

ORAL EXAMINATION

ESSAYS ON INCENTIVES AND COOPERATION IN TULLOCK CONTEST: AN EXPERIMENTAL APPROACH

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Abstract

This thesis consists of three essays that aim to improve our understanding of individual behavior in contests. I use the Tullock contest game to study how far players' behaviors and strategies are from theoretic game models. Specifically, I am interested in the effects of incentives and contest designs on players' behaviors, such as the choice of whether or not to fight and how much effort to expend. In all three essays, I use the Tullock contest game in experimental settings to study players' behaviors in response to various incentives.

Chapter 2 presents an essay on delegation and litigation. I experimentally study the effects of cost structure on strategic delegation in rent-seeking contests. There are two treatments in this experiment. I vary the relative cost of spending between principals and delegates in the two treatments and find that, when the relative cost is higher for principals, they tend to make more delegation choices. This paper has shown that I can achieve bilateral delegation by changing the cost structure of a game. Hence, mutual cooperative outcomes will occur. As such, this paper helps to shed light in regard to the growing literature on why delegation can happen endogenously in rent-seeking contest games.

Chapter 3 studies cooperation in an infinitely repeated setting. This chapter also contributes to the empirical research on asymmetry in contests and the destructive aspect of conflict. In this essay, I use a lab experiment to explore the effects of asymmetry on players' abilities and the infinite nature of games in rent-seeking contests. I find that, in line with theoretical predictions, compared to an environment in which players are more equally matched, it is easier to sustain cooperation when players are less equally matched. As a result, total rent-seeking expenditure is lower when the ability difference between contestants is larger. However, although theory predicts equal equilibrium expenditures from strong and weak players, I find a contrasting result in my experiment. Strong players seem to fight more aggressively than their weaker opponents. I also examine a conflictual setting in which conflict is destructive to the prize, while adversaries can peacefully share the whole prize if they cooperate. As predicted, I find that subjects are more likely to cooperate and aggregate expenditures are lower when conflict is destructive.

Friday
17 Jan 2020

1.30pm

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Finally, in Chapter 4, I present an essay on the effects of winning and losing in a contest. I study the impact of winning and losing on players' performance in a multi-contest game. More specifically, I examine how winning and losing in previous competitions influence players' behaviors in subsequent contests. I also study the effects of information availability on players' behaviors in a series of competitions. In this essay, I focus on two aspects of these postconflict effects: willingness to fight and aggressiveness. I designed a novel game called the Contest in Prisoners' Dilemma (CPD) game and employ it to measure people's willingness to fight. Previous and subsequent competitions are introduced using two-stages Tullock contest game. Each stage consists of multiple periods to mimic real-life situations. To study the effects of how players win previous contests on players' behaviors in subsequent contests, I compare contests in which subjects compete using their chosen effort with contests in which subjects compete using computer-generated random effort. I also employ three different designs in the first stage to examine the difference between contests with and without information regarding winning. I find that winning and losing have no effect on people's willingness to fight, neither in treatment in which subjects win through their chosen effort nor in treatment in which winning is random. This is in sharp contrast with previous findings (e.g. Konrad et al. 2009 discovered that there is a "discouragement effect" for losers, while Buser 2016 found that losers aim for more ambitious targets than winners). Winning also has no effect on aggressiveness; I show that it is aggressive people who win more.

Chapter 5 concludes the thesis.

The three essays in this thesis bring together evidence that most of the behaviors of players in contests closely follow standard economic theory predictions. However, theoretical predictions can not fully predict players' actual behaviors in the lab. This thesis provides further evidence of the discrepancies between players' behavior and theoretical predictions. I use Tullock rentseeking contests in all chapters. Another common aspect among the three essays is that the players all get to choose whether or not to fight before the contests. Despite these similarities, I look at different aspects of contest theory in the three chapters.

Proceedings

Duration	Session
5 mins	Chair Welcome & Introduction of Panel
30-45mins	Presentation by Student
15 mins	Q&A (by audience – faculty / students)
Break	Audience to leave the room
30 mins	Q&A by Panel
15 mins	Chairperson to ask candidate to leave the room and wait outside Private Panel Discussion and Decision to Pass the Student
15 mins	Candidate invited back by Chairperson Feedback and Outcome of Oral Examination

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