6304641712 Benny

EE211 Assignment #3 (Section 2 Semester 2/2020)

Instructions:

- Assigned date is Thursday the 13th, May 2021. **Due date is Friday the 21th, May 2021 before 11.59 PM.**
- Submission is only received through BE Moodle platform as PDF file.
- Name your file as StudentID_nickname, such as 1234567489_Bo.
- There is no need to rewrite the question into your answer sheets. Indicating clearly question and item number is sufficient.
- Write your nickname and student ID on top-right corner of the first page.
- For those who do not have a digital device to write on, you can write your answers in sheets of paper, take pictures, convert them into a single PDF then submit in on Moodle.

1. Neo loves traveling. Supposed he has two choices of destination, Thailand and Maldives which costs him 3,000 baht and 5,000 baht respectively. His utility received from traveling to Maldives is twice compared to traveling to Thailand. Answer the following questions.

a) If Neo has 10,000 baht of budget, how many times of each destination he will choose to travel and why? Draw his indifferent curve and budget line to analyze his decision and indicate details on the graph.

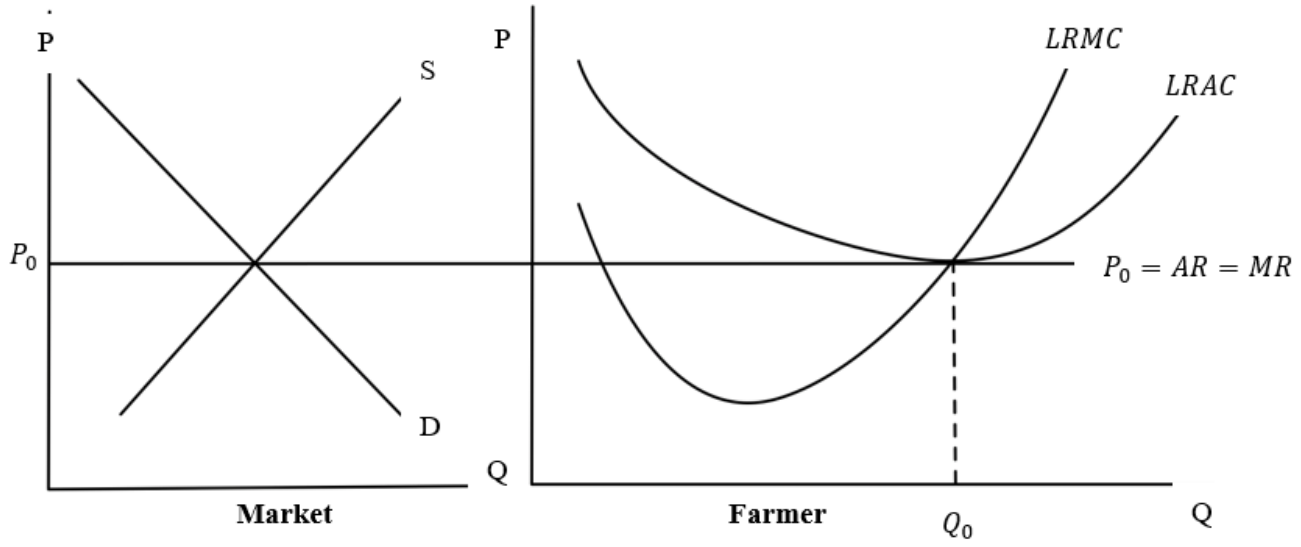
b) If his budget increases to 20,000 baht, draw his income-consumption curve. Also plot his income demand of traveling in Thailand, find its slope and explain.

2. Consider a long-run production in which there are only two inputs labor and capital, and the input prices for labor and capital are wage (w) and interest rate (r), respectively. Suppose that at the equilibrium levels of labor and capital (L*, K*), the marginal product of labor (MP_L) and marginal product of capital (MP_K) are 6 and 8, respectively.

a) (5 points) Calculate the marginal rate of technical substitution (MRTS) and state the cost-minimization conditions of this firm, given that the required output is fixed at Q_0. If the market wage rate (w) is \$3, what is the interest rate at the equilibrium?

b) (5 points) Suppose now that the wage rate (w) increases to \$4, ceteris paribus. Draw a diagram to illustrate the changes in the cost-minimizing combination of inputs.

3. A Thai rice farmer is in a long run equilibrium in a perfect competition and produces at the quantity Q_0 as shown in the graph below.



a) The government grants a lump sum subsidy to every farmer. How will this change the LRAC? Explain why LRMC does not change.

b) Will the lump sum subsidy change the quantity the farmer wants to produce to maximize his profit? Show in the graph that the farmer now earns an Excess Profit. Explain.

c) Demonstrate how this Excess Profit will affect the market price in the Long Run that allows new entry to the market.

4. An inverse demand function in a monopoly market is given by

$$P = 100 - 5Q$$

Supposed that the monopolist is very efficient, which gives a constant marginal cost of $20, answer the following questions.

a) How many units of this product will be produced that maximizes monopolist's profit in the short-run? Also, how much does this product cost? Show your argument clearly.

b) How much is the total variable cost when the monopolist's profit is maximized?

c) If this monopolist has a fixed cost of $160, how much is the monopolist's profit?

5. Assumed both a product market and a labor market are perfectly competitive, a table of marginal product is given below.

Unit of labor	Marginal product of labor
2	12
3	8
4	6
5	4
6	2

This product can be sold in the market for $12 each while labor wage is $48, answer the following questions clearly.

a) Figure out how many units of labor this firm will choose as input for its production to maximize profit. Illustrate a graph to support your answer and explain.
b) Supposed that there is a sudden economic recession driving consumers' purchasing power downward, what would happen to the units of labor hired by this firm? Support your answer with illustrations that also show a connection between product market and labor market.

6. Consider these statements and indicate which one of the choices fits with each statement and roughly explain why.

Choices:

1. Not a market failure
2. Market power
3. Externalities
4. Public goods
5. Moral hazard
6. Adverse selection

a) People feel that price level is hiking.
b) Morpheus always hears a loud fight coming from a room next to his.
c) Trinity does not receive her full-benefit until her first 3-month of her work position.
d) In Chiang Mai, there is no earthquake alarming system.
e) Starbucks coffee is more expensive than Amazon coffee.

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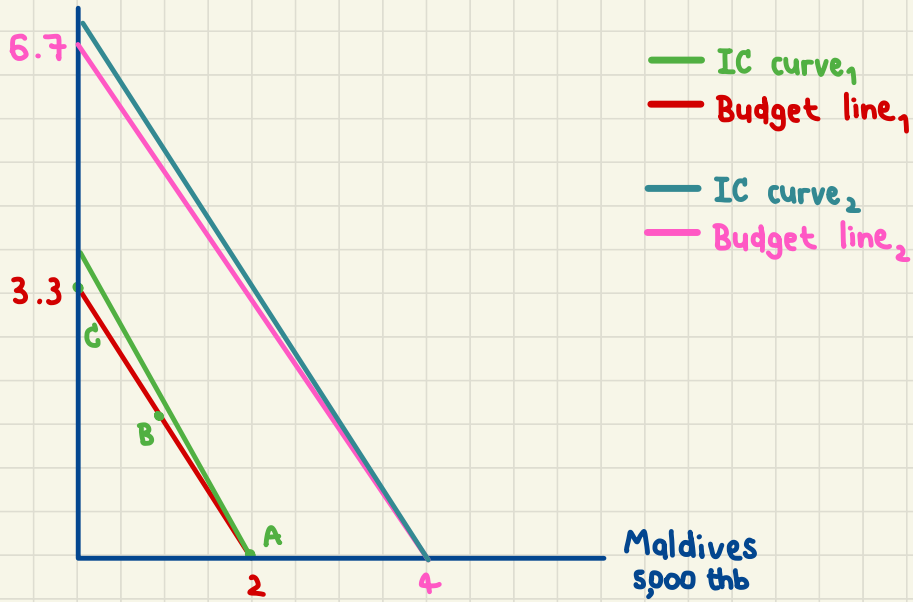
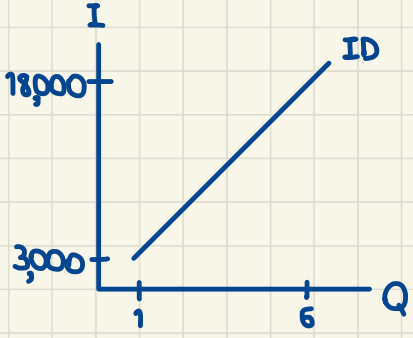
① a) Thailand 3,000 thb



If Neo has 10,000 baht, he should travel to maldives twice. As you can see from the graph, point A is intercept between IC curve and Budget line curve, that's mean at point A is maximize utility. In other words, Neo will receive utility from Maldives twice as compared to Thailand. Let assumed that utility will receive when go to Thailand is 1. With his budget, if he go to Thailand 3 times he will receive 3 utils, but if he go to Maldives 2 times, he will receive 4 utils.

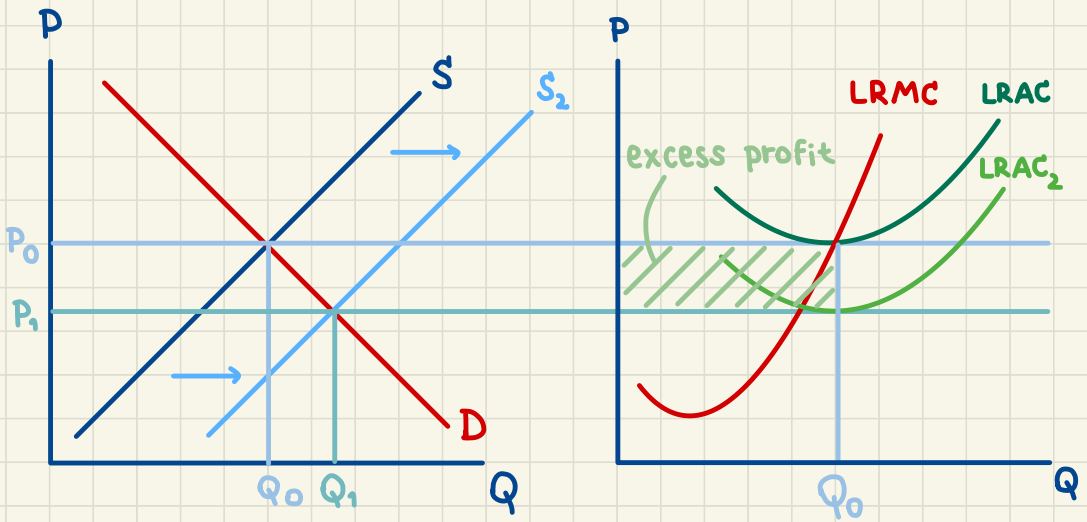
b) The IC and BL curve will change to IC_2 and BL_2 in the graph.



Income demand of Traveling in Thailand

If budget increase to 20,000, Neo still should go to Maldives 4 times so he will receive 8 util when if he go to Thailand, he'll receive only 6 utils. We can assume that there is no slope.

③



a) Lump sum subsidy decrease fixed cost, supply will shift right so P_0 will change to P_1 and Q_0 to Q_1. When the price of production is decreased, LRAC will decrease too because LRAC = AFC+AVC. Lump sum subsidy is not effect to variable cost so it wouldn't change LRMC.

b) Yes, as you can see from the graph, when supply is increase, price will be fall and quantity will be rised so the farmer will produce more to maximize his profit. The farmer now earns an Excess profit in the firm graph because LRAC shift down to $LRAC_2$.

c) Excess profit makes more supply enter in long-run of perfect comp., when supply shift right, price will decrease until it can make zero economic profit.

④ a) $P = 100 - 5Q$, $MC = 20$

$TR = P\,Q = (100 - 5Q) \cdot Q$

$= 100Q - 5Q^2$

$MR = \frac{dTR}{dQ} = 100 - 10Q$

$MR = MC$

$100 - 10Q = 20$

$Q = \frac{100 - 20}{10} = 8$

∴ This product will be produced 8 units to maximize monopolist's profit profit in short-run

$P = 100 - 5(8)$

$= 100 - 40 = 60$

∴ This product cost $60

b) $VC = MC\ Q$

$VC = 20 \cdot 8 = 160$

c) $TR = P \cdot Q$

$= 60 \cdot 8$

$= 480$

$TC = TFC + TVC$

$= 160 + 160$

$= 320$

$\pi = TR - TC$

$= 480 - 320$

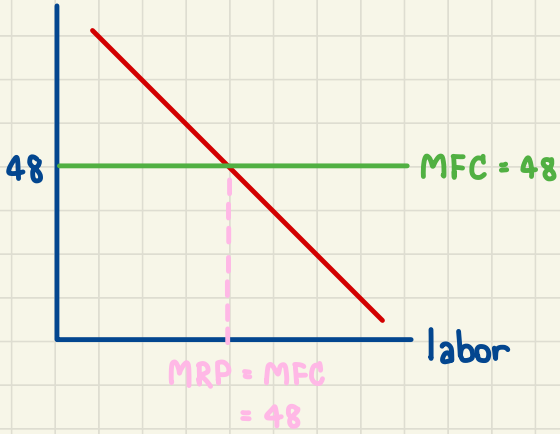
$= 160$ #

⑤

Unit of labor	Marginal product of labor
2	12
3	8
4	6
5	4
6	2

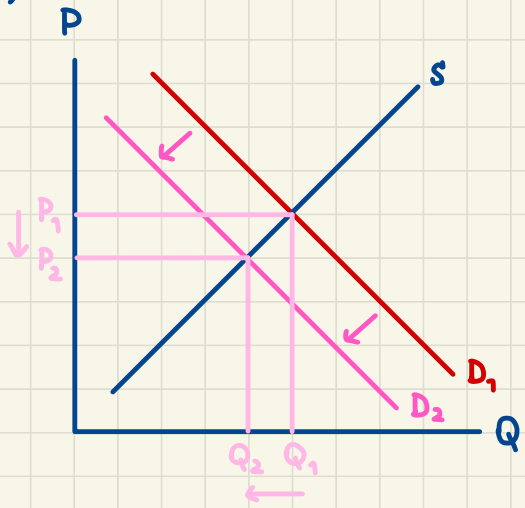
Wage	Cost
96	144
144	240
192	312
240	360
288	384

a) firm's rev

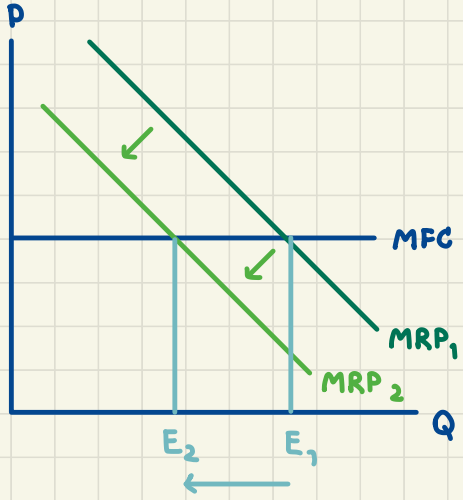


When profit is maximized,
$MFC = MRP$
$MFC = MPL \cdot MR$
$48 = MPL \cdot 12$
$MPL = 4$
$\therefore U = 5$ when $MPL = 4$,
firms hire 5 unit of labor.

b)



Product Market



Labor Market

During the recession, it will decrease purchasing power so $D_1 \rightarrow D_2$. When demand is low, price and quantity will increase from $P_1 \rightarrow P_2$ and $Q_1 \rightarrow Q_2$. [Product Market]

In labor market, when P from Product market is decrease, it means that MR↓ so MRP will shift left from MRP_1 to MRP_2 and change equilibrium point from E_1 to E_2.

⑥ A: Not market failure
- People feel doesn't mean it's true.

B: Externalities
- Negative externalities.

C: Moral hazard
- Trinity have rights to receive fully benefits.

D: Public good
- Alarming system is one of the public good.

E: Market power
- Starbucks has strong market power than Amazon in same products.