

Information Revelation and Consumer Privacy*

Rossella Argenziano
University of Essex

Alessandro Bonatti
MIT Sloan

Gonzalo Cisternas
MIT Sloan

December 2015

Very preliminary: please do not circulate or cite

Abstract

We develop a dynamic model in which a forward-looking consumer interacts with both “sellers” and non-commercial “websites.” In each period, the consumer makes both a purchase and a browsing decision that are imperfectly observed by future firms. We characterize the amount of information the consumer’s equilibrium actions reveal about her true preferences. The welfare implications of collecting information critically depend on its source. Because consumers are wary of revealing information through purchases, sellers lower their prices to stimulate demand. This compensatory channel is not available when collecting browsing information. From this perspective, tracking purchase histories has a smaller downside for consumers relative to using browsing histories for price discrimination. These results have implications for privacy regulation that exogenously restricts the flows of information.

*We thank Charles Angelucci, Sinan Aral, Erik Brynjolfsson, Bob Gibbons, Hal Varian, and seminar participants at MIT and the 2015 FTC Microeconomics conference for helpful comments.