

ECO 610-401, Managerial Economics  
Fall 2008  
Professor William Hoyt  
Due: October 6, 2008

### Extended Assignment 1 Solutions

The University of Kentucky Athletics Association Marketing Department has found that fans can, by and large, be placed into three classifications. The “True Blue” fans who come regardless of who Kentucky is playing; the “Fair Weather” fans who prefer to come to the non-conference games early in the season; and the “SEC” fans who are more interested in the SEC games. The attendance in all three groups is sensitive to price. The Marketing Department believes the ticket demand for the three groups, game by game, is approximately given by the table on the next page.

If the Athletics Association keeps 10,000 tickets in reserve for students and other specific purposes (recruiting), approximately 60,000 tickets are available for the general public.

For a variety of reasons, the University does not want to set different prices for different games. It can, however, offer a season ticket (to all seven games) and a single game price.

- a) Given the characterization of demand for tickets, should it only offer a single game ticket, only a season ticket or both? If so, what should be the price for the single game ticket and what should be the price for the season ticket.

Expected Ticket Demand, By Game, Ticket Price, and Group							
	Game						
	Texas El Paso	Indiana	Middle Tennessee	South Carolina	Georgia	Louisiana State	Vanderbilt
<b>True Blue</b>							
Ticket Price	Ticket Demand						
40	15,000	15,000	15,000	15,000	15,000	15,000	15,000
35	22,500	22,500	22,500	22,500	22,500	22,500	22,500
30	30,000	30,000	30,000	30,000	30,000	30,000	30,000
25	37,500	37,500	37,500	37,500	37,500	37,500	37,500
20	45,000	45,000	45,000	45,000	45,000	45,000	45,000
15	52,500	52,500	52,500	52,500	52,500	52,500	52,500
10	60,000	60,000	60,000	60,000	60,000	60,000	60,000
5	67,500	67,500	67,500	67,500	67,500	67,500	67,500
0	75,000	75,000	75,000	75,000	75,000	75,000	75,000
<b>Fair Weather</b>							
Ticket Price	Ticket Demand						
40	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0
30	10,000	10,000	10,000	0	0	0	0
25	20,000	20,000	20,000	0	0	0	0
20	30,000	30,000	30,000	10,000	10,000	10,000	10,000
15	40,000	40,000	40,000	20,000	20,000	20,000	20,000
10	50,000	50,000	50,000	30,000	30,000	30,000	30,000
5	60,000	60,000	60,000	40,000	40,000	40,000	40,000
0	70,000	70,000	70,000	50,000	50,000	50,000	50,000
<b>SEC Fans</b>							
Ticket Price	Ticket Demand						
40	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0
30	0	0	0	10,000	10,000	10,000	10,000
25	0	0	0	20,000	20,000	20,000	20,000
20	10,000	10,000	10,000	30,000	30,000	30,000	30,000
15	20,000	20,000	20,000	40,000	40,000	40,000	40,000
10	30,000	30,000	30,000	50,000	50,000	50,000	50,000
5	40,000	40,000	40,000	60,000	60,000	60,000	60,000
0	50,000	50,000	50,000	70,000	70,000	70,000	70,000

*Pure Components (Single Game Tickets only)*

*Start by determining the revenue-maximizing (since there are no marginal costs) price for single game tickets (when we set the same price for all games). Begin by determining total attendance for each game at the given ticket price. Then, to calculate total revenue, consider that maximum attendance is 60,000. The profit-maximizing ticket price in this case is \$25 (Some of you may have determined that  $\Delta Q / \Delta P = (85,000 - 57,500) / (20 - 25) = -5,500$ . So if you lowered the ticket price to approximately \$24.55 you would sell out and have revenues of  $24.55 * 7 * 60,000 = 10,311,000 > 10,062,500$*

*Pure Bundling (Season Ticket Only)*

*Given that the stadium is sold out at \$25 a single ticket, it makes no sense to charge a season ticket price that equates to less than \$25 a game or \$175. However, at this price for a season ticket, the "effective" price for three games (Fair Weather only) is  $\$175 / 3 = \$58$  and for four games (SEC fans only) is  $\$175 / 4 = \$44$ . Then neither group will purchase the season tickets and profits will be much lower as revenue will equal  $\$25 * 7 * 37,500 = \$6,562,500$*

Mixed Bundling (Season Ticket and Bundle). 1) One choice would be to have a bundle price of \$175 (get True Blue fans) & price of individual ticket = \$30. Then you would sell 37,500 season tickets and 10,000 individual tickets a game. This gives revenues of  $37,500 * 175 + 10,000 * 7 * 30 = 8,662,500$ , less than with individual ticket. 2) Another alternative, Season ticket of \$140 (20 a game) & \$25 a game. But this also has to be less than the single ticket only.

Total Attendance								
Ticket Price	Texas El Paso	Indiana	Middle Tennessee	South Carolina	Georgia	Louisiana State	Vanderbilt	
40	15,000	15,000	15,000	15,000	15,000	15,000	15,000	
35	22,500	22,500	22,500	22,500	22,500	22,500	22,500	
30	40,000	40,000	40,000	40,000	40,000	40,000	40,000	
25	57,500	57,500	57,500	57,500	57,500	57,500	57,500	
20	85,000	85,000	85,000	85,000	85,000	85,000	85,000	
15	112,500	112,500	112,500	112,500	112,500	112,500	112,500	
10	140,000	140,000	140,000	140,000	140,000	140,000	140,000	
5	167,500	167,500	167,500	167,500	167,500	167,500	167,500	
0	195,000	195,000	195,000	195,000	195,000	195,000	195,000	
Total Revenue								
Ticket Price	Texas El Paso	Indiana	Middle Tennessee	South Carolina	Georgia	Louisiana State	Vanderbilt	All Games
40	600,000	600,000	600,000	600,000	600,000	600,000	600,000	4,200,000
35	787,500	787,500	787,500	787,500	787,500	787,500	787,500	5,512,500
30	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	8,400,000
25	1,437,500	1,437,500	1,437,500	1,437,500	1,437,500	1,437,500	1,437,500	10,062,500
20	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	8,400,000
15	900,000	900,000	900,000	900,000	900,000	900,000	900,000	6,300,000
10	600,000	600,000	600,000	600,000	600,000	600,000	600,000	4,200,000
5	300,000	300,000	300,000	300,000	300,000	300,000	300,000	2,100,000
0	0	0	0	0	0	0	0	0