

Simultaneous Deferred Acceptance Auctions for Spectrum Reallocation

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December 31, 2018

Abstract

This paper studies the design of reverse auctions in the US incentive auctions where TV broadcasters in the UHF band offer to relinquish the usage right or to relocate to another band to increase the spectrum for mobile communication uses. The state of the art is the deferred-acceptance auctions by [Milgrom and Segal \(2018\)](#) that determine allocations based on scores and are strategy-proof when sellers are single-minded. But when sellers have multiple relinquishment options and are restricted to be single-minded, there would be possibilities of strategic considerations about which option the seller should bid. Nevertheless just allowing multiple bids is not possible since a seller switching one option to another may violate interference constraints. To resolve this issue, this paper proposes generalized deferred acceptance auctions with the supplementary phase where sellers make multiple offers, the buyer does not need to recalculate interference constraints, and are strategy-proof.

*Department of Economics, the University of Massachusetts. This work is supported by the National Science Foundation EARS Grant No. 1247988. Kazumori is grateful for Larurence Ausubel, Martin Bichler, Andrew Clegg, Preston McAfee, Paul Milgrom, Charles Plott, Ilya Segal, Nikolaos Sidiropoulos, and Xin Wang for helpful conversations.