

Homework Assignment #2: Economics of Sports 229

_____ Due: Friday, February 6

1. Suppose that the demand for basketball tickets by alumnae and the general public at University of Massachusetts (Umass) games is: $Q = 10,000 - 500P$.

The marginal cost of providing a ticket is zero. (You may assume $MC = 0$ for all of the remaining problems.)

- a. If UMass is a profit maximizer, what price will they set for general public tickets if the Mullins Center (their home basketball court) holds 14,000 fans? How many tickets will they sell and how much profit will they make?
- b. If UMass is a profit maximizer, what price will they set for general public tickets if the Mullins Center instead holds only 4,000 fans? How many tickets will they sell and how much profit will they make?
- c. Suppose the demand for basketball tickets by students at UMass is $Q = 20,000 - 2,000P$. What price will UMass charge students if the Mullins center holds 14,000 fans? How many tickets will they sell and how much profit will they make?
- d. If UMass wishes to sell tickets to both students and the general public, they will clearly have to price discriminate in order to maximize profits. What special steps will the university have to take to ensure that it successfully price discriminates?
- e. Using the demands from parts a. and c., what prices and quantities will UMass set for the general public and students if the Mullins Center holds 14,000 fans assuming the university wants to maximize profits and wants to sell tickets to both groups of fans? How much profit will U-Mass make? This one is tricky. See if you can work it out. (Hint: economists think at the margin...)
- f. Now go back to the case where UMass only sells tickets to one group and that the demand is, as before, $Q = 10,000 - 500P$. Now suppose that the university earns revenue not just from ticket sales, but also concessions and parking so that UMass can expect to earn an additional \$6 of profit (net of costs) from every ticket sold from these ancillary sales. These extra sales do not affect the individual ticket buyers' demand but simply generate extra sales for the university. What price will UMass set for tickets in order to maximize profits? How many tickets are sold and how much profit is made? (Assume the Mullins Center holds 14,000.)
- g. Finally, continuing on with part f., suppose that as a part of the agreement with the Atlantic-10 Athletic Conference of which they are a part, UMass must share 50% of ticket sale revenue with the Conference but gets to keep all of their concession revenue. What price do they charge for tickets? How many tickets are sold? How much profit do UMass and the Atlantic-10 each make?

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- h. Based on the revenue-sharing strategy in g., does the Atlantic-10 Conference have an incentive to promote parity in the Conference? Why or why not? Be specific and describe at least one situation in which the conference would want parity and one in which they might not want parity.
 - i. What steps could a college basketball conference take to promote parity within their conference? Give at least 3 or 4 specific actions the conference could take.
 - j. Is a college conference best described as a franchising arrangement or a branching arrangement? Explain.
2. Read the article by Mark Duggan and Steven Levitt (of “Freakonomics” fame), “Winning Isn’t Everything: Corruption in Sumo Wrestling,” *American Economic Review*, Volume 92, issue 5, December 2002, pp. 1594-1605.

This paper is available on E-Res (<http://eres.holycross.edu/coursepage.asp?cid=1269>). The course password is “Econ229.”

- a. Briefly (1 or 2 paragraphs) explain the nature of the incentive problem in Sumo wrestling in Japan.
- b. How do the authors know that sumo wrestlers have taken advantage of the incentive problem you described in part a.?
- c. How do the authors know what they have observed is not simply coincidence?
- d. Briefly describe three other examples of incentive problems in sports. What steps (if any) have leagues or officials taken to combat these incentive problems in each case.