

Problem Set #4

Part 1: Look over all the questions and problems in Baye Chapter 11. Write out and turn in your solutions to Problems 13, 15 and 18.

Part 2: Answer the following questions. When information is insufficient, please write down a reasonable assumption and proceed.

1. Amgone Corp sells crints in the home market, where it faces demand $q_H = 100 - 2p_H$, and also sells in the foreign market, where it faces demand $q_F = 200 - 5p_F$. Amgone's cost function is $C(q_T) = 20 + 10q_T$, where $q_T = q_H + q_F$ is total output.

- What choices of output q_H and q_F will maximize Amgone's profit? What are the corresponding prices?
- Anti-dumping regulations force Amgone to charge the same price both markets. What choice of price $p = p_H = p_F$ now will maximize profit?
- How much would Amgone be willing to pay for a successful lobbying campaign to repeal the anti-dumping regulations?

2. Your firm manufactures bicycle frames with an increasing marginal cost of $MCF = 10Q$ and fixed cost 500. Frames of precisely the sort you manufacture can be bought and sold in the wholesale market at a price of \$400.

- In order to maximize your firm's profits, what price and output should you choose?
- Your firm merges with a bicycle assembly firm with increasing marginal cost approximated by $MCA = 8Q$. Final demand for completed bicycles is approximated by $p = 1150 - 2.5Q$. What price should you get now for your frames?
- How would your answer change if the market for frames disappeared?

Part 3: Using the data collected from the in-class Coordination and Motivation games and posted on the class website, please do the following:

- Find every (pure strategy) Nash equilibrium for each game. Hint: the Coordination game has more than one!
- Graph the data. Be sure to mark the changes in treatment (e.g., when speeches are allowed.) Also graph also the Nash equilibrium predictions.
- Comment on the relation between predicted and actual data.

Note: To receive bonus points for your payoffs in the experiments, you must attach your record sheets to this homework assignment.

Due in class February 28.