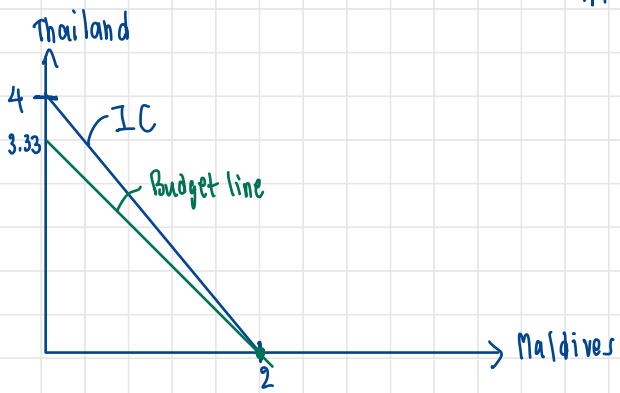


①

a.)



$$\frac{MU_x}{P_x} = \frac{MU_y}{P_y}$$

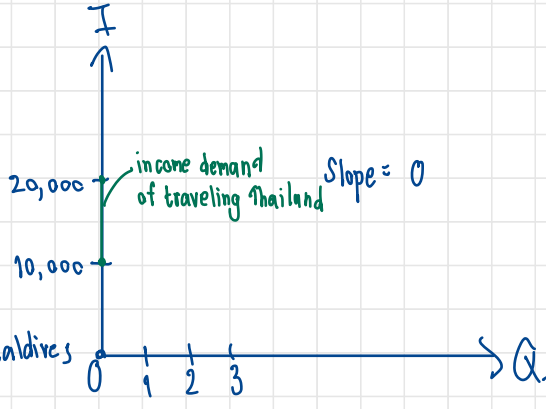
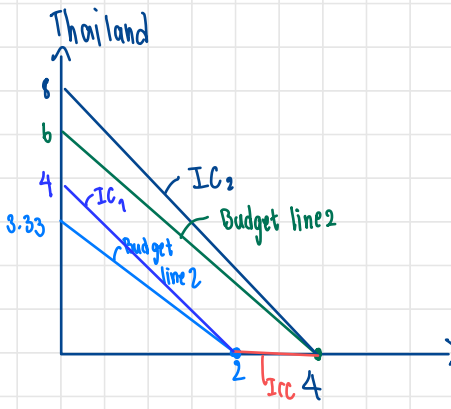
$$\frac{MU_{TH}}{P_{TH}} < \frac{MU_{Mal}}{P_{Mal}}$$

$$\frac{1}{3,000} < \frac{2}{5,000}$$

$$0.0003 < 0.0004$$

Thailand and Maldives are perfectly substitution but Maldives gain more utility than Thailand. In budget 10,000 bath, spending all money to go to Maldives give his most utility.

b.)



When the budget increase to 20,000 he also chose to spend all of his money to go to Maldives for achieving his most utility so demand for Thailand is equal to 0 when budget at 10,000 and 20,000.

2

- 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?

$$|MRTS| = \frac{MR_L}{MR_K} = \frac{w}{r} = \frac{6}{8} = 0.75$$

$$\frac{MR_L}{MR_K} = \frac{6}{8} = \frac{w}{r}$$

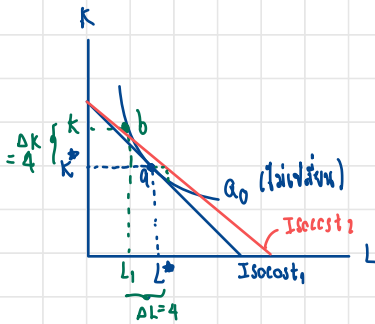
$$\frac{6}{8} = \frac{3}{r}$$

$$r = \frac{3 \times 8}{6}$$

$$r = 4$$

The cost minimization of this Q_0 is $|MRTS| = |MRNS|$ which is equal to $\frac{MR_L}{MR_K} = \frac{w}{r}$ (cost of input = cost of output)

- 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.



$$|MRTS| = \left| \frac{\Delta K}{\Delta L} \right| = \frac{w}{r}$$

$$\left| \frac{\Delta K}{\Delta L} \right| = \frac{4}{4} = 1$$

$$\text{total cost}_2 = 4L + 4K$$

$$\text{Total cost} = 8\$$$

$$\begin{cases} 1 L \\ 1 K \end{cases}$$

- 2) cost of wage increase from \$3 to \$4 but capital is same which is \$4 so the substitution rate of capital and labor is equal to 1. These case make isocost increase from isocost₁ to isocost₂ to remain the same output.

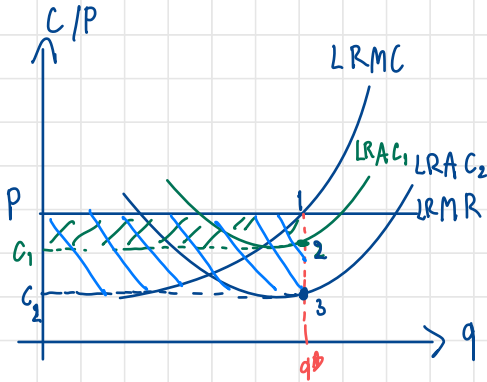
3

תשובה/רצף

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

The LRAC will decrease because the farmers have lower TFC but LRMC does not change because the subsidy isn't effect to per unit cost.

- 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.



The farmer don't want to increase quantity of product to maximize profit because if they increase to produce goods cost of production also increase but the farmer can't increase price due to competitive market so the excess profit will be decreasing. The excess profit is $\square PC_2 13$ or blue area.

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

When the product has excess profit the new seller will entry to the market for get this profit. After new producer entry to market, the quantity of product will increase that make supply increase but demand still the same so the producer have to decrease price for sale the goods or move the market to equilibrium.

4

- 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.

$$P = 100 - 5Q$$

$$MR = MC = 20$$

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

$$D = P(Q)$$

$$20 = 100 - 10Q$$

$$D = 100 - 5Q$$

$$10Q = 80$$

$$TR = 100Q - 5Q^2$$

$$Q = 8$$

$$TC = AC \cdot q = MC \times q = 20 \times 8 = 160 \quad \text{product cost} = 100 - 5(8) = 60$$

TVC

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

$$TC = 160 \quad \text{assume } TFC = 0 \text{ in short run}$$

$$TC = TFC + TVC$$

$$160 = 0 + TVC$$

$$TVC = 160$$

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

$$TC = TFC + TVC$$

$$TC = 160 + 160$$

$$TC = 160 + 160$$

$$TC = 320$$

$$P = 100 - 5(8)$$

$$P = 100 - 40$$

$$P = 60$$

$$TR = P \cdot q = 60 \times 8 = 480$$

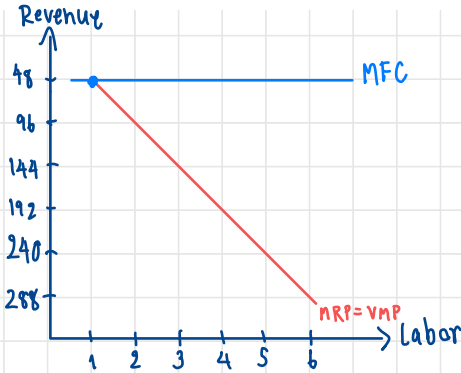
$$\text{Profit} = 480 - 320 = 160$$

5

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.

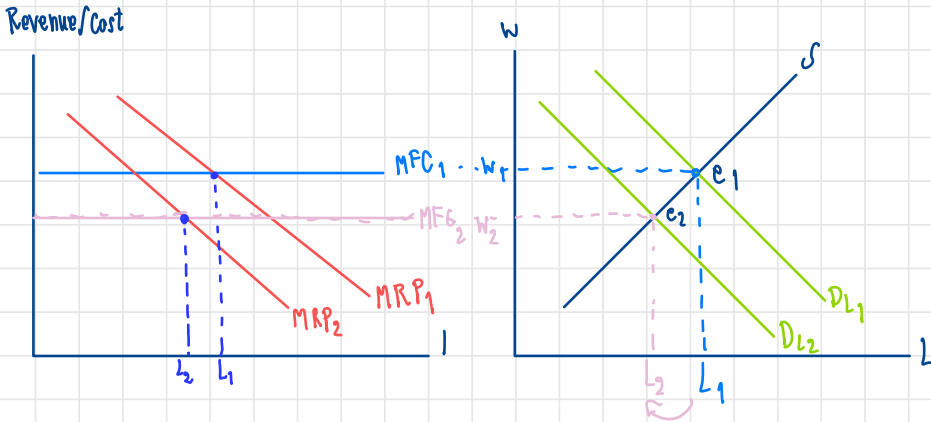
Q	Unit of labor	Marginal product of labor (MP)
12	2	12
20	3	8
26	4	6
30	5	4
32	6	2

MR = P	MRP	VMP	MFC = $\frac{\Delta TFC}{\Delta L}$
12	144	144	48
12	96	96	48
12	72	72	48
12	48	48	48
12	24	24	48



At $MRP = MFC$ the firm will get maximize profit so the firm should hire 1 labor.

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.



The economic recession driving consumers' purchasing power downward so firm will reduce cost of production by lower demand labor. this reason makes wage lower or move to new equilibrium ($e_1 \rightarrow e_2$) and MFC also lower to MFC_2 . MFC_2 and MRP_2 intercept at L_2 which is new equilibrium of labor of this firm.

6

a.) Not a market failure because economic situation efficient distribution of goods and services in the free market.

b.) Externalities because the loud fight affects the next room.

c.) Moral hazard because the employee has to pay full-benefit until but they didn't follow the contract.

d.) Public goods because earthquake alarming system is used with all Chiang Mai citizens.

e.) Market power because Starbuck coffee is high quality coffee which in oligopoly but Amazon coffee lives in competitive market.