

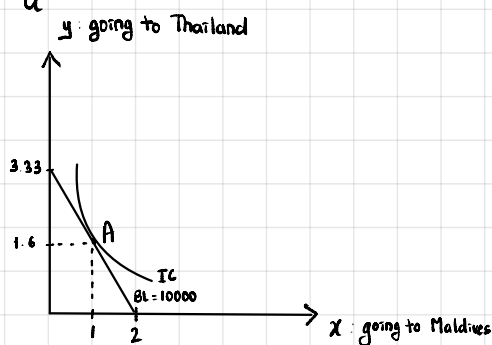
Assignment #3

CHOU

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Answer

1. a

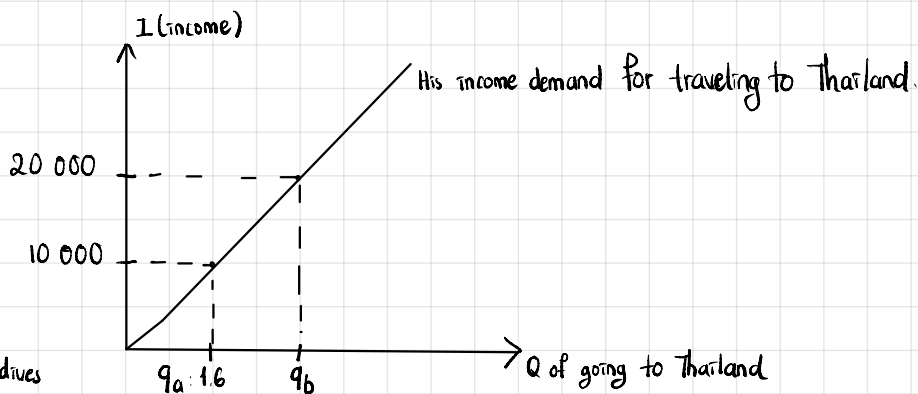
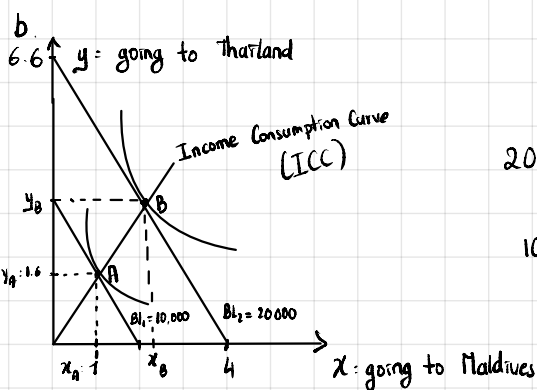


If Neo has 10 000 baht, he will choose to travel Maldives 1 time and Thailand 1.6 times which is bundle A (1, 1.6) on the graph. He has to maximize his utility and spend all his budget at the same time, so to maximize his

utility: $MRS = MRMS$

$$\frac{\Delta y}{\Delta x} = \frac{P_x}{P_y} \Leftrightarrow \frac{3.33}{2} = \frac{5000}{3000} = 1.6$$

Therefore, to gain 1 time going to Maldives, he has to sacrifice 1.6 times going to Thailand.



If his income increases to 20 000 baht, his income demand of traveling to Thailand also increases, and it has positive slope. From the graph, increasing his budget enables him to consume more of both products. His income demand to Thailand increases from y_A to y_B with positive slope, so it is a normal good.

2. a. Calculate MRTS

$$MRTS_{Lk} = \frac{\Delta K}{\Delta L} = \frac{MP_L}{MP_K} = \frac{6}{8} = 0.75$$

Cost minimization conditions of this firm is when $MRTS_{Lk} = MRMS_{Lk}$

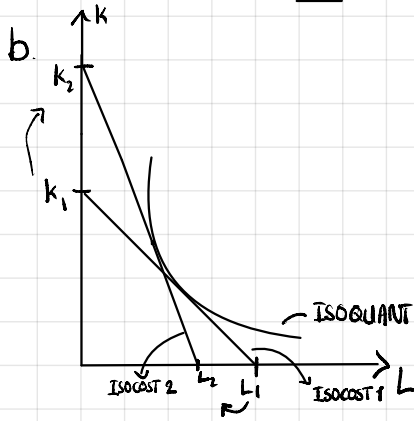
$$\left| \frac{\Delta K}{\Delta L} \right| = \frac{MP_L}{MP_K}$$

If market wage (w) is \$3, the interest rate at the equilibrium is:

$$MRTS = MRMS$$

$$\frac{MP_L}{MP_K} = \frac{w}{r} \Leftrightarrow \frac{6}{8} = \frac{3}{r}$$

$$\Rightarrow r = \frac{8 \times 3}{6} = \underline{\$4}$$

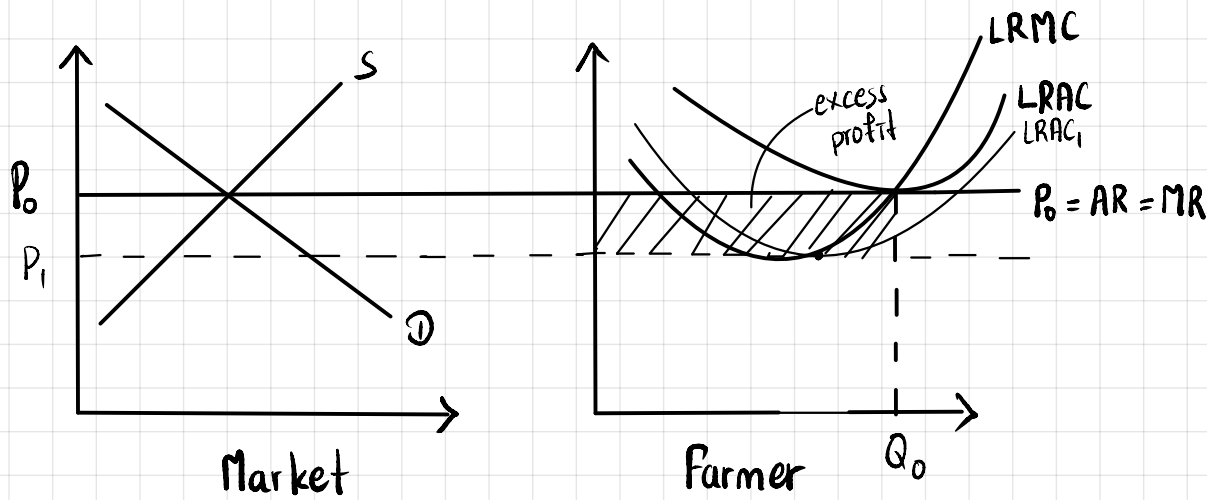


When wage increase to \$4, firm will hire less labor and consume more capital, so there will be new isocost (isocost2) with new combination of inputs. From the graph, L_1 decreases to L_2 , and K_1 increases to K_2 .

3. a. When the government grants a lump subsidy to every farmer, LRAC will shift downward.

LRMC doesn't change because lump subsidy is considered as fixed cost (FC)

b. The lump subsidy will change the quantity that the farmer wants to produce to maximize his profit



With given lump subsidy, farmer decreases his TC because his FC is decreases. Therefore, LRAC also decreases. P_0 is market price that the farmer takes, and his cost is lower than P_0 . Hence, he gains excess profit.

c. This excess profit will affect the market price in the long run that allows new firms to enter the market because new firms are free to enter perfectly competitive market, and with excess profit, new firms are incentive to join. When there are more firms, the quantity supply in market increases which will lower the equilibrium price (P_0) to new equilibrium price (P_1), where $MC = AC$

6. a. "People feel that price level is hiking." is (1) not a market failure because price is untouchable. If it is a market failure, price level will not be hiking.
- b. "Morpheus always hears a loud fight coming from a next to his" is (4) public goods because people all share the same environment in given area. Hence, Morpheus cannot deplete the availability of the others making noise.
- c. "Trinity does not receive her full-benefit until her first 3-month of her work position." is (5) moral hazard because this technique is used by employers to ensure that their employees will not have any behavior change after signing work contract.
- d. "In Chang Mar, there is no earthquake alarm system" is (6) adverse selection because there is nothing to assess the risk, so the results may turn out differently from the expectations.
- e. "Starbucks coffee is more expensive than Amazon coffee" is (2) market power because Starbucks surely has some market power to enable them to charge consumers higher than Amazon Coffee.

4. a. Find the quantity of outputs that monopolist will produce to maximize its profit

$$D = P = 100 - 5Q$$

Monopolist's profit maximization: $MR = MC$

$$MR = \frac{dTR}{dQ}$$

$$TC = TVC + TFC$$

$TVC =$

$$TR = P \cdot Q = (100 - 5Q) \cdot Q = 100Q - 5Q^2$$

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

$$\Rightarrow MR = MC \Leftrightarrow 100 - 10Q = 20$$

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

This product cost: $P = 100 - 5Q = 100 - 5(8) = \underline{\$60}$

b. Find total variable cost when the monopolist's profit is maximized

$$TC = TVC + TFC \Rightarrow TVC = TC - TFC \quad (TFC = 100)$$

$$TC = AC \times Q = MC \times Q = 20 \times 8 = 160$$

$$\Rightarrow TVC = 160 - 100 = \underline{\$60}$$

c. Find maximized profit

$$\pi = TR - TC$$

$$TC = TVC + TFC = 160 + 100 = 320$$

$$TR = P \times Q = 60 \times 8 = \$480$$

$$\Rightarrow \pi = 480 - 320 = \underline{\$160}$$

5. a. Find the unit of labour that firm will choose to maximize profit.

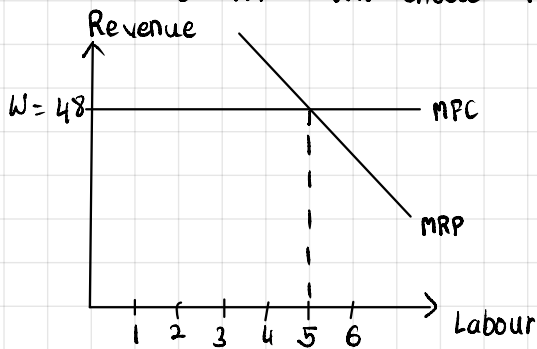
To maximize firm profit: $MFC = MRP$

$$MFC = W = \$48$$

$$MRP = MR \times MP = P \times MP$$

$$48 = 12 \times MP \Rightarrow MP = \frac{48}{12} = 4$$

So firm will choose $MP = 4$ that has 5 units of labor



b. When there is a sudden economic recession driving consumer's purchasing power downward, the unit of labor hired by firm will decrease because there is less demand in product market due the downward of consumer's purchasing power.

