Sports Economics
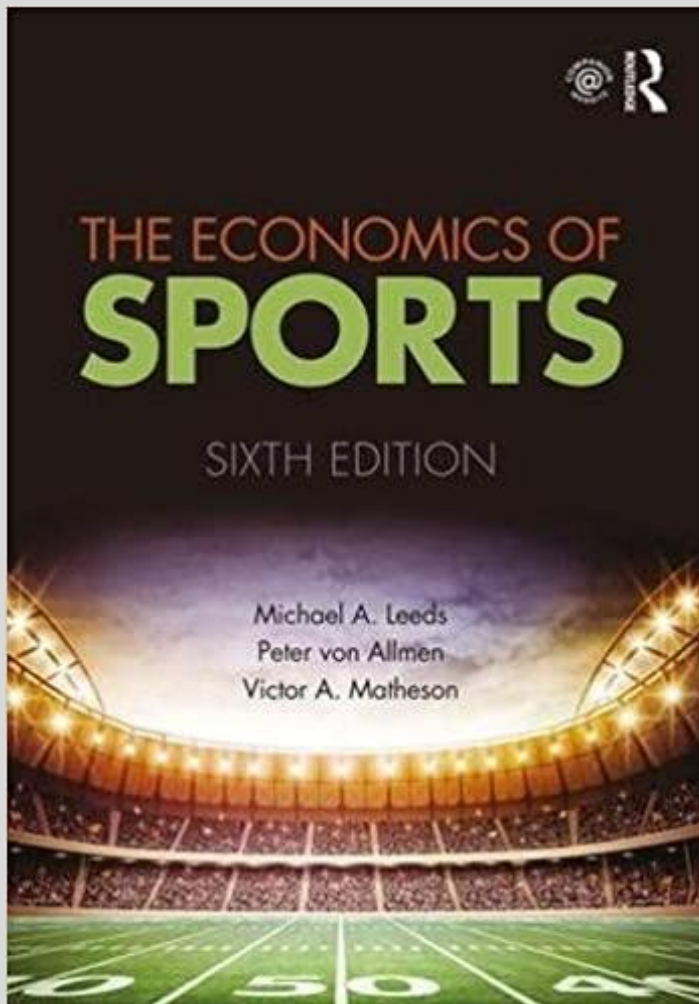
Sports Economics

- Standard economic tools can enhance understanding.

  - Micro Economics

    Basic Economics—Supply and Demand Tickets
    Industrial Organization—League Structure
    Public Finance—Stadium Funding
    Labor Economics—Salaries

A Little Perspective?

Economist Henry Aaron, Congressional Testimony on C-SPAN, 1994:
- MLB is a $6+ billion industry.
- NFL closer to $7 billion.
- This puts them in glamorous company:
   U.S. cardboard boxes: $8 billion.

*Let's keep it in perspective!

But Remember…

- There is no cardboard box section in the newspaper every day!

- Measuring actual economic activity will not capture everything about the values and costs of sports.

Approach- Economics, Tried and True

❖ Demand- The source of revenue.

❖ Costs- The decisions behind supply.

❖ Market Outcomes- Especially when firms have market power.

❖ The Input Market- Player pay and labor relations.

❖ Business and Government- Subsidies, tax treatment and antitrust.

Basic Economic Principles

- Economics is the study of the allocation of scarce resources among competing ends.
- There will always be scarcity because resources are limited and human wants are unlimited.
- Scarcity → Choice → Cost
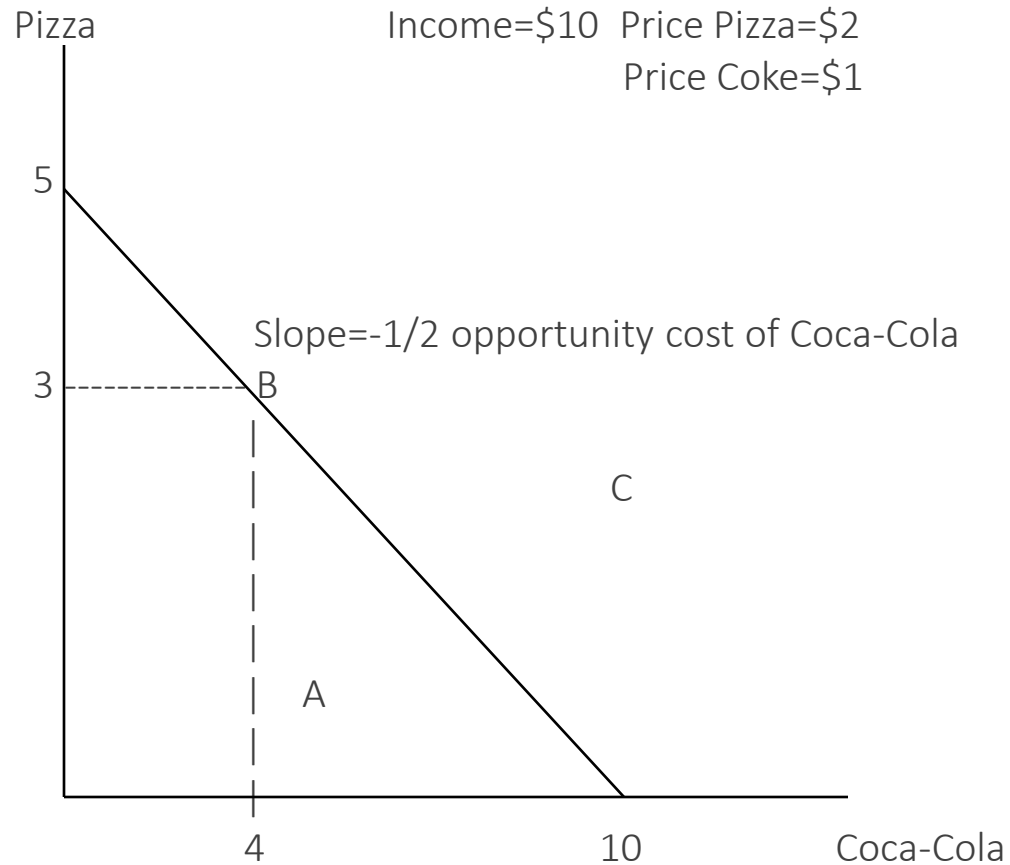 - The study of tradeoffs

Scarce Resources or Factors of Production

❖ **Land**: natural resources of all kinds

❖ **Labor:** time and effort that people devote to producing goods and services

❖ **Capital**: all goods that people produce that are used to produce other goods (e.g. tools, equipment, buildings), including human capital.

  ❖ **Human Capital**: the knowledge and skill that players obtain from training and game experience.

❖ **Entrepreneurship**: management ability, innovation and/or willingness to take risks.

Competing Ends

❖ Scarcity combined with competing ends forces us to make choices. Economists suggest that we make our choices on the margin , or in small steps, based on the concept of opportunity cost.

❖ **Opportunity Cost**: the value of the best foregone alternative. Generally there are explicit implicit and psyche costs to any individual decision. (A firm's opportunity cost only explicit and implicit costs.)

Budget Constraint: opportunity cost

Pizza   Income=$10 Price Pizza=$2
                           Price Coke=$1

5

               Slope=-1/2 opportunity cost of Coca-Cola
3 - - - - - - - B

                                    C

                A

        4   10   Coca-Cola

Opportunity Cost Components

Opportunity Cost of College

       a. explicit costs--tuition and books

       b. implicit costs--foregone earnings

       c. psyche costs--stress and dissatisfaction

Incentives Matter—Marginal Analysis

       Benefit Cost Analysis

Data for Problems

❖Tuition and fees at I.O. University cost $6500 per year; books cost $900 per year; room and board in a dorm costs $6000 per year. Calculate the following opportunity costs for **one** year of college at I.O.U.

Problem: Calculate the Opportunity of College

❖ Mary is a non-traditional student who is 35 years old and earns $28,000 a year as a salesperson. She plans to go to I.O.U. at night and on the weekends while continuing to work her current job. She will also continue to live at her current apartment which she rents for $8,000 a year. She can walk to class. What is Mary's opportunity cost for **one** year of college?

   ❖ Explicit cost $6500+900
   ❖ Implicit cost $0
   ❖ Psyche Costs (Yes)

Problem: Calculate the Opportunity of College

❖ Sally must pay the entire cost of college herself, including the cost of living in a dorm. If she did not go to college she could live at home for free and earn $19,000 per year working. While attending college she plans to work in the summers earning $7,000 a summer. What is Sally's opportunity cost for **<u>one</u>** year of college?

> ❖ Explicit cost $6500+900+6000-??
> ❖ Implicit cost $19,000-7000
> ❖ Psyche Costs (Yes)

Problem: Calculate the Opportunity of College

❖ Chris is the star guard for I.O.U.'s basketball team. He is considering not playing his senior year and joining the NBA. If he does so he is assured of being a first round draft pick and earn $3,000,000 his first season. If Chris decides to stay at I.O.U. for his senior year his scholarship will pay for all his expenses including tuition, fees, books, and room and board. Chris does not work in the summer because he attends basketball camps. What is Chris's opportunity cost for his senior year of college?

  ❖ Explicit cost $0
  ❖ Implicit cost $3,000,000
  ❖ Psyche Costs (Yes) Benefits(??)

Comparative Advantage
The Story of Babe Ruth

■ *Greatest power hitters in history of Major League baseball*

■ *Left-hand pitcher*

■ *Begin professional career with Boston Red Sox in 1914*

■ *By 1915, was starting pitcher*

■ *1916-leads American League in earned run average and shutouts; finished third in strike-outs and wins*

■ *Leads Red Sox to win World Series championships in 1915, 1916, 1918*
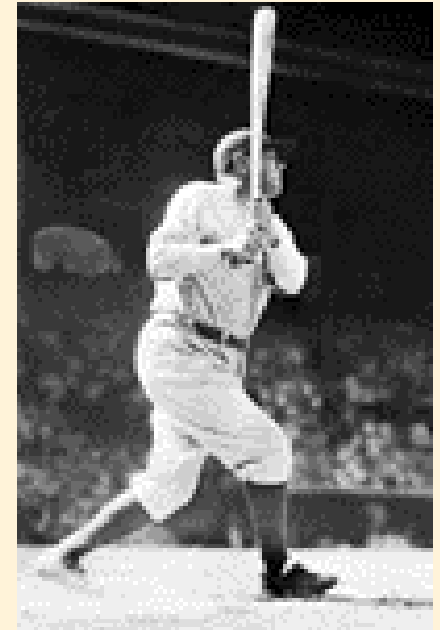
Babe, cont'd

- **String of consecutive scoreless innings pitched was 29**

- **No designated hitters at time**

- **On days he didn't pitch, Babe was first baseman or outfielder**

- **As part-time hitter, hit 11 home runs in 1918 (tied in American League)**

- **Most runs hit by team members: 1 !!**

- **1918-1919: Out of 46 homeruns hit by Red Sox, he hits 40 (86%); with only 11% of team's at bats, accounts for 24% of runs batted in**

Babe Goes to New York

- **Contract sold to New York Yankees in 1920**
- **Yankees want to sell seats and impressed with Babe's home run legacy**
- **Yankees break league attendance record by 1920 and win American League Pennant 7 times between 1920 and 1932; Yankees also win 4 World Series**

The Statistics

Pitching Records of the Boston Red Sox
1915-1918

	Wins	Losses	Wins/(Wins + Losses)
Foster	41	22	0.651
Shore	48	34	0.585
Leonard	57	42	0.576
Mays	67	40	0.626
Ruth	<u>78</u>	<u>40</u>	<u>0.661</u>
Total	**291**	**178**	**0.620**

Hitting Records of the Boston Red Sox 1918-1919

	At Bats	Hits	Batting Ave	Home Runs	Runs Batted In
Team	6,647	1,789	0.269	46	754
Ruth	749	234	0.313	40	180
Ruth/ Team	0.113	0.131	--	0.87	0.24

Hitting Records of the New York Yankees 1920-1924

	At Bats	Hits	Batting Average	Home Runs	Runs Batted In
Team	21,891	6,655	0.304	516	3,337
Ruth	2,455	908	0.370	235	659
Ruth/ Team	0.112	0.136	--	0.455	0.197

Pitching Records of the New York Yankees 1920-1924

	Wins	Losses	Wins/(Wins + Losses)
Mays	66	44	0.600
Shawkey	90	59	0.604
Hoyt	73	47	0.608
Bush	62	38	0.620
Jones	43	27	0.614
Pennock	40	15	0.727
Quinn	26	17	0.605
Collins	25	13	0.658
Total	**425**	**260**	**0.620**

What was Babe's Comparative Advantage?

- Ruth's comparative advantage was contingent on how substitutes for him contributed to the team's win ratio
- Yankees had a strong pitching staff; didn't need Ruth
- Ruth had a comparative advantage as a hitter for the Yankees because they had a stronger pitching staff.

Divisions of Economics

❖ **Macroeconomics**: deals with the economy as a whole or large subsections of it. (very little in Sports Economics)

❖ **Microeconomics**: study of specific parts of an economy in detail such as firms, industries, or households. (most of Sports Economics)

Divisions in Economics

Positive Economic -- social astronomy "WHAT IS?"

MODELS → Facts

Normative Economics -- moral philosophy "WHAT SHOULD BE?"

CRITERION → Values

❖Problem

❖Which of the following statements are positive and which are normative?

  ❖A new stadium will increase attendance of a sports franchise.

  ❖The government should subsidize the construction of new stadiums and arenas.

  ❖A new stadium is a good economic investment for a city.

Model:

❖Formal statement of a theory. A model can be graph, equation or in verbal format

❖**Theory**: a reliable generalization that enables us to understand cause and effect.

Components of a model:

❖ Assumptions:

   ❖ Rationality
   ❖ **Ceteris Paribus**: all other things remaining the same

❖ Implications: the outcome of a model that follows logically from the assumptions.

❖ Empirical testing of a model.

Normative Analysis-Pareto

- Pareto Efficiency Criterion– If an individual can be made better off without making anyone else worse of that action should be undertaken

- Example: Market transaction

- Bob owns old truck he is willing to sell for $2000. Mary wants to buy truck for $3000. They both agree upon price $2600. Bob gets $600 more than he wants. Mary pays $400 less than she is willing to pay. Both Bob and Mary are better off and no one else is worse off therefore the market transaction is Pareto Efficient.

- Criticism: Status quo has unequal distribution

Normative Analysis-Rawls

Rawlsian Equity Criterion– All decision should be made in the "original positon behind a veil of ignorance" for equity reasons.

"no one knows his place in society, his class position or social status; nor does he know his fortune in the distribution of natural assets and abilities, his intelligence and strength, and the like". The idea of the thought experiment is to render obsolete those personal considerations that are morally irrelevant to the justice or injustice of principles meant to allocate the benefits of social cooperation.—John Rawls (1971)

Example: Sustainability—The current generation should use resources in such a way that future generations have the same capacity for wellbeing as the current generation.

Criticism: Status quo is hard to ignore.

Sports Economics: The basics a summary

1. The Economic Problem—Scarcity → Choice → Cost
   ◦ Opportunity Cost

2. Divisons in Economic
   Positive Economics 75% Normative 25%
   Microeconomics 90% Macroeconomics 10%

3. Sports economics is topic driven
   Tell me what you want to study