

PROPOSAL: INCENTIVES IN PROFESSIONAL GOLF TOURNAMENTS

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The goal of this project is to study how the structure of incentives in professional golf tournaments affects the performance of golfers. Do golfers take riskier actions when they are close to the top of the field? Do golfers exert less effort when the rest of the field is strong? This project seeks to answer these and other questions using data on the outcomes of professional golf tournaments around the world.

A larger objective of this project is to shed light on how firms can use the incentives provided by tournaments to affect the performance of employees. Because the rules and payoffs of professional golf tournaments are clear and unambiguous, golf provides a natural laboratory in which to study the incentive effects of tournaments.

The first stage of the project is to gather and organize data on the outcomes of professional golf tournaments around the world over the past ten years.

The second stage of the project is to use this data to estimate a statistical model of golfers' abilities that accounts for differences in field strength and in course difficulty. This part of the project will also evaluate the ability of this statistical model to forecast the outcomes of golf tournaments.

The third stage of the project is to use the estimated statistical model to study how incentives affect performance. First, does the riskiness of a golfer's strategy – measured, for example, as the variance of the golfer's score distribution in the final round of a tournament – vary with the incentives that he faces? In light of the convex payoff structure of a typical tournament – monetary payoffs fall very rapidly and then flatten out as a golfer finishes further from the top of the field – the incentives to play riskier strategies are stronger when a golfer is “in the hunt” (i.e., near the top of the field entering the late stages of the tournament). Second, do golfers exert less effort (i.e., do their scores increase on average) when the rest of the field includes a “superstar” such as Tiger Woods? Theoretical models of tournaments suggest that an increase in the ability of one player tends to reduce the effort exerted by all other players. The project will use the collected data to see answers to both of these questions.

Students engaging in this project will gain experience in the collection and analysis of large data sets using ideas from statistics and economic theory. Students interested in this project should possess: a working knowledge of Excel or another spreadsheet program; strong quantitative skills, including a basic knowledge of both statistics and econometrics; and a working knowledge of either a statistics package such as Stata or a programming language such as Matlab or Fortran. Knowledge of golf is not required!