Competition and Targeting in Auctions for Online Ads *

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Abstract

The digital display advertising industry is phasing-out third party cookies due to growing concerns about data privacy, fundamentally altering how advertisers target and reach consumers. This paper investigates the potential impact of this shift on advertisers and platforms, focusing on the retargeting strategy, where advertisers reach consumers who have previously visited their website. Utilizing a dataset of 1.4 billion auctions paired with an experiment varying bids of live campaigns, I estimate a structural model of endogenous advertiser entry in the online ads industry. The model allows for the disentanglement of two opposing forces affecting winning bids when third-party cookies are removed: the matching effect, where the inability to precisely identify and reach advertisers' most valued audiences decreases their bids; and the competition effect, where advertisers face tougher competition in the auctions after adjusting their targeting strategies towards broader audiences, increasing the winning bids. Counterfactual simulations reveal that removing third-party cookies would decrease total ad spend by 60%, with an 84% reduction due to lower match values, partially offset by a 24% increase arising from intensified competition.

Keywords: Online Advertising, Retargeting, Data Privacy, Third-Party Cookies, Auctions, Structural Estimation
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