Abstract
As sponsored search becomes increasingly important as an advertising medium for firms, search engines are exploring more advanced bidding and ranking mechanisms to increase their revenue from auctions for sponsored search advertising. For instance, Google, Yahoo! and Bing are experimenting with auction mechanisms in which each advertiser can bid to be displayed exclusively. In such an auction, each advertiser submits two bids: one bid for the standard display format in which multiple advertisers are displayed, and one bid for being shown exclusively. The search engine decides the outcome as non-exclusive or exclusive based on revenue generated—if the exclusive-placement bid by an advertiser is high enough then only that advertiser is displayed, otherwise multiple advertisers are displayed and ranked based on their multiple-placement bids. We find that allowing advertisers to bid for exclusivity has two countervailing effects for search engine revenue. First, competition is heightened because bidders can express their display preferences more flexibly and compete not only for positions in the non-exclusive outcome but also compete for the outcome to be exclusive or non-exclusive; this is good for search engine revenue. Second, competition between non-exclusive and exclusive outcomes gives bidders the incentive to reduce their bids for their non-preferred outcome; this is bad for search engine revenue. Under different parametric conditions, either force can prevail and search engine revenue may increase or decrease accordingly. We also find counterintuitive results on the bidding strategies of advertisers; for instance, we find that, under certain conditions, advertisers have the incentive to bid above their true valuations.