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Takeover auctions with actively participating targets

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Abstract

This paper provides an analysis of takeover auctions in which target firms actively participate by changing their reserve prices. It considers a takeover auction as an affiliated value English auction with flexible reserve price and discusses how the degree of value affiliation affects the bidding strategies and the degree of competition in takeover auctions. It makes comparative analysis of three different designs of English auctions and shows that a takeover auction is dominated by one of the English auctions with fixed reserve price.

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1. Introduction

The structure of takeover auctions resembles the structure of standard open-bid English auctions, in which bidders subsequently submit their bids which are observable by everybody. However, there are several conditions that are unique to takeover auctions and that affect both the bidders' and the target's behavior. The existing body of theoretical research in takeover auctions devotes itself to identifying and analyzing these conditions.

First, Fishman (1988), P'ng (1986), Hirshleifer and P'ng (1989), Daniel and Hirshleifer (1998) and Bhattacharyya (2000) note that bidders in takeover auctions may face a number of transaction costs (such as investigation costs, entry costs, or bidding costs) while these costs do not exist in standard English auctions. They show that the existence of such costs leads to a jump-bidding

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equilibrium,[1] i.e., to an equilibrium in which the first bidder places his initial bid well above the current stock price in order to signal his high valuation and deter competition.[2] Second, Singh (1998), Burkart (1995) and Bullow, Huang, and Klemperer (1999) argue that bidders in takeover auctions may have a toehold (i.e., own a fraction of the target) and, thus, may bid more aggressively than bidders in standard English auctions. Third, Dasgupta and Tsui (2004) show that there may be a cross-ownership among potential acquirers, which makes low sale price (and, therefore, higher winner's profit) beneficial for all bidders and not only for the winner.[3] Forth, Berkovithch and Narayanan (1990) noted that takeover bids may be multidimensional, e.g., they may include cash and stock compensation for shareholders as well as some provisions for the current management and employees of the target firm.

Most of the existing models of takeover auctions, however, assume that the target is either passive (i.e., does not try to influence the outcome of the auction at all) or is able to influence bidders' behavior only prior to the takeover contest (for example, by giving one of the bidders an additional toehold) but overlook one of the important rights of the target's shareholders: they do not have to tender their shares to any bidder.[4]

In this paper we analyze how the target's ability to reject the highest bid (i.e., de facto, change its reserve price) affects the dynamics of takeover auctions. The contribution of this paper is two-fold. First, we show that inability of the target firm to precommit itself to accept the highest bid above some ex ante determined fixed reserve price[5] reduces the expected welfare of all agents (i.e., shareholders of both the bidder and the target firms). In particular, we show that takeover auctions with common or affiliated values are dominated by English auctions with fixed reserve price.

Second, we provide a rationale for why not all of the value-enhancing takeover attempts succeed. Currently, two possible explanations of this phenomenon exist. First, managers of the target firm do not want to lose their jobs and, thus, resist the takeover. Second, it is possible that, after the target firm investigates its value, it finds this value to be higher than any of the bids it receives. The latter explanation, however, contradicts the finding of Bradley, Desay, and Kim (1983) who show that a positive increase in the target's value is permanent only if the takeover attempt is successful. This finding, among other things, implies that there is no undervaluation of the target's stock. One more explanation, proposed by Baron (1989), is based on the argument that a rejection of the initial offer may provide a positive signal about the target's value and may result in higher future offers.

In our model we propose another explanation for why not all takeover attempts succeed. Since almost all takeover auctions are common value or, at least, affiliated value auctions, bidders can update their valuations of the target as the auction progresses. Following Vincent (1995) we assume that bidders who have no chance of winning the auction decide not to participate in the

[1] See also Avery (1998) for a more general two-stage auction model with a signaling equilibrium that combings the characteristics of sealed-bid and open-bid auctions.

[2] Bradley (1980) documents the existence of jump bidding. Jenning and Mazzeo (1993), consistent with signaling arguments, show that high initial bid reduce the probability of competition and decreases the likelihood that the offer will be rejected.

[3] Engelbrecht-Wiggans (1994) also considers the externality effect in auctions and argue that losing bidders may benefit from higher sale price since it may hurt the overall competitiveness of the winning bidder.

[4] At the best of our knowledge, Dodonova and Khoroshilov (2006) is the only paper that models a takeover auction under the assumption that the target firm is able to reject all submitted bids. Based on this assumption, they show that jump bidding in takeover auctions cannot be explained by signaling arguments.

[5] E.g., the target's stock price before the takeover contest plus some "premium".