Econ 340 Problem Set 2

1. Why would it seem, on the face of it, that sports leagues are prime candidates for antitrust lawsuits? Give examples. Explain why MLB has special status under the antitrust laws.

2. Some economists argue that cooperation between franchises should not be considered in violation of anti-trust laws. What argument do they use?

3. Why can't a Premier League team like Arsenal exert as much monopoly power as the NFL's Chicago Bears?

4. Suppose that the demand for tickets to see a Cleveland Cavaliers NBA game is given by P = 900 – 0.03Q and marginal cost is zero. The capacity at Quicken Loans Arena (known affectionately as The Q) is 20,000. Illustrate each of the following situations on a single graph (put all three parts on the same graph).

a) How many tickets would Cleveland be able to sell (ignoring capacity constraints) if it behaved competitively? What price would it charge? How much gate revenue would Cleveland generate? Calculate CS, PS, and Social Welfare.

b) How many tickets would Cleveland sell (ignoring capacity constraints)--and what price would it charge--if it behaved like a monopoly? [Hint: MR = 900 - 0.06Q] How much gate revenue would Cleveland generate? Calculate CS, PS, and Social Welfare.

5. What is the loss to fans from the monopoly power that sport franchises exert? Be precise in your reasoning.

6. Describe the economics of personal seating licenses.

7. Suppose the typical Buffalo Bills fan has the demand curve for Bills football games: P = 120 – 10G, where G is the number of games the fan attends.

a) If the Bills want to sell the fan a ticket to all eight games, what price must they charge? What are their revenues?

b) Suppose the Bills have the chance to offer a season ticket that is good for all eight home games, a partial season ticket that is good for four home games, and tickets to individual games. What price should they charge? What is their revenue?

8. Suppose the Arizona Cardinals have fans who are much more sensitive to price than the fans in Buffalo as described in the previous question. Their demand curve for Cardinals football games is: P = 120 - 15G. What is true about the prices they are able to charge and their revenue if they try to practice second degree price discrimination as the Bills did? Why does this happen?

9. Suppose that Ohio State is able to segment their fan base into students and non-students. Students (S) tend to have a more elastic demand than non-students (N). In particular, let $E_S = 6$ and $E_N = 4$. The marginal cost of providing a seat to each fan is $5. What price should OSU charge each group if it wants to maximize profits?

10. Explain with a graph how a ticket price ceiling placed on a monopoly sports franchise (that does not sell out its games) may actually lower ticket prices and raise attendance. Assume that marginal costs are fixed.

11. If one of the major upsets of the 2000 college football season, the University of Miami upset Florida State when the Miami quarterback threw a touchdown pass to a second-string tight end instead of All-American wide receiver Santana Moss. Use game theory to explain this action.

12. If having more fans at the game improves a team's chance of winning, should the team reduce its ticket prices to increase attendance? (Hint: does it matter what the team is trying to maximize?)

13. Putting the number of wins on the horizontal axis, use MR and MC curves to explain the profit-maximizing decisions of a professional sports franchise. Use this model to explain why teams in larger markets are likely, on average, to have higher winning percentages than teams in smaller markets.

14. It appears that competitive balance has been different in the different major leagues. Which league has had the greatest balance? Which league has had the least balance? What are the economic explanations for these differences?

15. Describe two measurements of competitive balance in a sports league.

16. What are the theoretical effects of a salary cap on the competitive balance of a sports league? Explain.

17. Calculate the standard deviation of winning percentages for the six divisions in MLB for 2008 season. Calculate the overall standard deviation for MLB and then compute the value of R (the ratio of actual to ideal).

18. Repeat #17 for the six NFL divisions for the 2008 season.

19. What is the main prediction of the Coase Theorem with respect to free agency and competitive balance?

20. What is the HHI for the NBA over the last 15 years?

21. What happens to a city's bid to host an Olympics if:
a) Stadium construction costs rise?
b) The city's NFL franchise offers to buy the Olympic stadium after the Games?
c) Interest rates rise from 5% to 10%?

22. While football and baseball teams have gone from multipurpose to football- and baseball-only facilities, basketball and hockey teams continue to share arenas. Why?

23. Suppose the International Olympic Committee announced that it would hold all of its Summer Games in Athens and all of its Winter Games in Osaka. What is the likely impact on the monopoly power of the IOC, the IOC's ability to exploit an all-or-nothing demand curve, and the winner's curse?

24. Economic impact studies often show that stadiums and sports teams have a negative impact on a city. This result contradicts many new stadium proponents who point to new jobs, higher tax revenues, and increased nearby sales that benefit the city. Explain how an economic impact study is conducted and explain why the stadium proponents' analysis is flawed.

25. Is it efficient to subsidize team owners for the benefit of a small proportion of taxpayers who are sports fans? Is it fair?

26. Graphically demonstrate the inefficiency that occurs when sports teams produce external benefits. How will a subsidy remedy this problem?

27. Under general obligation bonds, hotel and rental car taxes are sometimes used to generate revenue for the bond payments. With this method, who pays for the subsidy? Is this fair? Why are these types of taxes politically attractive?

28. Why will new stadiums increase attendance? In analyzing the impact of subsidies on team attendance, why is it important to compare attendance with those teams that do not have a new stadium?

29. How does the greater legal mobility of teams in the NFL dampen the propensity of local government hosts to provide subsidies to "their" NFL teams?

30. If the marginal propensity to consume in a city is 0.80, what is the value of the simple multiplier? If a new stadium that adds $30 million in new consumption expenditures is built, what is the impact on the economy? How would your answer change if the people who receive the initial $30 million live in the city only six months out of each year?

31. According to the *Sports Business Journal* (January 15, 2001, pp. 21-22), The National Association of Sports Commissions estimated the total economic activity of a number of sports events. Total economic impact was calculated as follows:

V = number of out of town visitors.
S = average spending per day.
D = length of visit in days.
TVS = Total visitor spending = V * S * D.
TAS = Total administrative spending to make an event possible.
TDS = Total direct spending = TVS + TAS.
M = regional spending multiplier.
TEA = Total economic activity = TDS * M.

Here are the results from the National Association of Sports Commissions for the top 10 professional events of 2000.

Event	Location	TEA ($Millions)
Indy 500	Indianapolis, IN	336.6
Daytona 500	Daytona Beach, FL	240.0
Brickyard 400	Indianapolis, IN	219.5
Super Bowl XXXIV	Atlanta, GA	215.0
SAP U.S. Grand Prix	Indianapolis, IN	170.8
DirecTV 500	Ft. Worth, TX	165.2
Goracing.com 500	Bristol, TN	119.6
Food City 500	Bristol, TN	80.5
Kentucky Derby	Louisville, KY	60.0
Winston 500	Talladega, AL	42.2

Suppose you are trying to figure out how much to subsidize these activities. Describe all of the possible problems with using these estimates to arrive at the value of a subsidy.

32. Suppose the Marietta-Parkersburg area is trying to decide where to build a new facility to host a minor league baseball team. Think of two or three alternative sites and explain the pros and cons of each.

33. If you wanted to finance a stadium with the most efficient tax possible, would you tax kidney dialysis or blueberry muffins? Why?