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Introduction to the Symposium ‘Contests: Theory and Evidence’

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Co-editors

This Symposium consists of five studies in the area of "Contests." These peer-reviewed papers were among a larger set of research presented at the 2016 conference "Contests: Theory and Evidence" at the University of East Anglia in Norwich, UK, and represent that research in terms of both the questions raised and the techniques used to address them.

Contests are situations in which players expend costly resources in order to influence the likelihood of winning a valuable prize. Various situations such as rent-seeking, labor market tournaments, wars, legal battles, sports, network security – to name only a few – are often modeled as contests. It is, therefore, not surprising that recent years have witnessed increasing interest in this area of research. Although there is a large pool of theoretical studies providing stylized models of contests, there have been two ongoing challenges. First, research in applications and policy related issues of contest theory has been relatively limited because some of the essential parameters such as the valuation of the prize, the cost of expending resources, the preferences of the involved agents, are not observed or easily quantified in the field. This issue is tackled by using economic experiments where such parameters can be controlled. Consequently there has recently been a surge in contest experiments. Second, and a related issue, is the challenge to theoretically model contest situations while considering behavioral aspects of the involved agents. Current experimental literature shows evidence of behavioral biases in decisions made by agents in contests, but modeling those biases is relatively new.

This symposium confronts these two areas of challenge with five studies. These studies consist of two papers that extend the theoretical literature, two experimental papers that include behavioral theory, and one theoretical paper that explains behaviors observed in contest experiments.

The papers by Konrad and Morath ("To deter or to moderate? Alliance formation in contests with incomplete information") and Lu, Ma, and Wang ("Ranking Disclosure Policies in All-Pay Auctions") extend our knowledge in all-pay auction literature from two very different perspectives. Konrad and Morath theoretically consider alliance formation in an all-pay auction under incomplete information. The theoretical results from this study affirm the experimental finding that weaker players are keener to join an alliance whereas stronger players prefer to engage in conflict alone and provide a mechanism for doing so. Lu et al. also study an all-pay auction with incomplete information, but here from a contest designer's perspective. They show

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that if a designer seeking to maximize the total bids in the all-pay auction has the ability to fully or partially reveal (or not to reveal at all) the type of players, then "no revelation" might be the best policy. This study contributes to the much needed policy-design aspect of contest theory.

The two studies just described are "mainstream" in the sense that these do not consider behavioral aspects of the players. It has, however, been observed consistently in laboratory contest experiments that the level and the dispersion of the bids or efforts made by subjects are significantly higher than predicted by Nash equilibrium. The first phenomenon (higher level) is often called "overbidding" while the second (higher dispersion) is termed "overspreading." Although various studies attempt behavioral explanations of overbidding, explanations for overspreading are few. Wärneryd ("Chaotic Dynamics in Contests") provides a behavioral explanation of this observed result in the third study. He shows that in repeated Tullock contests if players follow myopic best-reply rules, then the effort expended may show chaotic behavior – which, in turn, may generate the overspreading observed in the laboratory.

Chowdhury et al. ("Property Rights and Loss-aversion in Contests") and Gächter et al. ("Disappointment Aversion and Social Comparisons in a Real Effort Competition") experimentally investigate the role of behavioral biases in contests: whereas the first study finds evidence of one such bias (loss aversion), the second study negates another (disappointment aversion). Chowdhury et al. employ simple framing in two-player Tullock contest experiments: either the players both start with no property rights on a prize and the winner earns one, or both start with property rights on their own prize but the loser loses his, or one starts with a property right whereas the other does not. They show that loss aversion – the feeling of giving greater weight to loss than to gain of the same amount – results in subjects exerting greater effort when they start with the property rights compared to when they do not. Gächter et al., on the other hand, consider "disappointment aversion" in contests. In a two-player real effort tournament they test disappointment aversion under social and asocial contexts and, in contrast with the existing literature, find no evidence of disappointment aversion.

As indicated above, the papers included in this symposium cover topics that are engaging and important, and they advance the literature with new results. It is hoped that, since the topic of contest theory is applicable in areas such as Political Economy, Public Economics, Industrial Organization, and Public Choice, among others, this symposium may allow non-specialist readers of *Economic Inquiry* to become engaged with this area of literature.