

**Economics 1
Swarthmore College
Midterm Exam #2**

Prof S. O'Connell

Fall 2006

Student's Name: _____

INSTRUCTIONS:

1. Please write your name above and **do not identify yourself anywhere else on the exam.**
2. You have 55 minutes to complete the exam. The exam is also worth 55 points, so you should take a little less than 1 minute per point, in order to have some time to check at the end.
3. Answer all questions. Read each question carefully first, and make sure you understand what is being asked. Your answers can be short and to the point. *Partial credit will be awarded, so if you do not know how to answer a question well, tell me briefly what you DO know.*
4. Make sure you write legibly and label your diagrams clearly.
5. For fairness, you must end at the announced time or I will reduce points.

PART 1. [6 points each = 30 points] Indicate whether the sentence is best characterized as **True, False, or Uncertain**, and very briefly explain. Note that some of these questions don't have a single 'right' answer. Points depend on solely on your explanation.

1. [6 points] The supply curve in a competitive industry is more elastic in the short run than in the long run.

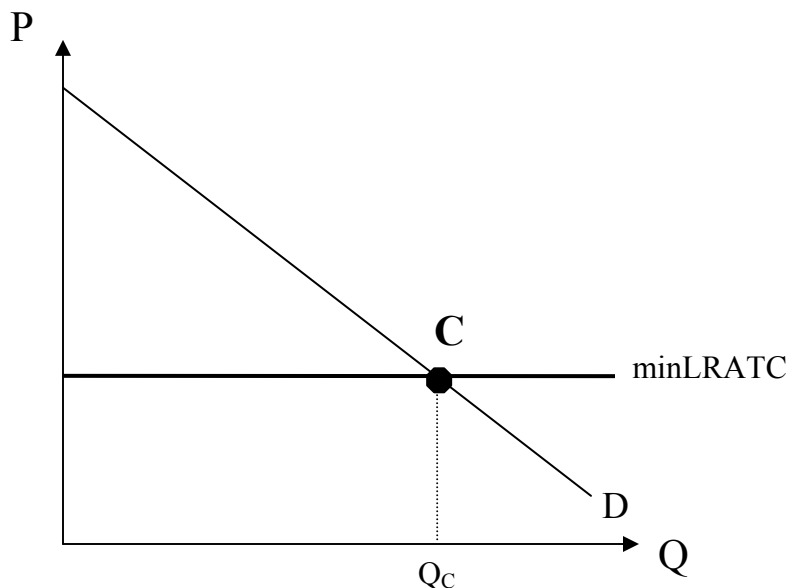
2. [6 points] Higher taxes on gasoline will put some gas stations out of business.

3. [6 points] Given the payoff matrix below, both Nike and Adidas will charge high (H) prices for shoes, rather than "outrageously high" prices, in the absence of collusion.

Payoffs		Adidas	
		<i>H</i>	<i>OH</i>
Nike	<i>H</i>	A \$500 N \$1,000	A \$300 N \$1,700
	<i>OH</i>	A \$550 N \$800	A \$600 N \$1,200

PART 2. [45 points] Using analytical diagrams. Answer all parts of each question.

6. [23 points] The diagram below shows a constant-cost *industry* in a **long-run** competitive equilibrium at point C. Suppose that a single producer buys up all the firms operating in this market and runs the industry as a monopolist.

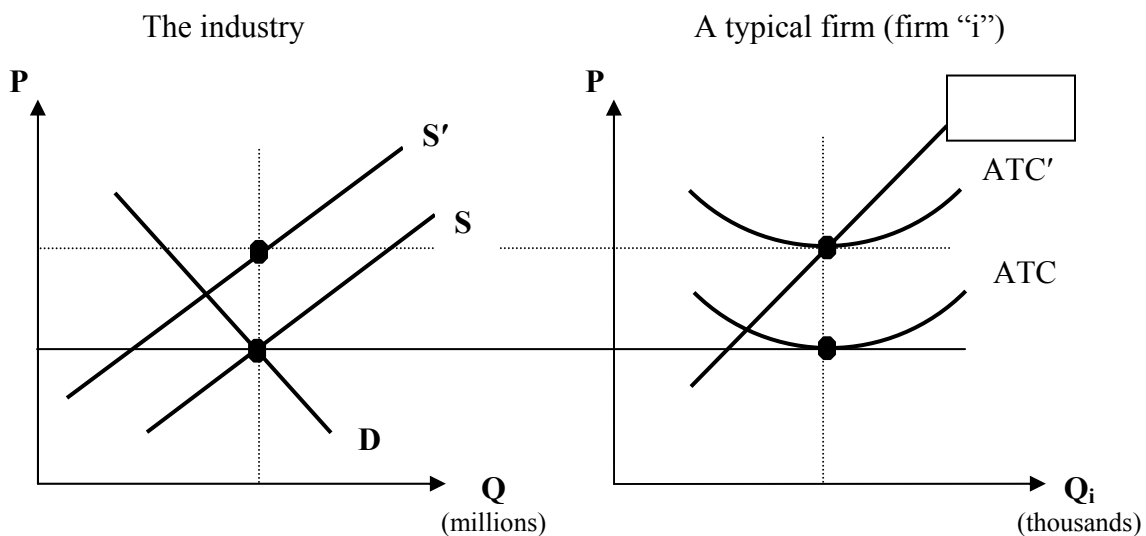


- a. [8 points] Show in the diagram how the monopolist determines the *long-run* quantity Q_M and price P_M , and explain briefly here in words.

- b. [8 points] The government is contemplating an anti-trust action that would break up the monopoly and restore competition. Would this constitute an *actual* Pareto improvement, a *potential* Pareto improvement, or *neither*? Indicate here _____, and briefly explain.

- c. [7 points] Suppose the monopolist finds a way to *price-discriminate*, i.e., to charge a different price to each consumer. Explain very briefly why the price-discriminating monopolist will produce at point C. Is the price-discrimination equilibrium *inefficient* (yes or no: _____); why or why not?

2. [22 points] A competitive industry is initially in a long-run equilibrium and gets hit by the adverse cost shock shown in the right diagram. This cost shock shifts the firm's cost curves directly upwards.
- [7 points] Fill in the box to label the curve in the right diagram, and explain briefly here why the market supply curve in the left diagram shifts up to S' .
 - [7 points] In the right diagram, use the appropriate curves to show what happens to *profits* and *output* for a typical firm in the industry *in the short run*. State here whether profits go up or down _____ and whether output goes up or down _____. (You do not need to write anything here if your diagram is clear).
 - [8 points] Assume this is a constant-cost industry. What happens to price and quantity at the industry level in the *long run*? In your left diagram, show the initial and final long-run equilibrium price and quantity, and briefly explain here how the new long-run equilibrium comes about.



3. **PART 3 [25 points]. Short essay:**

BACKGROUND ON MALARIA VACCINES: Harvard economist Michael Kremer has proposed a malaria vaccination contest, whereby foreign aid donors would set up a large financial prize that would go to the first company to develop a verifiably effective malaria vaccine (according to pre-set specifications). Property rights to the vaccine would go to the aid donors, who would then be free to allocate these rights as they saw fit. This question asks you to evaluate two alternative approaches to allocating the rights *once the vaccine is developed*. Note that malaria is an infectious disease – the parasite is transmitted from person to person by mosquito.

--Alternative 1: **production under exclusive license**. The donors transfer the vaccine formula to a firm that receives a 5-year license as the only firm allowed to produce the vaccine and sell it at whatever price it wants.

--Alternative 2: **competitive distribution**. The donors publish the vaccine formula on the internet, where any firm can access it at zero cost, and enter the vaccine market as a producer.

SHORT ESSAY: An effective vaccine has been discovered and you are asked to evaluate alternative approaches to production/distribution in terms of their **economic efficiency**. Briefly address the following questions, using the terms and concepts we've developed over the last few weeks. Will the competitive distribution model produce a more efficient or less efficient level of vaccinations than production under an exclusive license, and why? Will the competitive distribution model generate an efficient number of vaccinations overall, or will there be "too few" or "too many" vaccinations delivered, from an efficiency perspective? Be brief!

END OF EXAM

THE BLANK PAGE ON THE BACK IS FOR SCRATCH WORK OR CORRECTIONS.

