

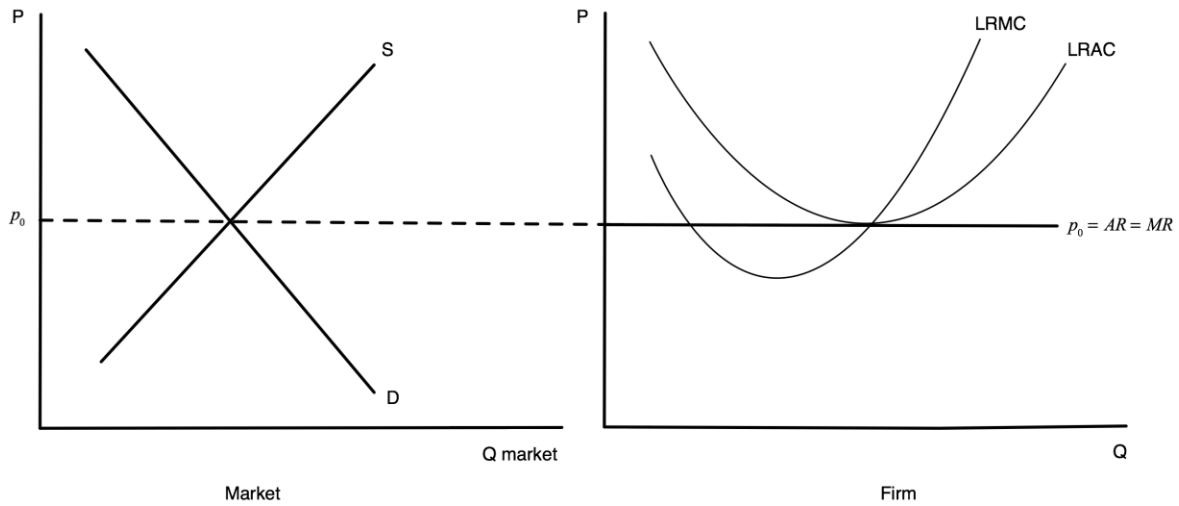
Practice Questions

1. A consumer's utility depends on consumption of good X and good Y . The following table illustrates different consumption bundles of both goods that yields the same utility level, as well as the corresponding marginal utility of good X (MU_X) and marginal utility of good Y (MU_Y).

Bundle	Good X	Good Y	MU_X	MU_Y
A	2	40	3200	160
B	5	16	1280	400
C	8	10	800	640
D	10	8	640	800
E	20	4	320	1600

- a. Suppose that the prices of good X and good Y are 5 and 4 dollars per unit, respectively. Draw the indifference curve and the budget line, where quantity of good Y is on the y-axis and quantity of good X is on the x-axis, and determine the value of optimal consumption of good X and good Y .
- b. Suppose now that the price of good X decreases to 4 dollars per unit, while the price of good Y and the consumer's income remain the same. Illustrate the change in the budget line, and determine the new optimal consumption value. Will this consumer's optimal utility change? Discuss briefly.
- c. From b., illustrate both income effect and substitution effect on the consumption of good X . Make sure that you discuss the directions of both effects.

2. In a perfectly competitive market, suppose that every firm is in a long-run equilibrium and receives a normal profit at a market equilibrium price p_0 .



- If the government gives a subsidy s baht/unit sold, how does this subsidy change the long-run average and marginal cost curves? Assuming the price is fixed at p_0 , how will a firm change its output? At this stage, assume that the government does not allow new entrants.
- If every firm in the market adjusts its output as in (a), how will the market supply change? How will the market price change? If the government does not allow new entrants, will each firm make excess profit?
- If the government allow new entrants, how will the market price change compared to the original equilibrium price p_0 ?

3. Suppose “Pharmex” is a pharmaceutical company that receives a patent to produce and sell a medicine for lung cancer called “StarX”. This makes Pharmex the only producer in the market for this medicine.

- d. (10 points) Illustrate how Pharmex determines its profit-maximizing price and quantity by using a correctly labeled diagram and indicating the necessary condition for profit maximization. Also, indicate the area that represents this firm’s profit.

[You can assume that the marginal cost (MC) curve intersects the average total cost (ATC) curve below the demand curve.]

- e. From part a., indicate in the diagram the areas that represent consumer’s surplus and producer’s surplus. Is there any deadweight loss to the society? Fully explain.
- f. Suppose the government would like to lower the price of “StarX” by forcing Pharmex to set the price at its average cost. Indicate the new quantity in a diagram, and discuss the change deadweight loss to the society. Explain with the aid of a diagram.