

# Sabotage in Tournaments with Heterogenous Contestants: A Field Study

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## Abstract

### Introduction

Tournament theory (Lazear and Rosen 1981) offers a particularly plausible (economic) explanation of why individuals tend to put forth more effort when pecuniary incentives – such as prize money – are hierarchically structured. While the impact of highly skewed prizes on individual performance has been demonstrated in numerous studies, almost no research exists that analyzes the strategic behavior of competitors to achieve the winner's prize. In a tournament, each contestant can improve his position either by choosing a higher effort level or by sabotaging his rival. While the constructive (productive) and the destructive (sabotage) type of effort would be equally costly in a world of homogenous opponents, the disutility associated with effort is unevenly distributed among heterogeneous contestants. Since the costs of putting forth effort are greater for the less able/talented player, tournament theory predicts that in equilibrium the favorite exerts higher productive effort while the underdog has an incentive to engage in sabotage activities.

### Method

Using a unique dataset from the top tier in German professional football covering the seasons 2005/06-2007/08 ( $n=765$  matches), we show that matches between heterogeneous teams (contestants) are, first, less intense and, second, that the favourite teams rely more heavily on their constructive abilities, while underdogs engage in more destructive (sabotage) activities. We use the probability of a victory of the home and the away team as reflected in the official betting odds as our preferred measure of heterogeneity. Constructive effort is proxied by the percentage of the home/away teams' number of successful tackles during a match, while destructive effort is measured by the percentage of the home/away team's share of fouls (i.e. rule violations). Since we assume that both, the share of tackles and the percentage of fouls are affected by the same set of righthand-side variables (heterogeneity, attendance, referee characteristics, etc), we estimate a seemingly unrelated regression model to mitigate the problems that may occur if the error terms of the two dependent variables are correlated.

## Discussion

The fact that the favourite usually chooses a higher effort level than the underdog, while simultaneously engaging less in sabotage activities can be explained in at least two ways: First, the favourite's returns to productive activities are higher, inducing him to engage in productive activities. Second, both types of effort are substitutes, implying that a player either concentrates on constructive or destructive activities.

## References

Lazear, E. & Rosen, S. (1981), Rank-order Tournaments as Optimum Labor Contracts. *Journal of Political Economy*, 89, 841-864.