Spying in Contests

Zhuoqiong Chen *

June 9, 2014

This paper shows a model of spying in contests by a two player, incomplete information, private value all-pay auction with information leakage. Before making their bids, players receive a noisy signal that indicates the opponent's true private valuation with some probability, then they choose their bids based on updated belief. I show the equilibrium bidding strategy and revenue under two kinds of spying technology separately: public and private. Under public spying technology, the signal players receive indicates the opponent's true private valuation with the same, commonly known probability. Under the private spying technology, the probability that the signal indicates the true private valuation of the opponent is private information and only the distribution of such probability is common knowledge. The preliminary results showed that under public spying technology, there is a separating equilibrium as well as a pooling equilibrium in all pay auction; under private spying technology, the revenue equivalence between first and second price auction breaks down.

[1]PhD student in LSE Management Department