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Presentation Title

Contest with Incomplete Information: When to Turn Up the Heat, and How?

Abstract

I investigate the optimal design of contests when contestants have both private information and convex effort costs. The designer has a fixed prize budget and her objective is to maximize the expected total effort. I first demonstrate that it is always optimal for the designer to employ a static, grand all-pay-contest with as many as possible participants. In addition, I identify a sufficient and necessary condition for the winner-takes-all prize structure to be optimal. When this condition fails, the designer may prefer to award multiple prizes of descending sizes. I also provide a characterization of the optimal prize structure for this case. Lastly, I illustrate how the optimal prize structure evolves as contest size grows: the prize structure first becomes more unequal until the optimal level of competition intensity is obtained, and then becomes less unequal to maintain the optimal intensity.

Keywords

Contest, incomplete information, mechanism design, risk aversion

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