Qualified-Bound-Pricing Methods for Combinatorial Contract Auctions

Michael K. Ng and Kangle Yang

Department of Mathematics, The University of Hong Kong
(kkpong@hkusua.hku.hk)

Summary. Prediction of some financial indices, such as unemployment rate, is an interesting and important problem in financial markets. One possible approach is to make use of the market force to do the prediction. An auction mechanism is commonly used as a platform to achieve such aim. Usually, the target index is divided and is digitalized into several number of states. The market value of each state is determined by the auction mechanism. Under the principle of Dutch Auction, combinatorial contracts auctions are considered to enhance liquidity, transparency and efficiency in the trading platform. The objective of this study is to find qualified orders in the auction process. The optimization technique based on the concept of aggressiveness is employed to compute qualified and unqualified orders, and finally determine the market value of each state. Experimental results are presented to demonstrate the effectiveness and the efficiency of the proposed formulation.