene choices. We find that consumer demand is more sensitive to more informative signals of hygiene. In addition, restaurants that are reviewed online are more likely to comply with hygiene standards for which online reviews provide a more informative signal. Our results have implications for the allocation of limited regulator resources when consumers rate service providers online.