

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

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

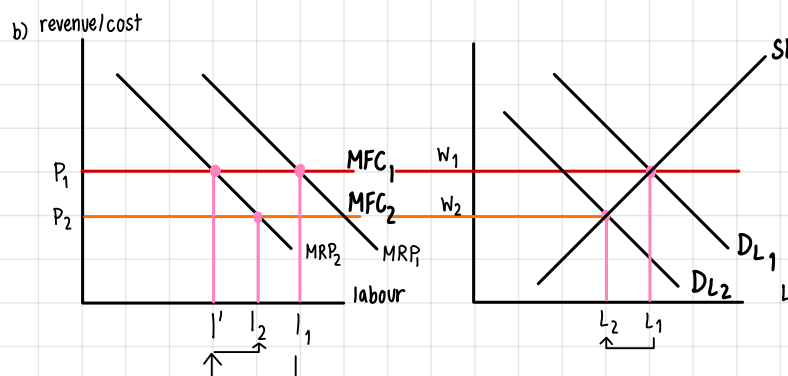
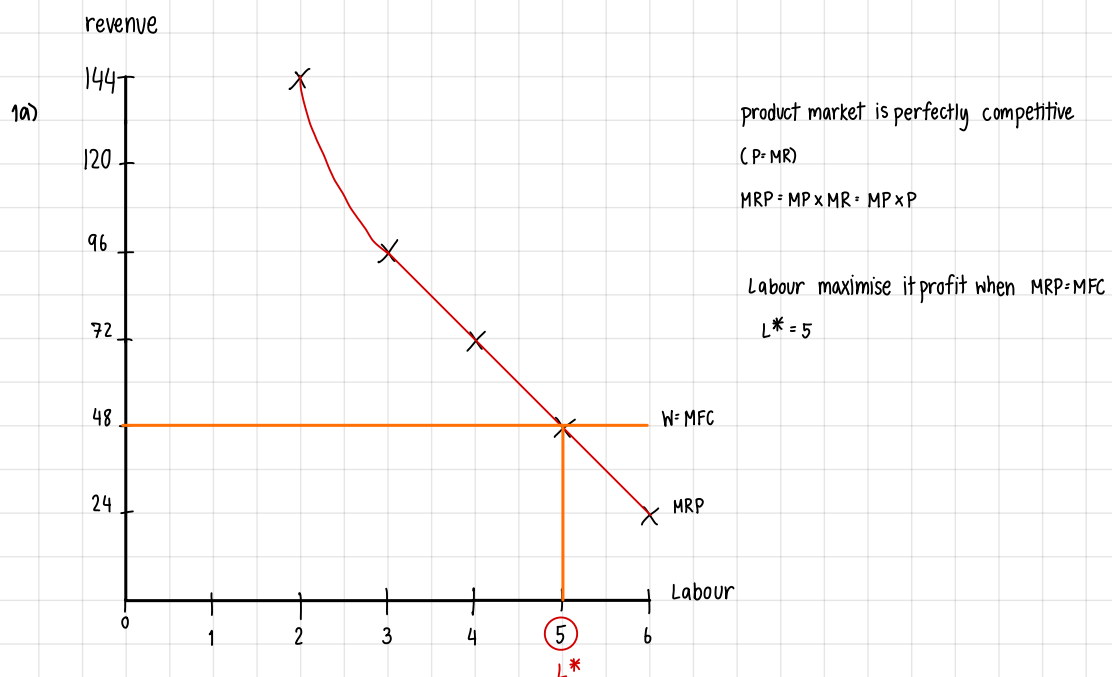
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This product can be sold in the market for \$12 each while labor wage is \$48, answer the following questions clearly.

1.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.

1.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.



A decrease in purchasing power will shift to the left. When both demand and price decrease, firm will employ less labour. Demand will shift from DL_1 to DL_2 . Less labour will be hire in the market from L_1 to L_2

2. In a telecommunication sector where there are 3 companies namely A, D and T, at first, these companies can capture 50%, 20% and 30% of market share respectively. All of them share the same marginal cost of \$0.2 on average for a unit of service per minute. Answer the following questions

2.a) If company A can charge users for \$1 on average for a unit of service, figure out the Lerner's index for company A.

2.b) Figure out the HHI index for this industry at the current state.

2.c) If D and T decide to merge their companies, figure out the new HHI index.

$$2a) \quad L = \frac{P - MC}{P} \quad \frac{1 - 0.2}{1} = 0.8$$

$$2b) \quad (50)^2 + (20)^2 + (30)^2 = 2500 + 400 + 900 = 3800$$

$$2c) \quad (50)^2 + (50)^2 = 2500 + 2500 = 5000$$

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3. 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

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

- a) Market power - monopolist could influence the change in market price.
- b) externalities - Morpheus is a third party who have receive a noise that wasn't a part of her economic transaction)
- c) Moral Hazard - full benefit was something both parties mutual agree but after contract were signed, employer doesn't follow the agreement
- d) Public goods - it's something that should be provided by the government as it is non-excludable + non-rivalry)
- e) Not a market failure - just two different coffee shop brand

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