Auction Platform Design

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Abstract

This paper develops a model of an auction platform that randomly matches sellers and buyers. When the sellers' goods have private heterogeneous values to the buyers, we study the profit maximization problem for the monopoly platform who controls participation fees and an auction format used in the marketplace. We show that the distribution of information rents among different types of sellers is different between the first-price and second-price auctions even though they induce the same allocation, and that the first-price auction allows the platform to set a higher participation fee.

Keywords: two-sided markets, auction design, matching, rent extraction, signaling.

JEL Classification Numbers: L21, D44, D82, D83

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