

# **Sports Economics: Past Lessons and Future Directions**

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Keynote Lecture, European Sports Economics Association  
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# Where does the title of my presentation come from?

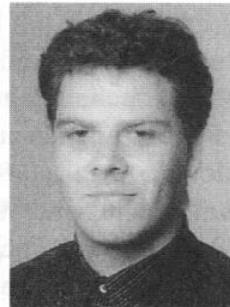
- Lazear, E.P. (1999): Personnel Economics: Past Lessons and Future Directions. *Journal of Labor Economics*, 17(2), pp. 199-236  
(Presidential Address to the Society of Labor Economists, San Francisco, May 1<sup>st</sup>, 1999)

# How did it all begin?

- Two different by then already established sub-disciplines of economics
  - **Labor Economics**: Rottenberg, S. (1956): The Baseball Player's Labor Market. *Journal of Political Economy*, 64, pp. 242-258.
  - **Industrial Organization**: Neale, W.C. (1964): The Peculiar Economics of Professional Sport: A Contribution to the Theory of the Firm in Sporting Competition and in Market Competition. *Quarterly Journal of Economics*, 78, pp. 1-14.
- became the “cornerstones” of sports economics as we know it today.
- These cornerstones were soon followed by two other seminal publications stimulating economic analyses using data from the world of sports:
  - Sloane, P. (1971): The Economics of Professional Football: The Football Club as a Utility Maximiser. *Scottish Journal of Political Economy*, 18, pp. 121-146.
  - Noll, R. (1974): *Government and the Sports Business*, Washington, DC: Brookings Institution.

# My 1<sup>st</sup> sports paper ...

|        |           |                  |
|--------|-----------|------------------|
| Praxis | Forschung | State of the Art |
|--------|-----------|------------------|



## Die Anreizwirkungen leistungsabhängiger Entgelte

Theoretische Überlegungen und  
empirische Befunde aus dem Bereich  
des professionellen Sports

Von Bernd Frick und Rainer Klaeren

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Trier.

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# What happened since then?

- Since then, sports economics – defined as the application of labor and industrial organization principles to sports issues – has become a rapidly growing sub-discipline in economics with a number of field journals. Moreover, sports economists have successfully made their way into general economics journals.
- Contrary to other fields like e.g. personnel economics most of the work in sports economics has been empirical, because the data needed to test e.g. behavioral economics theory is readily available as the by-product of sports competitions.
- Importance of sports economics in undergraduate as well as graduate curricula has rapidly increased in the last 20 years and will continue to grow.

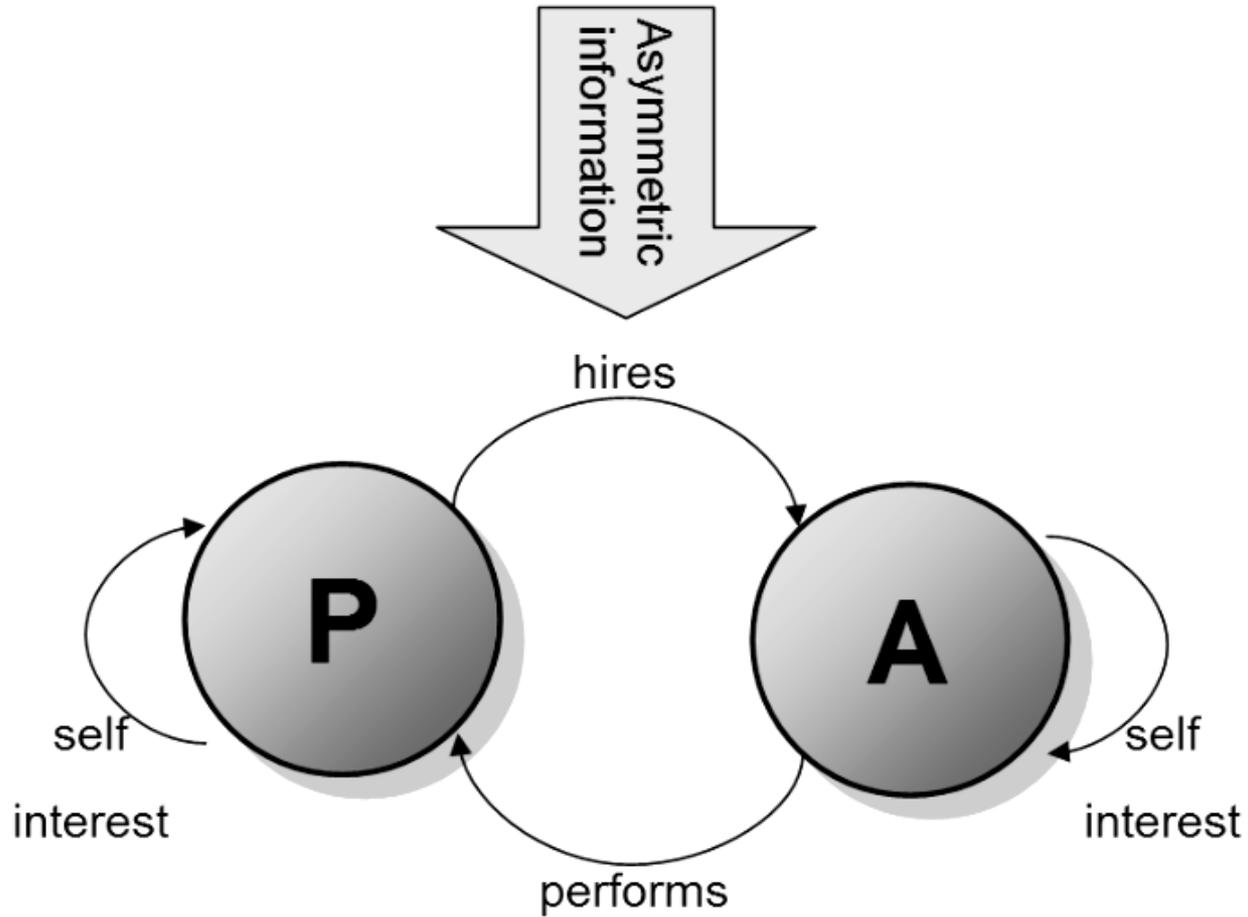
# Why sports economics?

- Necessary conditions
  - It is fun ...
  - Lots of data available ...
- Sufficient Conditions
  - Produces insights about the operation of labor markets and the performance of workers and firms.
  - Can we extrapolate from sports data to the wider (labor) market? Yes, we can!
- Why should we be interested in sports (economics)?
  - Sport is now (something like) “big business”,
  - Sport employs a lot of people,
  - Sport matters to participants and supporters,
  - Study of sport can shed light on fundamental economic questions.

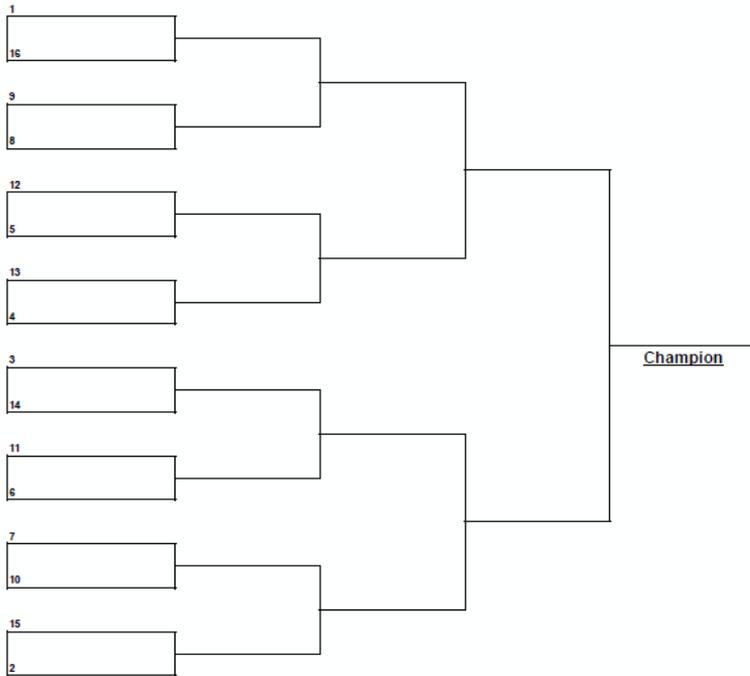
# The standard argument to justify the use of sports data ...

“Professional sports offers a unique opportunity for labor market research. There is no research setting other than sports where we know the name, face, and life history of every production worker and supervisor in the industry. Total compensation packages and performance statistics for each individual are widely available, and we have a complete data set of worker-employer matches over the career of each production worker and supervisor in the industry. (...) Moreover, professional sports leagues have experienced major changes in labor market rules and structure - like the advent of new leagues or rules about free agency - creating interesting natural experiments that offer opportunities for analysis” (Kahn 2000:75).

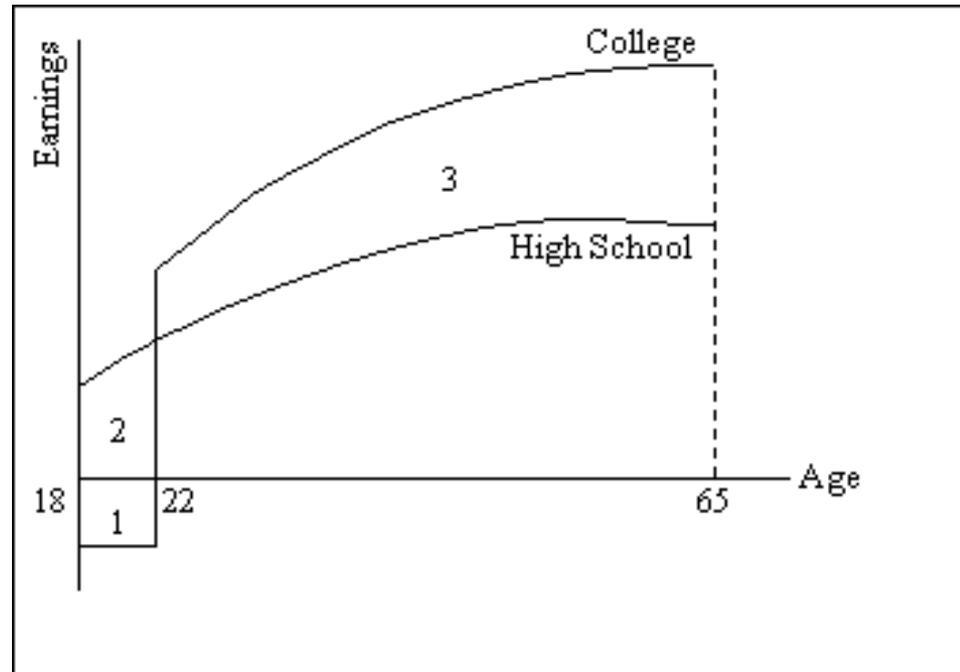
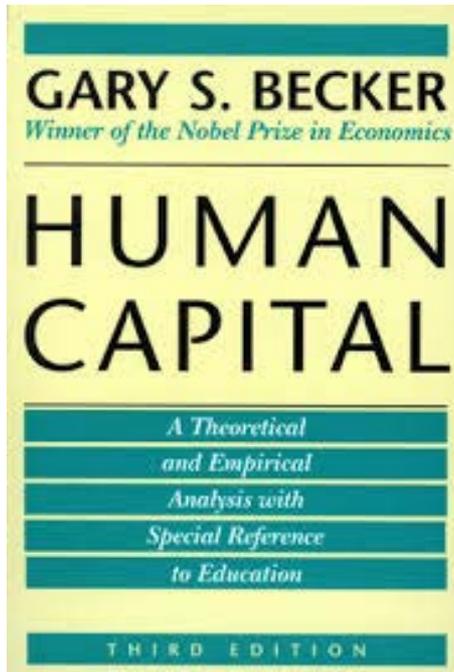
# Principal Agent Theory



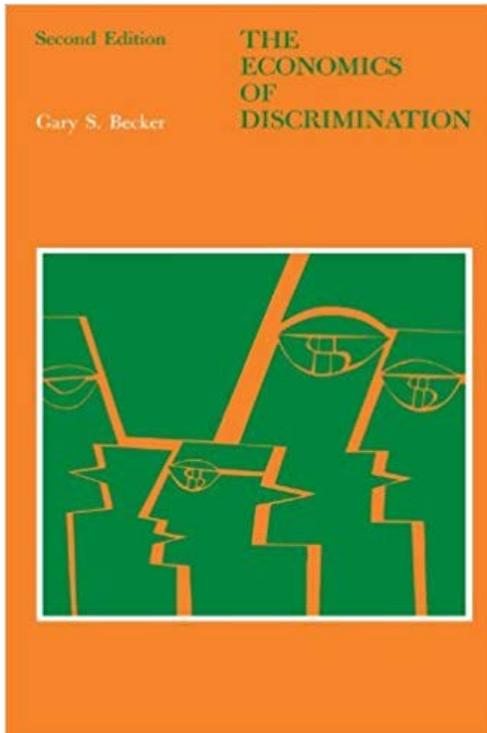
# Tournament Theory



# Human Capital Theory



# Economics of Discrimination



# Economics of Crime

Gary S. Becker  
The Economic Approach  
to Human Behavior



Robbery



Kidnapping



Pickpocketing



Snatch Thief



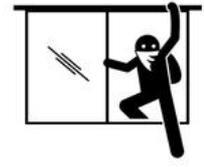
Stealing



Abduction



Bank Heist



Burglary



Assault



Murder



Arson

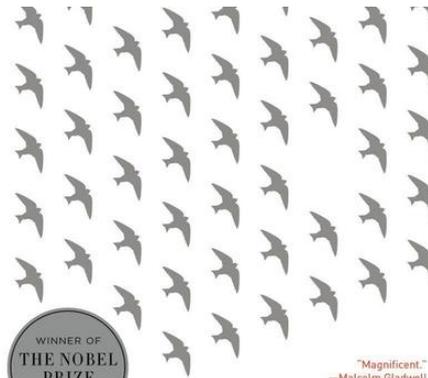
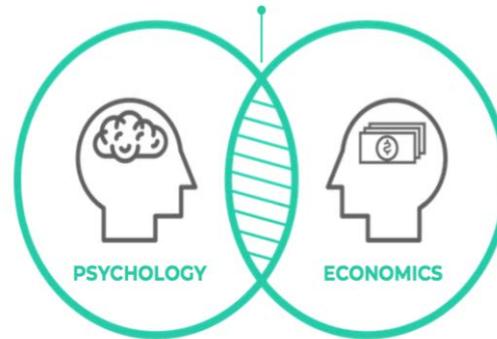
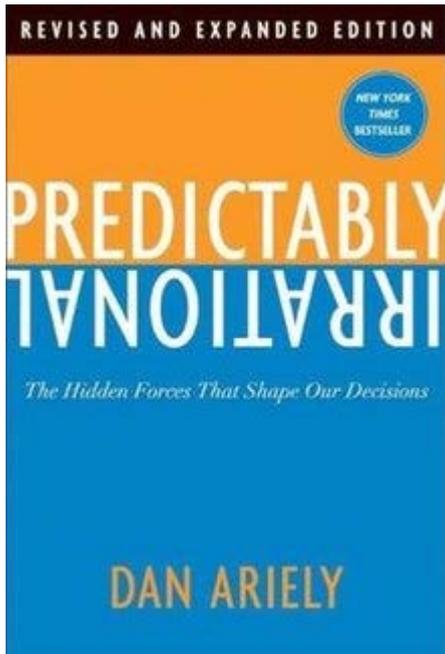


Extortion



Car Theft

# Behavioral Economics



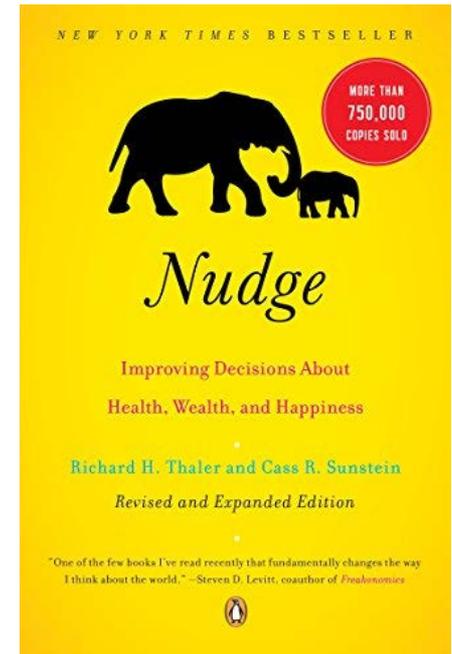
"Magnificent."  
—Malcolm Gladwell

*The Making of Behavioral Economics*

**MISBEHAVING**

*Richard H. Thaler*

Best-selling coauthor of *Nudge*



# My approach for today

- I do not even try to develop a comprehensive “history” of sports economics. My intention is rather to systemize the topics that have been dealt with so far (my apologies if I have forgotten something that somebody in the audience finds worth being mentioned explicitly).
- Thus, I distinguish between four different areas:
  - Economics of Professional Team Sports
  - Economics of Professional Individual Sports
  - Economics of Amateur and Recreational Sports
  - Economics of Mega-Sport Events and Sport Tourism

# Economics of Professional Team Sports

The Idiosyncrasies and Peculiarities of the Professional Team Sports Industry

- Outcome Uncertainty and Competitive Balance
- The Organization of Professional Team Sports Leagues: Rules and Regulations
- The Demand for Professional Team Sports

= **Industrial Organization**

# Players and Coaches in Professional Team Sports

Determinants of Player Salaries and Transfer Fees

Impact of Contract Length and Incentive Clauses on Player Performance

Decision Making in Team Sports: Effort and Cheating

Pay Dispersion and Team Performance

Player Turnover, Diversity and Team Performance

Head Coach Dismissals and Team Performance

Player Health and Life Expectancy

Discrimination in Professional Team Sports

= **Personnel/Organizational Economics**

# Economics of Professional Individual Sports

Incentives, Selection and Performance in Individual Sports

Decision Making in Individual Sports: Cheating, Doping, and Risk-Taking

Gender Differences in Competitiveness

Choking Under Pressure? Individual Behavior When the Stakes Are Really High

Career Duration in Professional (Team) Sports

Loss Aversion and Strategic Behavior

Overconfidence and Reference-Dependent Preferences

Peer Effects

= **Personnel/Organizational Economics**

# **Economics of Amateur and Recreational Sports**

Physical Activity, Health and Well-Being over the Life Course (Gender Differences, Ethnic Minorities)

The Impact of Physical Activity on Educational Achievement and Labor Market Outcomes

Discrimination in Recreational and Leisure Sports

# **Economics of Mega-Sport Events and Sport Tourism**

Social and Economic Legacy of Mega-Sport Events

Citizens' Willingness to Pay for Mega Sport Events and Public Support for Mega Sport Events

Stadium Subsidies and their Economic Effects

Funding of Elite Sports

# How Do My Current Research Activities (and Future Plans) Fit?

- I do not claim that the issues I am currently working on (or than I plan to work on) are particularly important.
- However, I am confident that they fit into the broad picture of sports economics as a field.
- By using examples that I am particularly familiar with, I want to demonstrate the broad applicability of economic concepts to sport issues
- Thus, I hope that my/our results help to answer some of the questions that have not yet been dealt with ...
- Let's take a brief look at some examples:



Into Thin Air: Team Composition and Team Performance in Himalayan Expeditions



The Dynamics of Head Coach Changes in Professional Team Sports Leagues: Supply and Demand



Outcome Uncertainty and Ticket Demand: Evidence from Lower Tier Professional Football



Career Transitions in Professional Team Sports: From Youth Academies and Colleges to the Pros



The Impact of Team Size on Performance in the Absence of Shirking: Clean Evidence from Elite Rowing Contests

**Economics of Professional Team Sports**



The Response of Players to Marginal Changes in Prize Money:  
Evidence from WTA and ATP



Rule Changes and Individual Behavior: Evidence from German  
Stock Car Racing



Competition Format, Prize Money and Self-Selection: Empirical  
Evidence from Show Jumping



Context Matters: Gender Differences in Overconfidence and  
Choking Under Pressure

**Economics of Professional Individual Sports**



Cultural and Gender Differences in Competitive Orientations among Recreational Runners



Development of Motor Performance of Elementary School Kids over Time



Track and Field Performance of Teenager in Germany

**Economics of Amateur and Recreational Sports**



The Medal Tables Revisited: The Impact of Olympic Newcomers on the Concentration of Sporting Success



Strategic Decision-Making in Summer and Winter Sport Destinations in Austria

## **Economics of Mega-Sport Events and Sport Tourism**

# How do I proceed?

- Example 1: The Impact of Team Size on Performance in the Absence of Shirking: Clean Evidence from Elite Rowing Contests
- Example 2: Competition Format, Prize Money and Self-Selection: Empirical Evidence from Show Jumping
- Example 3: Development of Motor Performance of Elementary School Kids over Time

# The Impact of Team Size on Performance in the Absence of Shirking

- Research question: Larger teams are able to complete more tasks and are, therefore, more productive than smaller teams. However, increasing the size of a team is not always accompanied by the expected increase in performance. Even if all individuals possess the abilities required to complete their task, they may fail to coordinate their efforts. What is the optimal team size?
- Data: Individual race data on 137 international, top-level rowing events between 1960 and 2018 ([www.worldrowing.com](http://www.worldrowing.com)). Sample restricted to final heats to avoid bias occurring from strategic behavior and to boat classes with two or four athletes (n = 9,333 in 1,613 heats).
- Results: Relationship between team size and performance seems to differ with respect to task complexity. Marginal returns from team members seem to be larger for more complex tasks. Marginal returns to a less complex task (scull vs. sweep) are decreasing with increasing team size.

# Competition Format, Prize Money and Self-Selection

- Research question: Does the introduction of a different competition format (“Grand Slam”) providing higher prize money and additional bonus payments to the winner of two (or even three) consecutive events lead to a higher quality of the riders entering the event?
- Data: Two seasons before and seven seasons after a significant change in the competition format (2010 thru 2018) in professional show jumping in the world’s most prestigious and lucrative show jumping events (Aachen, Geneva and Spruce Meadows) with 1,000 rider-event-observations.
- Results: Contests have a pronounced self-selection effect. An increase in the prize money combined with additional bonus payments leads to an increase in the quality of the entire field. Average quality (as measured by World Cup points in the previous season) has increased significantly following the introduction of the Grand Slam while its heterogeneity (as measured by the coefficient of variation of the WC points in the previous season) has considerably decreased.

# Development of Motor Performance of Elementary School Kids

- Research question: Have the physical conditions of kids deteriorated over time?
- Data: 38,506 kids (3<sup>rd</sup> grade) living in the city and the surrounding county of Paderborn in the school years 1997/98 thru 2013/14 completing a standardized exercise course (dep. variable: time required to finish course)
- Results: girls and heavier kids perform significantly worse, kids walking or cycling to school and who are able to swim perform significantly better. Kids considered ex ante as more intelligent and with a higher capacity for teamwork also perform significantly better. Massive school fixed effects; no time effects at all.
- Problem: Endogeneity, declining (non-random?) participation.

# Where to go from here?

- If you haven't been a fan of sports economics already, I very much hope that I could convince you to become one immediately...
- Everybody considering himself/herself an “applied economist” should use the enormous amount of data that is very often available free of cost to test his/her hypotheses derived from sound theory.
- *“Economics is not only a social science, it is a genuine science. Like the physical sciences, economics uses a methodology that produces refutable implications and tests these implications using solid statistical techniques. In particular, economics stresses three factors that distinguish it from other social sciences. Economists use the construct of rational individuals who engage in maximizing behavior. Economic models adhere strictly to the importance of equilibrium as part of any theory. Finally, a focus on efficiency leads economists to ask questions that other social sciences ignore” (Lazear 2000: 99).*
- Thus, let's get started...