Problem Set 4 Solution

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Total possible points = 10.

(8 points if you attempt all questions and 2 points for answers being correct).

Due date: Friday Feb 8th beginning of class.

1. Free agency

Suppose there are two teams whose marginal revenue from winning percentage if different.

More specifically the marginal revenue for Team 1 is.

$$MR_1 = 20 - 20w_1$$

where, w_1 is the winning percentage of Team 1.

Next the marginal revenue for Team 2 is.

$$MR_2 = 40 - 40w_2$$

where, w_2 is the winning percentage of Team 2.

1. What is the equilibrium winning percentage for each team? (Remember at equilibrium $MR_1 = MR_2$).

By setting $MR_1 = MR_2$ and having $w_2 = 1 - w_1$.

we have $20 - 20w_1 = 40 - 40 + 40w_1$

And solving for w_1 we get $w_1 = \dfrac{1}{3} = 0.33$

And $w_2 = \dfrac{2}{3} = 0.66$

2. In words explain how revenue sharing will affect the equilibrium winning percentages.

   Revenue sharing will have no effect on winning percentage.

3. In words explain how salary cap will affect the equilibrium winning percentages.

   Salary cap will make the winning percentage more even. i.e. each team will have winning percentage closer to 0.5.