

REVENUE-CAPPED EFFICIENT AUCTIONS

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Abstract

We study an auction that maximizes the expected social surplus under an upper-bound constraint on the seller's expected revenue, which we call a *revenue cap*. Such a constrained-efficient auction may arise, for example, when: (i) the auction designer is “pro-buyer”, that is, he maximizes the weighted sum of the buyers' and seller's auction payoffs, where the weight for the buyers is greater than that for the seller; (ii) the auction designer maximizes the (unweighted) total surplus in a multi-unit auction in which the number of units the seller owns is private information; or (iii) multiple sellers compete to attract buyers before the auction. We characterize the mechanisms for constrained-efficient auctions and identify their important properties. First, the seller sets no reserve price and sells the good for sure. Second, with a nontrivial revenue cap, “bunching” is necessary. Finally, with a sufficiently severe revenue cap, the constrained-efficient auction has a *bid cap*, so that bunching occurs at least “at the top,” that is, “no distortion at the top” fails. (JEL: D44, C72, L51)

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