Abstract

As Internet-based commerce becomes increasingly widespread, large data sets about the demand for and pricing of a wide variety of products become available. These present exciting new opportunities for empirical economic and business research, but also raise new statistical issues and challenges. In this article, we summarize research that aims to assess the optimality of price discrimination in the software industry using a large e-commerce panel data set gathered from Amazon.com. We describe the key parameters that relate to demand and cost that must be reliably estimated to accomplish this research successfully, and we outline our approach to estimating these parameters. This includes a method for "reverse engineering" actual demand levels from the sales ranks reported by Amazon, and approaches to estimating demand elasticity, variable costs and the optimality of pricing choices directly from publicly available e-commerce data. Our analysis raises many new challenges to the reliable statistical analysis of e-commerce data and we conclude with a brief summary of some salient ones.
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