

# Online advertising and privacy

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## Abstract

In this paper we study a model in which an online publisher (say, Facebook) makes profit by auctioning advertising slots that appear whenever a consumer visits its website. Consumers are heterogenous in terms of the products they like, and the publisher has gathered data which are statistically correlated with consumers' tastes. We study the following question: when is it profitable for the publisher to allow potential advertisers to access the data about consumers' characteristics? If the publisher opts for a *privacy* policy, firms will charge a relatively low price, but the publisher is able to extract all their rent through the auction because they have no private information. On the other hand, in case the publisher opts for a *disclosure* policy, firms privately learn, for each consumer, how likely he is to have a high willingness to pay. This induces a rise in the price of the products, since each firm will only win the auction for consumers who have a relatively high willingness to pay. Firms get more revenue from their interactions with consumers, but the publisher is not able to extract all this additional revenue, because the winning bidder has a positive informational rent.

We show that there is no systematic divergence of interests between the publisher and consumers. The publisher may provide the right amount of privacy, but can also provide too little or too much of it. Firms always prefer a disclosure policy.

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