

HW 5: Oligopoly and Pollution

1. Explain briefly (a paragraph of words and perhaps a diagram should suffice) why, in a monopolistically competitive equilibrium with homogeneous goods, the industry produces too little output. (What do you mean by “too little”?)
2. Suppose each of two firms must simultaneously choose to set either a high price or a low price. The normal-form representation of this game is

		<i>Firm 1</i>	
		High price	Low price
<i>Firm 2</i>	High price	\$5	\$10
	Low price	-\$5	\$0
		\$10	\$0

where profits are shown in the cells. How many Nash equilibria are there? Identify each and explain why it is a Nash equilibrium.

3. Can the combined profits of oligopolistic firms ever be higher than those of a monopoly with the same costs as those of the firms combined?
4. All potential firms in an industry have the same cost function, $C(q_i) = 25 + 10q_i$. Market demand is $Q = 110 - p$. The firms engage in a Cournot game.
 - A. If there are two oligopolistic firms in the industry, what are the equilibrium price, quantity per firm, total quantity, profit per firm, and total profit?
 - B. If, instead, this industry is monopolistically competitive, what are the equilibrium price, firm output, total output, profit per firm, and number of firms?
 - C. How would the values in (B) change if a franchise tax of \$75 were imposed on each firm?
5. Compare and contrast the views on pollution controls of President Bush and Senator Kerry. In particular, what are their views on using markets to deal with pollution and on how to determine the appropriate tradeoff between pollution and productivity? [One source of information that you may use (but do not have to) is the article that can be found at are.berkeley.edu/courses/ECON100A/Pollution. The article is reproduced in *.jpg format—you'll probably have to play around with the size of the image to be able to read it. Read the files in numerical order.]