Journal of Financial Economics 114 (2014) 444–470

Contents lists available at ScienceDirect

Journal of Financial Economics

journal homepage: www.elsevier.com/locate/jfec

# Preemptive bidding, target resistance, and takeover premiums ☆

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ARTICLE INFO

*Article history:*
Received 20 September 2011
Received in revised form
22 October 2013
Accepted 18 November 2013
Available online 31 July 2014

*JEL classification:*
G34
D44

*Keywords:*
Mergers and acquisitions
Auctions
Target resistance
Preemptive bidding
Structural estimation

ABSTRACT

We evaluate empirically two sources of large takeover premiums: preemptive bidding and target resistance. We develop an auction model that features costly sequential entry of bidders in takeover contests and encompasses both explanations. We estimate the model parameters by simulated method of moments for a sample of US takeovers. Our estimates imply that target resistance explains the entire magnitude of the premium in 74% of successful single-bidder contests. Simulation experiments show that initial bidders have, on average, a higher valuation for the target than rival bidders, so that a relatively low initial bid is sufficient to deter a rival from entry.



## 1. Introduction

Only a fraction of takeovers involves more than one potential acquirer bidding for the target company, but, at the same time, the average premium paid for control is substantial. In a sample of takeover contests for US target firms between 1988 and 2006, we find that 94% feature only one bidder and that the average premium offered over the

☆ We are grateful to Espen Eckbo, Miguel Ferreira, Julian Franks, Emmanuel Guerre, Vassilis Hajivassiliou, Kenneth Hendricks, Christopher Hennessy, Emeric Henry, Denis Gromb, Margaret Kyle, Tracy Lewis, Erwan Morellec, Marco Ottaviani, Nagpurnanand Prabhala, Norman Schürhoff, William Schwert, Luke Taylor, Karin Thorburn, Paolo Volpin, Toni Whited, and seminar participants at the Bank of Italy, Bocconi University, Centre for Economic Policy Research School in Applied Industrial Organization, Center for Studies in Economics and Finance, Einaudi Institute for Economics and Finance, Federal Reserve Board of Governors, HEC Lausanne, IESEG School of Management, Institute for Advanced Studies Lucca, Kellogg School of Management, London Business School, London School of Economics, Libera Università Internazionale degli Studi Sociali "Guido Carli," Norwegian School of Economics, Queen Mary University of London, Pompeu Fabra University, Rotman School of Management, Banco Santander Corporate Governance Summer School, Sauder School of Business, William E. Simon Graduate School of Business Administration, Tepper School of Business, Università della Svizzera italiana, University of Geneva, Universidade Nova de Lisboa, University of New South Wales, University of Sydney, University of Technology, Sydney, University of Wisconsin–Madison, University of Zurich, and the 2010 Western Finance Association meetings for useful comments and suggestions. All remaining errors are our responsibility.

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http://dx.doi.org/10.1016/j.jfineco.2014.07.013
0304-405X/

target preannouncement stock price is 50%.[2] This paper investigates two leading theories in the literature to explain these facts: preemptive bidding and target resistance.

The preemptive-bidding theory suggests that takeover premiums are determined not only by actual, but also by potential competition. If entry into takeover contests is costly, an initial bidder could deter a rival by making a bid that signals a high valuation for the target. Premiums paid in single-bidder takeovers then reflect the cost of deterring rival bidders from entry (Fishman, 1988).

According to the target-resistance theory, target shareholders could resist takeover proposals if the premium offered is not high enough (Burkart, Gromb, and Panunzi, 2000). This resistance could reflect, for example, information on future takeover opportunities or the value of large shareholders' private benefits.

Our paper's main contribution is to quantify the role of preemptive bidding and target resistance in the determination of takeover premiums. To do so, we develop an auction-theoretic model of takeover competition encompassing both explanations and estimate its underlying parameters using the simulated method of moments (SMM).

Our model of the takeover process has two phases. In the first, an initial bidder decides whether to pay a cost to learn his valuation for the target and then initiate the takeover contest by making a bid. A second bidder observes this bid and decides whether to learn his valuation for the target by also paying an entry cost. After participation decisions are made, an open, ascending-price (English) auction for the target ensues. During the auction, bidders raise their offers for the target, and the auction ends when only one bidder remains. The second phase accounts for target shareholder resistance. More precisely, the winner of the auction learns the minimum takeover offer acceptable by target shareholders and can top up his bid. Finally, the target shareholders decide whether to accept or reject the highest standing offer.

In the game's signaling equilibrium, the initial bidder deters the rival bidder from entry with a high enough bid whenever his valuation for the target is higher than a threshold. Otherwise, a multiple-bidder contest takes place. In either case, the highest valuation participant bidder acquires the target if his valuation exceeds the minimum acceptable offer.

The predictions of the model form the basis of our estimation strategy. In particular, we follow a structural approach to overcome several empirical challenges. The first is an omitted-variables problem: The characteristics of deterred bidders and their entry costs are typically unobservable to the researcher. For example, whereas the legal and advisory fees that bidders pay are sometimes observable, other entry costs, such as the opportunity cost for the bidder of the time spent to evaluate the target, the due diligence costs, and the transaction fees in deal financing, are seldom available. The second problem concerns sample selectivity arising from the bidders' endogenous entry decisions. Only bidders with a high enough valuation for the target and a relatively low entry cost participate in the contest. Third, the estimation framework must address a simultaneity problem: The probability that a bidder acquires the target is jointly determined with the premium he offers. Our model addresses these issues by providing a mapping between unobservable bidder characteristics and observable takeover outcomes. The model's equilibrium predictions, combined with information on the number of participating bidders, the outcome of takeover contests, and the final premium offered, can be used to estimate the parameters that determine bidders' valuations, their entry costs, and the level of target resistance.

To gain intuition about how the effects of preemptive bidding and target resistance can be empirically separated, consider, for example, the different implications these forces have on the fraction of failed takeover contests and the fraction of single-bidder contests in a given sample. On the one hand, the threat of stronger potential competitors produces higher average premiums, a lower fraction of single-bidder contests, and contests in which the target remains independent. On the other hand, while stronger target resistance generates higher average premiums, it increases both the likelihood that the target remains independent and the frequency of single-bidder contests.

The estimation is based on a sample of takeover bids for US public companies in the period 1988–2006. We group successive bids for the same target into takeover contests. We classify these contests according to the number of participating bidders (single- or multiple-bidder contests) and the final outcome of the takeover (the party controlling the target at the end of the contest). The estimation is performed using the SMM approach introduced by McFadden (1989) and Pakes and Pollard (1989), allowing for both observed and unobserved heterogeneity across takeover contests and asymmetry in bidders' valuations.

The paper has two main results. First, despite the high fraction of single-bidder takeovers, the estimated entry costs are relatively small, averaging 2.8% of the target's preacquisition market capitalization. Second, bidders are asymmetric with respect to their valuation for the target, with the initial and the second bidder valuing the target, on average, 81% and 64%, respectively, above the preacquisition stock price. The fact that the second bidder is ex ante a much weaker competitor means that, even if the entry costs are small, the initial bidder can deter him with a relatively low initial bid. This implies that the high premiums offered in single-bidder contests reflect more often the need to overcome target resistance instead of potential competition.

One major advantage of our structural approach is that it allows for counterfactual experiments. We examine, in particular, the effect of a change in the bidders' entry costs and the level of target resistance on the outcome of takeover battles and on the premiums offered. The results indicate that, even in the absence of an entry threat by a second bidder, the premium in single-bidder contests would average 48%. Given that the respective premium observed empirically is 51%, this leaves a small contribution of preemptive bidding to single-bidder takeover premiums compared with target resistance. Our simulation analysis suggests that, in 74% of single-bidder contests, the acquisition price is determined by target resistance.

[2] Other papers report similar figures. For example, Betton, Eckbo, and Thorburn (2008), in a sample of US target firms in the period 1980–2006, find that single-bidder contests account for 96.6% of the cases.