

Exam 2

Friday, November 10, 2006

You have 60 minutes to complete this exam. Good luck!

I. Multiple Choice: Choose the BEST answer.

1. In which of the following market structures are you most likely to observe positive economic profits in the long run?

- a) Oligopoly
- b) Monopoly**
- c) Perfect Competition
- d) Monopolistic Competition

2. Which of the following characteristics captures the main difference between perfect competition and monopolistic competition?

- a) number of firms
- b) long-run economic profits
- c) power over price**
- d) free entry and exit

3. Social Security keeps _____ % of elderly homes from poverty.

- a) 20
- b) 40**
- c) 60
- d) 80

4. Of people over 75 years old, _____ are women.

- a) 2/6
- b) 3/6
- c) 4/6**
- d) 5/6

5. On average, women receive _____ % of their income from social security.

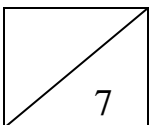
- a) 70**
- b) 50
- c) 30
- d) 10

6. Social security revenues are expected to become less than outlays in

- a) 2018**
- b) 2028
- c) 2038
- d) 2048

7. Which of the following is NOT a characteristic of perfectly competitive markets?

- a) A very large number of firms
- b) Firms produce differentiated products**
- c) There are no barriers to entry
- d) Firms have some power over price.**

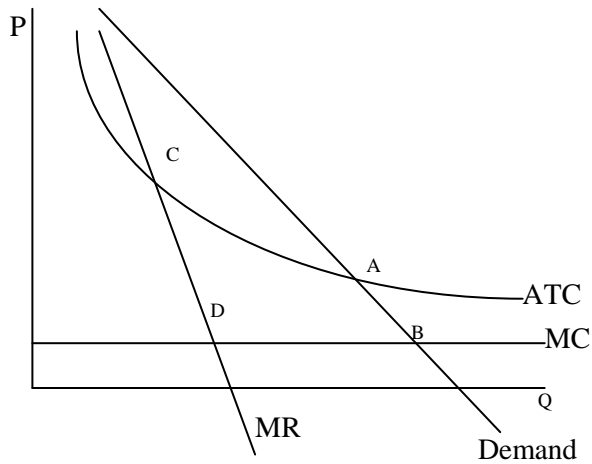


8. Firms in which market type decide how much to produce by producing up to the point at which marginal revenue is equal to marginal cost?

- a) perfect competition
- b) monopolistic competition
- c) monopoly
- d) all of the above**

9. Consider the graph on the right. Which point would a socially conscious regulator tell this firm to use to determine production?

- a) A**
- b) B
- c) C
- d) D



10. Which of the following was the 1890 law that prohibited collusion?

- a) Clayton Act
- b) Anti-Collusion Act
- c) Sherman Act**
- d) Riot Act

11. An increase in the minimum wage would not affect the effective market wage when

- a) the new minimum wage is above the market equilibrium.
- b) the new minimum wage is below the market equilibrium.**
- c) the supply of labor is inelastic.
- d) the demand for labor is inelastic.

12. Which tax plan is the most progressive?

Income	Marginal Tax Rates			
	A	B	C	D
0-25K	15%	20%	45%	15%
25K-50K	25%	20%	30%	27%
50K-100K	30%	20%	25%	27%
100K and up	45%	20%	15%	15%

13. Which of the following is not usually labeled in the family of cost curves?

- a) average fixed cost**
- b) average variable cost
- c) average total cost
- d) marginal cost

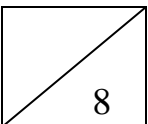
14. Firms that strategically compete in quantities are probably best described as

- a) monopolistic competitors.
- b) Bertrand oligopolists.
- c) Cournot oligopolists.**
- d) monopolists.

15. Consider the game on the right. If the payoffs are (Coke, Pepsi), what is the Nash Equilibrium?

- a) A
- b) B
- c) C
- d) D**

		Pepsi	
		Price High (60c)	Price Low (50c)
Coke	Price High (60c)	(60,50) A	(15,80) B
	Price Low (50c)	(70,10) C	(20,14) D



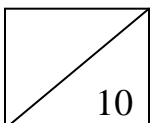
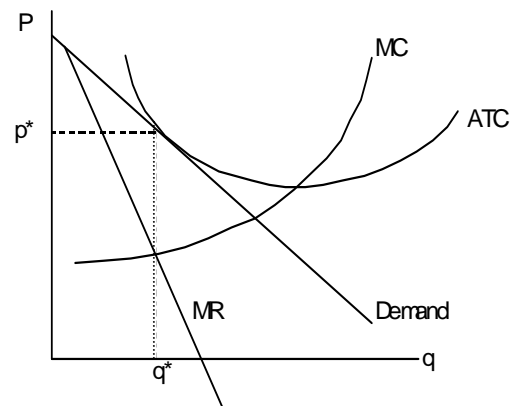
II. Short Answer (5 points each)

16. What are externalities? Describe an example of a consumption externality that is positive and a consumption externality that is negative.

Mankiw defines an externality as "the uncompensated impact of one person's actions on the well-being of a bystander" (page 206). A more intuitive (but perhaps less comprehensive) definition is that an externality is the utility or disutility that the market (price) does not take into account. Externalities are very important because their existence may imply that government intervention may be made in a market in order to improve the market's *efficiency*. Education is often considered a positive consumption externality because society benefits from having educated people over and above the benefit that people receive from educating themselves. Smoking is an example of a negative consumption externality because smoke can adversely affect people who are near the smoker but are not smoking.

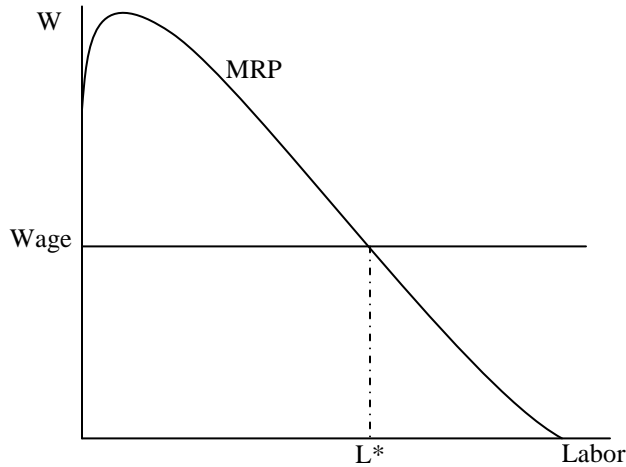
17. Draw and explain a diagram to show the long-run equilibrium in a monopolistically competitive market.

In a monopolistically competitive long-run equilibrium the price exceeds the marginal cost, a result similar to the long-run equilibrium of a monopoly. The price exceeds the MC where $MC = MR$ because the firm faces a downward sloping demand curve. This also implies that MR is not equal to the demand curve. If a firm is making positive profits (that is, the demand curve at the production point ($MR=MC$) is above ATC) then firms enter. Entry causes the demand curve to shift in and become flatter until the demand curve is just tangent to the ATC curve at the point at which $MR = MC$. Since the price is equal to the ATC, this means profits are zero. This arises because we make the same assumptions about entry and search costs that we make for a competitive market.



18. How do profit-maximizing firms decide how many workers to hire?

A profit maximizing firm will hire workers until the point where the marginal cost of labor (generally called the wage) is equal to the marginal revenue product of labor (MRP). Up to this point, the cost of hiring one more unit of labor would be less than the revenue that that one unit would bring in, so it makes sense to keep hiring up to this point. It would not make sense to hire additional workers because beyond this point the MRP would be less than the cost of the additional worker (wage).

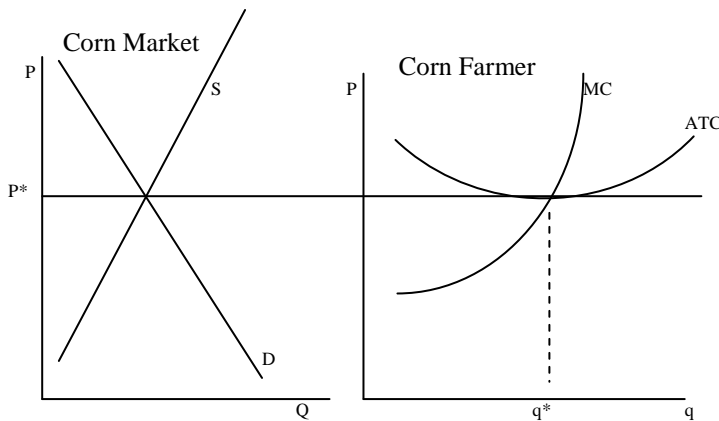


19. Starting from the long run equilibrium of the market for High Fructose Corn Syrup (HFCS) and perfectly competitive firm of HFCS, answer the following questions.

a) Using a graph of the market and, next to it, a graph of a representative perfectly competitive firm, illustrate the long-run equilibrium for the market and the firm. Explain.

b) Suppose that the quota for sugar, a substitute for HFCS, were removed and the price of sugar dropped. Show the adjustment in the market and how the market change would affect the profits of the firm in the short run.

c) Using a graph of the market and, next to it, a graph of a representative perfectly competitive firm, illustrate the adjustment back to the long-run equilibrium for the market and the firm. Explain.

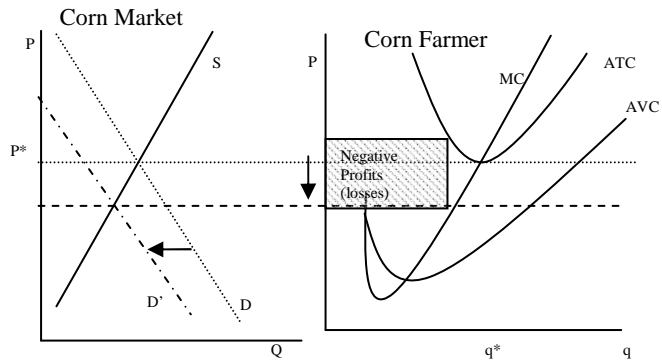


In the initial equilibrium, the profits are zero, because $TC (=ATC \cdot q)$ is equal to total revenue $(=p \cdot q)$. The firm is a price taker, which means that it cannot affect the market price. Therefore, the price set by supply and demand in the market translates for the firm as an infinitely elastic (horizontal) demand curve at P^* . The firm then produces up

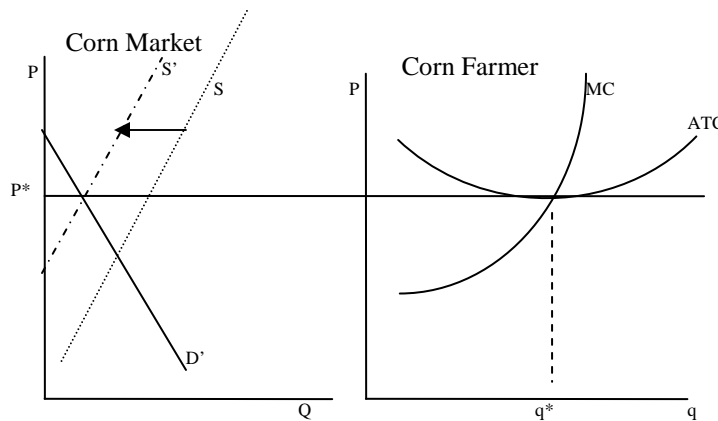
to the point at which $MR=P=MC$, which is the profit maximizing production for the firm.

Use this page as necessary.

b) When the price of sugar falls, the demand for the substitute, corn, will also fall. This is shown in the market graph by the shift from D to D' . As a result of the market change, the price of corn drops. This causes the farmer to produce less and, now, the farmer is earning negative economic profits because $TC > TR$. If the price were above the minimum of the AVC , the farmer would continue to produce but would exit the market as soon as possible. If the new price were below the minimum of the AVC , the farmer would shut down immediately and exit the market as soon as possible.



c) In the long run, farmers exiting the market would cause the supply curve to shift back (from S to S' in the graph on the right), which causes the market price to rise. Farmers would continue to exit, and the price would continue to rise, until it returned to the minimum of the ATC curve. When the price returns back to the minimum of the ATC curve, we are back at the long run equilibrium.



20. Based on the article on the right, taken from the November 6, 2006 edition of the Environment News Service, answer the following questions.

a) Using the concepts of (non)excludable and (non)rival, public goods, common resources, natural monopolies, and private goods, what kind of goods is the article describing? Explain.

b) Explain the root cause of the tragedy described in the article.

c) Would allowing monopoly control of ocean fishing reduce or increase ocean populations? Illustrate with a graph.

Collapse of All Wild Fisheries Predicted in 45 Years

SANTA BARBARA, California, November 6, 2006 (ENS) - All species of wild seafood that are currently fished are projected to collapse by the year 2050, according to a new four year study by an international team of ecologists and economists. Collapse is defined as 90 percent depletion. "Whether we looked at tide pools or studies over the entire world's ocean, we saw the same picture emerging," says lead author Boris Worm of Dalhousie University. "In losing species we lose the productivity and stability of entire ecosystems. I was shocked and disturbed by how consistent these trends are - beyond anything we suspected." It contains some good news - the data show that ocean ecosystems still hold great ability to rebound. But the scientists found that every species lost causes a faster unraveling of the overall ecosystem.

a) This article is describing a fishery, which is an example of a common resource. Common resources are goods that are non-excludable and rival. Non-excludable means that people can't be effectively kept from using the resource. People cannot be reasonably kept from fishing in the ocean, especially in international waters. Rival means that one person's consumption reduces another's consumption. In this case, one person cannot catch a fish that someone else has already caught. These goods cannot be private goods because, although they are rival, they are not excludable.

b) The root cause of the problem described in the article is the tragedy of the commons. The root cause is the fact that the good is not excludable. Since people cannot be excluded from using the resource and the goods are rival, this means that who ever gets there first gets the resources. This creates a "rush" on the resource, which is the opposite of conserving the resource. Therefore, as long as fisheries remain non-excludable, the fisheries are doomed to collapse.

c) The article also says that the fisheries could recover if they were protected (which means making them excludable). One way to do this would be to create a global monopoly over ocean fishing stocks. The problem right now is that people are consuming too much, at Q_f . Providing monopoly control would reduce the quantity to Q_m , offering the fisheries a chance to recover. This would be bad for consumers in the short run, because price would increase from P_f to P_m , but probably better for them in the long run because if all fisheries collapse, the price of fish would go from P_f to infinity (because there would be no fish). Thus, in this case the "evil" tendencies of the monopolist could be harnessed for good.

