

Auctions with an Expanded Secondary Market:

Incentives and Bulow-Klemperer Result

by Harrison Cheng

University of Southern California

Abstract:

We ask whether the auctioneer should recruit a new buyer from the secondary market into the primary one. We obtain a simple condition (D), under which the auctioneer has the incentive to do so. Under the same condition, we extend the Bulow-Klemperer (1996) result to the auction model with a secondary market, so that the revenue is higher without the need to find an optimal mechanism with a proper reserve value. The condition (D) holds if both the increasing hazard rate and the decreasing inverse hazard rate properties hold. An example shows that condition (D) is necessary for the incentive property to hold. To develop this result, we set up a symmetric auction model with an expanded secondary market. All primary buyers have IPV use values, as do the new buyers. There is a general direct mechanism in the primary market with N primary buyers, and M additional new buyers in the secondary market. In the secondary market, the winner uses an optimal mechanism to sell to the losing bidders and new buyers. We develop a revenue equivalence theorem, two different revenue formulas, and extend the Myerson optimal auction to our model. Optimal and efficient outcome often exists. Optimal auction can be implemented uniquely by a first-price auction with resale.