

Unlimited Shill-Bidding in Penny Auctions: A Theoretical Analysis*

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Abstract

In this paper, I discuss a penny auction which has attracted attention in recent years. The penny auction may be targeted for shill-bidding which interferes with the bidding because of the characteristic of loser's paying. The purpose of this paper is to analyze and describe the relationship between penny auctions and unlimited shill-bidding. To start with, I compare and analyze the revenue from unlimited shill-bidding in general auction forms. In particular, I show that the penny auction is the most suitable form for this kind of fraud. Then, I prove that penny auctions have different reserve prices to maximize revenue depending on the presence or absence of fraud. Finally, I treat the situation where both a penny auction and an ascending auction are available. This model also indicates that fraudulent penny auctions can be beneficial for low-income bidders.

Keywords: Penny Auction, Unlimited Shill-Bidding, Fraud.

JEL classification codes: D11, D44, D82.

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