

Study Guide 2

Econ 301
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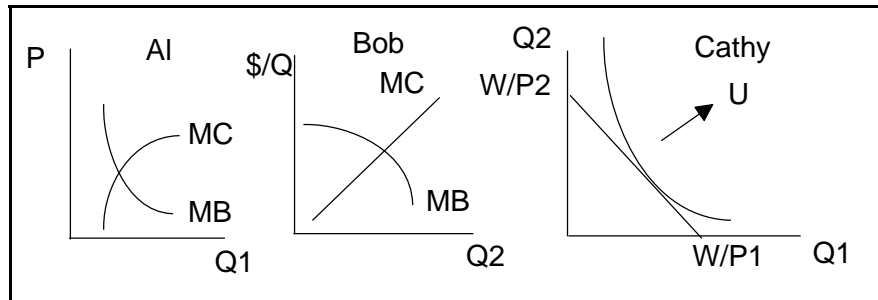
Study Guide II
Intermediate Micro

Spring 2014
WVU

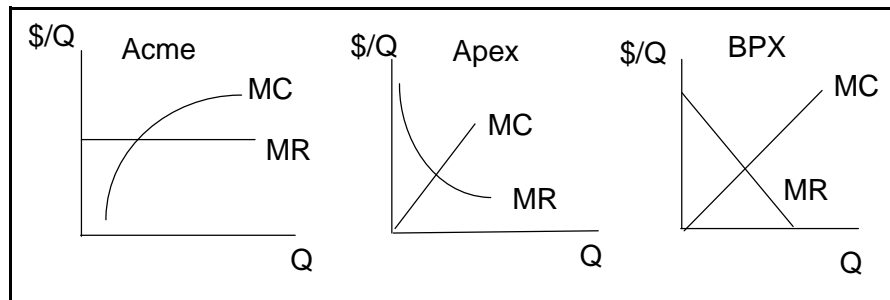
1. Identify and/or Define the following:

- | | |
|---------------------------------|-----------------------------|
| a. Demand Curve | m. Supply Curve |
| b. Dead Weight Loss of Monopoly | n. Pareto Optimal |
| c. Natural Monopoly | o. Social Net Benefits |
| d. Price Discrimination | p. Principal-Agent Problem |
| e. Monopolistic Competition | q. Marginal Revenue Product |
| f. Cournot Duopoly | r. Income Effect |
| g. Bertrand Duopoly | s. Isoquant |
| I. Nash Equilibrium | t. Opportunity Set |
| j. Dominant Strategy | u. Barrier to Entry |
| k. PD-Game | v. Knightian Uncertainty |
| l. Zero Sum Game | w. Creative Destruction |

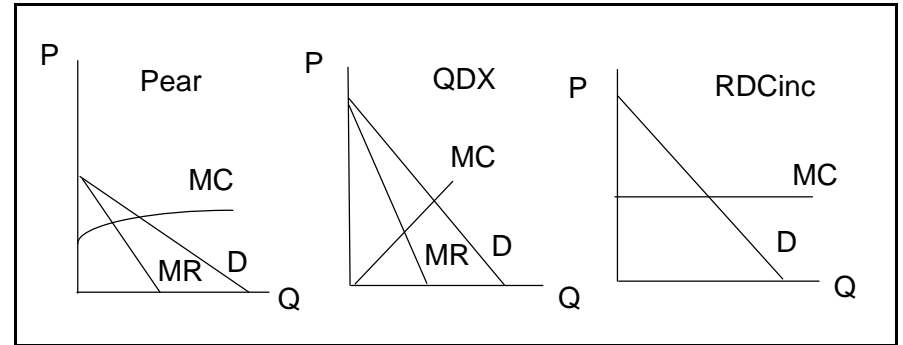
2. Find the net benefit maximizing consumption levels for the following consumers, and label their net benefits and costs, or their utility.



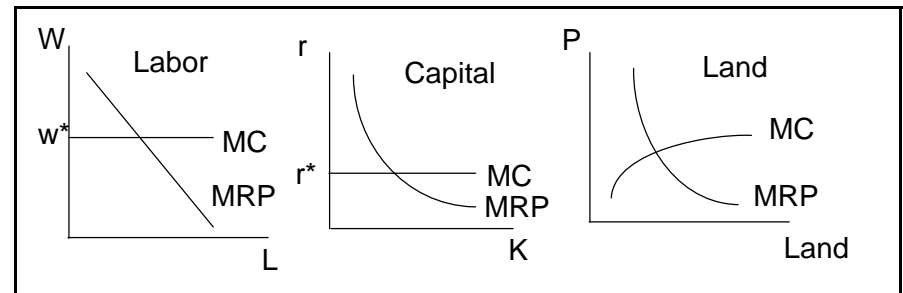
3. Find the profit maximizing Q and profit for the following firms.



4. Find the profit maximizing output and price of the following monopolists. Label all details (profit, cost, and dwl).



5. (a) Find the following firm's optimal purchase of its major inputs. Label all details. (b) What happens if the MP of the various inputs increases? (c) What happens if the price of its output falls?



6. Suppose that the market for Bananas is a perfectly competitive market. Draw a market supply and demand curve, an individual consumer's purchase, a banana firm's individual production, and its associated demand for labor. Label all details, noting prices, output levels, marginal costs, marginal revenues, and net benefits.

7. Redraw your equilibrium diagram from 6 and show what happens at the market, firm, consumer, and labor market if the demand for Banana's increases because it is learned that Bananas cure three kinds of cancer.

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8. Repeat 6 and 7 under the assumption that there is only a single world wide producer of Bananas or a well-run cartel. Again label all details.
9. In 6, 7, and 8, determine whether social net benefits are maximized at the various market outcomes.
10. Natural monopoly
 - a. Draw the case of a natural monopoly.
 - b. Show what happens if the price of one of this firm's inputs increase
 - c. Show how price controls can induce a zero-profit equilibrium without maximizing social net benefits.
 - d. Discuss why the size of the market as well as the extent of economies of scale affect whether a monopolist is natural or not.
11. Draw the case of a monopolistic competition in which a firm earns no economic profits.
12. Suppose that Al runs a small doughnut shop. He hires Bob to make doughnuts for him and run the cash register. Suppose that doughnuts are sold for P dollars/dozen and are produced with diminishing returns to scale.
 - a. Suppose that Al is a monopolistic competitor and the price of his doughnuts is the result of his output decision, given his demand curve.
 - b. Characterize Al's output decision (given Bob's wage rate). Label all details. (Hint: use Al's MRP curve for Bob.)
 - c. Characterize Al's demand for Bob's services given the price of doughnuts and prevailing wage rate. Label all details.
13. Suppose that a new restaurant selling pastry enters a monopolistically competitive market, say Panera. Show how this entry affects coffee shop AXA's profit and output.
 - a. Show how this new firm affects Al's demand for Bob's services. Label all details.
 - b. Explain why the shift in Al's demand curve occurs.
 - c. Does this shift mean that consumers get fewer net benefits from Al's doughnuts? If so why? If not, why not?

14. The matrix below illustrates an instance of the general class of games called prisoner's dilemmas (PDs).

Prisoner's Dilemma Game Payoffs in Net Benefits		
	(Bob) Cooperate with Al	(Bob) Do Not Cooperate with Al
(Al) Cooperate with Bob	A, B 3, 3	A, B 1, 4
(Al) Do not Cooperate with Bob	4, 1	2, 2

- a. Is there a dominant strategy? If so identify it and explain why it is a dominant strategy.
 - b. Find the Nash Equilibrium
 - c. Is there a dilemma? If so why?
15. Use a two-person three-strategy matrix of payoffs to characterize the following situations:
 - a. A 2x2 team production game
 - b. A 3x3 team production game
 - c. A 3x3 game matrix with a non Pareto Nash equilibrium
 - d. A 3x3 game matrix that illustrates Cournot Duopoly
 - e. A 2x2 game matrix that illustrates Bertrand Duopoly
 - f. A 3x3 or 2x2 game matrix that illustrates a Cartel's cheating problem
 - g. A zero-sum game
 - h. A negative-sum game
 - i. Label all details in your diagrams (the Nash equilibrium and Pareto efficient possibilities).
 - j. In cases in which a social dilemma occurs, can the result be improved upon through taxes or regulations that change the payoffs? If so, show how.

16. Use indifference curves and a series of budget constraints to

- a. Derive a demand curve for good 1 (the good on your horizontal axis).
- b. Derive a consumption expansion path
- c. Use b to derive his or her Engle curve
- d. Briefly explain the method used in each part.

17. Draw and Edgeworth box for a community in which the distribution of two goods is originally equal, but where this “endowment” is not on the contract curve.

- a. Show the region in which gains to trade exist (the Pareto set).
- b. Show the contract curve in this region.
- c. Show a price line that can clear the market.
- d. Explain your reasoning for each of the three parts of the problem.
- e. Explain why this diagram can be used to illustrate gains from trade.

18. Use isoquant and isocost curves to depict:

- a. a firm’s choice of an output mix that maximizes the output for a given cost, say C^0 .
- b. a firm’s choice of an output mix that minimizes the cost of a given output, say Q^0 .
- c. Are there any important differences between these two diagrams?
- d. Depict the firm’s output expansion path and briefly describe the method used.
- e. On a separate diagram show the effect of an increase in the price of one of the inputs (say labor) on the firm’s output expansion path.
- f. How would an increase in input prices affect the firm’s total cost and marginal cost curves?
- g. Can this be directly determined from your diagram?

19. Use three diagrams to characterize a firm’s output decision, total cost function, and mix of inputs at the firm’s profit maximizing output. Label all details. (Hint use a net benefit maximizing diagram for the firm’s output decision and an isoquant isocost diagram for the firm’s choice of input mix.)

20. Use three diagrams to characterize the effect that an increase in labor costs have on a firm’s optimal mix of input, total cost function and output decision. Label all details.

21. Knight, Kirzner, and Schumpeter all have different theories of the role of Entrepreneurs in markets.

- a. Briefly explain their theories.
- b. Knight and Kirzner’s theories complement those of competitive markets. Explain why.

22. Schumpeter’s theory suggests that a good deal of growth occurs because of innovation. Draw market, consumer, firm, and input market diagrams for a competitive market in equilibrium and show the effect of

- a. A cost reducing innovation
- b. A new product that is a substitute for the product in the market of interest
- c. Discuss why Thomas Edison, Henry Ford, and Steve Jobs are better examples of Schumpeterian entrepreneurs than Kirznerian or Knightian entrepreneurs?
- d. Repeat a and b under the assumption that the market of interest was initially a monopolistic market.

23. Explain how prices tend to coordinate the decisions of firms, consumers, and input providers in both competitive and monopolistic markets

Food for Thought

1. Puzzle: suppose that Bob and All are in a two person economy that can be characterized by an Edgeworth box. Suppose that at the original endowment, Al is at her bliss point. Are there any gains to trade? Determine the contract curve for an Edgeworth box in which one of the “traders” has a bliss point inside the box.

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2. Puzzle: suppose that Acme can only use labor and capital in a particular ratio, say 2 units of labor one unit of capital. Determine the income expansion path for the case in which the price of labor equals the price of capital. What happens if the price of labor doubles? (Hint: the isoquants are L-shaped in this case.)
3. Puzzle: suppose that Robinson Crusoe is shipwrecked on his island and can use his waking hours either for leisure or for gathering coconuts (which are assumed to be nutritious). Use indifference curves an opportunity set (production possibility frontier) to characterize his time-allocation problem.
4. Use MB curves to depict the case of a consumer that purchase none of the good of interest (say pink Cadillacs). Suppose his or her income increases. Is there an income level at which he or she will purchase this good? Why or why not? Repeat using indifference curves and a budget constraint.
5. If the market for crude oil is perfectly competitive, how is it possible that Exxon makes a higher rate of return producing oil than other firms?
6. Use supply and demand curves to illustrate the effect of a tax on a product, say cane sugar, assuming that the sugar market is competitive. Label all details: prices, taxes, profits, CS, and DWL.
7. Patent, copyright and trademark protection create temporary monopoly power.
 - a. Use a standard monopoly diagram to show the “static” deadweight losses associated with patents.
 - b. Use a prisoner's dilemma game to represent the "free rider" problem that would plague innovators if these protections did not exist. (Hint: assume that the two strategies are “innovate” and “copy.”)
 - c. Note the Nash equilibrium of your game and also the existence of a Pareto superior move.
8. Use an Edgeworth box to demonstrate the possibility of gains from trade in a barter economy. What are gains from trade?
9. Construct a three by three game matrix with:
 - a. one Nash equilibrium
 - b. two Nash equilibria
 - c. three Nash equilibria
 - d. no Nash equilibria (in pure strategies)
 - e. Discuss possible applications of your games.
10. Represent an entrepreneur’s decision about the optimal investment in innovation (R&D) using marginal cost and expected marginal revenues.
 - a. Explain briefly what your entrepreneur’s marginal cost and marginal revenue are. [Hint: R&D is not usually sold or produced in the sense that a product is.]
 - b. Explain briefly what its profits are from.
 - c. Would a general decrease in the cost of innovation increase or decrease the need for monopoly privilege according to your diagram.
11. A society that has a strong work ethic will clearly have greater material output than one that does not. A work ethic encourage hard work of high quality. Use the tools from class to illustrate the effect of a work ethic on:
 - a. team production problems
 - b. labor supply (and quality)
 - c. market output for products that require labor (or high quality labor).
12. Think about one of your decisions that does not seem to maximize your own net benefits (or utility). Now examine it more closely. Is it a forward looking choice? If so, why does it not maximize your expected net benefits? If not, are there good reasons to take a short term perspective? Could it be considered a rational choice?