

Procurement Auctions with General Price-Quality Evaluation

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We offer a theory of procurement auctions in which multi-dimensional bidding is ranked by a scoring rule. Our analysis allows a broad class of practically used scoring rules such as one in which price and non-price attributes are evaluated nonlinearly in score. We find that first-score (FS) and second-score (SS) auctions can be transformed into equivalent, single-dimensional score-bid auctions where the bidder's utility is nonlinear in the score-bid. Our analysis demonstrates that the expected scores of FS and SS auctions generally differ unless scoring rule is quasilinear.